

# THE JINJA- KAMPALA-MPIGI CORRIDOR

## PHYSICAL DEVELOPMENT PLAN

JUNE 2023

### CHAPTER 1 INTRODUCTION



**Government of Uganda**  
Ministry of Lands, Housing and Urban Development

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# 1 INTRODUCTION

## 1.1 Introducing the JKM Corridor Plan

In its continued support of Uganda's economic and social development, the African Development Bank (AfDB), in collaboration with the Korea International Development Agency (KOICA), has funded the preparation of the Jinja – Kampala – Mpigi (JKM) Corridor Physical Development Plan<sup>1</sup> for the Government of Uganda (GoU) through the Ministry of Lands, Housing and Urban Development (MLHUD).

The JKM Corridor is Uganda's primary economic activity corridor, accounting for some 15 percent of the national population and over 30 percent of Uganda's Gross Domestic Product. The plan is to serve as a guiding framework for prioritising and locating current and future investments. More specifically, this plan for the JKM Corridor is focused strategically at the corridor level, rather than at the level of individual spatial-administrative units (districts, capital city, towns and municipalities) and has an explicit purpose in mind: *"to attract, manage and coordinate all forms of public, private, community and individual investments over an indefinite period based on demand."*<sup>2</sup>

The production of the plan fills a gap in Uganda's current planning system: there is currently *"no comprehensive, integrated spatial framework to guide both public and private sector investments and bring out the development potential of the region."*<sup>3</sup> The JKM Corridor Plan will be the first example of a series of Urban Corridor Plans. It is guided at the higher level by Vision 2040, the National Development Plans (NDPs) prepared by the National Planning Authority (NPA) and the National Physical Development Plan (NPDP). From a lower level, it will draw on and inform city, town and district physical and development Plans.

### 1.1.1 Defining the JKM Corridor in spatial terms

How do we define the JKM Corridor in spatial economic terms? The area was described in the JKM project Terms of Reference (TOR) as a planning area of some 2,200 square kilometres in Uganda's Central and Eastern regions which incorporates Mpigi, Wakiso, Mukono, Buikwe<sup>4</sup> and Jinja districts in their entirety, Kampala City, and a small portion of Mayuge District – specific counties and/or sub-counties were not mentioned – that is adjacent to and south of Jinja District.<sup>5</sup>

The project team discussed the definition with stakeholders and authorities during the Inception Period and explored the planning experience with similar city regions and extended metropolitan-scale or regional corridors which, as with the JKM Corridor, are built upon and structured by transportation and other large-scale economic infrastructures (water, power, industrial gas, telecommunications, digital).

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<sup>1</sup> Henceforth JKM Corridor and JKM Plan

<sup>2</sup> TOR, p. 8

<sup>3</sup> TOR, p. 2.

<sup>4</sup> Buikwe District was part of Mukono District until July 2009.

<sup>5</sup> The inclusion appeared to be territory from Bunya County West (Warasa and Magamaga Town Councils, and Baitambogwe sub-county).



Following this, it was agreed that the spatial definition of the corridor should include Kampala City and Mpigi, Wakiso, Mukono and Buikwe districts in Central Region and Jinja District in Eastern Region, and exclude the portion of Mayuge District previously included, as illustrated in Figure 1 below.

The agreed area includes the Greater Kampala Metropolitan Area (GKMA) the larger part of which was declared as a Special Planning Area in 2012 and has a Cabinet-approved GKMA Development Framework 2040, dating from 2013.<sup>6</sup> While spatial definitions vary for the GKMA, it is widely accepted that the area comprises Kampala City, which is made up of five divisions<sup>7</sup> and governed by the Kampala Capital City Authority (KCCA) as a national government ministry established by the 2010 KCCA Act, Wakiso District, which effectively surrounds Kampala City, and the neighbouring districts of Mpigi to the west, and Mukono to the east.<sup>8</sup>

This spatial definition for the GKMA incorporates the municipalities of Entebbe, Nansana, Kira, and Makindye-Ssabagabo in Wakiso District, Mukono in Mukono District, and Mpigi Town in Mpigi District, as well as eight towns in Wakiso, namely Wakiso, Namayumba, Masuliita, Kakiri, Kasangati, Kyengera, Kajjansi and Katabi.

The JKM Corridor area definition then goes beyond the GKMA in adding Buikwe District, to the east of Mukono District, which incorporates Lugazi and Njeru municipalities and Buikwe and Nkonjeru towns. Across the regional border, Jinja District in Eastern Region includes Jinja City and the towns of Kakira, Buwenge and Bugembe.<sup>9</sup>

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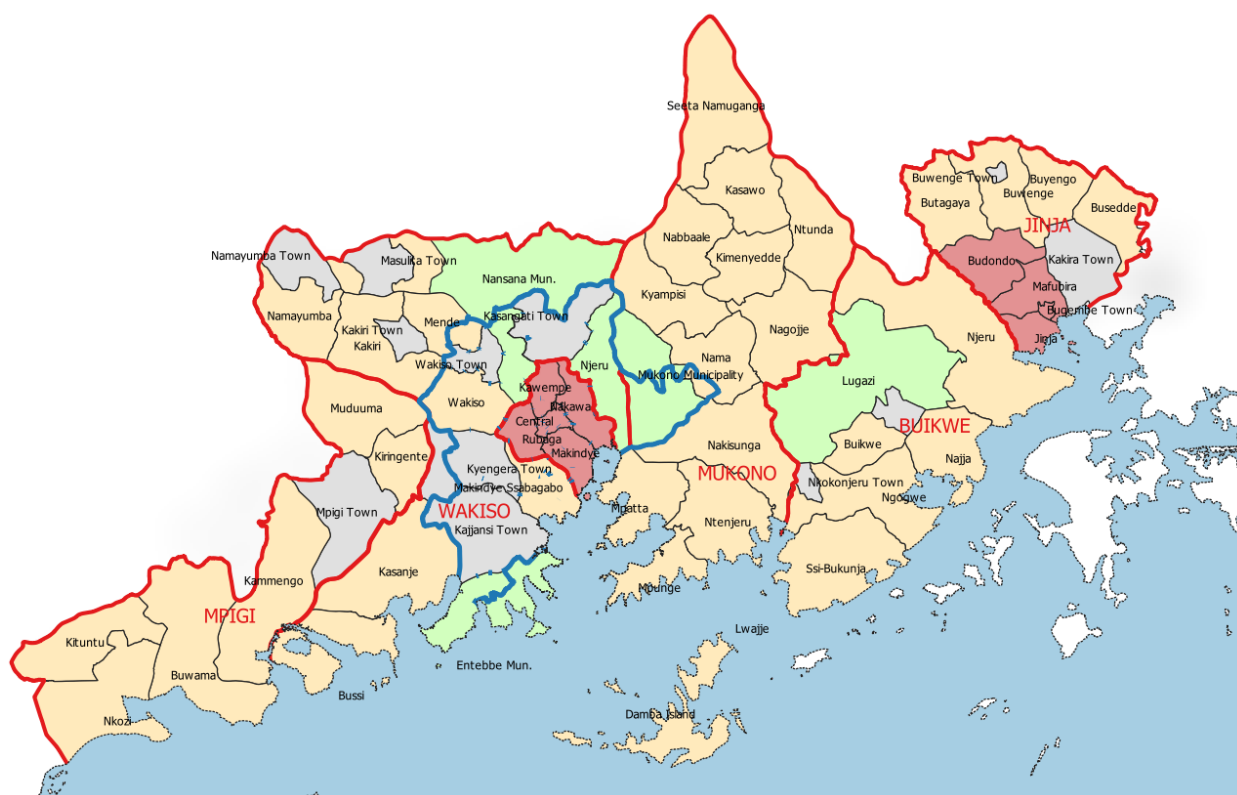
<sup>6</sup> The GKMA covers 970 sq. km in this definition. Other definitions specify only portions of Mukono and Wakiso districts (e.g., IPE Triple Line, Spatial Assessment of Kampala, Uganda, East Africa Research Fund, 2018) or include Kalangala District rather than Mpigi District (e.g., Miljan Sladoje, Gregory Randolph and Lina Khan, Transforming secondary urban areas for job creation: a study of Uganda, International Growth Centre, 2019). The IPE study above includes all 97 KCCA parishes, 77 Wakiso District parishes and 8 Mukono District parishes. According to this definition, GKMA covers an area of around 1,033 sq. km and has an estimated population of 4.1 million, which is approximately 10 percent of the total population and 38 percent of the urban population. In view of this definitional variation, and to plan using available data, principally from UBOS, and also to follow the lines of political administration, authority and influence in an inclusionary rather than exclusionary fashion, we have decided to include full districts rather than portions thereof. The GKMA Structure Plan is currently being updated.

<sup>7</sup> Central, Rubaga, Makindye, Nakawa and Kawempe. In this chapter, Kampala and Greater Kampala are used interchangeably for the GKMA and its area; Kampala City is used for the KCCA area.

<sup>8</sup> Kampala Capital City Act, 2010 defines the metropolitan area as 'the area of jurisdiction of the Authority together with the neighbouring districts of Mpigi, Wakiso...and Mukono.'

<sup>9</sup> Jinja municipality was one of seven municipalities which achieved city status on July 1, 2020, following the intention of Vision 2040 to create five regional and five strategic cities. The other July 1 cities were Arua, Gulu, Mbarara, Fort Portal, Masaka and Mbale. Eight cities will become operational as cities later, two in the JKM Corridor, Entebbe and Wakiso, and also Hoima, Lira, Soroti, Moroto, Nakasongola, and Kabale.

Figure 1: The JKM Regional Corridor

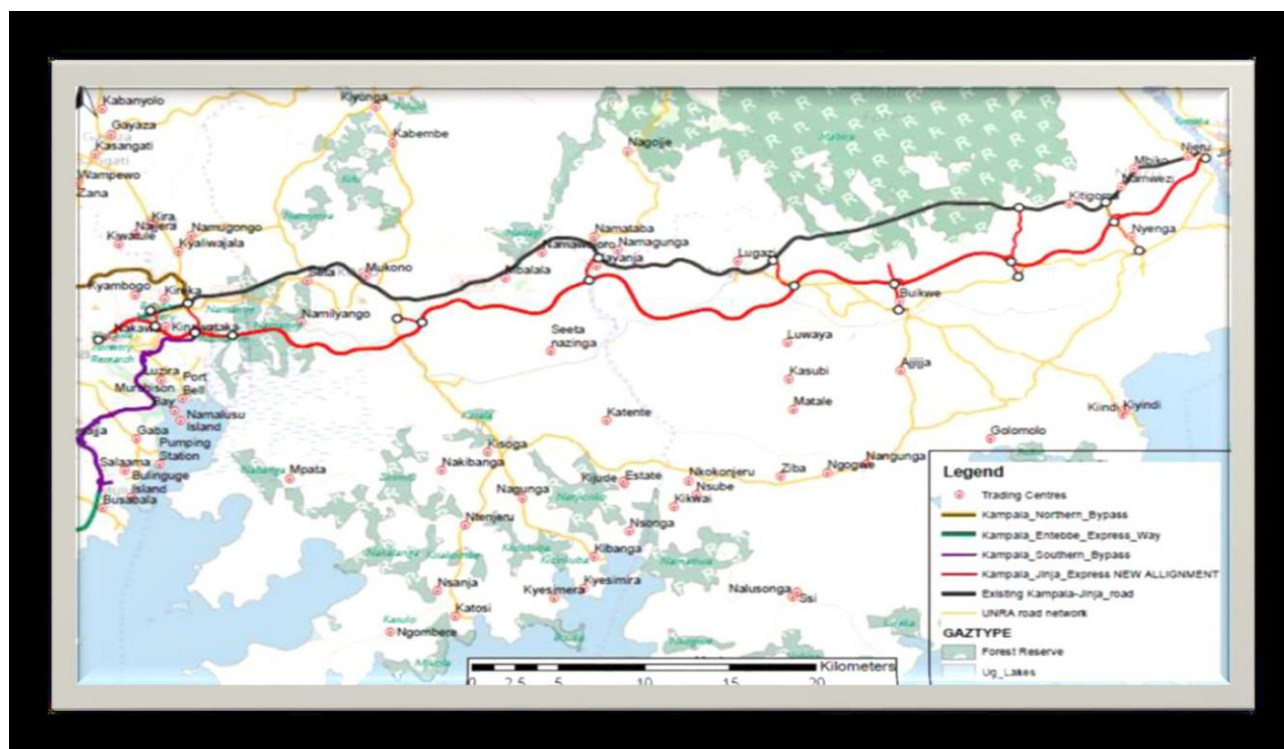


Source: COWI A/S

This spatial definition directly follows the 120km Mpigi to Jinja road transportation route, which on the most direct route tracks the Kampala (Busega)-Mpigi Expressway, currently under construction, the Kampala-Northern Bypass Highway and the A109 to Jinja (which is to be superseded by the future Kampala-Jinja Expressway, which is beginning construction). Figure 2 depicts the official alignment of the expressway. As with most similar urban and regional corridors, it stipulates distinct beginning and finishing points on the key defining transportation route, i.e., a terminus on each end, as specified by its actual (JKM Corridor) name. This plan area, as defined, is also constituted by a southern transportation axis along the recently built 50 km Kampala-Entebbe expressway and the former main road between the two settlements.<sup>10</sup>

<sup>10</sup> We are aware that the corridor was previously named the Jinka-Kampala-Entebbe (JKE) corridor, and that this term is still used by some initiatives such as the UKAID-funded Uganda Cities Infrastructure and Growth (CIG) programme.

Figure 2: The Kampala-Jinja Expressway



Source: African Development Bank

The current Kampala – Jinja highway A109 on the map forms part of the Northern Corridor of the Trans-Africa Highway, linking the Indian Ocean port of Mombasa, Kenya with the Atlantic Ocean port of Matadi, Democratic Republic of the Congo (DRC). The section of the A109 between Jinja and Kampala is the busiest and most congested road in Uganda. It is the main import/export route for land-locked Uganda, Rwanda, Burundi, and the eastern Democratic Republic of the Congo (DRC). The 77-kilometre (48-mile) expressway now under construction is routed to the south of the existing Kampala–Jinja Highway and is planned as a toll road.

Importantly, this definition is also human settlement-focused and includes Kampala City (1,507,000, 2014 population), as the country's largest city, and also the next three largest urban centres, Nansana (366,000), Kira (317,000), and Makindye Ssabagabo (283,000), as well as a further five of the 20 largest urban centres, namely Kyengera (195, 531), Mukono (163,000), Lugazi (114,000), Jinja (76,000), Entebbe (69,000), and Njeru (also 69,000).<sup>11</sup> Mpigi, with a population of 44,000, is a somewhat smaller town, as is Wakiso town (60,000).

Including the whole of Mpigi and Jinja districts further permits the incorporation of the peri-urban areas and rural hinterlands of each urban terminal point, given that they are located respectively on the easternmost (Mpigi) and westernmost (Jinja) points in their respective districts. Equally, more rural sub-counties in the northernmost part of Wakiso and Mukono districts are also included.

<sup>11</sup> Entebbe and Jinja and Wakiso are included in the recent Cabinet-approved plan to create 15 new cities in the 2020 to 2022 period (also included are Arua, Fort Portal, Gulu, Hoima, Lira Mbale Masaka Mbale Soroto, Moroto Nakasongola, Kabale, Wakiso and Mbarara).

### 1.1.2 The JKM Corridor's population dynamics and urbanisation

Uganda is one of the fastest-growing countries in the world in terms of population, with a growth rate of around 3.3 percent per year and a population currently estimated to be 41,393,972. The total population of the JKM Corridor is estimated at 6,573,000, which is equivalent to 15 percent of the total country's population<sup>12</sup>.

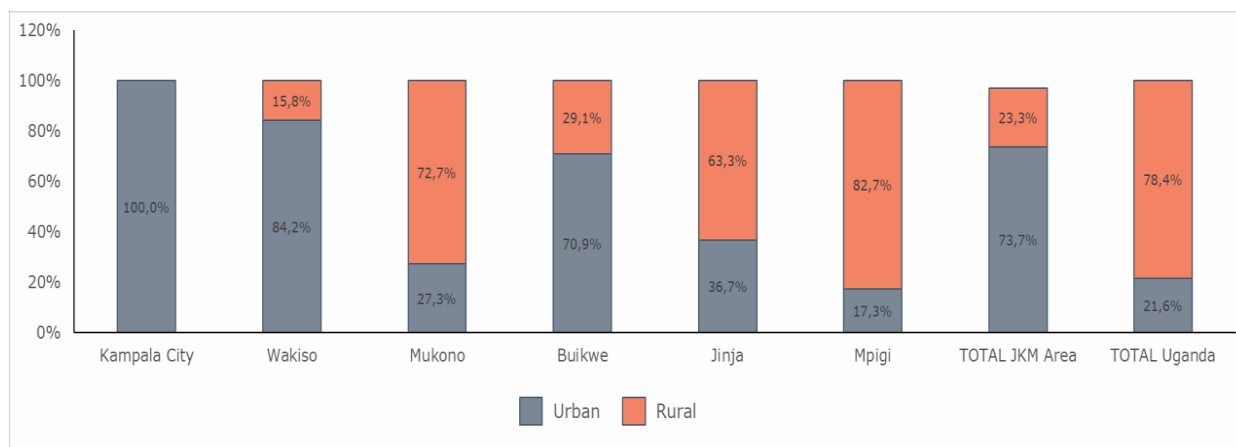
Uganda's population growth is reflected by the size of its very young population: the population below 17 years old is approximately 55 percent of the country's total population. Recent studies indicate that the 15-30 years age group forms 60 percent of the working age population and that this working age population will increase by 13 million between 2017 and 2030.<sup>13</sup>

The JKM Corridor has a significant pulling factor for the working-age population which is demonstrated in its much higher share of almost 54 percent within the JKM Corridor as compared to around 47 percent for the whole of Uganda. Kampala City (62 percent) and Wakiso District (55 percent) are the areas where the percentage of the working-age population is the highest, compared to a figure of below 50 percent for the remaining districts.

While Uganda remains largely rural, the country has been experiencing rapid urbanisation with an urban population growth rate of around 6 percent since 2014. Uganda's urban population is estimated to be 24 percent and by 2040 it is projected to reach a share of around 40 percent. The JKM Corridor is however already strongly urbanized, with 74 percent of the population living in urban areas. In 2014, the JKM Corridor contained 52 percent of the country's total urban population.

Urban populations are preponderant in Kampala City, Wakiso District and Buikwe District, as seen in Figure 3 below.

Figure 3: JKM Corridor Population



Source: Population Census 2014 and District Profiles 2014

At the core of the region's urban dynamism is undoubtedly the country's capital, Kampala City, which has become the centre of a large, growing and spatially expanding urban agglomeration. This growth has

<sup>12</sup> Population Census 2014 and District Profiles 2014

<sup>13</sup> Sladoje M., Lina Khan and Greg Randolph, 2019, "Transforming secondary cities for job creation: A study of Uganda", Policy Brief, International Growth Centre.

extended to Kampala's neighbouring districts, creating several large satellite urban settlements, in particular within Wakiso District.

These satellite settlements function today as suburbs of Kampala City and have led to the emergence of the GKMA, which includes Wakiso, Mpigi and Mukono districts and brings together a population of more than 4.3 million people in Uganda's largest urban settlements. Beyond the GKMA, the highest concentration of the urban population along the JKM Corridor is in Buikwe District. Njeru Municipality and the recently established Jinja City create an urban agglomeration that numbers around 300,000 inhabitants.

Urbanisation will continue across the JKM Corridor, particularly within the GKMA. Most urban settlements in Wakiso District have grown at an annual rate higher than 6 percent, with Kira, Kyengera Town and Kasangati Town having grown at more than 8 percent, and Wakiso Town and Kakiri Town at more than 9 percent. In Mukono District, urban population growth has not been as high, but Mukono Municipality has still grown by almost 5 percent. The urban growth in Buikwe, Mpigi and Jinja districts has been lower – within the range of 2 percent to 3.6 percent, although such lower growth needs to be seen in relation to administrative definitions of urban settlements, in the case of Jinja in particular.

The growth in urban population is the result of natural growth but also the consequences of migration. Uganda is a country with a relatively high level of spatial mobility even though people tend to migrate within the same region. However, most migrants to urban areas move to Kampala and its satellite urban settlements. This has an impact not only on the population and economic growth of the capital city and its metropolitan area but also on the growth of other smaller secondary urban settlements.

This spatial mobility pattern explains Kampala's continued dominance of the urban landscape. In addition, it explains the more limited growth of Uganda's secondary cities and their difficulty to reap economies of scale to potentiate social and economic transformation. Migration to urban areas is nevertheless often beneficial. The latest Uganda household surveys have shown that urban areas have lower rates of poverty and higher average consumption levels than rural areas.

## 1.2 Key national development policies

The JKM Plan takes as its point of departure Uganda's key national development and physical development policies and plans.

### 1.2.1 Vision 2040

#### **Vision and Objectives**

Vision 2040 is Uganda's long-term strategic plan for spatial and non-spatial development as devised by the National Planning Authority (NPA). Issued in 2010, its stated objective is to achieve:

*"A transformed Ugandan society from a peasant to a modern and prosperous country within 30 years".<sup>14</sup>*

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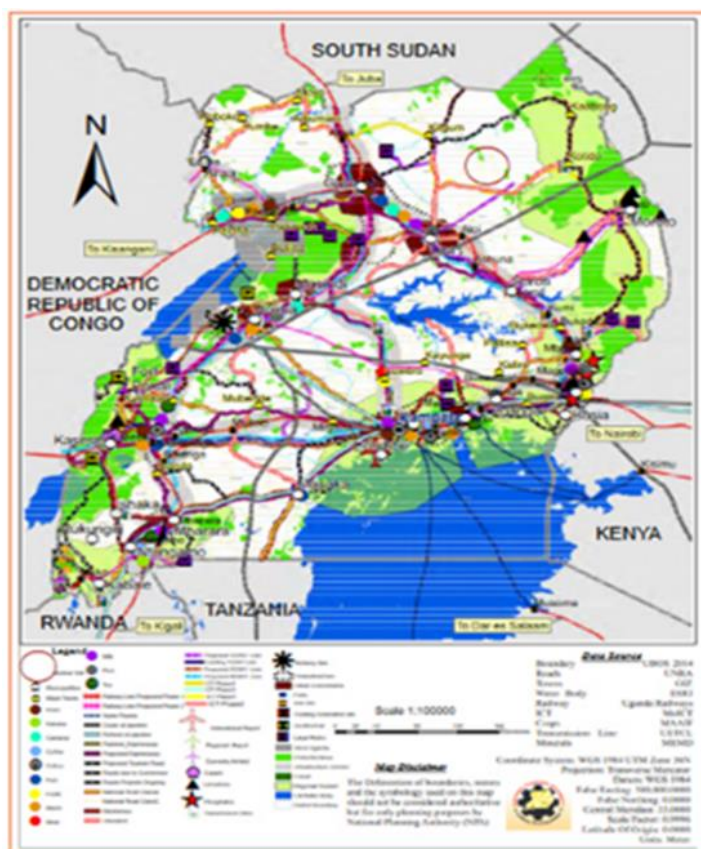
<sup>14</sup>National Planning Authority (Henceforth: NPA) (2010) *Vision 2040* p. 2. Available online at: <http://www.npa.go.ug/uganda-vision-2040/>

More specifically, Vision 2040 outlines quantified development targets that will act as indicators of the achievement of middle-income status, with an expected 30-fold increase in Gross Domestic Product (GDP) by 2040. Specific targets by 2040 include:

- > Increasing industry (from 26.5 percent to 31 percent) of GDP, and services (from 51.2 percent to 58 percent).
- > Increasing access to electricity from 11 percent of the population to 80 percent.
- > Increasing access to piped water from 15 percent to 80 percent.
- > Increasing the share of standardised paved roads from 4 percent of the total road network to 80 percent.
- > Increasing the share of people living in planned settlements to 100 percent in both urban and rural areas, and the overall level of urbanisation from 13 percent to 60 percent.

Urbanisation and urban and spatial planning are of great importance to achieving these goals. As such, Vision 2040 is the guiding document for the formation of planning frameworks and development plans – all planning frameworks and development plans seek to support the attainment of the development indicators laid out in Vision 2040.

Figure 4: Spatial Framework for Uganda Vision 2040



Source: Vision 2040

The foundation for the Spatial Framework is as follows:

- 1 The Standard Gauge Railway (SGR), which will connect regional capitals, Addis Ababa, Juba, Kigali, Kampala and Nairobi to the sea at Djibouti and Mombasa, is the main determinant of the pattern of regional infrastructure.
- 2 The transportation infrastructure defines corridors, based on the new electric-powered railway (130m wide), international expressways and 400KV electricity transmission network and fibre network.
- 3 The location of existing and new power sources which are coming on stream, define “production zones” on the corridors and provide the low-cost power and transport which will make Ugandan industry globally competitive.
- 4 Production zones provide well-designed, serviced sites for agro-processing for specific crop clusters, manufacturing based on the processing of minerals, oil and gas from their regions, and outsourcing of manufacturing from more advanced economies.

### **Vision 2040 Spatial Framework**

The Uganda Vision 2040 Spatial Framework, seen in the Figure 4 map alongside, spatially projects the long-term infrastructural and institutional developments as set out in Vision 2040.<sup>15</sup>

The Uganda Vision 2040 Spatial Framework is a layout projecting infrastructural and institutional developments over the long term. The Framework was prepared to ensure the main spatial development elements synergistically, cost-effectively and efficiently contribute to the attainment of Uganda’s long-term socio-economic development goals.

<sup>15</sup>NPA (2010). *Vision 2040 Spatial Framework* [Online]. Available at: <http://www.npa.go.ug/planning-frameworks/spatial-framework/>



- 5 Towns and cities which are already in the corridors, some of which are already becoming conjoined (for example on the JKM Corridor) grow by in-migration into well-planned, high-density nodes on urban corridors related to production zones.
- 6 National parks, forests, agricultural areas and related towns which are off the corridors develop as high-quality and high-value environments for agriculture, leisure and ICT-based economies.
- 7 Conservation and environmental protection areas are extended within the above 'off-corridor' locations; strong measures are taken where corridors pass through environmentally sensitive areas.

## 1.2.2 NDP III

### **Contextualising the Plan**

Uganda's National Development Plans (NDPs), as devised by the National Planning Authority (NPA), have had and will continue to have a significant impact on both the formulation and implementation of national development goals. While primarily strategic documents, they also offer granular detail as to how Vision 2040 shall be achieved within a given five-year time frame by offering specific development objectives and by outlining key programmes for public and private investment. In other words, if Vision 2040 is the long-term strategic direction for Uganda's economic and spatial development, the NDPs set the short-to-medium-term national priorities for development towards achieving Vision 2040's stated objectives.<sup>16</sup>

More specifically, the NDPs serve the following primary functions:

- 1 Gathering analysis of Uganda's developmental outlook as is pertinent to the achievement of Vision 2040, taking stock of challenges and opportunities.
- 2 In the cases of NDP II and NDP III, further evaluating the successes and failures of the previous plan/s.
- 3 Identifying and outlining in detail key projects through which Vision 2040 shall be implemented.
- 4 Collating strategic spatial plans for the implementation of said projects.

NDP III sets out key development objectives for the period from 2019/20 to 2025/26. Responding to the challenges faced by NDP I and NDP II, NDP III is both ambitious and holistic in its approach, offering a thorough well-considered approach to both non-spatial (e.g., proposed governance reforms) and spatial development.

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<sup>16</sup>NPA (2019). *Third National Development Plan (NDP III): 2020/21 – 2024/25*. pp. 1-14. Available online at: <http://www.npa.go.ug/development-plans/national-development-plan-ndp/>



## **Strategic Objectives and Approach**<sup>17</sup>

The stated objective of NDP III is to attain

*"Increased Household Incomes and Improved Quality of Life of Ugandans."*<sup>18</sup>

This aim is to be achieved through the following objectives:

- 1 Enhance value addition in key growth opportunities.
- 2 Strengthen the private sector to create jobs.
- 3 Consolidate and increase the stock and quality of productive infrastructure.
- 4 Enhance the productivity and social well-being of the population.
- 5 Strengthen the role of the state in guiding and facilitating development.

These objectives are to be achieved through the delivery of key programmes. It should be noted that a programmatic approach and the programmes themselves reflect a distinct, robustly considered approach derived from the following set of lessons learned from NDP I and II:<sup>19</sup>

- > That private investment alone is unlikely to the successful attainment of stated objectives;
- > That a programme approach to development will bring together key stakeholders and actors holistically, as opposed to the siloed (i.e., divided) approaches of NDP I and II;
- > That land compensations must be effectively addressed;
- > That the development approach should conform to both regional and global development frameworks, namely the African Agenda 2063, Agenda 2030 (Sustainable Development Goals), and East African Community (EAC) 2050;
- > That there should be significantly increased investment in the 'real' economy (i.e., 'formal', taxable economic activity that follows the legal, regulatory, and administrative requirements and standards of the Ugandan government). Further, investment opportunities should be appropriately skilled for the labour force – and offer more for the youth, who are by far the largest demographic nationally.

To implement NDP III, 18 programmes are set out in the policy domains which follow below:<sup>20</sup>

- 1 Agro-industrial Development
- 2 Mineral Extraction

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<sup>17</sup> Ibid. pp. 35-53

<sup>18</sup>Ibid. p. 35

<sup>19</sup>Ibid. pp. 2-14

<sup>20</sup>Ibid. pp. 53-60

- 3 Sustainable Petroleum Development
- 4 Tourism
- 5 Natural Resources, Environment, Climate Change, Land and Water Management
- 6 Private Sector Development
- 7 Manufacturing
- 8 Integrated Transport Infrastructure and Services
- 9 Energy
- 10 Digital Transformation
- 11 Sustainable Urbanisation and Housing
- 12 Human Capital Development
- 13 Innovation, Technology Development and Transfer Programme
- 14 Community Mobilisation and Mindset Programme
- 15 Governance and Security
- 16 Public Sector Reform
- 17 Regional Development Planning
- 18 Development Plan Implementation.

The successful implementation of *any* of NDP III's programmes will impact spatial and physical development in the JKM Corridor. This is because they will affect the structuring and efficiency of administrative institutions, and of development and urban planning frameworks and instruments at the local and regional levels (e.g., public sector reform, human capital development) or the prosperity and demography of the corridor (e.g., private sector development, manufacturing, tourism).

### 1.2.3 Local Government and Institutional Framework

The JKM Corridor Physical Development Plan will rely on both Central and Local Governments for implementation. At the national level, the implementation of such a plan will involve sector ministries beyond MLHUD, such as the Ministry of Transport or the Ministry of Works, as well as the Ministry of Finance, Planning and Economic Development, and the Ministry of Local Government. The Office of the Prime Minister and the National Planning Authority will play key roles. These entities will perform different functions according to their mandates, making sure that proposed projects and activities are placed within Government and sector plans, budgets and overall legal frameworks. A brief description of specific roles is as follows:

- > **MLHUD** - The Ministry will play a supervisory role throughout the development of the JKM plan. It will also provide data for land coverage, housing density in rural and urban areas as well as the nature of urban development. This will be relevant in scenario building.
- > **The Ministry of Works and Transport** – Expected to play a key role in the implementation of transport infrastructures that are crucial in the development of the JKM corridor.
- > **NPA** - The NPA is represented in the Steering Committee and is therefore expected to be supportive and provide necessary information to ensure that the JKM is aligned with the National Development Plans.
- > **Ministry of Finance, Planning and Economic Development** – Responsible for the appropriation of funds for its implementation.
- > **Office of the Prime Minister** - Expected to support the allocation of resources for the implementation of the JKM corridor plan.

The provisions and recommendations of the plan will be realized through the local government system. The second schedule of the Local Governments Act 1997 lists the functions that must remain with the national government but also provides a list of functions to be carried out by the districts and other local councils – functions which may or may not be devolved to lower levels of local government. The CAP 243 of the Local Governments Act devolves planning and budgeting powers to local councils in their areas of jurisdiction. A clearly defined system also assures that there is local consultation and representation from the individual citizen upwards.

In Uganda, the local government structure differs in rural and urban settings:

- > In urban settings, there are city, municipal, division/town, ward and cell councils.
- > In rural areas, there are district councils, counties (which are administrative units without a council), sub-county councils, parish councils and village councils.

As seen above, there are currently two cities within the JKM Corridor, namely Kampala and Jinja, and five districts, Mpigi, Wakiso, Mukono, Buikwe and Jinja.

District Councils or City Councils are the Planning Authorities in any given District. A District or City Council is made up of an executive committee composed of a chairperson, vice chairperson and a maximum of three Secretaries nominated from amongst the Councilors. The governing structure reproduces itself through lower levels of government, but also at lower levels of responsibility.

Under the 1997 Local Governments Act, districts and cities were given responsibility for service delivery in a broad range of areas, including healthcare, education, water and roads. They also were put in charge of their annual planning and budgeting. Local government bodies can levy taxes and revenue and can plan for their own development. In Kampala alone, roughly 80 percent of services were devolved to the Kampala City Council (KCC) and then subsequently to the Kampala Capital City Authority (KCCA).

The different districts and city governments are responsible for preparing their own development plans which establish the development path for the district or city for the following five years. These local governments are also responsible for overseeing the execution of local development plans in coordination with appropriate sector administration hierarchies – within the local government and nationally.

The chapters which follow now present the elements of the JKM Plan, in this order:

- Chapter 2 Vision, Goals, and Strategic Priorities
- Chapter 3 Spatial Development Framework and Strategy
- Chapter 4 Industrialisation and Economic Development Strategy
- Chapter 5 Housing and Regional Infrastructures Strategy
- Chapter 6 Transport, Mobility, and Connectivity Strategy
- Chapter 7 Environmental Assets, Management, and Climate Change Strategy
- Chapter 8 Agricultural Sector Development Strategy
- Chapter 9 Implementation Strategy

# THE JINJA- KAMPALA-MPIGI CORRIDOR

## PHYSICAL DEVELOPMENT PLAN

JUNE 2023

### CHAPTER 2 VISION, GOALS, AND STRATEGIC PRIORITIES



**Government of Uganda**  
Ministry of Lands, Housing and Urban Development

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## 2 VISION, GOALS, AND STRATEGIC PRIORITIES

### 2.1 Introduction

The preparation of a Vision, Goals and Strategic Priorities for the JKM Corridor Plan in collaboration with stakeholders drew primarily – but not exclusively – on the policy documents introduced in Chapter 1 which guide Uganda’s spatial development, and which have notable significance for the development of the corridor:

- > Uganda Vision 2040: The overarching vision and goals for Uganda’s national development for the year 2040.
- > The National Development Plan III (NDP III): Uganda’s development priorities and implementation strategies for 2020-2025, towards the attainment of the objectives within Vision 2040.
- > The National Physical Development Plan 2019 (NPDP 2019): The policy basis for integrating spatial and non-spatial economic and social development planning.

This chapter deduces the pertinence of transport, economic and development corridors for Uganda's development and spatial planning from these policy documents as a solid grounding for the vision and goals for the JKM Corridor Plan.

### 2.2 Corridor Planning and Development

The term ‘Corridors,’ whether in the form of transport corridors or, more normatively or in aspirational terms, development corridors, has become of great importance for Ugandan spatial and economic development plans.

‘Corridor’ is a loosely defined term, referring to the physical and non-physical infrastructures linking two given spatial nodes. Nodes might be, for example, two urban centres, an urban centre to an industrial centre, or an agricultural cluster to an industrial cluster, and so forth.

There is an emerging practice and literature on transport corridors and development corridors as practical strategies for social, spatial, and economic development. Transport and Development corridors can be crudely defined as:

- > Transport Corridor refers to dense transport infrastructures linking two nodes; such corridors will include multiple forms of transport, such as rail, highways and arterial roads, flight paths, waterways, and so forth.<sup>1</sup>

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<sup>1</sup>See e.g. A S M Abdul Quium (2019). ‘Transport Corridors for Wider Socio-Economic Development,’ in *Sustainability* 11. Available at: [www.mdpi.com/journal/sustainability](http://www.mdpi.com/journal/sustainability).

- > Development Corridor<sup>2</sup> refers to the planned development that usually builds on the presence of a transport corridor, leveraging the existing, often high-capacity infrastructure, to facilitate spatial and economic developments such as agricultural zones, industrial hubs, and even entire cities.<sup>3</sup>

These two forms of corridor overlap. It is to be expected that a corridor of high-capacity or high-usage transport infrastructure would attract industrial or service enterprises seeking to make use of heightened connectivity; likewise, that a corridor of intense economic activity would see public and private investment in facilitating infrastructure. In turn, such corridors become natural targets of development, given that investment in such corridors can easily capitalise on existing capacities in terms of infrastructure, capital, labour centralisation, and so forth.

Generally speaking, 'corridor' is a term reserved to linkages between *regional* nodes; for example, linking two regions within a single country, or even linking entire continents (such as the emerging Belt and Road corridor linking China to South Asia, Central Asia, the Middle East, East Africa, the Mediterranean, and Northern Europe).

In Uganda's case, the corridors in question are national, linking northern, southwestern, and south-eastern nodes within Uganda. These corridors are also part of larger international corridors, often termed Trade Corridors.

## 2.3 From Transport Corridors to International Trade and Regional Development Corridors

Development corridors are an increasingly widespread approach for spatial planning in Africa, and Uganda is inherently well-positioned to leverage its existing transport corridors for such a strategy. Uganda's geographic position as an East African state bordering northern Lake Victoria means that it straddles regionally critical road, rail, air, and water infrastructure corridors.

Uganda is connected to two internationally recognised and regulated transport (and trade) corridors, the Northern Corridor and the Central Corridor, which are further described in the following sections.

### **The Northern Corridor**

The Northern Corridor is an international, regional transport corridor linking the DRC, Rwanda, Burundi, Tanzania, Uganda, and Kenya. The Northern Corridor is formally defined and enshrined by the Northern Corridor Transit and Transport Agreement, signed in 1985 and revised in 2007. The Northern Corridor is managed by the Northern Corridor Transit and Transport Coordination Authority, which is headquartered

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<sup>2</sup> The terms infrastructure, transport, trade, urban, economic, and development corridors are used interchangeably – and at different spatial scales. In particular, the term "economic corridor" is often used simultaneously with that of "development corridor", with both connoting that the wider economic benefits that can be derived from the presence of transportation infrastructures are purposively planned, developed and, vitally, spread to the wider population in the corridor region. We use the term development corridor in this plan.

<sup>3</sup> See e.g., Fau, Nathalie (2019). 'Development Corridors' in *EchoGeo* 49. DOI: <https://doi.org/10.4000/echogeo.18170>. Available at: <https://journals.openedition.org/echogeo/18170>.

in Mombasa. The Authority is tasked with monitoring the implementation of the agreement, which aims to:<sup>4</sup>

- > Facilitate trade, the movement of persons, vehicles and goods in domestic, regional, and international transport.
- > Stimulate economic and social development in the territories of the contracting parties.
- > Transform the Corridor into a Development Corridor, in addition to offering safe, fast, and competitive transport and transit services that secure regional trade.
- > Implement strategies for accelerating economic and social growth along the corridor while ensuring environmental sustainability.

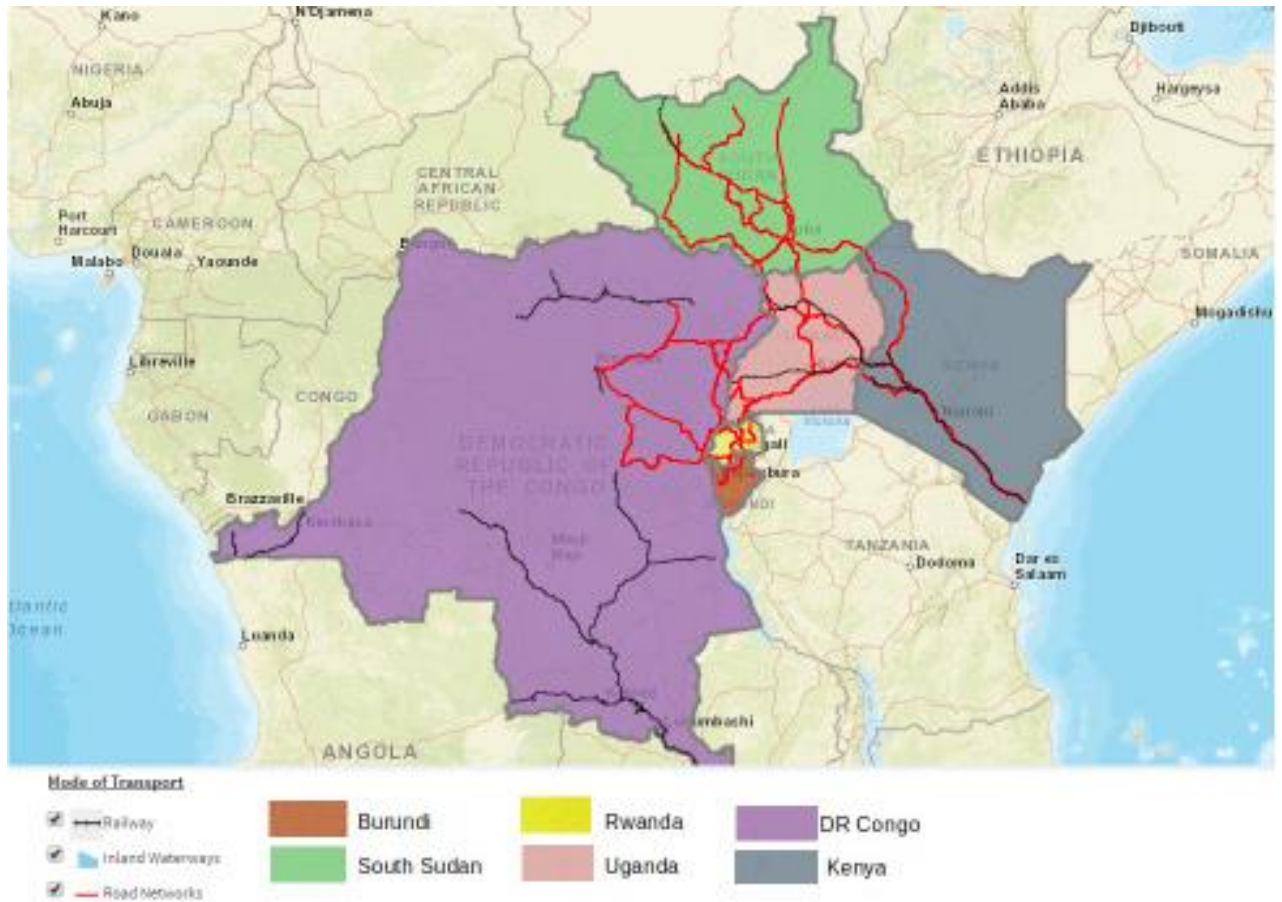
The Corridor seeks to standardise and synchronise modes of transport connecting its member states to the eastern coast of Kenya, in doing so facilitating efficient East-West trade and, vitally for Uganda, facilitating connections to ocean shipping freight. As well as infrastructure for freight and hauling, the Northern Corridor is facilitating the development of oil pipelines connecting Uganda and Rwanda to the Kenyan coast for export.

As can be seen in Figure 1 below, the Northern Corridor passes through Uganda as a key node for road, rail, and waterways, including connecting the major settlements of Jinja, Kampala, and Mbarara. Uganda is dependent on the Northern Corridor for trade, with the port of Mombasa, Kenya handling 97 percent of the country's exports.

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<sup>4</sup> Northern Corridor Transit and Transport Authority (2007). *Northern Corridor Transit and Trade Agreement*. Nairobi, Kenya. Available online at: [http://www.ttcanc.org/documents/NORTHERN\\_CORRIDOR\\_TRANSIT\\_AND\\_TRANSPORT\\_AGREEMENT\\_2007.pdf](http://www.ttcanc.org/documents/NORTHERN_CORRIDOR_TRANSIT_AND_TRANSPORT_AGREEMENT_2007.pdf)

Figure 1: Northern Corridor Member States



Source: Northern Corridor Transit and Transport Authority

The Agreement further obliges member states to facilitate trade, free movement within territories, and a right of transit through member territories.

### **The Central Corridor**

The Central Corridor is at present of less importance for Uganda's trade but is nonetheless a significant transport corridor. It links the Tanzanian port of Dar Es Salaam to Burundi, the Democratic Republic of Congo, Rwanda, and Uganda. Established in 2006, it is hoped that the development of the Central Corridor can reduce Uganda's reliance on the Northern Corridor for the facilitation of export and import freight. In addition to diversifying freight distribution, participation in the Central Corridor offers some protection to Uganda from political shocks disrupting the country's access to international waters.

The Central Corridor is headquartered in Dar es Salaam, Tanzania, and is overseen by the Central Corridor Transit Transportation Facilitation Agency. A more fledgling and less established corridor than the Northern Corridor, the Central Corridor aims to remove friction for transit towards Tanzania's port by ensuring that member states grant one another a right of transit for the movement of goods and people.<sup>5</sup>

<sup>5</sup> Central Corridor Transit Facilitation Agency [online]. <https://centralcorridor-ttfa.org/about-us/back-ground/>

### 2.3.1 Recognising Corridors as a Development Strategy in National Development and Spatial Policy

Given the importance of these corridors, especially as they connect to Uganda's southeastern and southwestern connections with Kenya, the DRC, and Tanzania, Uganda has significantly developed transport infrastructure, which corresponds with the bulk of Uganda's urbanised areas. Arguably, these transport corridors have become emerging development corridors. NDP III and the NPDP, which are discussed in detail below, recognise the significance of these corridors as not only having a high potential for development but as providing the bedrock of the country's short and medium-term spatial development strategy. The NPDP states that:

*"it adopts the models of connectivity corridors that mark urban development along a triangular model that optimizes the development of infrastructures and expressways based on three main arteries."*<sup>6</sup>

The expressways and infrastructures are to be superimposed on existing highways and transportation networks, leveraging the existing infrastructure, and maximising the potential for polycentric, regional growth as opposed to intensifying all development in the GKMA. This can be seen reflected in the NPDP spatial framework which follows.

Given the interconnectedness of the NPDP and NDP III, it is therefore unsurprising that the NDP states as one of the principal means through which the role of the state shall be expanded in Uganda's urban development shall be through:

*"diversifying Uganda's growth corridors by developing two new growth corridors."*<sup>7</sup>

And further that

*"Uganda must plan to take full advantage of this increased transport interconnectivity to increase exports to the African region as well as Asia and the Middle East."*<sup>8</sup>

The new Growth Corridors presented in the NPDP are illustrated in Figure 2. This emphasis on corridors is in line with the present acceptance of development corridors in African states. Given Uganda's geographic centrality on the continent, sitting at the intersection of numerous transport corridors, the development of Uganda's transport corridors can be seen to have significance not only for the country's development, but for regional development as well; the development of any one of the corridors within Uganda's 'growth triangle' above will undoubtedly see it strengthen its integration with the regional economy, and offer future opportunities for international connectivity.

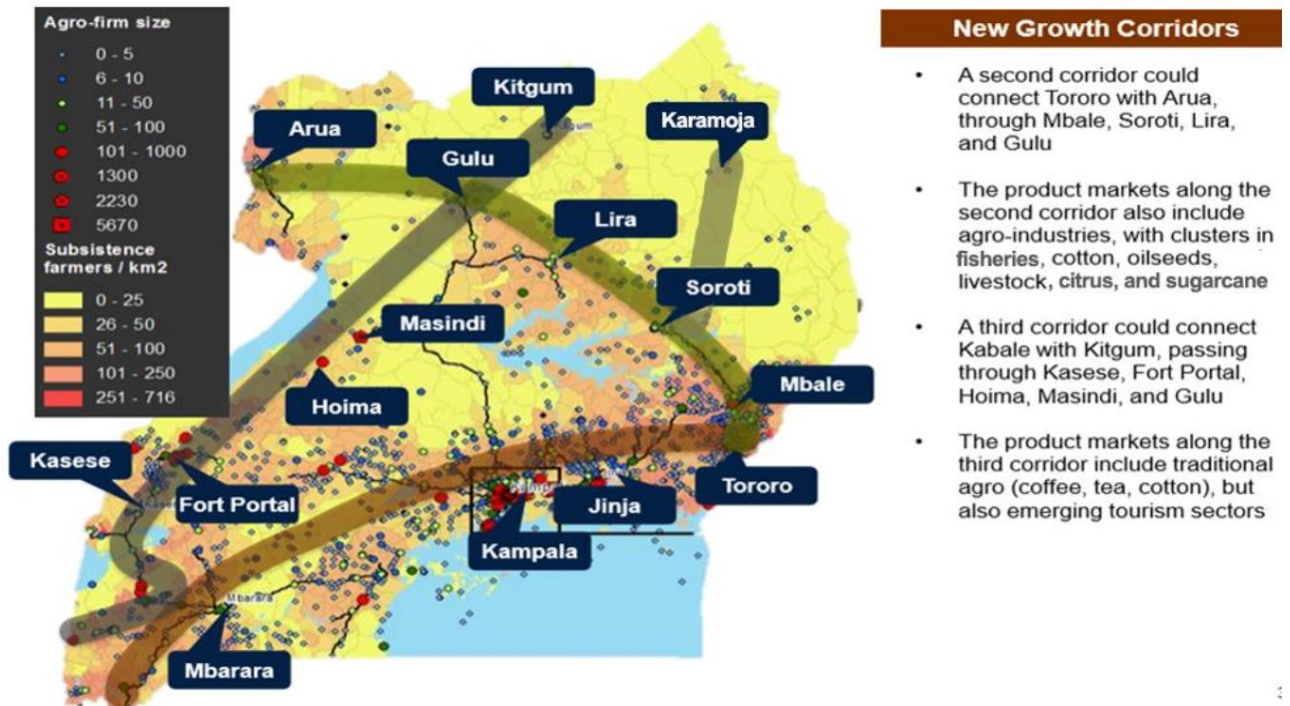
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<sup>6</sup> NPA (2019). *National Physical Development Plan 2019-2040*. p. iv.

<sup>7</sup> NDP III. p. 40

<sup>8</sup> Ibid. p. 17

Figure 2: New Growth Corridors in the NPDP



Source: NPDP

## 2.4 The Role and Significance of Corridors in the National Physical Development Plan

### 2.4.1 Overview – NPDP Rationale

Vision 2040 and the NDPs can be viewed as development policy documents. The National Physical Development Plan (NPDP) expresses national development policy by providing a national spatial development framework. This framework outlines the entirety of Uganda’s planning instruments and capacities and integrates them with non-spatial development policy and plans to offer a means by which both physical and development plans can be implemented in an integrated fashion.

The NPDP was devised as a crucial adjunct to NDP III, offering an overall plan and programme for capacitating and animating the Physical Planning System for it to be effective across the whole country as it develops.

Specifically, the NPDP forms the basis for

*“...integrating the physical and spatial with the economic and social issues of national development planning.”<sup>9</sup>*

Integrating spatial and non-spatial plans is important for any planning system, but given that Ugandan physical planning must contend with complex and often informal systems of land tenure, as well as limited local capacities for urban planning implementation and enforcement, the NPDP is further intended to serve as a crucial

*“...system and a guide [for] how to deal with conflicting pressures on land use.”<sup>10</sup>*

The NPDP is not a legislative planning instrument (such as the Physical Planning Act (PPA) of 2010, and its amendment in 2020), nor an administrative instrument, but a bridge between those planning instruments and the aspirational long-term (Vision 2040) and short-term (NDP) development plans.

### 2.4.2 The NPDP, Vision 2040, and NDP III

The NPDP is closely related in its genesis to Vision 2040 and NDP III. As stated in NDP III, one of the key lessons from both NDP I and NDP II was the need to create physical and development plans that were integrated and holistic in their content and implementation, recognising that the formulation and implementation of a given plan draw on multiple stakeholders and actors both within and beyond government. Hence, in preparation for NDP III, the NPDP was written to:

- > Summarise and integrate physical and economic planning systems, and to provide an empirical basis in the form of population and land use projections from which priorities can be established.
- > Identify projects for NDP III and align them within the national budgeting and planning programme, ensuring that plans and programmes were considered holistically and pragmatically within the

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<sup>9</sup> NPA (2019). *National Physical Development Plan 2019-2040*. p. ii

<sup>10</sup> Ibid. p. ix



capacities and processes of the Ugandan planning system towards the implementation of Vision 2040.

- > Serve as a reference point for future iterations and reviews of the NDPs, in order to ensure spatial compliance with the PPA 2010 and Vision 2040.

The NPDP achieves this in part by proposing the bolstering of the significance of urban planning within central Government policy making, which is one of the key lessons imparted from NDP I and II, as seen above. By informing the aspirations of Vision 2040 with a comprehensive spatial framework based on population/land use projections and up-to-date assessments of planning instruments, the NPDP forms the spatial groundwork for NDP III. The NPDP is further informed by the nine "attributes" of Vision 2040, which are translated into seven "pillars" (priorities) of the NPDP:

- 1 Environmental Sustainability.
- 2 Human Capital.
- 3 Spatial Economic Development
- 4 Public Services.
- 5 Settlement Development.
- 6 Infrastructure.
- 7 Governance.

### 2.4.3 NPDP Scenario Planning and Integrative Plan

The primary function of the NPDP is to integrate spatial and economic development planning into an overarching national spatial planning framework, to facilitate the proper implementation of the NDP III towards Vision 2040. It further offers an analysis of those planning systems, building on lessons learned from the formation and implementation of plans at the international and national levels. As such, the is grounded in a collation of:

- > The Physical Planning System.
- > The Development Planning System.
- > The Population and Land Use projections that serve as the basis for the NPDP's implementation.

These summaries offer the logic through which spatial and economic planning are integrated. From these parameters, the NPDP was formed through the development of six planning scenarios that emphasise different planning orientations, which were then analysed and integrated into a final, integrative scheme (i.e., the NPDP itself). All six scenarios emphasise orderly urban growth (as opposed to the current organic, larger unplanned growth) to differing intensities and priorities:

#### **Option 1 - Maximum Economic Growth.**

In the style of urban agglomerations such as China's Yangtze River Delta Megalopolis, Planning Scenario One sees the creation of a super agglomeration of industrial and service clusters, developing six cities that through infrastructural development would form a mega-metropolis. This scenario sees planning interventions that steer the status quo of the Greater Kampala Metropolitan Area's urbanisation (from 3.5 million to 14 million people by 2040) as opposed to creating extensive new development interventions.



### **Option 2 - Maximum Regional Equality and Favoured Growth.**

Planning Scenario 2 prioritises the objective of creating equality between Uganda's regions; reducing socio-economic inequality; poverty reduction; and creating long-term sustainable economic growth. It proposes a polycentric growth pattern focusing on Gulu, Hoima, Mbarara, and Mbale in addition to the GKMA. This is intended to take pressure off the GKMA and promote regional growth. High-tech agricultural development would be encouraged, with the environmental benefits of urban agglomeration being spread across all regions of the country, making maximum use of the country's resources while improving secondary services such as education and health care through orderly urban growth.

### **Option 3 - Increasing Agricultural Productivity.**

Planning Scenario Three would see the preservation of Uganda's agricultural clusters, with urban development being focused on enhancing these areas. It identifies and protects Strategic Agricultural Zones and constrains urban development and sprawl through the orderly subdivision of land within these zones. This would enable the modernisation of these zones while promoting high-tech commercial agriculture, focusing on a select number of agricultural products within each zone with the intention of moving from subsistence agriculture to more productive agro-processing industries. It would further increase the availability of arable land for commercial use. Five new cities would be created to facilitate these industries, with populations of 250,000.

### **Option 4 - Environment and Tourism Orientation.**

Planning Scenario Four emphasises the environmental impact of the NPDP, and the sustainable development of Uganda's natural resource industries. Significant areas of natural significance would be protected and the use of said natural resources regulated, utilising and supporting Uganda's natural landmarks and biodiversity through the tourism industry. Natural resource extraction would be integrated into urban planning, with urbanisation focused on areas where natural resources would be unaffected. In particular, the Kyoga/Nile area would be earmarked for bio-agriculture, research, eco-tourism, and the sustainable use of resources for food, water, energy, and housing materials.

### **Option 5 - Growth of Urban Regions and Urbanised Corridors.**

Planning Scenario Five would emphasise the use of land suitable for urban development, maximising the advantages of urbanisation (economies of scale in services and infrastructure, the agglomeration of labour with productive enterprises, efficient distribution of land for agriculture and urban areas) in regions of high demand while minimising the penetration of urban sprawl into agricultural lands. This scenario can be seen as a high-intervention alternative to Scenario One, minimising the conflict between the need for accelerated urbanisation on the one hand and the need for modernised agricultural activity on the other. It would achieve this by encouraging the polycentric dispersion of the population into both existing urban centres in agricultural regions and into five new urban centres.

### **Option 6 - Maximum National and International Connectivity.**

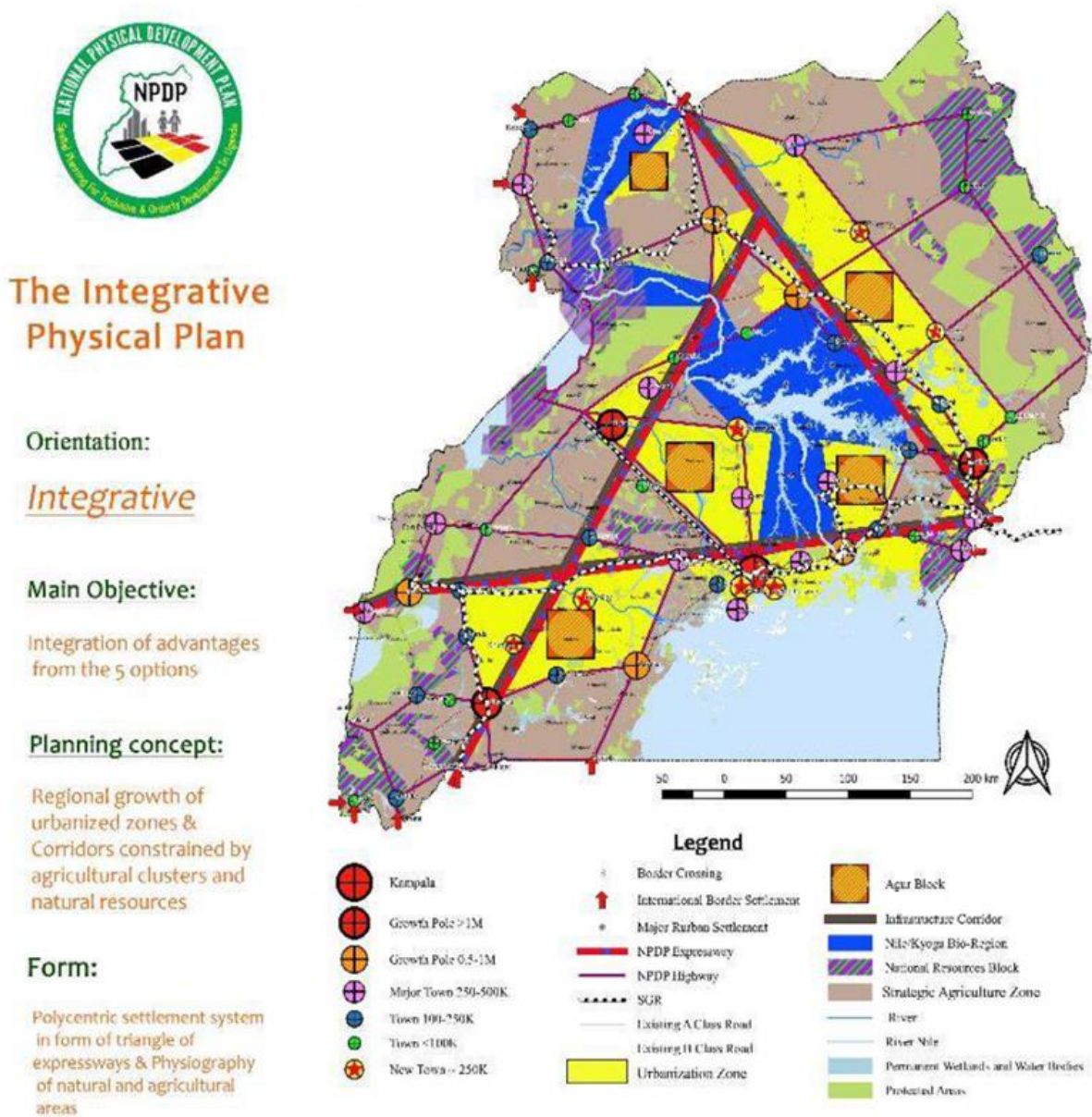
Planning Scenario Six would see emphasise the benefits of integrating national and international connectivity, focusing on infrastructure development. It stresses the creation of a triangle network of expressways, with national development centred on these three corridors. Rather than focusing on human settlements as poles for growth, the expansion of towns in this scenario is envisaged as having knock-on effects on urban and peri-urban growth. Infrastructure would be developed both in terms of transport (roads, rail, air, water) and technology (high-tech energy, ICT). Infrastructure would further be developed with an eye for increasing regional connectivity, with corridors such as LAPPSET (connecting Uganda to the DRC, CAR, Cameroun, Nigeria, Ghana, Cote d'Ivoire), the Southern Corridor across Tanzania, the northern branch of the Northern corridor (which connects to Cairo via the DRC and Juba),

Lake Victoria, (to its adjacent states), and the East African Crude Oil Pipeline. To achieve this regional integration, a National Expressway Network is proposed parallel to Uganda’s Urbanised Corridors.

### 2.4.4 The NPDP Integrative Scheme

Following a consultation process, these six planning scenarios are integrated into an integrative scheme, seeking to balance these options holistically in line with Vision 2040. Of these scenarios, Scenario 1 was ruled out, with Scenarios 2 through 6 being integrated to form the NPDP Integrative Scheme as seen in Figure 3 below.

Figure 3: The NDPP Integrative Physical Plan



Source: NPDP

The Integrative Scheme (the NPDP) is drawn around Strategic Agricultural Zones (Scenario 3), as well as identified bio-regions (Scenario 4), while adopting the models of connectivity corridors that mark urban development along a triangular model (Scenarios 5, 6) which optimises the development of infrastructures and expressways. It adopts a polycentric model (Scenario 2) that seeks to limit the expansion of the GKMA in favour of planned urbanisation along these corridors, which are characterised by the presence of nodal urban settlements as growth poles. Secondary Agricultural Zones become the focus of regional urban growth. The boundaries of Special Agricultural Zones, as well as Agri-Urban Blocks, are to be determined by Physical Development Plans at regional and local levels.

The NPDP identifies the main challenge faced as the expected scale of population growth. Rather than fighting against this, the NPDP seeks to work with this projected growth and bridge the rural-urban divide.

The spatial form adopted by the NPDP is a:

*"Polycentric settlement system, connected by a triangle of expressways, aligned with the physiographical forms of Agricultural and Natural Resource Areas."*

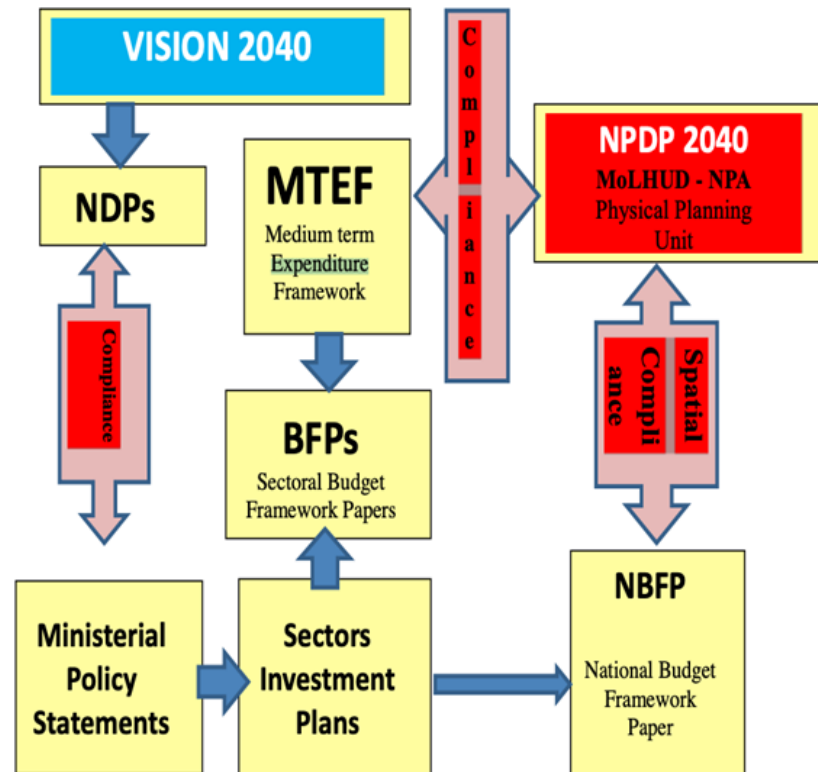
The NPDP is intended to be flexible as Uganda develops. It is intended as a guide as opposed to a rigid plan for development.

Strategically, the NPDP combines the aggregate of planning options as laid out in the aforementioned scenarios into one overarching framework for the spatial/physical development of Uganda. It further lays out protected areas where natural and ecological value is apparent.

#### 2.4.5 NPDP Implementation and Jurisdiction

As stated above, the NPDP was created in support of NDP III, while also standing alone as a point of reference for spatial compliance with the PPA 2010 and Vision 2040. Hence, it is to be implemented alongside NDP III. NPDP acknowledges that a weakness of Ugandan spatial planning is not in the formation of plans, but in their implementation. As such, the NPDP makes clear its path for implementation, which is to ensure compliance between the NPDP and the NDPs, as well as harmonising with development budgets.

Figure 4: NPDP Implementation Plan



Source: NPDP

The NPDP's implementation falls under the joint jurisdiction of the National Planning Authority (NPA) and the Ministry of Lands, Housing and Urbanisation (MoLHUD). A joint unit of the two departments is to be established to oversee its implementation to ensure budgetary and strategic harmonisation. In addition, the Office of the Prime Minister (OPM) will work with this joint unit to ensure that programmes and projects align with the NPDP. Annual reviews will be conducted. The implementation of the NPDP is thus bound to the implementation of NDPs.

To ensure the NPDP is implemented at lower levels of government, the NPDP will be transmitted through the Physical Planning system, i.e., through Physical Development Plans (PDPs) at district, city, and town levels, which will assist with its alignment with social and economic development.

## 2.5 A Vision and Goals for the JKM Corridor Plan

A transformative vision and its accompanying goals for the JKM Corridor Plan require the support of national and spatial development policies and can, further, embody the directives of these policies. Corridor planning is a key instrument of the implementation of these policies in Uganda. Vision 2040's Spatial Framework identifies infrastructure corridors built on transportation and communication infrastructures on which production zones are located. These are associated with existing and new, planned towns and cities that are conceived as nodes, or in the terms of the NPDP, growth poles or centres, and which include regional and strategic cities. This spatial scheme and instrumentality are then carried through in NDP III and the NPDP, both of which adopt a corridor and node spatial framework.

A core presumption that underpins the promotion, utility and effectiveness of corridor-scale planning for national, regional and local development is the emphasis, introduced above, on transforming transport corridors into development or economic corridors. In brief, it is stressed by governments, Uganda's included, and by development partners, including AfDB, the World Bank, UKAID, JICA, and the Asian Development Bank, that it is vital to "Go beyond just infrastructure" to generate wider economic benefits: the core of successful corridor development strategies is creating such benefits, and through this, shared or inclusive prosperity.

Table 1 below, drawn from an AfDB policy brief, summarises this prescription and presents the four stages through which corridor development can and should move, with the necessary accompaniment of supportive interventions by governments and their national and international partners.<sup>11</sup>

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<sup>11</sup> Mulenga, Gadzeni, 2013. *Developing Economic Corridors in Africa: Rationale for the Participation of the African Development Bank*, Regional Integrative Brief 1, AfDB.

Table 1: Stages of Corridor Development

Stages of Corridor Development					
Stage	Type of corridor	Definition	Instruments	Interventions	Rationale
1	Transport	A route that physically links an area or region	Physical infrastructure—a road, a railway, a river, etc.—that serves to integrate economic activities in a region	<ul style="list-style-type: none"> <li>&gt; The establishment, strengthening and improvement of transport links and associated elements, such as carrying capacity, the quality of the infrastructure, border facilities and safety measures</li> <li>&gt; The encouragement of multi-modalism</li> </ul>	To diversify transport alternatives and use resources such as land and rivers sustainably, so as to move vehicles in an efficient and cost-effective manner
2 Multimodal	A route that physically links an area or region with more than one mode of transport	Several modes of physical Infrastructure—a roads, a railway, a river, etc.- that serve to integrate economic activities in a region			
3	Logistics	A corridor that has harmonized its institutional framework to enable the efficient flow of goods and services	Measures to harmonize a corridor's policies, regulations and institutional framework to facilitate cross-border transport and trade	<ul style="list-style-type: none"> <li>&gt; The harmonization of the corridor's policies, regulations and institutional framework</li> <li>&gt; The creation of cross-border trade agreements</li> <li>&gt; The simplification, standardization, and promotion of information and communication technology; the establishment of logistics centres</li> <li>&gt; The upgrading of border areas and the correction of infrastructure deficiencies</li> <li>&gt; The provision of related services such as storage, warehousing, trucking, insurance, and freight management</li> </ul>	To facilitate the efficient movement of both people and goods; to reduce travel times and by extension the cost of doing business within the region and overseas

Stages of Corridor Development					
Stage	Type of corridor	Definition	Instruments	Interventions	Rationale
4	Economic	A corridor that attracts investment and generates economic activity and benefits surrounding regions	Infrastructure and various measures to foster economic, social and spatial development	<ul style="list-style-type: none"> <li>&gt; The promotion and facilitation of investments in industries such as agribusiness and other natural resource-based businesses, both small and large</li> <li>&gt; The encouragement of trade, for example in the form of roadside shops</li> <li>&gt; The promotion of tourism, including rest houses and hotels</li> <li>&gt; The provision of schooling, health facilities, and other social advantages</li> <li>&gt; The improvement of other infrastructures, such as water and power, to link priority areas; the correction of infrastructure deficiencies</li> <li>&gt; The creation of investment forums; the marketing of business opportunities in key industries; the establishment of special economic zones where appropriate; the dissemination of investment policies, rules and regulations; measures to approve business licenses efficiently and effectively; the provision of micro-financing; and other measures</li> </ul>	To promote economic and social development by maximizing the use of transport infrastructure and reducing poverty around the corridors
<p>Cross-cutting issues should be considered at each stage. These issues encompass social, environmental and institutional capacity concerns. Social concerns call for mainstreaming public awareness and public participation in decision making, the fight against transboundary disease and HIV/AIDS, traffic safety, and other matters into corridor development. Environmental measures focus on sustainable development and environmental protection mechanisms. And institution-building means addressing human resource constraints in the public and private sectors and conducting skills development programs.</p>					

Drawing on this perspective, and the backing of national policy, the vision for the JKM Corridor Plan should be ambitious and transformational. It must encourage and guide the necessary move along the trajectory from transport corridor to development corridor, in which wider benefits are shared more widely and equitably.

**The vision should ultimately be one of a JKM Corridor in which economic opportunity, growth and trade are promoted, and are developed and realized in an inclusive and sustainable fashion for the benefit of all citizens of the corridor.**

Inherent in such a vision, is that the competitive advantages of all districts, cities and towns are better utilised, in line with current global territorial development strategies. Moreover, JKM Corridor economic growth must further benefit all the people of Uganda through economic and spatial linkages to all national regions, and through regional integration and trade to a wider East Africa, principally through the Northern and Central Corridors – and then beyond, into the international sphere. In addition, all of the JKM Corridor’s human settlements – from the smallest to the largest villages, towns and cities – must become places of opportunity, rather than of poverty.

The development goals follow this vision as follows:

- > Widespread economic growth and opportunity (including informal livelihoods), led by competitive sub-sectors, supply and value chains – and supported by effective business and skills development services
- > Equitable social development and housing provision for all residents, women, girls, boys and men, in green livable environments
- > Efficiently planned, regulated and managed land uses that harmonise agricultural, industrial, residential, natural and recreational functions
- > Enhanced mobility and connectivity for people and goods within and across the corridor, which link residences to workplaces, and coordinates with land use planning
- > Productivity-enhancing economic and municipal infrastructures and services that serve residents and enterprises
- > A resilient and sustainable natural and urban environment that is adaptive to climate, health and economic shocks and stresses.

The goals now guide the sectoral strategies which follow in the plan.



# THE JINJA- KAMPALA-MPIGI CORRIDOR

## PHYSICAL DEVELOPMENT PLAN

JUNE 2023

### CHAPTER 3 SPATIAL DEVELOPMENT FRAMEWORK AND STRATEGY



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## 3 Spatial Development Framework and Strategies

### 3.1 Introduction

The spatial development framework in this chapter, and the strategies which follow, are the heart of the JKM Corridor Physical Plan, and serve to position further sectoral strategies and recommended investments. Like all spatial frameworks, such strategies and proposals for investment must acknowledge and build on a longer-run spatial development trajectory – and provide guidance on the necessary shifts and changes required to achieve a plan's vision and goals. The chapter thus begins with a depiction of the historical development of the JKM Corridor (henceforth 'the Corridor'), to situate our evidence on its present spatial dynamics and characteristics. The analysis is presented chronologically, divided into the pre-and post-independence periods. This structure is chosen because of evidence that the planning priorities of the colonial regime in Uganda lay the foundations for Uganda's contemporary spatial structures.

### 3.2 The Spatial Restructuring of the JKM Corridor

#### 3.2.1 The Colonial Era

The annexation of African kingdoms into the Uganda Protectorate by the British Empire in 1894, followed by the declaration of the 1903 Town Planning Ordinance, began a period of significant spatial restructuring predominantly centred around areas that comprise the JKM Corridor.

Entebbe and Jinja, among other towns, were founded by colonial authorities to serve as administrative regional capitals, with Entebbe serving as the capital of the Protectorate as a whole. In some cases where an urban area existed prior to colonial incorporation, notably Kampala, significant spatial and administrative restructuring was undertaken to incorporate existing urban areas into colonial administrative structures.<sup>1</sup>

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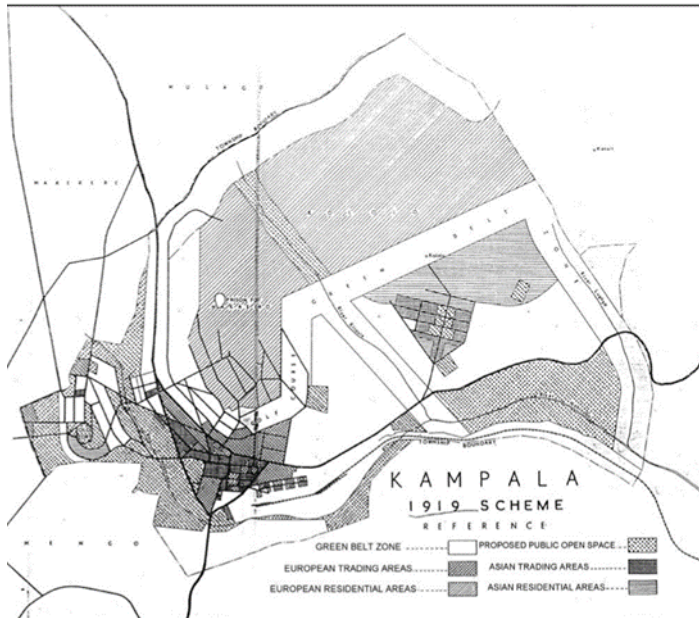
<sup>1</sup> P. Mukwaya and S. Lwasa (2010). 'Urban Development Transitions and Their Implications for Policy Planning in Uganda' in *Urban Forum* (21:3).



devised by William J Simpson on the invitation of the Town Planning Committee of the Uganda Protectorate:<sup>3</sup>

Figure 2 (Left): 1919 Planning Scheme 'C' demarking segregated trading zones for White, Asian, and African populations.

Figure 3 (Right): Jinja's segregated urban zones in 1917.



Source: F. Omolo Okalebo, 2011

Source: A. Wako and M. Olweny, 2019<sup>4</sup>

Simpson's recommendations for segregation along racial lines were not limited to Kampala but were proscribed for every town and city in Uganda under the Protectorate. This was clearly visible in Jinja's development (See: Figure 3).<sup>5</sup>

Colonial spatial planning was underpinned by a combination of ideas popular in urban planning in Great Britain at the time, namely the 'Garden City' concept, as well as emerging ideas correlating then-contemporary understandings of public health to spatial planning practices. The key features of this approach to spatial planning in Uganda were:<sup>6</sup>

- > Prioritising the settlement of highlands;

<sup>3</sup> F. Omolo-Okalebo (2011). *Evolution of Town Planning Ideas, Plans, and their Implementation in Kampala City, 1903-2004*. CEDAT, Kampala.

<sup>4</sup> A. Wako and M. Olweny (2019). 'Historical Study of Jinja, Uganda: A City Influenced by Industrial Developments During the Early 20th Century', in *The Built Environment* 191.

<sup>5</sup> Ibid. It should be noted that in Kampala, this segregation was particularly complex, as the European settlement founded in 1902 was established *alongside* the Kibuga and the relatively administratively autonomous Kingdom of Buganda.

<sup>6</sup> Ibid, further supported by broader overviews of British colonial spatial planning practices. See, for example, C. Silva (2013). 'Colonial Architecture and Urbanisation in Africa: Intertwined and Contested Histories', in *Planning Perspectives* 28:1, pp. 156-159.



- > Ensuring low-population densities by building dispersed, low-rise neighbourhoods of individual housing units (as opposed to terraces or apartments);
- > Providing clean, public piped water as a matter of priority.

These principles became predominant in physical plans throughout the colonial period, resulting in a clear distinction between spaces demarked for White, Asian and African populations. White neighbourhoods were well endowed with features such as tree-lined paved roads supporting well-serviced, detached and spread-out individual houses. Such neighbourhoods tended to displace hill-top communities, with African communities relegated to low-lands that were wrongly believed to be at greater risk of disease outbreaks.

Formal planning and subsequent plan implementation were reserved for White communities, with African communities being allocated neither the resources required for such planning nor the means of procuring said resources for themselves. They were further often segregated from white populations by a literal barrier of undeveloped green space. The result was a stratification of settlements ranging from highly regulated, wealthy communities of Europeans occupying hills, down to pre-existing settlements that had effectively been rendered unauthorised and informal.<sup>7</sup> As can be seen in Figure 3, the physical scars of this segregation still exist today, with the pattern of low-density, wealthy, and formally planned hilltop communities clearly contrasted against denser settlements:

Figure 4: The remnants of the 'green belt' used to segregate Nakasero from European settlers.



Source: F. Omolo Okalebo, 2011

<sup>7</sup> IPE Triple Line (2018). *Spatial Inequality in Times of Urban Transition. Spatial Assessment of Kampala, Uganda.*

This spatial segregation underpinned a stratified labour market that drove a 'core-periphery' spatial development pattern.<sup>8</sup> Towns and cities such as Entebbe, Jinja and Kampala were carefully planned with building regulations enforced and taxes collected, while African settlements were left unplanned with no means of collecting tax income. This led to an uneven distribution of infrastructures that prioritised areas of colonial administrative and industrial significance.

This two-tier treatment of urban planning contributed to the groundwork for the proliferation of informal settlements in the JKM Corridor, as put by Mukwaya et al.:

*"Possibly one could argue that this [implementation of segregated planning] is one reason for the growth of informal settlements in Ugandan towns, because the colonial administrator was preoccupied with providing for the urban needs of his own class, and subsequent planning systems have failed to find solutions to the problems [this] presented."*<sup>9</sup>

### 3.2.3 Regional Level Spatial Restructuring in the JKM Corridor

The foundation of towns and cities in Uganda for colonial administrative purposes led to a spate of town planning and infrastructure development that cemented what is now the JKM Corridor as a cohesive regional unit. The JKM Corridor saw a number of new towns founded owing to their proximity to Lake Victoria, which in the early 20<sup>th</sup> Century carried the entirety of Uganda's exported goods via steamer. Entebbe and Jinja were the principal nodes through which exports from the Protectorate were connected via steamer to the Uganda Railway, which stretched from Mombasa to Kisumu in modern-day Kenya (and not, as one might assume from its namesake, through the Protectorate of Uganda).<sup>10</sup> Kampala was also served by steamers, initially via Munyonyo and later via Port Bell. These steamer services were the beginning of the JKM's status as a transport corridor.

This concentration of steamer-service infrastructure to serve Uganda's emerging export economy led to a cascading of further infrastructure developments. The first railway in Uganda was constructed in 1912 between Jinja northwards to Namasagali, a total of 61 miles, to connect Lake Victoria to the Lake Kyoga basin via Kakindu. This was further extended seven miles to Namasagali in 1914, and extensive road networks were constructed to facilitate the establishment of cash-crop-exporting industries. Six miles of railway were constructed between Port Bell and Kampala in 1913.<sup>11</sup>

The Busoga railway led to Jinja's rise as an industrial centre for the country, further intensified as a node for export freight through the construction of the railway connecting Mbulamuti and Tororo to the Kisumu-Mombasa line in 1928.<sup>12</sup> This was strengthened by the completion of a rail link between Jinja and Kampala in 1931. This extension of railway services in proximity to the Busoga Railway led to a significant decline of steamer freight in the region.<sup>13</sup>

<sup>8</sup> S. Beckert (2015). *Empire of Cotton: A New History of Global Capitalism*. Penguin Books, London.

<sup>9</sup> P. Mukwaya and S. Lwasa (2010), p. 7.

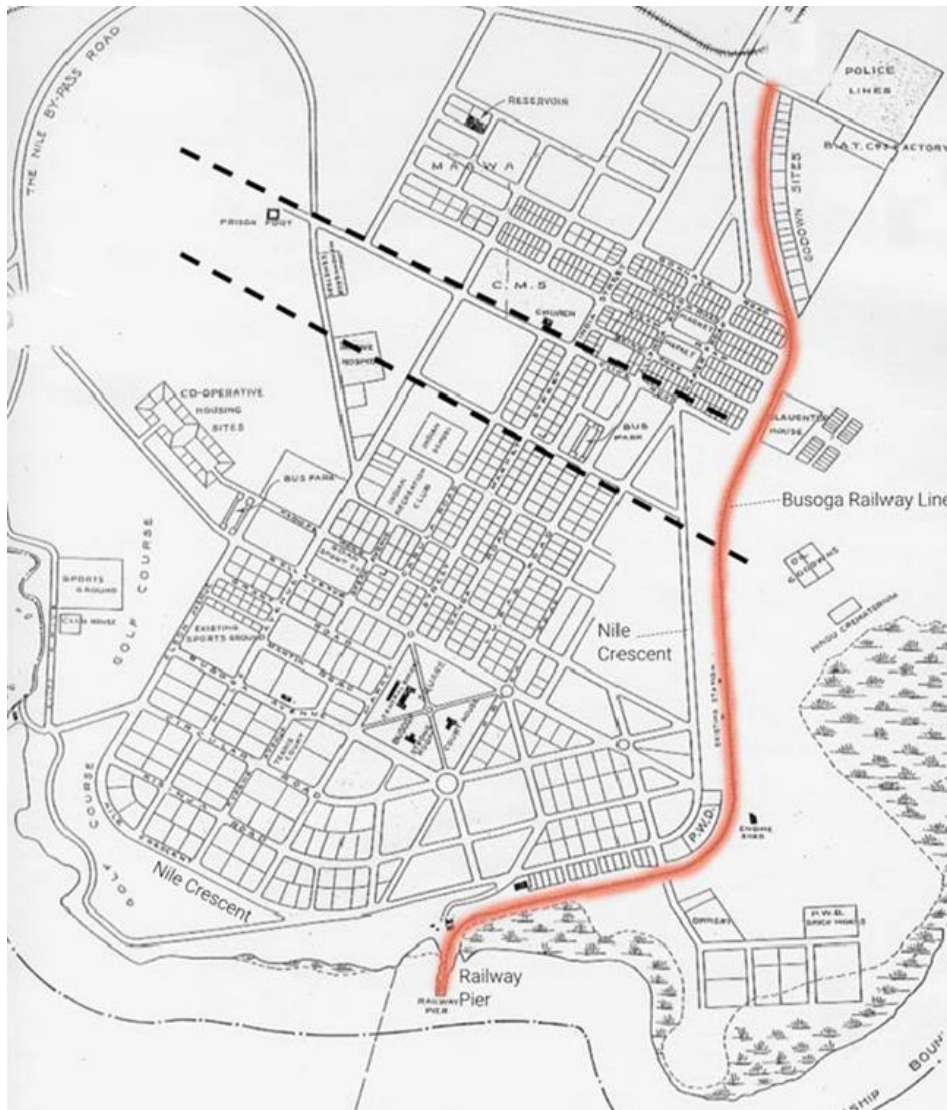
<sup>10</sup> A. M. O'Connor (1965). *Railways and Development in Uganda: A Study in Economic Geography*. Oxford University Press, Oxford.

<sup>11</sup> Ibid.

<sup>12</sup> Ibid.

<sup>13</sup> A. Wako and M. Olweny (2019). 'Historical Study of Jinja, Uganda: A City Influenced by Industrial Developments During the Early 20<sup>th</sup> Century', in *The Built Environment* 191.

Figure 5: Jinja in 1930.



Source: A. Wako and M. Olweny, 2019

By the end of the 1940s, what is today the JKM Corridor had emerged as a transport corridor, principally connecting cash crop farming in Uganda's hinterland to Kampala and Jinja, for export via the Uganda Railway and Lake Victoria steamer freight (See: Figure 6). This had the impact of dramatically pivoting the economic centre of Uganda towards what is today the JKM Corridor and its neighbouring northern provinces, with the corridor being restructured by colonial authorities to serve as a transport corridor for the Protectorate's exports.

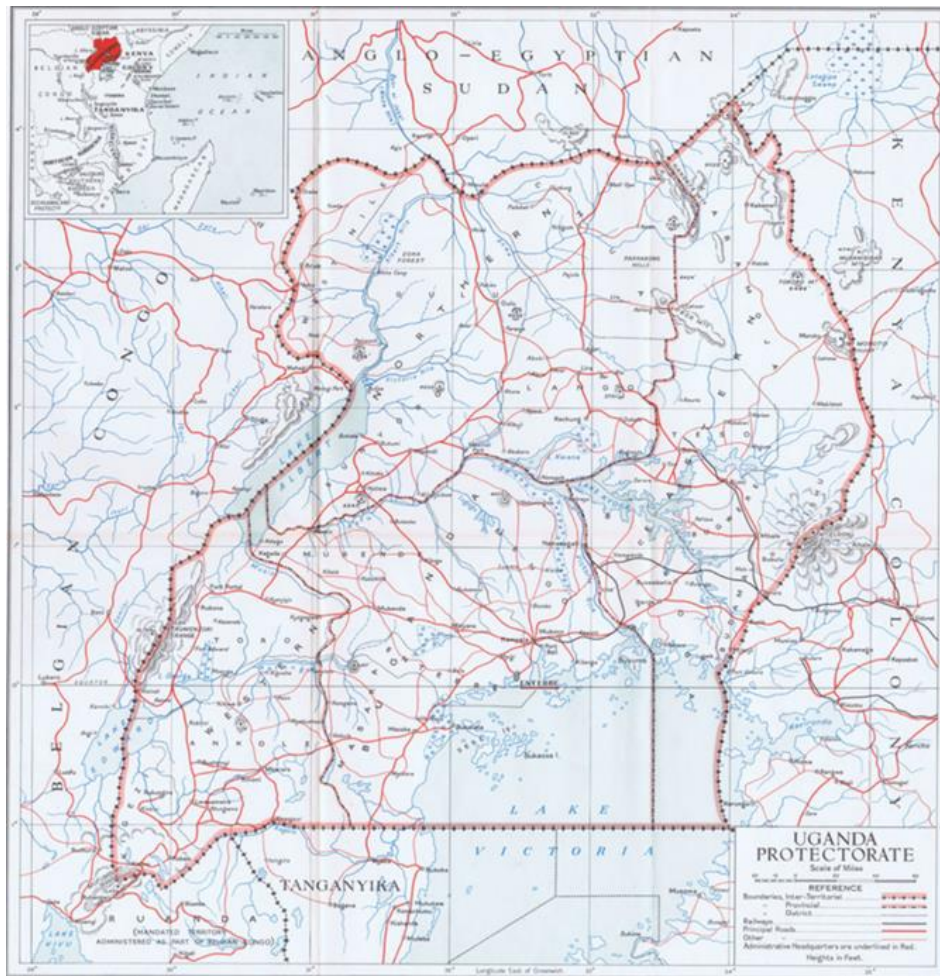
Due to the corridor's primacy in political administration and infrastructural development of the Ugandan Protectorate, the region experienced rapid population growth spurred by in-migration from other parts of Uganda and the wider Empire, as well as increasing natural population growth. The corridor area was strategically poised to be the seat of industrialisation investment during the interwar period (1918-1940) onwards, owing to its status as the principal node between the Protectorate and the wider Empire. The interwar period saw the development of agricultural processing activities such as ginning, coffee curing, and sugar milling, with raw materials drawn from the immediate and wider agricultural land across Uganda. This would eventually lead to Kampala becoming a municipality in 1944, with the city at the



centre of a 40km stretch of railway that served as the principal artery for the Protectorate's imports and exports.<sup>14</sup>

The post-war period further saw the intensification of major infrastructural and industrialisation projects. In 1951 the expansion of the Entebbe international airport and the Nalubaale (then, *Owens*) Fall Dam and Hydroelectric Power Plant in Jinja were completed.<sup>15</sup> Later, in 1956, a 208-mile westward extension of rail services connecting Kampala to Kasese was completed, and in 1961 the Jinja-Bukonte railway was established to compensate for the poor state of the Jinja-Tororo line.<sup>16</sup>

Figure 6: Survey of Roads (red) and Railways (black dotted) in Uganda in 1948, showing the Bugosa and Western railways to their full extent.



Source: UK War Office, 1948

Despite Kampala and Entebbe's significance as administrative capitals and infrastructural nodes, a lack of suitable and available land for industrial development led to Jinja becoming the principle focus for industrialisation under the post-war colonial industrialisation policies, which emphasised "dollar earning" and "dollar saving" industries to support imperial economic needs. Jinja saw the development of some 50

<sup>14</sup> M. Obwona et al. (2016). 'The Evolution of Industry in Uganda', in *Learning to Compete Working Paper 9*. Brookings Institute, Washington.

<sup>15</sup> Ibid.

<sup>16</sup> M. O'Connor (1965).

industrial plants, separated into two distinct estates on either side of the Nile River. The town was subsequently incorporated as a municipality in 1956.<sup>17</sup>

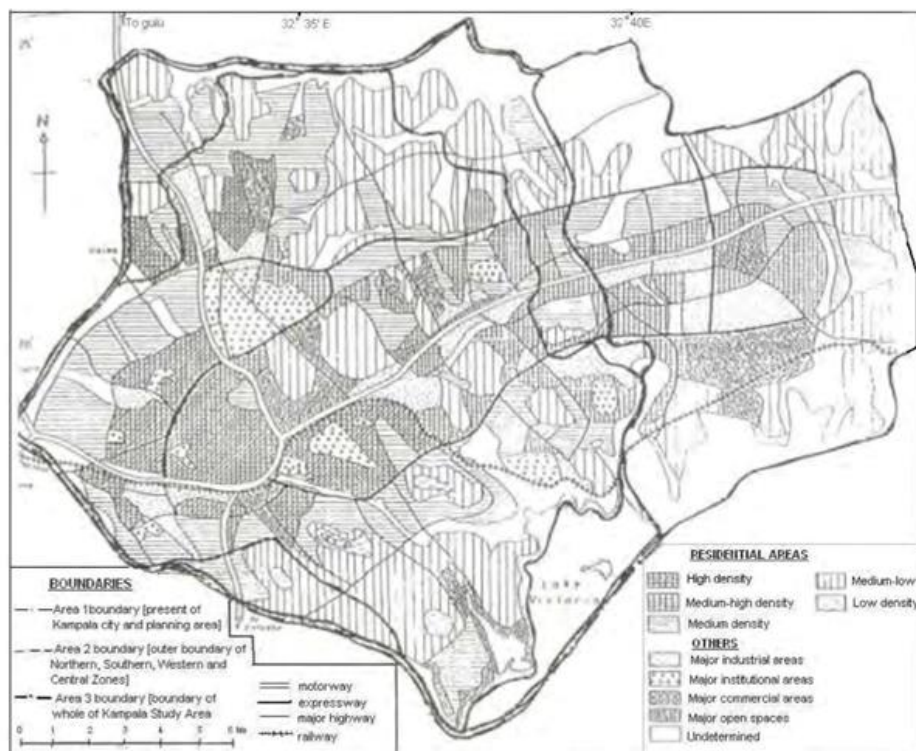
The colonial period of spatial restructuring, therefore, can be seen as the genesis for the JKM corridor's primacy in Uganda's economic development, with the colonial authorities' pursuit of economic efficiency towards imperial needs leading to a concentration of physical planning, economic investment, infrastructural development in the region, followed by a subsequent growth in the population of the JKM Corridor that outstripped other regions in Uganda.

### 3.2.4 Post-Independence 20th Century Spatial Development

Uganda inherited infrastructures, planning instruments, and existing spatial developments geared towards colonial interests from the preceding Protectorate when it declared independence in 1962. Subsequently, significant changes to urban planning and master planning were adopted, including:<sup>18</sup>

- > Establishing Kampala as the principal site of development for commercial, institutional and residential use along with light industry only, so as not to compete with Jinja;
- > Redrawing of boundaries for districts, particularly district centres, to make land accessible for development and avoid overwhelming the capital;
- > Preparing long-range master plans for water and sanitation in all towns.

Figure 7: Kampala Development Plan, 1972..



Source: F. Omolo-Okalebo

2011

<sup>17</sup> B.S. Hoyle (1963). 'The Economic Expansion of Jinja, Uganda', in *Geographical Review* 53:3.

<sup>18</sup> P. Mukwaya and S. Lwasa (2010)

These priorities were reflected in the 1972 Kampala Development Plan (Figure 7). But owing to the political instability and subsequent economic collapse after independence, such plans were not implemented. Urban centres in the JKM corridor lacked the municipal and economic capacity to support their growing populations, leading to a deterioration of existing infrastructure.

Further, as an inadvertent result of the 'Enabling Policy', intended to ensure housing in urban areas via state housing projects, private sector house prices skyrocketed while public housing was built far from urban centres. With in-migration and accelerating natural population growth leading to a rapidly expanding urban population in the corridor, a growing number of the urban poor were forced to establish unplanned settlements close to downtown areas and along waterways.<sup>19</sup> Because of these conditions, this period saw rapid, uncontrolled expansion of Kampala driven predominantly by informal settlements and economic activities, eclipsing the former capital of Entebbe and other significant municipal centres in the corridor.

Kampala's expansion was coupled with the rapid expansion of very small towns, and the decline of larger urban centres such as Jinja. Jinja's population grew at a rapid annual rate of 5.8 percent between 1959 and 1968 but fell by 0.7 percent between 1969 and 1980.<sup>20</sup> Meanwhile, some small towns such as Busia, and Buikwe District, grew by a remarkable 21.2 percent per year in the same period. Jinja's decline can be attributed to the political instability of the post-independence period, with its industrial base nearly eliminated in its entirety by the end of the 1980s.<sup>21</sup> Conversely, the expansion of small towns can be attributed to the expanding relative importance of the JKM Corridor during this period of economic decline. As Edward Mugami framed it,

*"It is the smaller [towns], particularly in the south, that much of the African enterprise developed... elsewhere in the country, [towns] have developed more as district administration centres... these [southern towns] act as local markets or collecting points of local farms destined for consumption with the region which they are situated. They also act as collection centres for exported produce."*<sup>22</sup>

Between 1962 and 1985, the JKM Corridor, therefore, witnessed a second spatial restructuring, wherein Kampala became the predominant urban spatial area of the JKM corridor, and of Uganda more widely, owing to its status as the capital city; investment in light industrial activities and zones; and its centrality in the infrastructural links that connected it to international trade routes. Yet, economic decline meant that the country remained largely unurbanized, which in turn fuelled the simultaneous growth of small rural towns in the region alongside the stagnation of secondary urban centres such as Jinja and Entebbe.

The advent of the National Resistance Movement (NRM) in 1985 marked a revival of some active spatial development efforts, however, these efforts were undermined by a weakening of institutions responsible for enforcing building codes and spatial plans. Uganda underwent a contested economic and political restructuring and a subsequent, tentative revival of the national economy driven by decentralisation and a *laissez-faire* approach to urban development.

Some of the proposals in the 1972 Development Plan, notably the provision of land for light-industrial estates in Kampala, were gradually put into place, though this development was limited to the capital.

<sup>19</sup> Ibid.; see also, IPE Triple Line (2018).

<sup>20</sup> E. Mugabi (1985). *DPU Working Paper – No. 39. The Development of Towns in Uganda, 1970-1980*. University College London, London.

<sup>21</sup> Ibid.

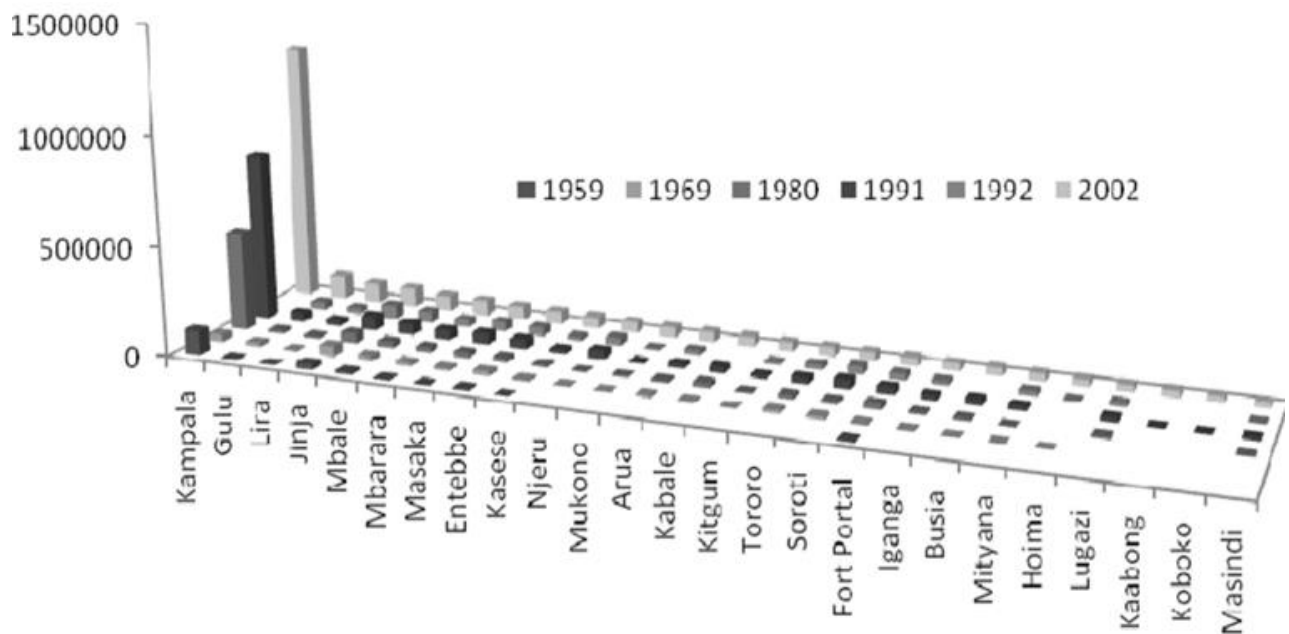
<sup>22</sup> Ibid. p. 18.

While economic growth between 1985 and 2000 averaged approximately 5.6 percent per annum, this growth was inequitable, with poverty sharply increasing. As such, unplanned development accelerated to accommodate the growing population of urban poor, including the arterial transport networks in the JKM corridor and particularly between Kampala and Entebbe International Airport.

Ultimately, however, infrastructure was allowed to fall into disrepair and, with a lack of capacity to implement plans, the JKM corridor’s spatial development post-independence can be seen as largely uncontrolled and informal. Immediately after independence, controlled spatial development was prioritised, but a lack of capacity meant these visions could not be implemented; after 1985, capacities were improving, but a laissez-faire approach to urban development meant that controlled developments were largely restricted to freeing up land in Kampala for light industry, and the development of major infrastructure for integration into the Northern Corridor.<sup>23</sup>

While urban centres such as Jinja and Entebbe went into relative decline, the primacy of the corridor’s significance in Uganda was strengthened in this period, as spatial development of Kampala and its surrounding infrastructure was prioritised. Likewise, this period saw exponential growth of Kampala to dwarf other population centres not only in the corridor but across all of Uganda.

Figure 8: Population in Uganda's largest urban centres, 1959-2002..



Source: P. Mukwaya 2010

By 2002, Kampala’s population rose to nearly 1.20 million, and its land coverage expanded hugely from 98 sqkm in 1965 to 895 sqkm in 2002.<sup>24</sup> Post-independence development in the JKM corridor was typically informal and unplanned, with urban centres growing in a patchwork of under-served, poorly connected settlements.<sup>25</sup>

<sup>23</sup> P. Mukwaya and S. Lwasa (2010)

<sup>24</sup> Ibid.

<sup>25</sup> IPE Triple Line (2018).

### 3.2.5 Summary and Analysis

As the account above demonstrates, the administrative boundaries, politics, and spatial form of the Corridor have often frequently undergone dramatic and disruptive changes over the past 120 years, but its core function as a transport corridor has remained. The recognition of the corridor as a cohesive territorial entity is a novel development, but one that recognises the long-standing spatial function of the corridor.

What can be seen in Uganda's historical development is that the JKM Corridor has always existed in some form as a critical transport corridor within the country. Under the colonial administration, new urban areas were established, and modern infrastructure was laid down to connect Entebbe, Kampala, Jinja and their satellite urban areas to wider colonial supply chains via Kenya out towards the Indian Ocean. From the 1970s onwards, the Corridor's relatively even 'core and periphery' spatial development, centred around Jinja, Entebbe, and Kampala, saw an exponential shift towards Kampala's economic and political primacy, with rapid population growth driving the city's urban conglomeration to eclipse other urban areas. While the turn of the millennium has seen the continued expansion of Kampala into neighbouring districts, particularly Wakiso, it has also seen a resurgence of Jinja and Entebbe as significant urban nodes. Nevertheless, spatial growth in this period was characterised by (i) informal, unplanned spatial development, and (ii) the integration of Kampala, Entebbe, Jinja, Mpigi and the fringes of the JKM Corridor into the Northern Corridor.

To a large extent, urban development has occurred in an unplanned way that has seen exponential growth of Kampala as the primate city in the region. The result is that a transport corridor does indeed exist in the region – it is, however, a 'patchwork' of at times disconnected infrastructure, built from the spine of inherited infrastructure constructed in the colonial era. The challenge, therefore, of developing the JKM Corridor is not the development of these infrastructures into a transport corridor, for this has always existed in the region – rather, the challenge is pivoting from a patchwork transport corridor into a fully-fledged development corridor.

The conclusion that the JKM Corridor has always existed in some form as a transport corridor is salient because it underscores that the recent adoption of the terms 'transport corridor' in the Ugandan Government's spatial development approach is not a radical departure from the past.

## 3.3 The JKM Corridor in the Present Day: Overview

### 3.3.1 Development Trends

Uganda's urbanisation has accelerated profoundly in the 21<sup>st</sup> Century. Between 2005 and 2010 alone, the country's total built-up area grew ten-fold, and by 2010 over 19 percent of the country's population lived in urban settlements. Annual urbanisation rates have increased at an average of approximately 5 percent per year up to 2019.<sup>26</sup> Urbanisation has played a key role in increasing Uganda's productivity, with a shift away from subsistence agriculture to formal and informal jobs in cities – yet, this urbanisation is still at a relatively early stage, with 72 percent of Uganda's population still working in subsistence agriculture.<sup>27</sup> Urbanisation has occurred in a manner consistent with the trends of rapid, unplanned and uncoordinated growth outlined above.

<sup>26</sup> ARUP (2016). *Future Proofing Cities. Uganda – Secondary Cities*. ARUP, London.

<sup>27</sup> ARUP (2016).

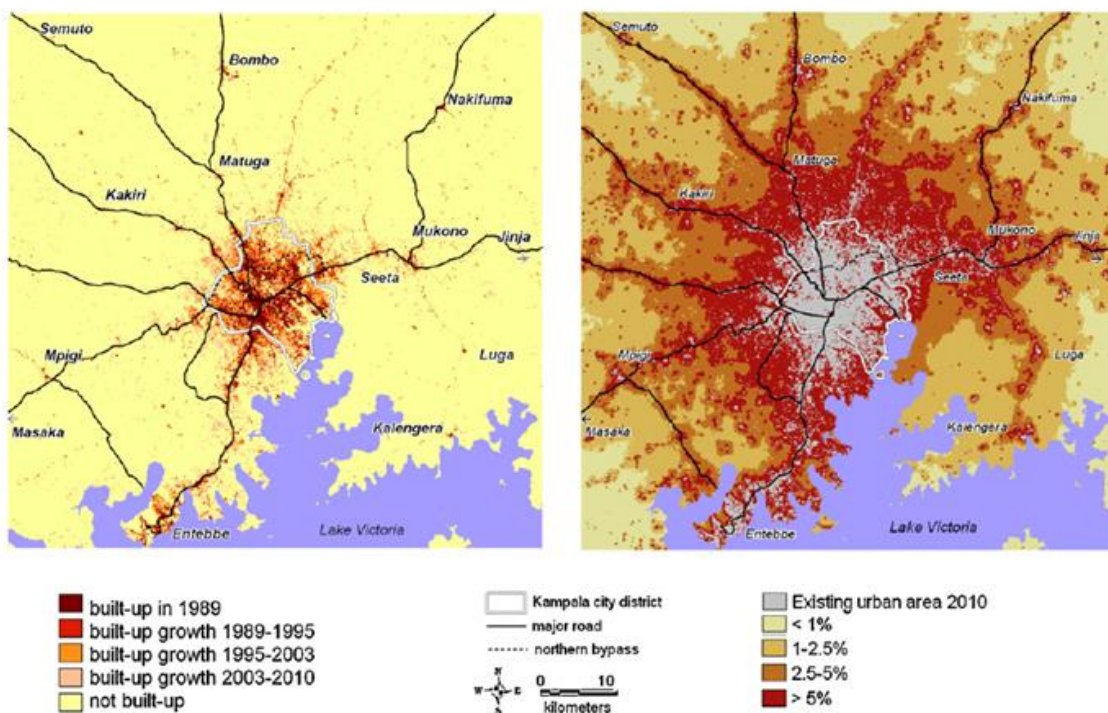


Kampala's primacy as the centre of urban development in the country remains, but the growth of secondary cities is accelerating at a faster pace than that of the capital. Within the corridor, Kampala eclipses other urban areas in terms of its population, economic output, and land coverage, as seen in Figure 9.

However, largely as a result of Kampala's massive growth, congestion and effective saturation as an urban centre, other areas of the corridor have also emerged as key growth areas. Outside of key urban centres, a clear pattern of spatial development tracks the infrastructural linkages of the corridor. Wakiso District has seen rapid spatial development in areas bordering the GKMA, as well as along the road and rail linkages between Kampala and Lake Victoria, and between the city and Entebbe International Airport.

The spatial forms of the JKM Corridor's growth can be described as occurring in a 'dispersed' manner consistent with many sub-Saharan African cities – this refers to low-rise, sprawling urban areas with 'infilling' occurring in a multiplicity of urban 'cores' within the urban footprint. Most growth has occurred along the main arterial infrastructural routes, namely highways, radiating out of Kampala:

Figure 9: Observed urban expansion between 1989 and 2010 in Kampala and surrounding metropolitan areas.



Source: K. Vermeiren and K. Leuven (2012)

With urban population expansion far outstripping the capacities of local governments to implement plans, by 2007 some 60 percent of the urban population in Kampala lived in informal settlements.<sup>28</sup> Further, with Kampala saturated in terms of room available to expand, the JKM Corridor has seen significant growth along its key infrastructure, particularly the links between Kampala-Entebbe and Kampala-Jinja.

As a result, the JKM Corridor is a transport corridor facing significant pressures to serve two functions: on the one hand, serving as the principal node through which Uganda's economic output is produced and

<sup>28</sup> Ibid.

connected to the wider world, and on the other, supporting the lives and needs of rapidly expanding informal (and to a lesser extent, formal) settlements and their residents which are dependent on its infrastructures.

### 3.3.2 A Transport Corridor with an Infrastructure Deficit

Today, as it has done since the beginning of the 20<sup>th</sup> Century, the JKM Corridor has all the characteristics of a transport corridor. Spanning from west to east, the Mpigi to Jinja road route of some 120km forms its infrastructural spine, which combines Greater Kampala with Buikwe and Jinja. From this core, the transport corridor extends a wider network connecting Masaka and Mbale, which further constitutes a major industrial corridor. This corridor is, in turn, a key node on the 2,100km Northern Corridor, linking Uganda with the DRC, Rwanda, and Kenya out towards the port of Mombasa.

While infrastructure investment is estimated to have contributed to 1.5 percent of Uganda's annual economic growth each year, it is largely failing to deliver significant productivity advantages, a common thread seen in African cities.<sup>29 30</sup> Transport and municipal infrastructure are often in poor condition and have low coverage. As growth has largely been concentrated in Kampala and its surrounding districts, the multi-nodal sub-corridors within the JKM Corridor are underused. As a result, Kampala is suffering from taking a disproportionate burden of infrastructure demands, which in turn has led to significant constraints on the efficacy of its infrastructure. One key issue that has emerged is traffic congestion.

In addition to failing to meet the commercial and industrial needs of residents, what is a patchwork of infrastructure fails to serve residents of the JKM Corridor. People living in informal settlements find themselves caught between dysfunctional informal infrastructures on the one hand, such as patchy, dense networks of narrow roads and poor connections to water and electricity grids. On the other, they find themselves at the mercy of sporadic and unpredictable enforcement of building and planning regulations, resulting in displacement and disruption to their livelihoods.<sup>31</sup>

Despite its status as a transport corridor, the JKM Corridor is thus suffering from significant infrastructure deficits. A key priority for the development of the Corridor must therefore be a strategic investment to better leverage the existing nodes within it, spreading the pressures of urbanisation away from the core of Kampala, and towards a more even distribution of development towards other, existing nodes. Fortunately, the JKM Corridor is well poised to make effective use of its inherited infrastructure to serve as points of potential investment and development to this end.

### 3.3.3 Urban Reform under Vision 2040 and the National Development Plans

In recognition of the increasing precedence of urban planning issues in Uganda's development challenges and coinciding with international trends recognising that urbanisation is one of the key challenges of the 21<sup>st</sup> Century globally, the Ugandan government published its long-term strategic development strategy

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<sup>29</sup> Presentation delivered by Julia Bird and Ferdinand Rauch (2015). *The Effects of Traffic on Firm Location*.

<sup>30</sup> R. Ranganathan, V. Foster (2012). *Uganda's Infrastructure: A Continental Perspective*, World Bank Policy Research Working Paper 5963

<sup>31</sup> C. Macfarlane and J. Silver (2017). 'Navigating the City: Dialectics of Everyday Urbanism', in *Transactions of the Institute of British Geographers* pp. 457-471 (42:3)

*Vision 2040*.<sup>32</sup> Within its quantified development targets are aspirations with a squarely urban focus, including:

- > Increasing the share of people living in planned settlements to 100 percent in both rural and urban areas;
- > Increasing the share of standardised paved roads from 4 percent to 80 percent;
- > Improving access to key infrastructures including electricity, piped water and housing.

These priorities are supported by short-medium-term national strategic plans, the National Development Plans, first introduced in 2010.<sup>33</sup> NDP III recognises the need for greater prioritisation of state-led urban development interventions, not only in the form of commitments to master planning but in the form of robust interventions to the planning system itself.

Proposed interventions under NDP III towards the achievement of the goals set out under Vision 2040 include rationalising the system of land tenure and providing more resources to local administrations responsible for producing and implementing spatial plans. Such changes shall go far to address what UN-Habitat has recognised as the principal inhibiting factor (alongside a lack of local government capacities) for guiding spatial expansion in the corridor.<sup>34</sup>

Crucially, NDP III recognises the importance of adopting a multi-polar approach to development. By reprioritising urban planning and urban development initiatives, the Ugandan government has succeeded in the progress of new and old urban interventions, including the completion of the 15km Kampala Northern Bypass Highway in 2009, an upgrade of the Northern Corridor transport route, and the proposed Kampala-Jinja Expressway, a four-lane toll-highway expected to be completed in 2026.

This indicates a positive trend towards leveraging Uganda's urban development to encourage equitable and sustainable growth and a recognition of the underlying infrastructural deficit that is both a result of and reinforces an underutilisation of existing sub-corridors. Uganda has adopted a clear strategic direction, and the increasingly holistic and well-considered nature of each progressive NDP is evidence that this strategy is evolving based on lessons learned.

### 3.4 Urbanisation, population growth and spatial development in the JKM Corridor

This section sets out the evidence base upon which the JKM Corridor spatial strategy is founded, detailing and analysing the existing demographic and spatial structure, progressing from the large scale to the local scale. We start with a brief description of Uganda's location in Africa, within a large and urbanising Lake Victoria Region, landlocked but linked through a Trans-African Highway that is simultaneously the

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<sup>32</sup> Reviewed extensively in Working Paper 1 of this project. Vision 2040 Available online at: <http://www.npa.go.ug/uganda-vision-2040/>

<sup>33</sup> Reviewed extensively in Working Paper 1 of this project. NDP's I, II, and III available online at: <http://www.npa.go.ug/development-plans/national-development-plan-ndp/>

<sup>34</sup> UN HABITAT (2006). *Situation Analysis and Action Plan of Kinawataka and Kagugube Slum Settlements in Uganda*. UN-HABITAT, Nairobi.

JKM Corridor's critically important central spine. We then show JKM's regional context, with several sizable urban centres within an hour of its boundary.

Based on analyses of the extent or distribution of its human settlements, we describe the existing overall spatial structure and emerging urban forms. Similarly, we identify road corridors linking the settlements that will be targeted for potential economic development strategy. Related to this, we identify the activity centres at multiple scales, that may become the growth points.

We analyse the coverage of the green and commercial farming areas, which will constrain or otherwise impact future growth and spatial expansion. Finally, as a lead into the next section, we present the evidence of urban expansion in the corridor, which is the main driver behind the need to prepare alternative growth scenarios.

### 3.4.1 The JKM Corridor's Location in Africa

The JKM Corridor's location in Africa — bordering Lake Victoria, on the Northern Corridor, which is part of the Trans-African Highway Network — provides important opportunities to be exploited in planning for the future.

#### **Trans-African Highway**

Landlocked Uganda is connected to the rest of Africa by the Trans-African Highway (TAH), seen in Figure 10 below, of which TAH 8, the east-west Lagos-Mombasa Highway, forms the central spine of the JKM Corridor. TAH 8 runs east through Nairobi, with some 10 million people, to Mombasa, with some 3.5 million and home to Uganda's closest port. At Nairobi, the TAH 8 connects to TAH 4, the north-south Cairo-Gaborone Highway, which connects to Addis Ababa (with 5 million), Khartoum-Omdurman (7.5 million) and Greater Cairo (20 million). TAH 8 also runs westward to West Africa (Bangui, Yaoundé and Lagos, Accra and Abidjan), and will become an important corridor when the highway is completely paved.

Figure 10: Trans African Highway Network



Source: R. Parry, Map of Trans-African Highways based on data 2000 to 2003

**Lake Victoria and Northern Corridor Roads Network**

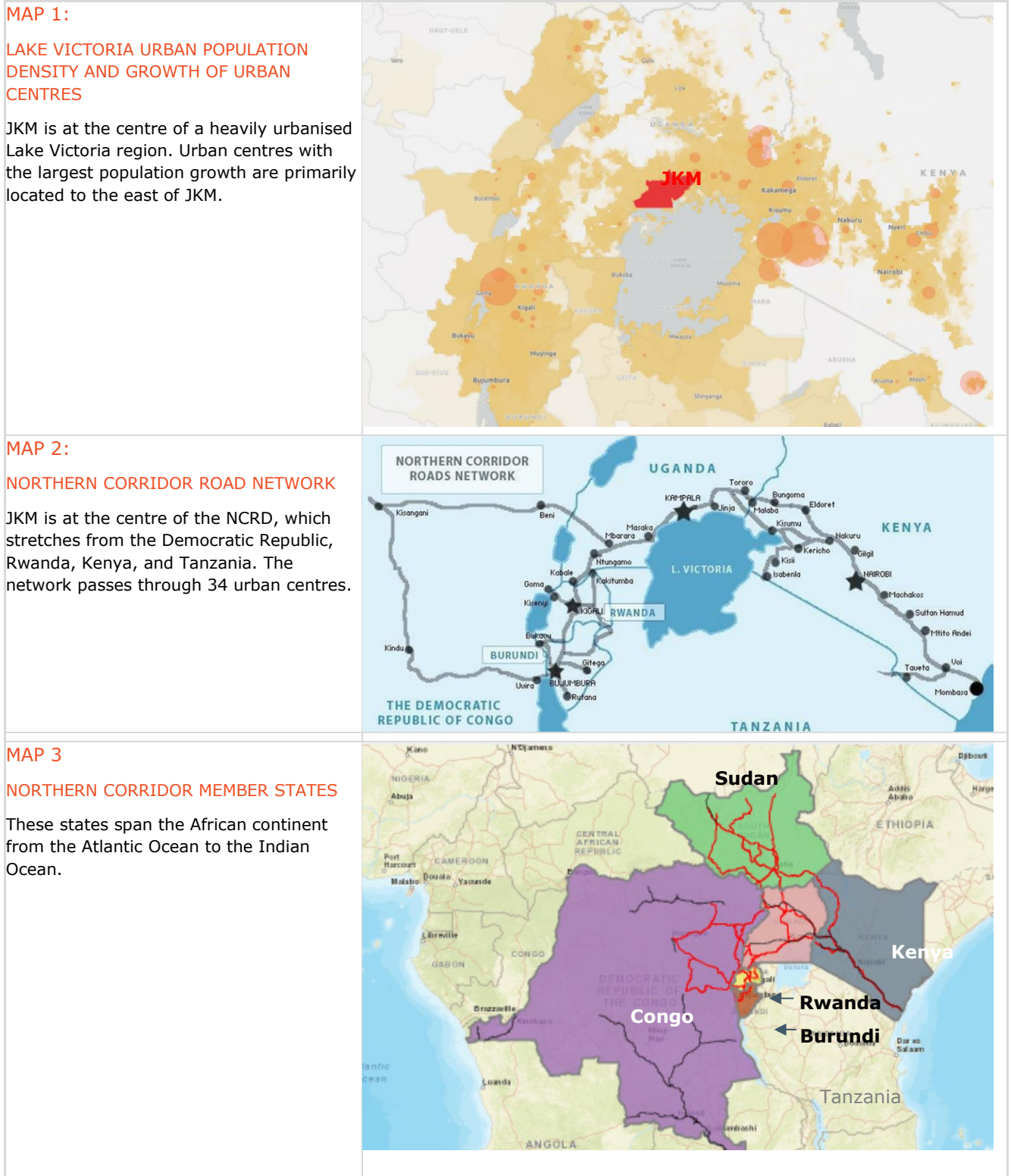
Within Uganda, the JKM Corridor is centrally located within the 2,100 km Northern Corridor, seen in Figure 10, which is the most important and busiest multi-modal cross-border transport corridor in East and Central Africa, linking the economies and trade of the Democratic Republic of the Congo (DRC), Burundi, Rwanda and Uganda through Kenya to the port of Mombasa.

The JKM Corridor is situated centrally within the Lake Victoria Region. Owing to a large and stable water resource, the region has attracted and boasts a high urban population density and many cities with over



100,000 inhabitants that have grown rapidly between 2000 and 2015. Most of these cities are to the east of the corridor.

Figure 11: Lake Victoria Region and Northern Corridor Roads Network





The JKM Corridor area definition goes beyond the GKMA in adding Buikwe District, to the east of Mukono District, which incorporates Lugazi and Njeru municipalities and Buikwe and Nkokonjeru towns. Across the regional boundary, Jinja District in Eastern Region includes Jinja City (which includes the current municipality, Bugembe, Mafubira and Budondo) and the towns of Kakira and Buwenge.

**JKM Cities, Municipalities and Town Councils**

Figure 13 shows the location of two cities, four municipalities, eleven town councils and other sub-counties in the JKM Corridor. Specifically, the cities are Kampala Capital City Authority and Jinja City. The municipalities are Entebbe, Mokono, Nansana and Lugazi, Kira, Njeru. And the towns are Wakiso, Mpigi, Bugembe (now part of Jinja City), Kakira, Buwenge, Kakiri, Nkokonjeru, Gayaza, Kasangati, Kira, Kabasanda, Kamengo, Matugga, Nabusanke, Nagalama, and Nkoko.

Observing the spatial distribution of these areas, we find that a set of cities, municipalities and towns form a contiguous cluster around Kampala, another set forms a cluster around Jinja City and the third set around Buikwe. The other towns stand by themselves.

Figure 13: Lower-Level Administrative Areas in the JKM Corridor

Source: COWI A/S

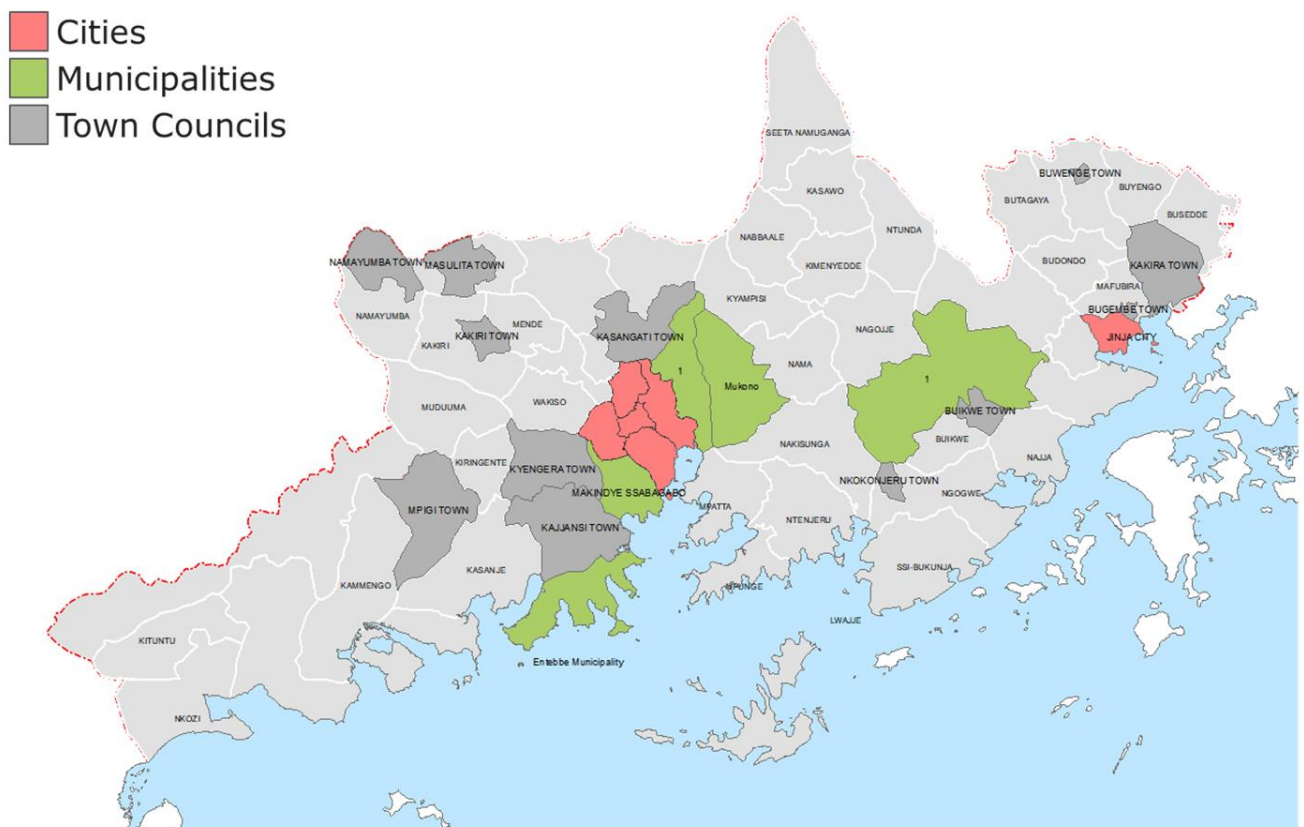


Figure 14 shows the JKM Corridor in a wider, southern Uganda regional context. We identify — beyond the Corridor boundary but within an hour’s drive — several built-up urban areas (in orange in Figure 14 below) with higher-density cores (in black), all with sizeable populations as seen in Figure 15. Some of the towns are close to one another and may be seen as city clusters.

Here we see that urban growth spills over the JKM boundary; within an hour’s drive to JKM, there are several built-up urban areas with higher-density cores. Some of these have sizeable populations, such as

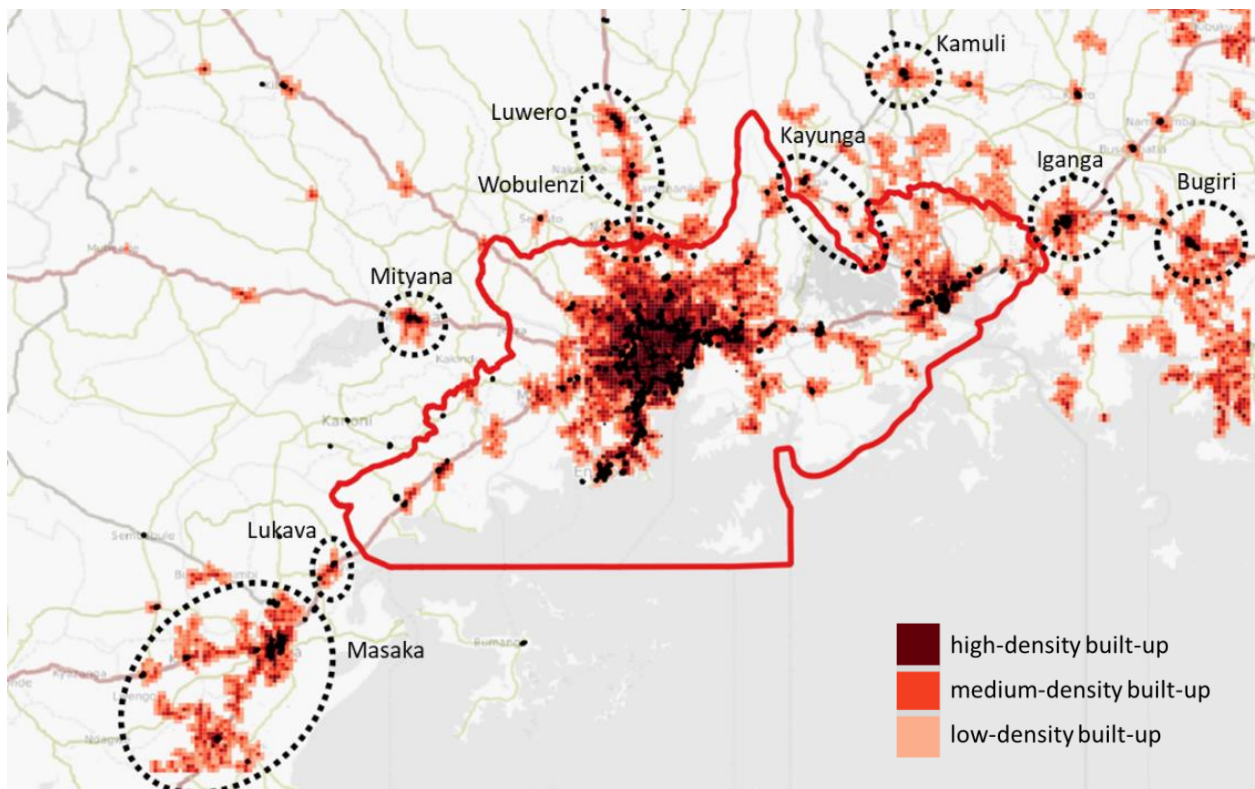


Masaka and Kaliso with about 100,000 each, as shown in Figure 15. All are located on important radial transport corridors emanating from Kampala or Jinja.

Almost all these urban areas have good transport links to JKM. Masaka and Lukava, to the west, and Iganga and Bugiri, to the east, are well linked to JKM along the Northern Corridor. Wobuleni and Luwero are on the expressway to the north. Mityana is on the road to Port Royal. Urban development in the Kayunga area occurs along a road that falls outside the JKM boundary but connects to its parts.

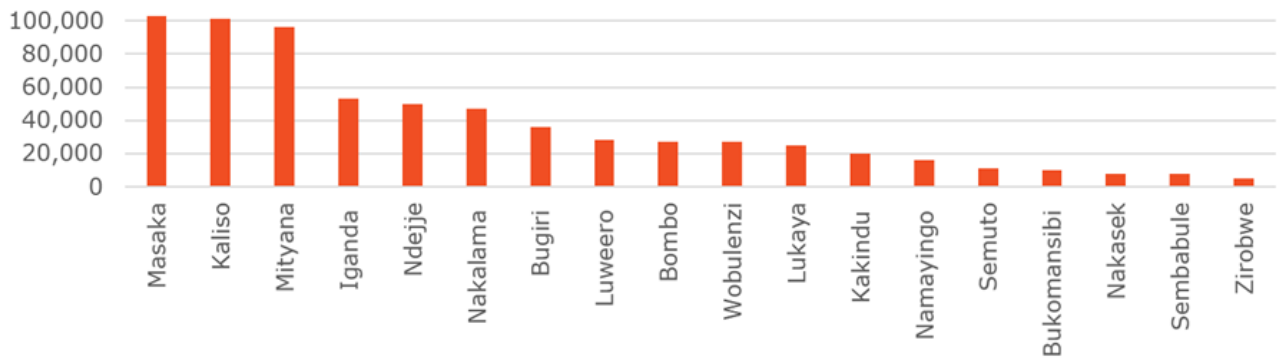
Although outside JKM, these places will interact with JKM and its development through flows of commuters, shoppers, students, tourists and more. Some of these places may start to merge, such as Masaka and Luwero/Wobuleni. So, while not officially being a part of the JKM Corridor, these areas must be engaged in the JKM planning and development control process.

Figure 14: JKM Corridor in Southern Uganda and Urban Areas outside its boundary



Source: COWI A/S

Figure 15: Population of towns within about one hour of JKM boundary



Source: COWI A/S and UBOS

This section sets out the evidence base upon which the JKM Corridor spatial strategy is founded. It examines the demographic trends at different spatial scales, urbanization and spatial expansion, metropolitanisation, and connectivity and mobility.

### 3.4.3 Demographic trends

Demographic trends drive the need for regional and urban plans to guide physical growth into existing or expanded urban areas. These trends are discussed below at different spatial scales. From the small scale to the large scale, these are scales are Uganda, Kampala, JKM, Districts and individual settlements.

#### **Uganda**

Uganda's population, now about 48 million, is growing rapidly and urbanizing even faster. By 2030, the population may exceed 63 million, some 15 million more than today. By 2040, it may reach 83 million, some 35 million more and almost double today's population (WUP 2018).

Uganda's urban population, now about 12 million, is predicted to increase absolutely and as a share of the total population. It may reach 20 million by 2030 and almost 33 million by 2040, respectively 8 and 21 million more than today (WUP 2018).<sup>35,36</sup>

Uganda's urbanization rate has increased profoundly in the 21st Century. Between 2005 and 2010, Uganda's built-up area grew ten-fold, and the urban share of the population reached almost 20 percent. Between 2010 and 2019, annual urbanization rates continued to increase by about 5 percent per year. The share of the population living in urban areas, now 25 percent, may grow to 31 percent by 2030 and 40 percent by 2040. Urbanization is still at an early stage, with about 70 percent of Uganda's current population working in subsistence agriculture.

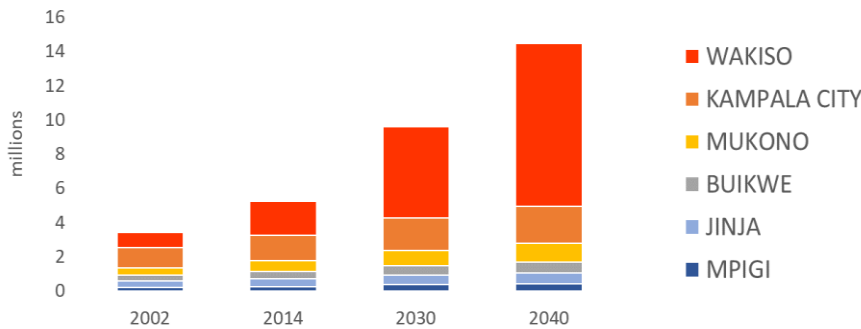
<sup>35</sup> The NPDP has a slightly different projection for 2040: 75 million population, with 23 million urban in the metropolis and municipalities (of which 8.5 million in GKMA), 7 million urban, and 24 million rural. It also projects 100 million by 2060, with 40 million urban in the metropolis and municipalities (of which 10 million in GKMA), 10 million urban, and 50 million rural.

<sup>36</sup> Vision 2040 projects a total population of 61 million by 2040, with 37 million urban, 24 million rural.

### JKM Corridor

JKM's population grew from about 3.42 million in 2002 to 5.2 million in 2014 at a rapid average annual rate of 3.6 percent (Figure 16).

Figure 16: JKM Population 2002, 2014, 2030 and 2040



Source: UBOS

JKM's population will continue to grow. Estimates for the 2030 population range between 9 and 11.5 million; estimates for 2040 range between 12 and 19 million (Figure 17).

- > **UBOS projects** that JKM may grow to 9.5 million in 2030 and 14.4 million in 2040<sup>37</sup> – up from today's 7 million. In this view, the annual growth rate of 3.82 percent per year between 2014 and 2030 would increase to 4.22 percent between 2030 and 2040.
- > **If JKM maintains its present 14 percent share of Uganda's total population** – a slightly more conservative scenario – it will reach 9 million by 2030 and 12 million by 2040. This means that it will have to accommodate some 2 million more people by 2030 and another 3 million by 2040.
- > **If JKM maintains its present 57 percent share of Uganda's urban population** – a slightly less conservative scenario – it will reach 11.5 million by 2030 and 19 million by 2040, or 4.5 million more by 2030 and another 5.5 million by 2040.

Figure 17: Estimates of JKM's future population

Assumption	2022	2030	2040
Maintain a 14 percent share of Uganda's population	7	9	12
UBOS (increase growth rate)	7	9.5	14.4
Maintain a 57 percent share of Uganda's urban population	7	11.5	19

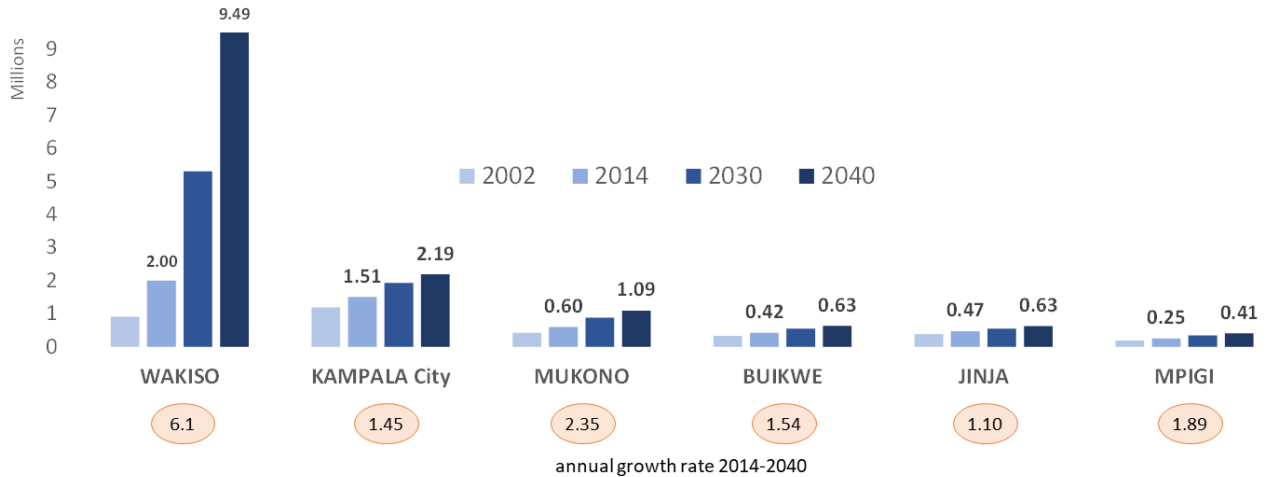
### JKM Districts

JKM's districts are projected to grow at different rates, according to UBOS (Figure 18). Wakiso, now the largest district, may grow the fastest, surpassing 5 million by 2030 and over 9 million by 2040. Wakiso has seen rapid spatial development in areas bordering the GKMA, as well as along the road and rail corridors between Kampala and Lake Victoria, and between the city and Entebbe International Airport.

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Kampala City, now the second largest district, will retain that position, but its growth rate may be superseded by Mukono's, Mpigi's and Buikwe's, while Jinja's rate may be the slowest.

Figure 18: Projected Population in JKM Districts in 2030 and 2040



Source: UBOS

### **Urban Settlements**

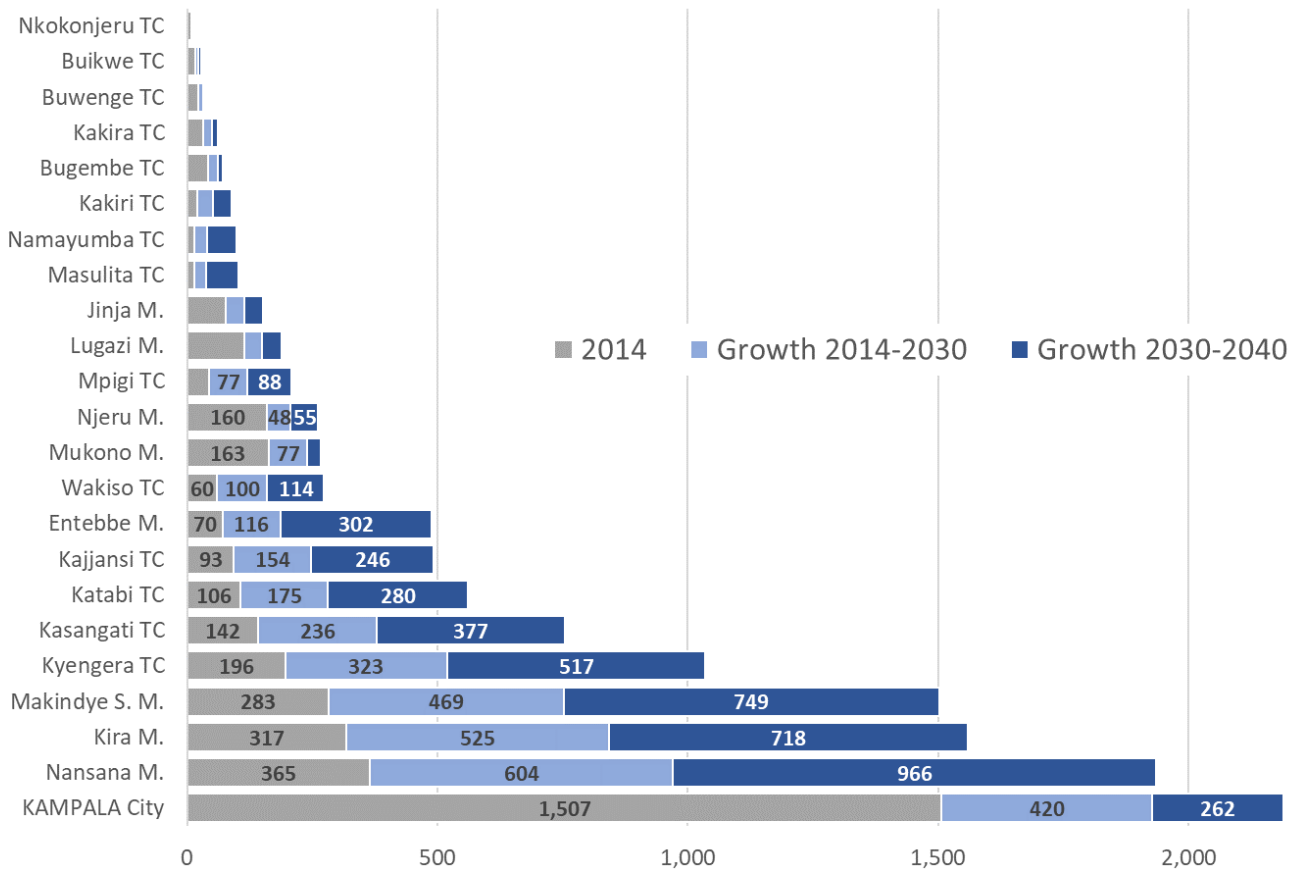
UBOS projects population increases in 23 of JKM's urban areas by 2030 and 2040 (Figure 19). At one extreme, Kampala City, the most populous, with 1.51 million in 2014, may grow by an additional 420,000 between 2014-2030 and another 262,000 between 2030-2040, for a total of 2.18 million by 2040. Nansana Municipality (Wakiso), the second most populous, may grow by over 600 thousand between 2014-2030 and over 960 thousand between 2030-2040, for a total of 969 thousand in 2030 and 1.93 million in 2040. At the other extreme, the smallest settlements in 2014 will grow by very modest amounts.

Growth in three areas (Nansana, Kira, Makindye) may exceed Kampala's between 2014 and 2030 and between 2030-2040, with Kyengeru's growth exceeding Kampala's from 2030 to 2040.

The total population in these 23 urban areas, 3.8 million in 2014, may double to 7.4 million by 2030 and to 12.3 million by 2040. These areas may thus grow by 3.5 million between 2014-2030 and 4.9 million between 2030-2040.

Coping with the rate of growth is a challenge. The populations of the four largest areas will double, as will Kasangati, Katabi, Kajjansi, Entebbe and Wakiso.

Figure 19: Population Projections to 2030 and 2040 (in '000)



Source: COWI based on UBOS data

The demographic challenge is greatest at the level of individual urban settlements. At this level, increased populations may overstretch the capacity of a municipality's infrastructure and services; new households, not finding suitable accommodation, may crowd in with other households or move to existing informal settlements; or form new informal settlements; and settlements that reach certain population thresholds will start to demand higher levels of public investment.

### 3.4.4 Current spatial trends

As with many sub-Saharan African cities, physical growth in JKM is 'dispersed'. It is mostly low-rise sprawl with some 'infilling' in several urban 'cores' within the urban footprint. Most growth has occurred along the main highways and roads radiating out of Kampala and Jinja.

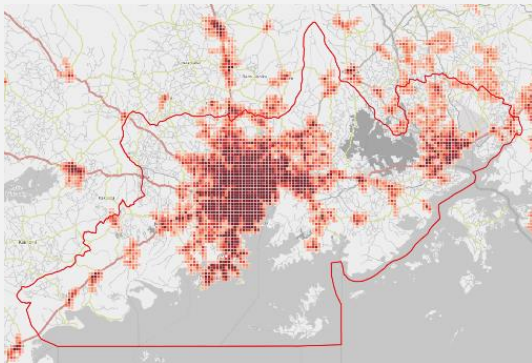
To begin to ascertain trends, we used two datasets. The Global Human Settlements (GHS) built-up grid is derived from Sentinel-2 global image composite for the year 2018 using Convolutional Neural Networks. This new method, called the Degree of Urbanisation, classifies a country into three classes: cities, towns and semi-dense areas, and rural areas. The method has been endorsed by the 51st Session of the United Nations Statistical Commission.

The Center for International Earth Science Information Network (CIESIN) at Columbia University provides a set of analysed building footprints prepared by Ecopia Vector Maps Powered by Maxar Satellite Imagery. The dataset provides a finer-grain understanding of the coverage of human settlements in the Corridor. In addition to urban built-up areas, the CIESIN data identifies small settlements (SS) and hamlets (HL) that together cover almost all of the JKM area. These low-density settlements and hamlets are an important element of the area's population. They are also subject to absorption into the expanding built-up areas and have the potential to become built-up themselves. The CIESIN dataset defines built-up areas (BUA), small settlement areas (SSA), and hamlets (hamlets) as follows:

*Figure 20: Definition of built-up areas, small settlements, and hamlets*

#### Built-up areas

A built-up area (BUA) is generally an area of urbanisation with moderately-to-densely-spaced buildings and a visible grid of streets and blocks. Built-up areas have contours with an area greater than or equal to 400,000 meters square with a building density of thirteen or more across the entire area.



#### Small Settlements

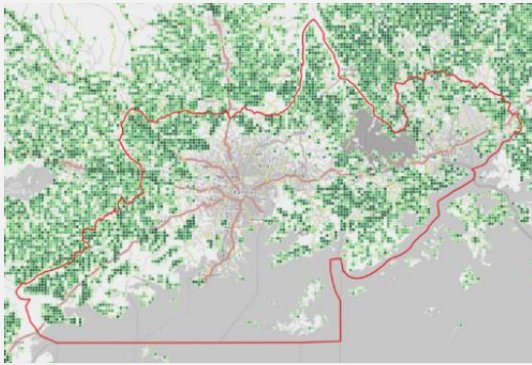
A small settlement (SSA) is a settled area of inhabited structures and compounds of roughly a few hundred to a few thousand inhabitants. The housing pattern in SSAs is a collection of family compounds that adjoin other similar habitations. Small settlement areas have 50 or more buildings and are not considered a BUA.





### Hamlets

A hamlet is a collection of several compounds or sleeping houses in isolation from small settlements or urban areas. Hamlets are a collection of low-density settlements between one and 50 buildings that falls within 65 meters of one another.



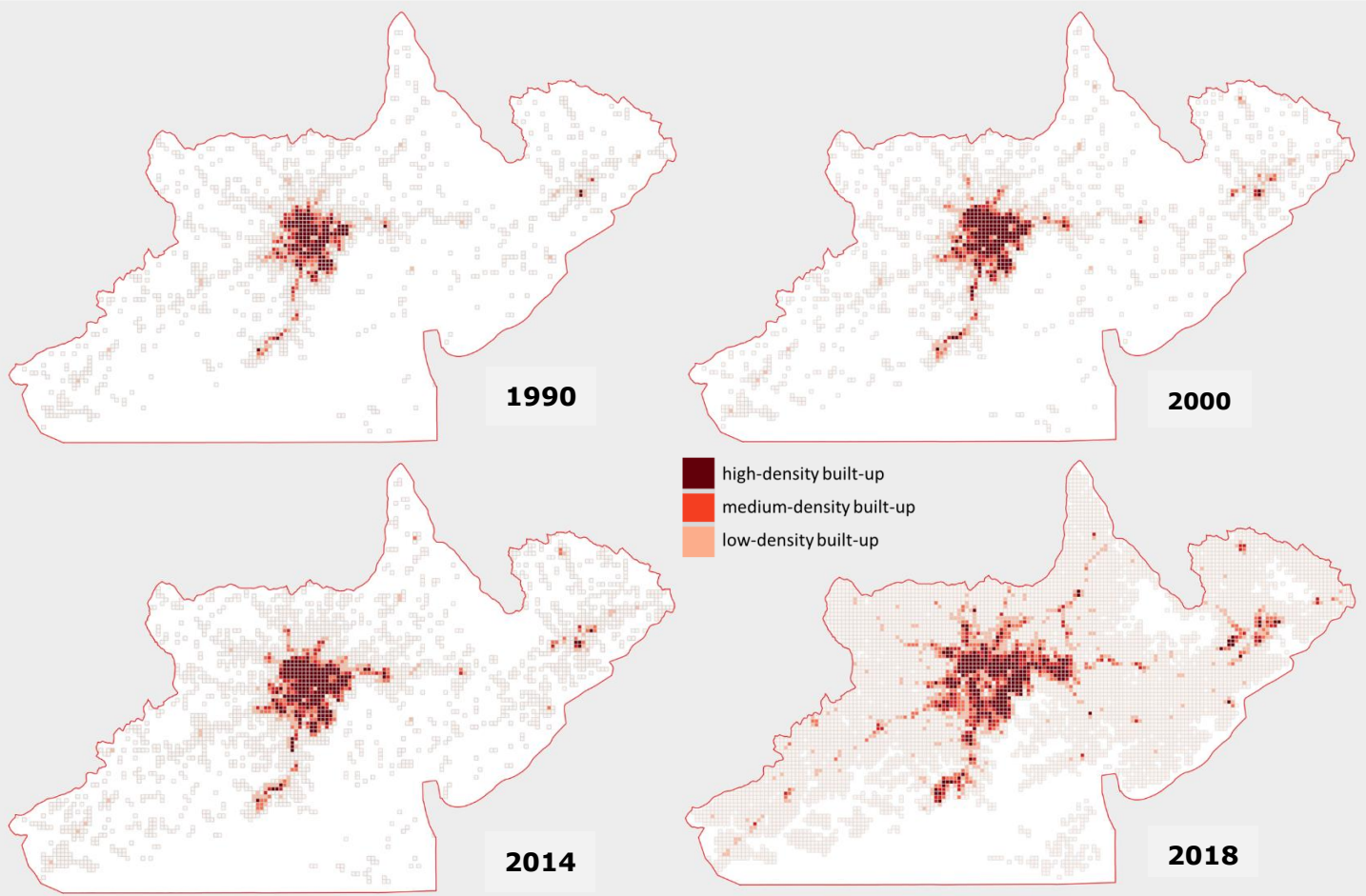
Source: CIESIN

### **Expanding and Densifying Urban Areas**

Urban areas have expanded since well before 1990. But in the last decades, the pattern of increase can be captured and analyzed by satellites as with the GHS and CIESIN data (Figure 21 below). In 1990, most of the urbanized area was in and around Kampala City, stretching thinly along main arterial transport routes to Entebbe, and in a few places along the east-west Northern Corridor and in Jinja.

By 2000, high-density areas consolidate in the Kampala core and emerge in Entebbe and Jinja. The same pattern continues into 2014.

Figure 21: Urban expansion in JKM 1990-2018



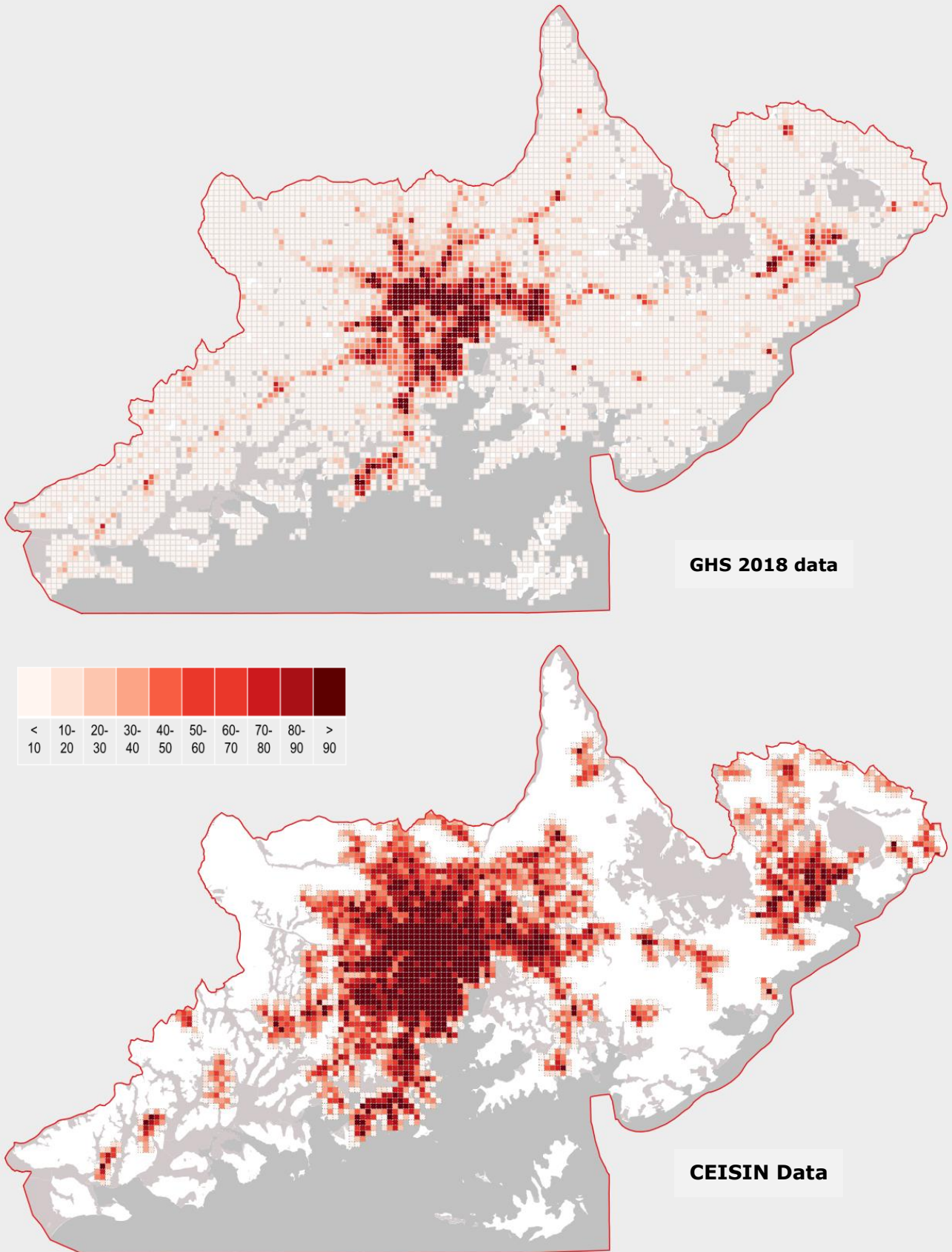
Source: Global Human Settlements (GHS) data

But by 2018, high-density areas increased significantly in Kampala, Mukono, Jinja and Entebbe, and along transport corridors, while low-medium density and low-density area emerge in almost half of the JKM area. By that time, more than 50 percent of the JKM territory was covered with some form of physical development, as indicated by the light grey areas. Low-density built-up areas are 'dispersed,' comprising mostly low-rise buildings. High-density built-up areas have increased and expanded. Ribbon development is evident along major corridors.

Figure 22 below shows two images of JKM built-up areas using the GHS and CIESIN data respectively.



Figure 22: JKM Built-up areas in 2018 by relative density



### 3.4.5 Distribution of human settlement land cover

We analysed two datasets of human settlement land cover. One, the UBOS Remote Sensing Survey, provides data on built-up areas in 2015; we term this data BUA-1. The other, BUA-2, from CIESIN, provides as seen above a dataset for built-up areas, small settlements and hamlets in 2018.<sup>38</sup> **BUA-2 areas** are urban in nature, with moderately-to-densely-spaced buildings and a visible grid of streets and blocks. **Small Settlements (SSAs)** are settled areas with inhabited structures/compounds of roughly a few hundred to a few thousand inhabitants. **Hamlets (HAMLET)** are collections of several compounds or houses in isolation from small settlements or urban areas.

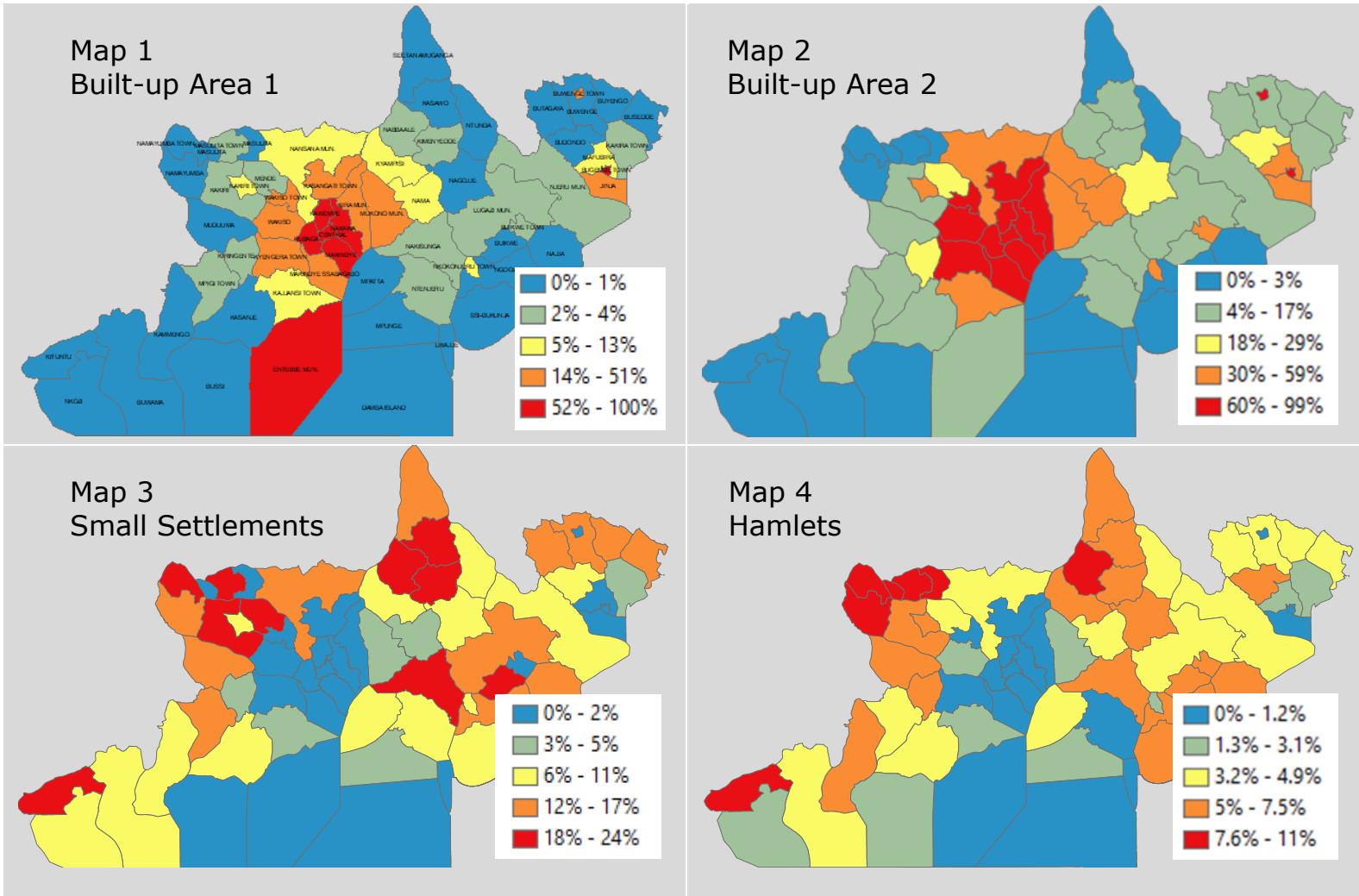
#### **Human Settlement Extent by Sub-county**

Figure 23 provides a generalised picture of the level of urbanisation, as indicated by colour. Map 1 and 2 in Figure 23 show that sub-counties with the higher shares of BUA-1 & BUA-2 are in the GKMA area and Jinja City, which are perceived as the most urbanised.

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<sup>38</sup> The dataset used here is derived from the Center for International Earth Science Information Network (CIESIN), Columbia University. It provides a set of analysed building footprints prepared by Ecopia Vector Maps.

Figure 23: Density of human settlements by Subcounty

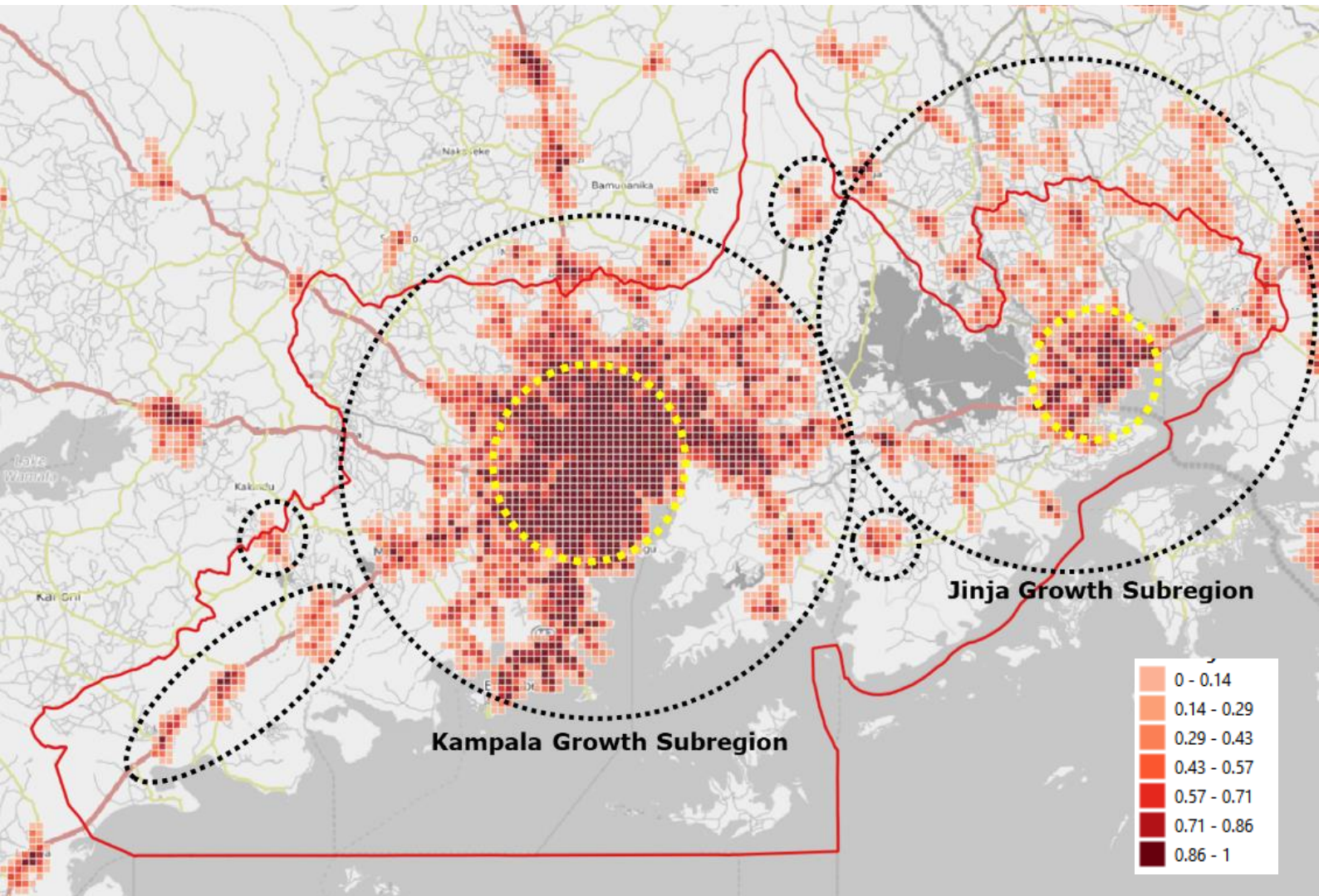


**Built-up Land in 1 km x 1 km Grid**

Figure 24 shows our spatial analysis of built-up (BUA-2) land cover, prepared by placing a 1km x 1 km grid over the satellite image of the built-up land cover. Each grid cell displays the built-up area density by colour shade. For example, a dark brown cell means that the built-up area covers between 86 and 100 percent of the cell; a light brown cell means it covers less than 14 percent. A cell that is less than 100 percent built-up or not coloured may have a combination of small-settlements, hamlets, or no buildings at all.



Figure 24: Built-up area (BUA-1), Growth subregions, Growth areas



Source: COWI A/S analysis of CIESIN GRID data

### **Metropolitan Growth**

Moreover, in Figure 24 above we observe that JKM has been growing in a way that may be described as "metropolitan" in the form and emergence of two metropolitan regions around Kampala and Jinja. These regions do not have official jurisdictions, rather they are observed as spatial development entities.

A metropolitan area, or "metro", may be defined as a region with a densely populated urban core and less-populated surrounding areas that share industries, commercial areas, transport networks, infrastructure and housing. A metro usually has multiple local authorities and districts, and often includes satellite cities and towns.

The built-up pattern within JKM also has the following characteristics:

- 1 **JKM is about 50 percent urbanised:** Cells with some built-up areas cover about half of the JKM territory, and built-up areas cover (almost) all of GKMA and Jinja City.

- 2 **Two urban cores:** Built-up area density is highest (dark brown) in the 11.3-kilometre radius core of Kampala and the 5-km radius core of Jinja City, as identified by the yellow dotted circles. Another cluster of high-density cells is seen on the corridor between Kampala and Jinja and the corridor between Kampala and Mukono.
- 3 **Emerging wider Kampala metropolitan area:** The contiguous built-up area around Kampala — extending outside the corridor to the north, largely falls within a roughly 35-kilometre radius of Kampala CBD. This built-up area varies in density and is shaped largely by the radial roads. We suggest that this may be considered an emerging metropolitan area.
- 4 **Emerging Jinja metropolitan area:** The partly contiguous and partly fragmented built-up area around Jinja — also extending outside JKM, falls within a roughly 35-kilometre circle radius of Jinja City. This built-up area also varies in density and is shaped by radial and circumferential roads. We suggest that this may also be considered an emerging metropolitan area.
- 5 **Kampala Sprawl:** A linear built-up area extends some 25 kilometres from Kampala into the Jinja circle along the Mukono-Kyetume-Katosi-Nyenga Road from Lugazi through Buikwe, including a gap of no development - to the Kyindi Ferry port to Buvuma Island. A similar case of sprawl extends north, although outside JKM.
- 6 **Low Development zone:** The built-up areas around Kampala and Jinja are distinct — they do not (yet) touch — and are largely separated by a zone of green areas that includes the Mabira Central Forest Reserve. We suggest that this be protected to prevent the merging of Kampala and Jinja City metropolitan areas.
- 7 **Other built-up areas:** There are six other instances of built-up areas with more than one contiguous built-up cell. Three are roughly equally spaced along corridor 1 (Nabusanke-Kayabwe, Buwama and Kamengo), perhaps forming a cluster; two are between the GKMA and Jinja circles: Nkokonjeru in the south on corridor 12 and Kasawu in the north on corridor 5; and one, Kibibi, is on no corridor.

### **Small Settlements and Hamlets in 1 km x 1 km Grid**

Small settlements (SS) and hamlets (HL) are important for commuters and as a potential source of migrants to the built-up urban areas and as places that have the potential to become built-up themselves. Similar to the analysis in Figure 24 for built-up areas, Figure 25 shows our analysis for small settlements in Map 1 and hamlets in Map 2.



Figure 25: Small settlement and hamlet density in JKM

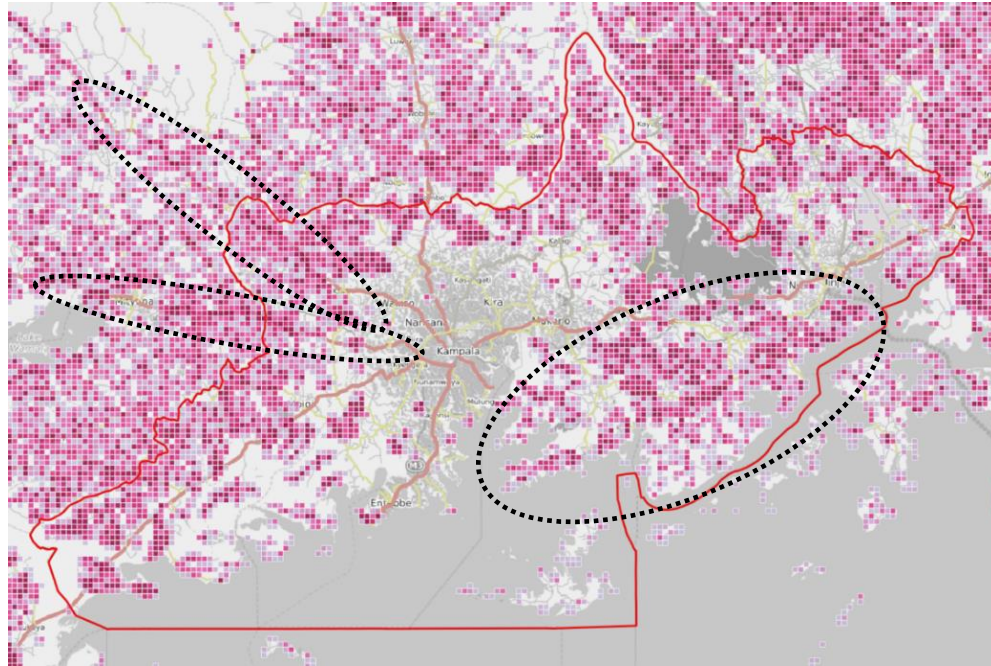
MAP 1

**SMALL SETTLEMENT AREAS**

Small settlements (SS) are found throughout JKM except near large built-up areas.

SS density is somewhat higher along road corridors.

SS density is higher on the east lake shore than on the west.



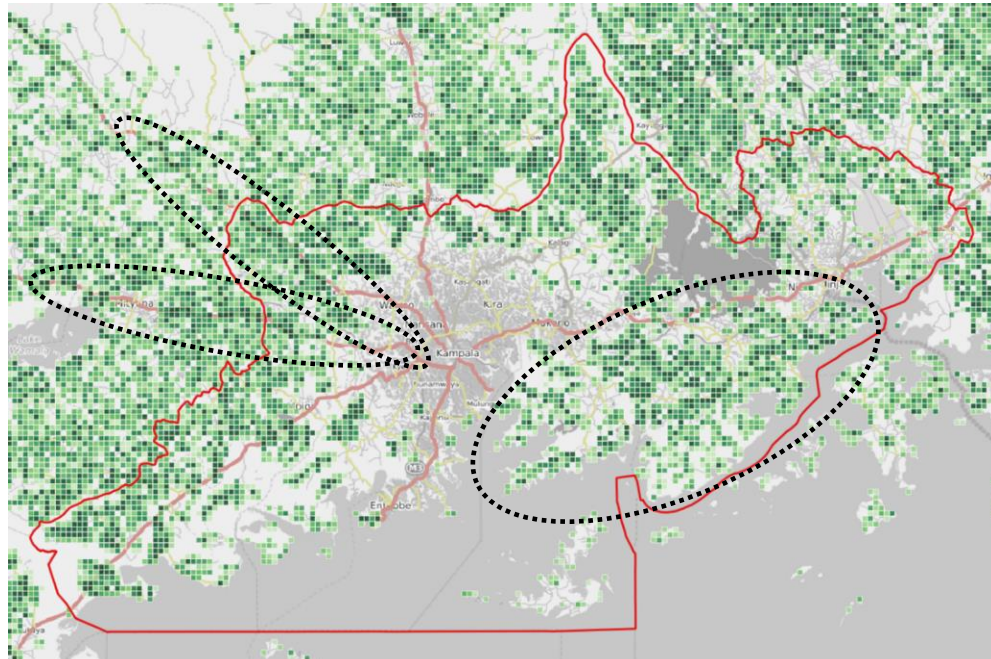
**MAP 2  
HAMLET AREAS**

Hamlets (HL) are found throughout JKM except near large built-up areas.

Hamlet density is higher along road corridors.

Low-density hamlet cells number high-density cells.

HL density is higher on the east lake shore than on the west.

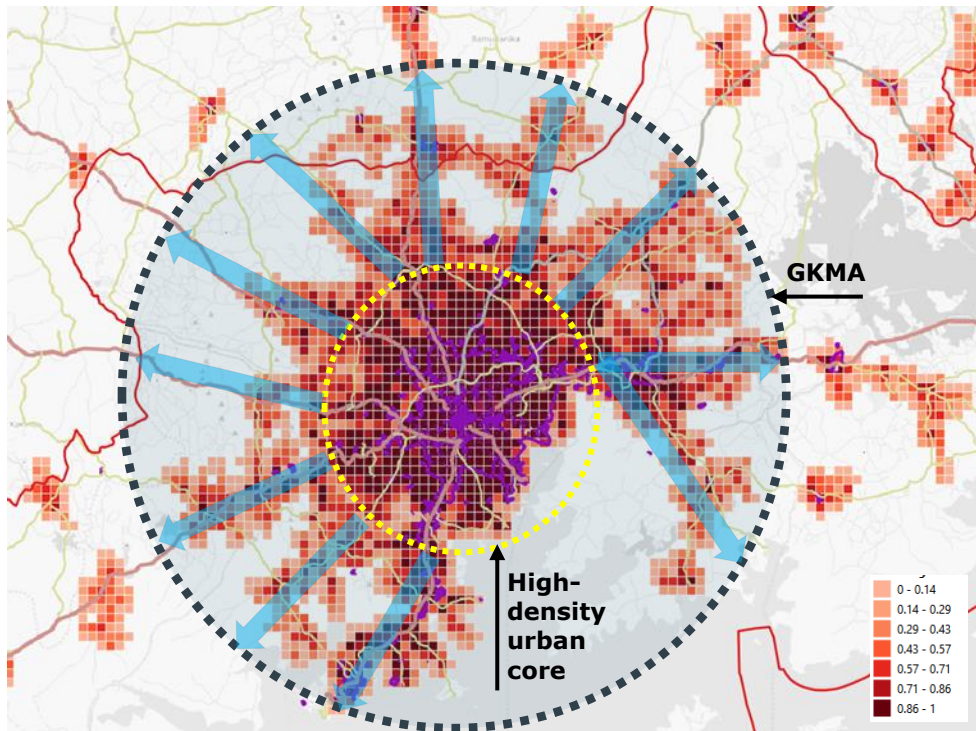


Source: COWI A/S analysis of CIESIN GRID data

**The emerging Kampala metropolitan development circle**

Figure 26 provides a detail of the built-up area within and around GKMA, which extends from a high-density central core largely along the major road corridors in the form of tentacles. The high-density areas also extend along these tentacles, particularly southward on the Entebbe Road and Entebbe-Kampala Expressway to Entebbe and eastward on the Jinja-Kampala Road A109 to Mukono. In theory, places with less than 100 percent built-up have development potential, but this needs to be studied at a finer grain.

Figure 26: Built-up Area in and around GKMA

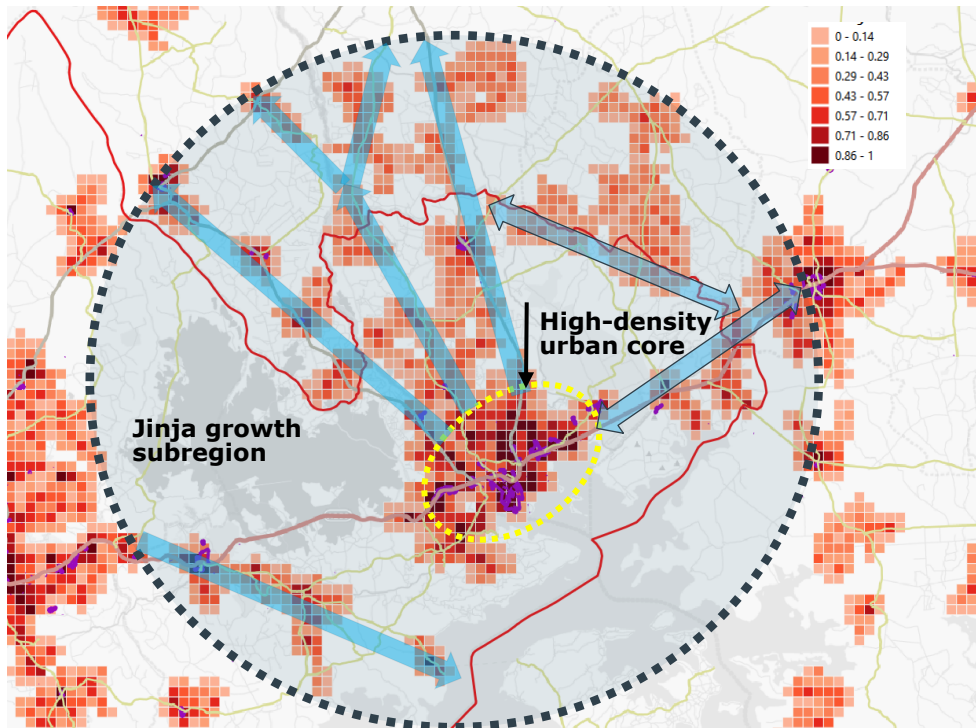


Source: Bing Buildings and COWI A/S

### **Emerging Jinja metropolitan development circle**

Figure 27 (next page) provides a detail of the more complex and fragmented built-up area within and around the Jinja high-density core. The built-up pattern may be influenced by another built-up core, Iganga, only 35 kilometres away. The tentacles here are less pronounced. There is a built-up area in the north-east that is not directly linked to Jinja. It would seem that there is an opportunity, going forward, to propose a strategy for more structured growth in the area, the Jinja Growth Sub-region (JGS).

Figure 27: Built-up Area in and around JGS



Source: Bing Buildings and COWI A/S analysis

The two metropolitan areas are distinct — they do not (yet) touch — and are largely separated by a zone of green areas that includes the Mabira Central Forest Reserve. A linear built-up area extends some 25 kilometres from the KMR into the JMR circle along the Mukono-Kyetume-Katosi-Nyenga Road from Lugazi through Buikwe, including a gap of no development - to the Kyindi Ferry port to Buvuma Island. A similar case of sprawl extends north, although outside JKM.

### 3.4.6 Green and Commercial Farming Areas

We define green areas as places with natural resource assets including forests, hills, and quality agricultural land that justify conservation and preservation. Green area preservation and conservation implied in two of the JKM Corridor Plan Goals: “Efficiently planned, regulated and managed land uses that harmonise agricultural, industrial, residential, *natural and recreational* functions” and “A *resilient and sustainable natural and urban environment* that is adaptive to climate, health and economic shocks and stresses”.

In Figure 28 we map the green areas and commercial farm locations and find that they can be clustered into green groups and green regions that can have an impact on the regional structure of JKM.



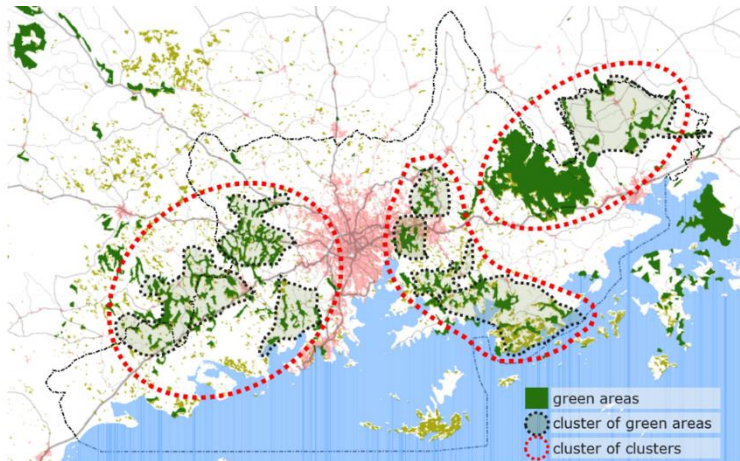
Figure 28: Green Areas and Commercial Farms.

**MAP 1  
GREEN AREAS**

The green system is fragmented. Mabira Central Forest apart, green areas are small and separate.

Most green areas are near to each other and may be clustered and linked.

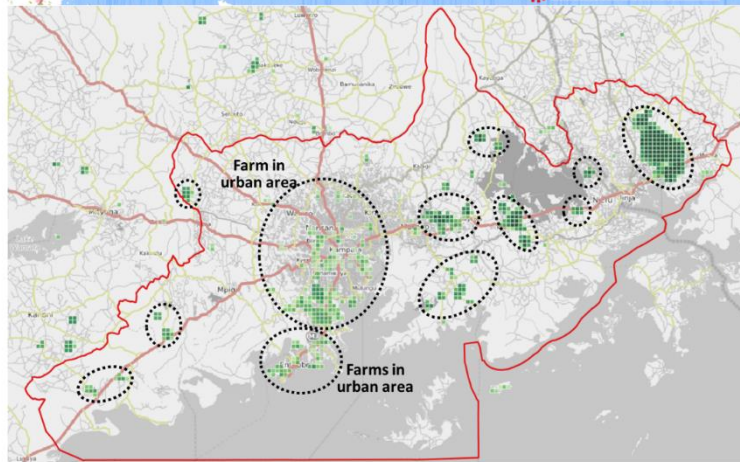
Green clusters are proximate might become green regions.



**MAP 2  
COMMERCIAL FRAMING AREAS**

Kakira Sugar Estate is the only large contiguous farming area.

There are eleven other areas with commercial farms.



Source: COWI A/S and Open Street Map

### 3.4.7 Transport Corridors

Transport corridors connect JKM centres to each other, connect JKM to the rest of Uganda, and connect JKM to its international neighbours. Regional plans like JKM can guide growth in the corridor, better link land use and transportation, and connect infrastructure to development decisions.

JKM contains more than twenty existing, significant, road corridors (Figure 30). In our view, the most important corridors in JKM are those that link Kampala and Jinja, Kampala and Entebbe, Kampala to the western international border, and Jinja to the eastern international border (Figure 29).

Figure 29: The most important corridors

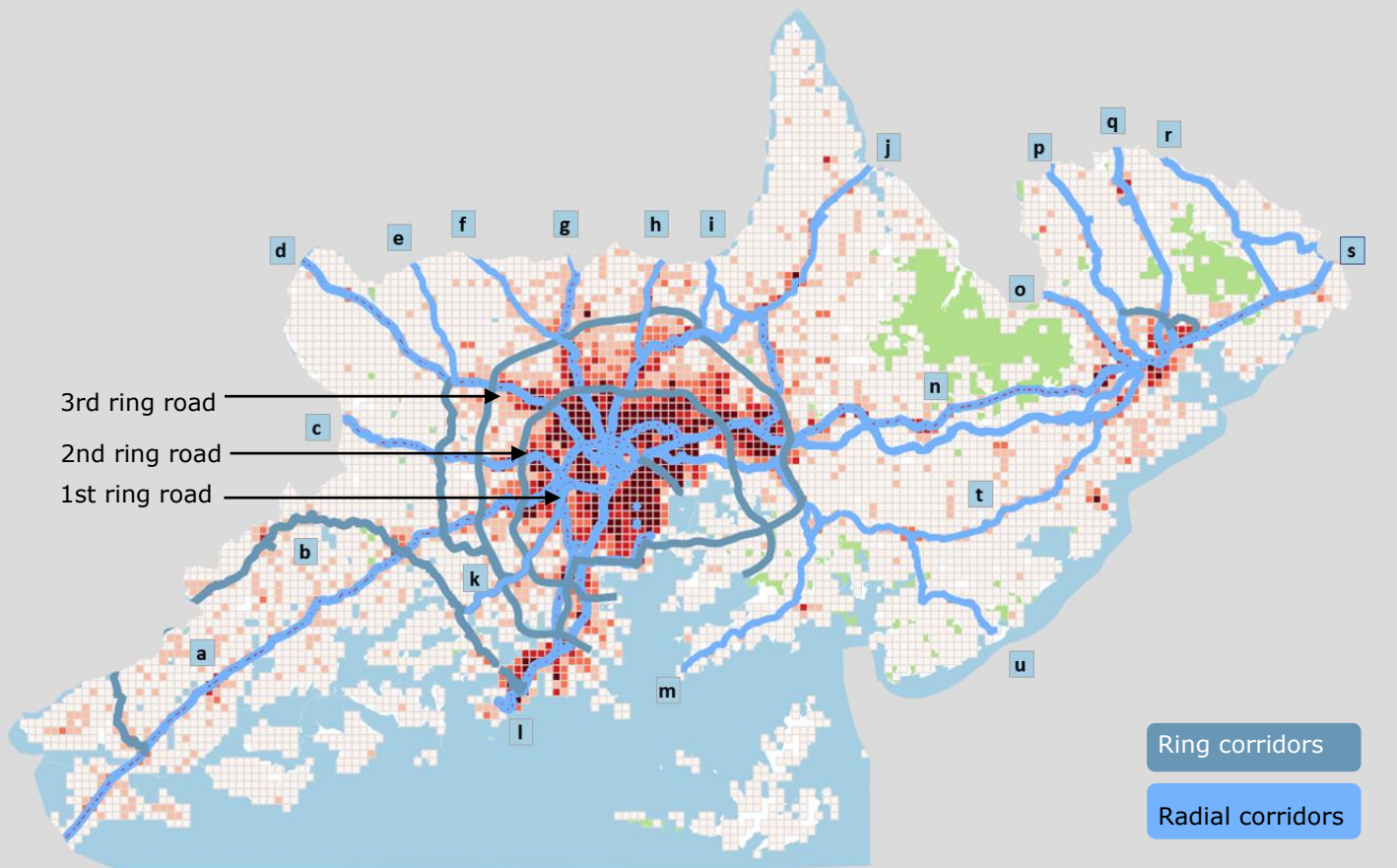
- n** Links Kampala with Jinja.
- s** Links Jinja to the border with Kenya
- a** Links Kampala to Rwanda, Burundi and DRC.
- g** Links Kampala to central and northern parts of Uganda.
- l** Links Kampala with Entebbe

Strategic expressways, as defined by the Ugandan National Road Authority, are a, c, d, g, and n (see below).

Fourteen corridors are KMR radial roads; these start in Kampala City and radiate in all directions, forming the tentacle of the Kampala Metropolitan Region. Four corridors are JMR radials; these start from Jinja (o), (p), (q) and (s). Corridor (r) may be considered as part of a ring road around JMR.

Corridors (a), (n) and (s) are part of the Northern Corridor but also function as radials in KMR and JMR. Corridor (t) provides an alternative and longer connection between Kampala and Jinja, branching south at Mukono and forking at corridors (m) and (u), which terminate at the lake.

Figure 30: Existing Transport Corridors in JKM



a	Kampala-Masaka Road	f	Gombe-?? Road	k	Nakwuka-Jungo Road	p	Jinja-Matuumu Road
b	Mpigi-Kabasanda Road	g	Kampala-Masindi Road	l	Kampala-Entebbe links	q	Jinja-Buwenge Road
c	Fort Portal-Kampala - A109	h	Gayaza-Kiwenda Road	m	Kampala-Bulebi	r	Magamega-Nakagyo Road
d	Kampala-Hoima Road	i	Nakasajja-Kiwenda Road	n	Metro-Link	s	Jinja-Mbale-Tororo
e	Kakiri-Kiziba Road	j	Namungongo Road	o	Jinja-Bukeka Road	t	Nakasongola-Kamuli-Iganga

Source: COWI A/S

### **Planned Expressways**

In addition to existing corridors, the Uganda National Road Authority (UNRA) has a long-term plan for the development of a future expressway network up to the year 2070, which includes new expressways to convey trade and connect the main cities. These expressways will reduce the effective distances between centres and serve to integrate the spatial economy.

Figure 31 shows a detail of the multi-phased plan at the JKM Corridor. Phase 1 (2020-2030, in red) includes the east-west expressway that corresponds to the above corridors (a), (n) and (s); corridor (g), the north-south link to Masindi; and an inner ring road around Kampala core. Phase 2 (2030-2050, in blue) includes new or upgraded radials that correspond to (c), (d), (h) and (u). Phase 3 (2050-2070, in green) includes expressways that connect Kampala to Jinja north of the forest, link Jinja to the north east and link (e) and (b).

*Figure 31: Detail from UNRA national expressway plan to 2070*



*Source: Part of UNRA Expressway Plan*

### **3.4.8 Urban Settlements**

Based on evidence, we count 70 urban settlements in JKM, as shown in Figure 32 and listed in Figure 33. (Note that the National Physical Development Plan identifies a total of 60 urban settlements in all of Uganda (page 102): 1 capital, 10 regional cities, 15 secondary cities, 15 townships and 5 new cities. Of these, only three are in the JKM corridor: GKMA, Entebbe, Njeru-Jinja and Mubende.

We classify our settlements into one primary city (Kampala), one secondary city (Jinja), two municipalities (Entebbe and Mukono), 21 small towns and 45 large villages.

We identify these settlements by their concentration of built-up area compared to that in surrounding cells and named places on various datasets in Uganda, including OSM and shapefiles from GIZ. The hierarchical set of centres includes downtown Kampala, sub-regional centres, industrial areas and

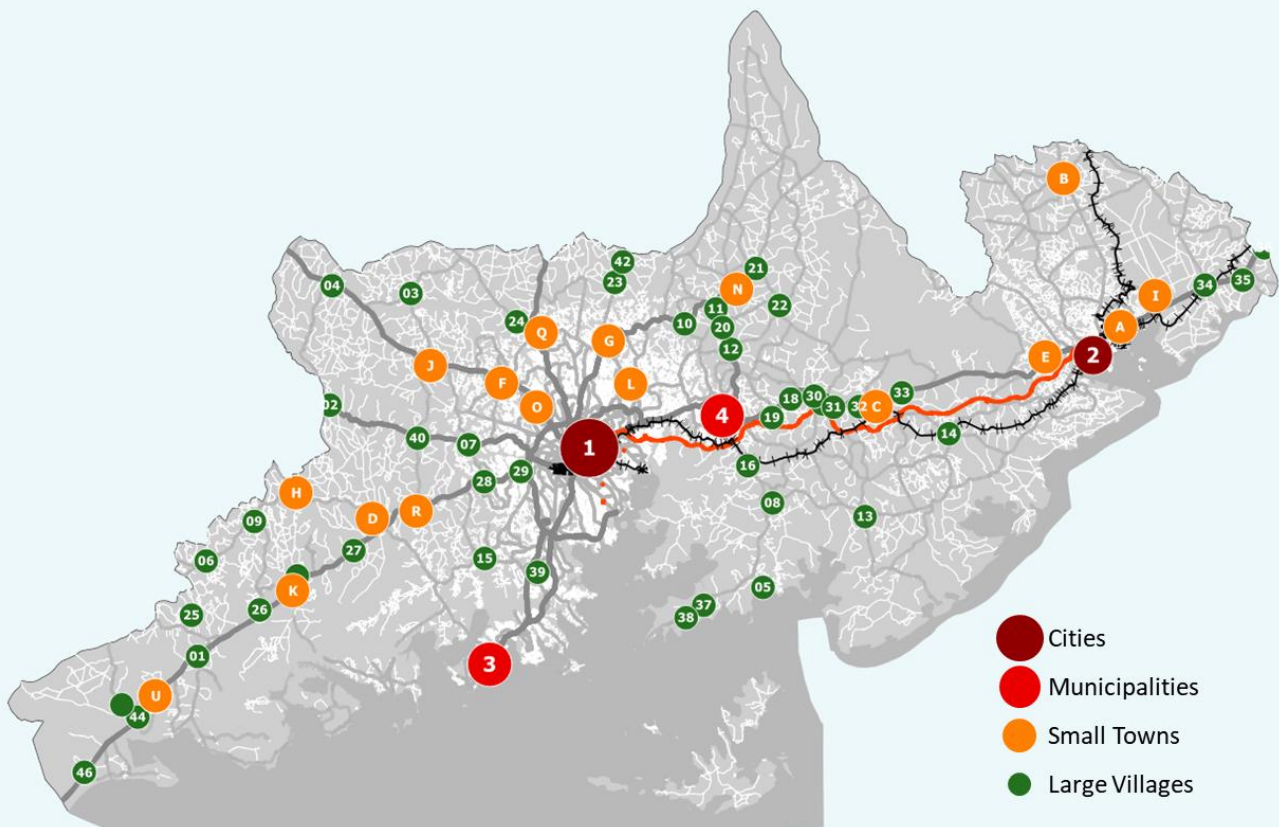


freight/ferry terminals areas, urban/town centres, main street nodes, transit-oriented-development (TOD) neighbourhoods and mini neighbourhood centres<sup>39</sup>.

The location of centers is important for the roles they play in the JKM economy. Twelve centres are located within KMR; eight centres are within JMR. Two centres (Kasawu, Nkokonjeru) fall a few kilometres short of the metropolitan regions and are linked to both. Four of the remaining centres are outside the metro boundaries, although Kamengo, Buwama and Nabisalke-Kayabwe are well-linked to KMR along the Northern Corridor Road and Kibibi is more remote. Fourteen centres are on the roads of the northern corridor, strengthening their economic value.

Centres are typically (i) places of mixed uses including residential, commercial, and industrial and (ii) places where future growth may be designated and encouraged. They come in multiple sizes.

Figure 32: City and Town Centres



Source: COWI A/S

<sup>39</sup> This is line with the aim of the NPDP.

Figure 33: List of Urban Settlements in JKM

NO	NAME	CLASS	DISTRICT HQ	NO	NAME	CLASS
1	Kampala	Capital City	District HQ	10	Kalagala	Large Village
3	Entebbe	Municipality	Other Town	11	Kalagi	Large Village
2	Jinja	Municipality	District HQ	12	Kabembe	Large Village
4	Mukono	Municipality	District HQ	13	Nkokomjeru	Large Village
A	Bugembe	Small Town	Other Town	14	Buikwe	Large Village
B	Buwenge	Small Town	Other Town	15	Nakawuka	Large Village
C	Lugazi	Small Town	Other Town	16	new 1	Large Village
D	Mpigi	Small Town	District HQ	17	new 1	Large Village
E	Njeru	Small Town	District HQ	18	Namataba 1	Large Village
F	Wakiso	Small Town	District HQ	19	Mbalala	Large Village
G	Gayaza	Small Town	Other Town	20	Kiyunga	Large Village
H	Kabasanda	Small Town	Other Town	21	Nakifuma	Large Village
I	Kakira	Small Town	District HQ	22	no name	Large Village
J	Kakiri	Small Town	District HQ	23	Namulonge	Large Village
K	Kamengo	Small Town	Other Town	24	Gombe	Large Village
L	Kira	Small Town	Other Town	25	Matala Maria	Large Village
M	Nabusanke	Small Town	Other Town	26	Budde	Large Village
N	Nagalama	Small Town	Other Town	27	Mpambire	Large Village
O	Nansana	Small Town	District HQ	28	Nsangi	Large Village
P	Nkoko	Small Town	Other Town	29	Kyengara	Large Village
Q	Mutagga	Small Town	Other Town	30	Namataba 2	Large Village
R	Katende	Small Town	District HQ	31	Namagunga	Large Village
S	Nabusanke	Small Town	Other Town	32	Kitega	Large Village
T	Nabusanke	Small Town	Other Town	33	St Mary's College	Large Village
U	Nabusanke	Small Town	Other Town	34	Magamega	Large Village
1	Buwama	Large Village		35	Mulingilile	Large Village
2	Miyana	Large Village		36	Bukoyo	Large Village
3	Kiziba	Large Village		37	Mengo	Large Village
4	Lukoma	Large Village		38	Mpunge	Large Village
5	Katosi Trading Ctr	Large Village		39	Akright City	Large Village
6	Butambala Dist. HQ	Large Village		40	Bujuko	Large Village
				41	Buloba	Large Village
				42	Kiwenda	Large Village
				43	??	Large Village
				44	??	Large Village
				45	??	Large Village

Source: COWI A/S

The types of centres described include those identified and described under NPDP, KPDP, the Jinja Model Town PDP, Wakiso PDP and Entebbe PDP.

NPDP identifies a national settlement hierarchy with multiple levels that include a Capital, Regional Growth Pole, Sub Regional Growth Poles, Major Towns, Secondary Towns, Townships and New Towns.

*Box 1: Centers identified in PDPs of Wakiso, Jinja and Entebbe*

The PDPs of Wakiso, Jinja and Entebbe identify centres that should be included in the JKM Corridor plan.

Wakiso PDP identifies CBDs at the centres of the four Municipal Councils Entebbe, Makindye Ssabagabo, Kira and Nansana; district decenters at Kajansi, Kasangati, Masulita, Wakiso, Kyengera, Kakiri, Kasanje and Namayumba Town Councils; and local centers at Namayumba, Masulita, Kakiri, Wakiso, Mende Kalema and Bussi. Wakiso Centres are located in relation to the ring roads. For example, ring-2 includes urban peripheral towns such as Kakiri, Kasangati, Wakiso Kakiri, Namayumba, Masulita, Kajansi, Kyengera, Katabi and Kira; ring-3 includes rural periphery towns that include Masulita, Namayumba, Mende Kalema, Kasanje and Bussi.

The Jinja Model Town Physical Development Plan identifies several growth poles in peripheral areas that are within and outside the Greater Jinja Municipal boundary (Figure 52). These include one CBD at Jinja; centres at Bugembe, Budoonendo, and Mafubira; and growth centres at Kibibi, Lukola, Ivunamba, Namulesa, Bugembe, Ssaza Hqrs. The plan also identifies centers that are outside the city boundary such as Kirugu, Wakiso, Naminya, Kikub Amutwe, and Kakira TC Offices.

Entebbe Municipality PDP mentions that it includes a hierarchy of settlements (CBD & commercial, Intermediate and local centers) but these are not clearly marked in the plan. The plan includes two settlement areas that are separated by the airport with high-density residential use places adjacent to the commercial areas.

Centres need functions to justify their existence, and these can include shopping, entertainment, recreation, commercial services, governance and administration, and industrial production, as described in Figure 34 below.

Figure 34: Hierarchy of urban centers

TYPE OF CENTRE	DESCRIPTION
National Centre/Downtown Kampala	Downtown Kampala already serves as a business, cultural and political hub of the country and the JKM region. It has the most intensive and dense form of development for both housing and employment, with high-rise development in its central business district. Centrally located in the KCCA region, the centre's role in finance and commerce, government, retail and entertainment should be strengthened.
Municipalities / Sub-Regional centers	Three municipalities (sub-regional centres) — Jinja, Entebbe and Mukono — are centres of industry, commerce and local government services, serving market areas of hundreds of thousands of people. Their sub-regional functions include education institutions, judiciary, hospitals, security services, and the like. They are the focus of transit and highway improvements. They are characterized by 2-4 storey, compact, employment and housing development served by high-quality transit.
Centres at industrial areas and freight/ferry terminals areas	Industrial areas and freight/ferry terminal areas may also serve as regional centers and provide the ability to produce and move goods in and out of the region. Access to these areas is centred on rail and the highway system.
Small Town Centers	Small town centres — provide localized services to tens of thousands of people within, say, a 3 to 5-kilometer radius, and possibly more. They feature 1-3 storey buildings for employment and housing. Town centres have a strong sense of community identity and are well served by transit. They have industries, commercial establishments, public recreational and cultural facilities, basic judiciary services and basic security services. There are presently 21 small towns in JKM.
Large Village Centers	There are present 45 large villages in JKM. They provide localized services similar to those in small town centers but scaled to serve 1,000 to 5,000 people within, say, a 1 to 3-kilometre radius. They feature 1-2 storey buildings for employment and housing.
Main street nodes	Main street nodes have a commercial identity but are on a smaller scale with a strong sense of the immediate neighbourhood. Main streets feature good access to transit. Examples include Main Street, Jinja; and Kampala Road, Kampala.
Transit-Oriented-Development (TOD) centers	Transit-Oriented-Development (TOD) neighborhoods are areas of development, approximately one kilometre in radius, centred around and within walk distance of a light-rail or busway station, that feature mixed-use development with a variety of shops and services that will remain accessible to bicyclists, pedestrians and transit users as well as cars. Densities are high adjacent to the station and taper off at the perimeter, encouraging people to ride public transportation. TODs have promise in the transport corridors tentacles of the KMR.
Mini Neighborhood centers.	Mini-neighbourhood centres are places that allow formal and informal shops and services, such as staple groceries, household supplies, coffee shops as well as community gardens. They could be promoted in neighbourhoods that are now primarily residential and take advantage of vacant land and under-used buildings.

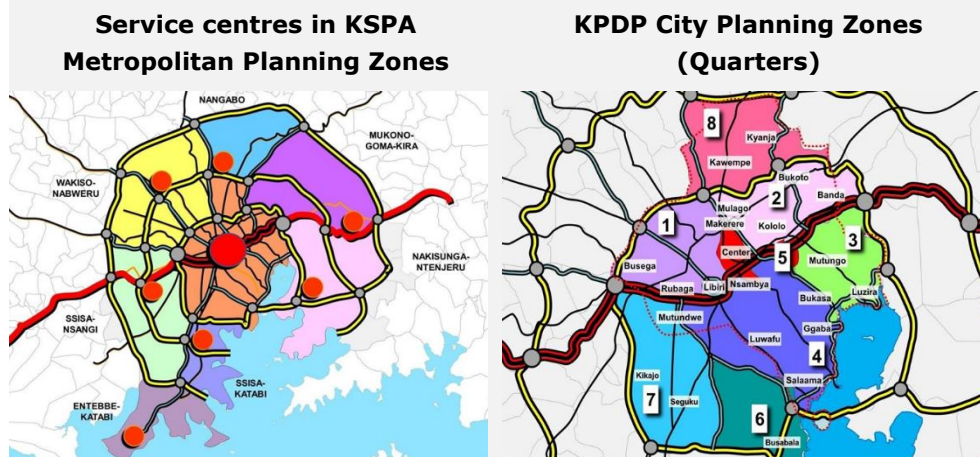
## **Growth-and-Activity Centres**

Growth-and-activity centres (GAC) may be defined as (i) places where future growth may be designated and encouraged and (ii) places of largely non-residential activity, including residential, commercial, industrial and mixed-use development — not solely residential development.

GACs come in multiple sizes. They include those in the centre hierarchy advocated in the Kampala Physical Development Plan (KPDP) (see Box 2) as well as suburban multi-use centres, redevelopment areas and new TODs. We identify existing and potential GACs in three ways: (i) city/town scale centres based on built-up areas; (ii) local activity centres using clusters of large buildings; (ii) functional activity centres using clusters of commercial and industrial points from OSM.

### *Box 2: KPDP activity centres*

The KPDP advocates a metropolitan hierarchy of four levels: central zone, metropolitan zone centres, quarter centres, and local centres. The central zone serves the whole metropolitan area. Metropolitan zone centres serve the planning zones and include, Wakiso-Nabweru, Nangabo, Mukono-Goma-Kira, Nakisunga-Ntenjeru, Ssisa-Katabi, Ssisa-Nsangi and Entebbe-Katabi. Depending on the level in the hierarchy, the centres will serve multiple functions such as commerce, employment, health, sports, community services and emergency and police.



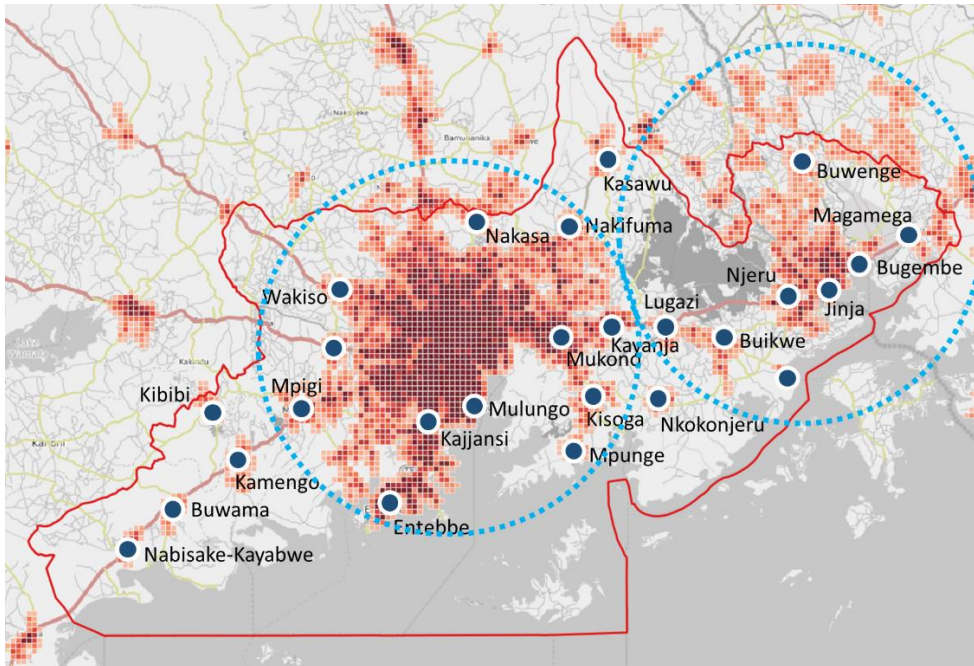
Source: KPDP

## **City/Town Scale Growth and Activity Centres in JKM**

We identify 26 GACs in the JKM Corridor Region by linking high-density cell clusters with the set of place names from various sources (Figure 35). The location of these 26 is important in terms of (i) proximity to Kampala and Jinja core and (ii) proximity to the Northern Corridor. By the first metric, twelve GACs are located within the Kampala metropolitan development circle, eight are within the Jinja metropolitan development circle — only six are independent of the circles — although two (Kasawu, Nkokonjeru) are a few kilometres short. By the second metric, 14 GACs are on the roads of the northern corridor, strengthening its economic value.



Figure 35: City/Town Scale Growth and Activity Centres



Source: COWI A/S

### **Local Growth and Activity Centres**

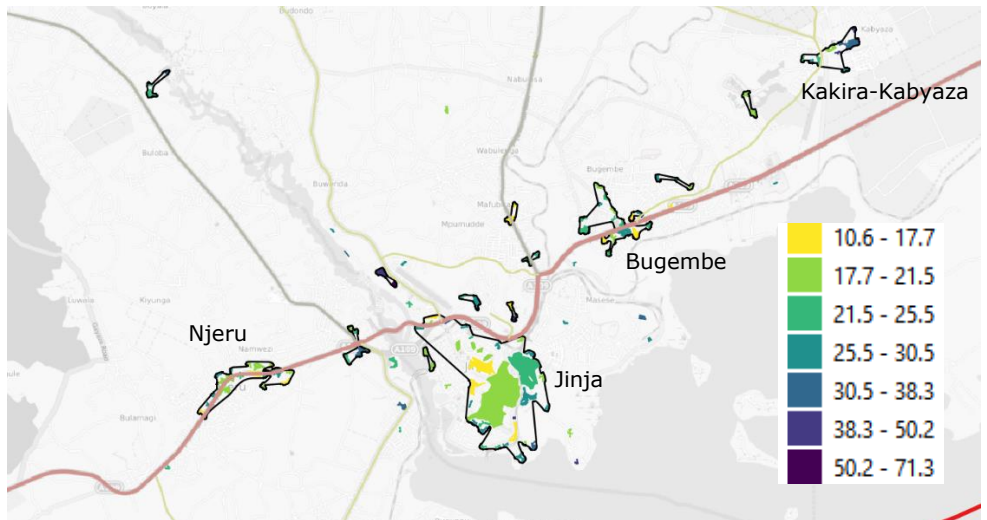
Existing areas with clusters of larger buildings with high plinth-to-area ratios are likely to be activity centres or have the potential to become activity centres. We identify these centres using a process that we illustrate in Figure 36 using Jinja City as an example. We start with Map 1, which shows the building footprints, where darker areas have the most buildings. Then, on Map 2, we use GIS analysis to identify the high-density building cluster that has larger buildings (>300 square meters) that are nearby, where the colours indicate the share of the polygon that is built-up. Finally, on Map 2, we use GIS to identify high-density building cluster groups.

Figure 36: Local Growth and Activity Centres in Jinja

**MAP 1  
BUILDING  
FOOTPRINTS**



**MAP 2  
HIGH-DENSITY  
BUILDINGS  
CLUSTERS**



**MAP 3  
HIGH-DENSITY  
BUILDING CLUSTER  
GROUPS**



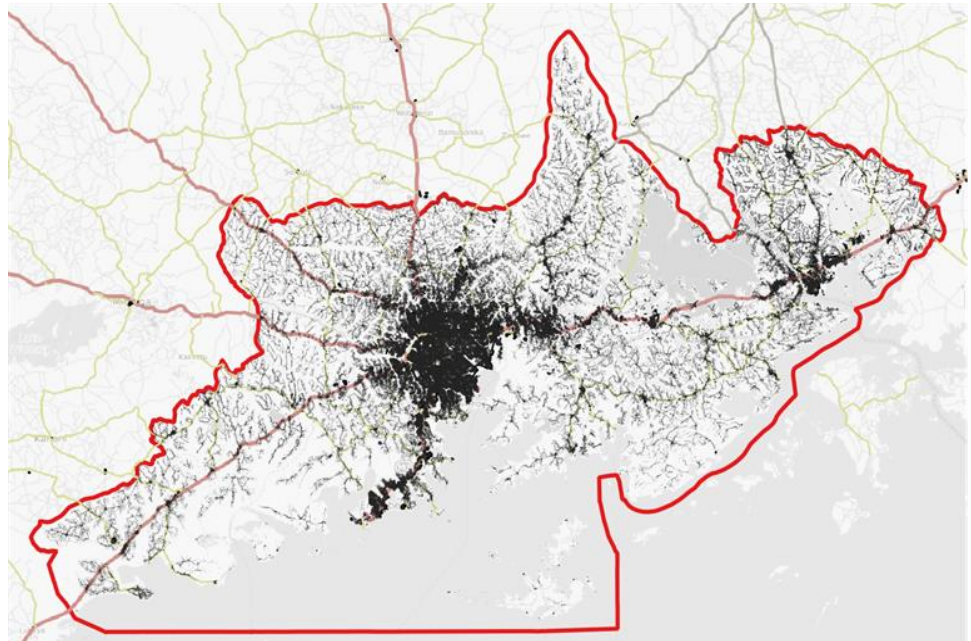
Source: COWI A/S

Figure 37 shows the high-density building clusters in the Kampala core.

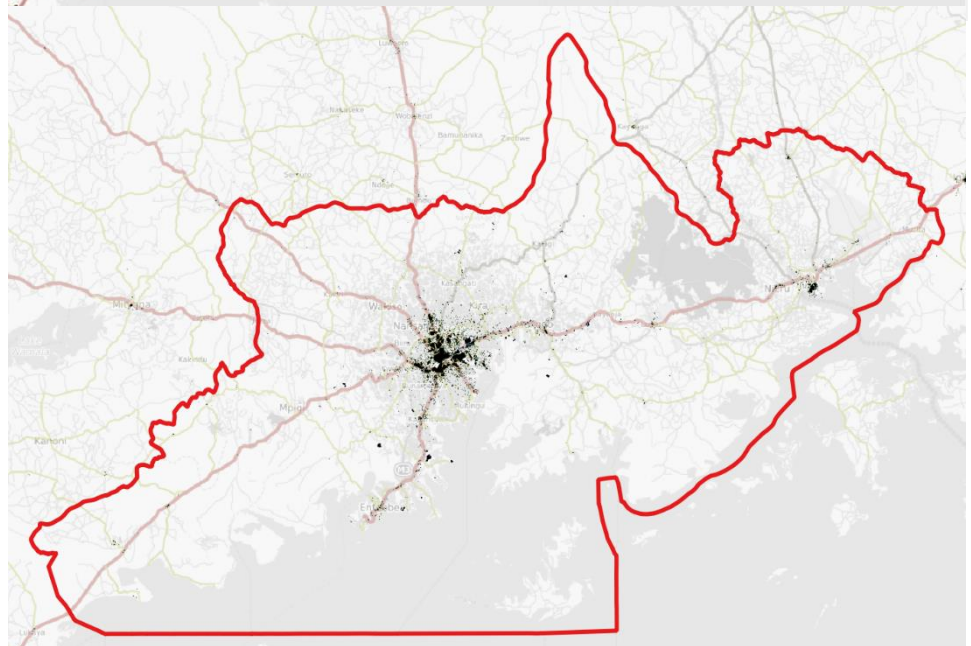


Figure 37: Local Activity Centres in Kampala Core

**MAP 1  
BUILDING  
FOOTPRINTS**



**MAP 2  
HIGH-DENSITY  
BUILDING CLUSTER  
GROUPS**



Source: COWI A/S based on Bing Buildings

### **Function-Based Activity Centres**

Activity centres need functions to justify their existence, and these can include shopping, entertainment, recreation, commercial services, governance and administration, and industrial production. But data on the distribution of functions is scarce. Two available data sources are the Open Street Map (OSM), and the Census of Business Establishments (2002 and 2011).

Based on OSM, Figure 38 shows that industrial (map 1) and commercial (map 2) points tend to concentrate in GKMA, along the Kampala-Entebbe corridor, and along the Kampala-Jinja corridor, in Mukono, Kayanja, Lugazi, Njeru, Jinja and Wabulungu Trading Centre.

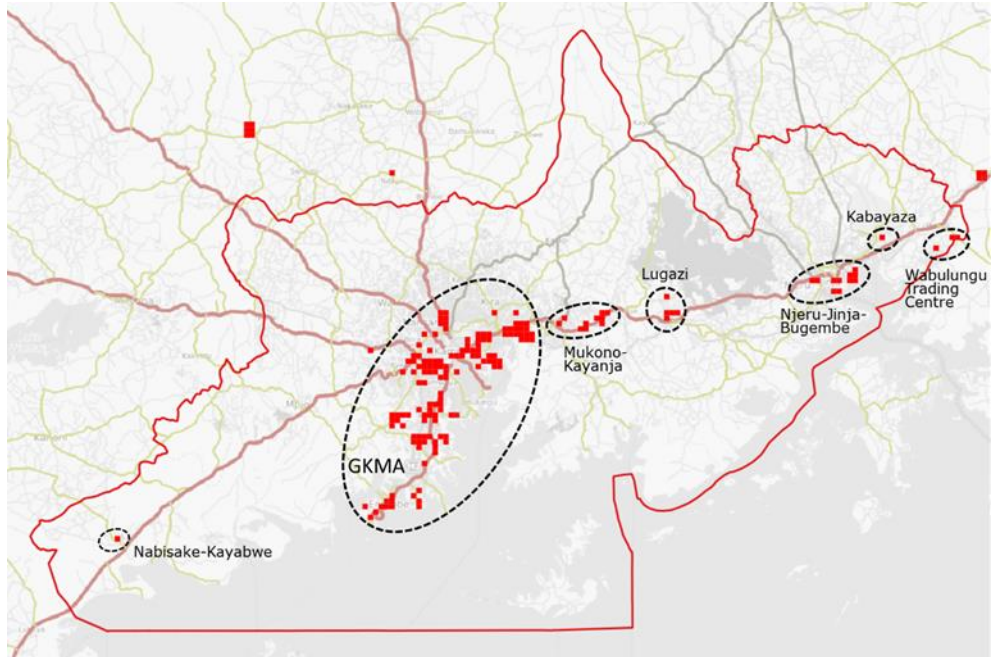
Figure 38: Areas with Industrial and Commercial Places (OSM)

**MAP 1  
CELLS WITH  
INDUSTRIAL PLACES**

There are 7 clusters of cells with industrial points.

The largest cluster is centrally located in GKMA.

All but one of the other clusters is east of GKMA.

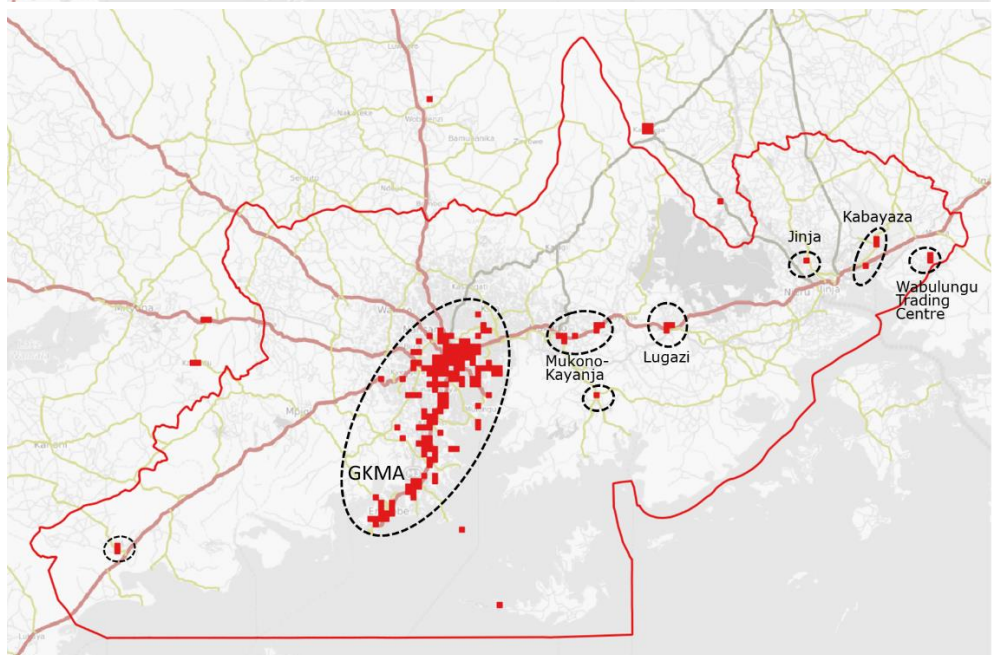


**MAP 2  
CELLS WITH  
COMMERCIAL PLACES**

There are 8 clusters of cells with commercial points.

The largest cluster is centrally located in GKMA.

All but one of the other clusters is east of GKMA.



Source: COWI A/S derived from Open Street Map

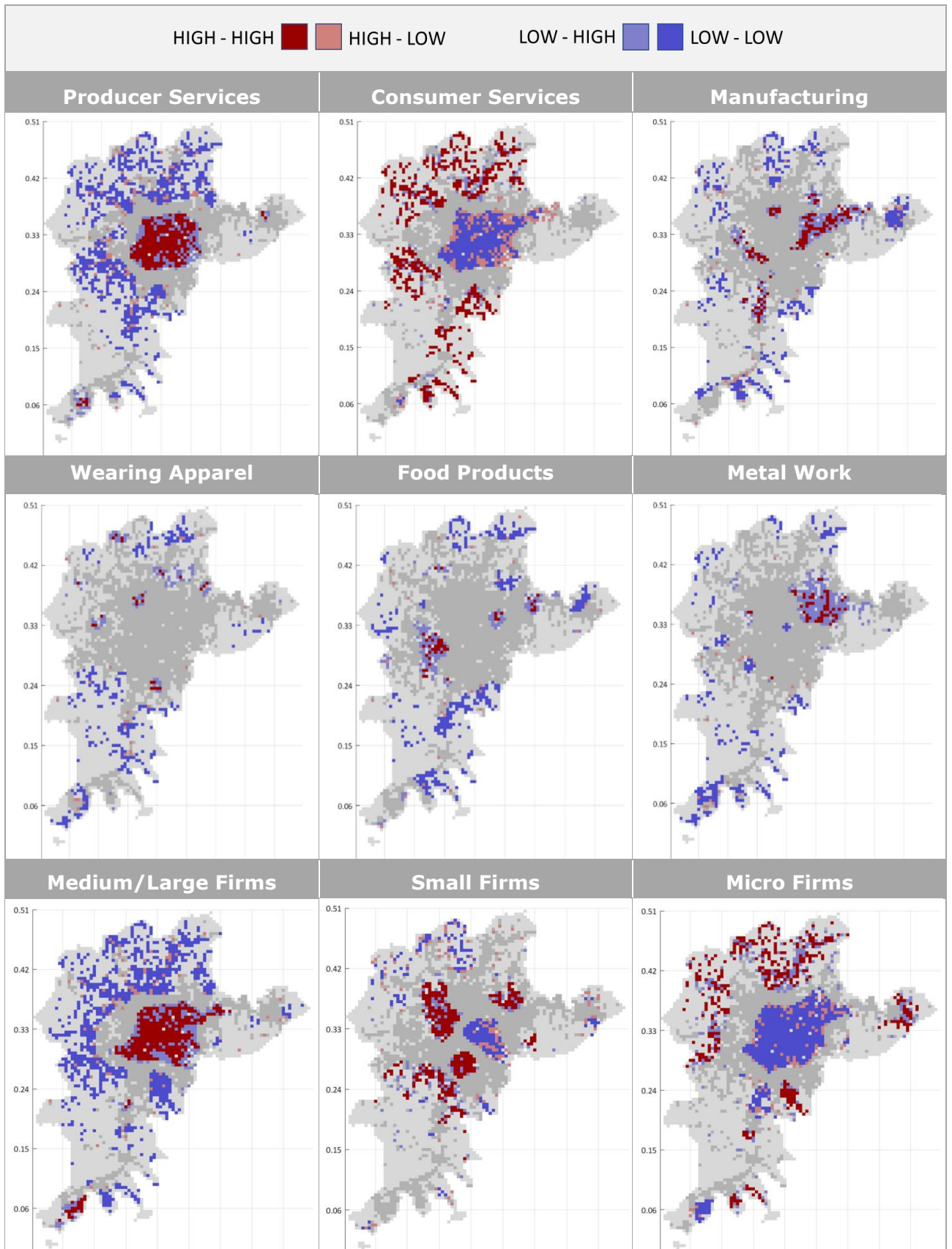
A finer grain understanding of the spatial distribution of firms, but limited to GKMA, was provided by a presentation to the Uganda Economic Growth Forum in 2019.<sup>40</sup> The presentation stressed that, in Greater Kampala, which generates two-thirds of Uganda’s GDP, most firms are small (average 2.37 workers), and that consumer service firms and workers far outnumber those of producer services and manufacturing. Key spatial findings were that:

<sup>40</sup> The presentation was delivered by Julia Bird, with Tony Venables and Tom Hierons on 22 August 2019 entitled Firm Clustering in (Greater) Kampala: How can the capital become a sustained growth centre for Uganda, based in an analysis of Census of Business Establishments (2002 and 2011) and Number of employees, ISIC, exact location points,

- > Jobs tend to concentrate in the CBD, near Entebbe and the road to Jinja.
- > Sectors locate differently: consumer services are dispersed, producer services cluster near the core, and manufacturers according to their subsector.
- > Manufacturing and producer services favour areas with formal tenure systems, and close to main roads.
- > Entebbe airport area is more attractive to consumer and producer services and less so for manufacturing.
- > Manufacturing is internally concentrated (72 percent of firms are in food products, metal products, furniture, and apparel) and clustered — wearing apparel in the north, food products in the east and west in, and metal fabrications in the core and south.
- > Larger firms prefer freehold land and proximity to a major road while small and micro firms by choice or otherwise, are on informal land areas and more distant.



Figure 39: Clusters of firms by type and size



Source: Bird, Venables, Hierons, 2019

## 3.5 Scenarios for future population and land use in the JKM Corridor to 2030 and 2040

Scenarios are conceptual images of the future and suggest possible ways it might develop. They help to focus stakeholder discussion on development options, test the impacts and outcomes of these options, and use the findings to inform and generate a preferred option.

### 3.5.1 Description of three scenarios

This section presents three scenarios for the future growth and development of the JKM corridor over the next ten and twenty years, to 2030 and 2040, respectively. These scenarios are (i) **continued dispersed development**, (ii) **concentrated development** and (iii) **embracing polycentric development**. The scenarios are presented to help stakeholders imagine *what could happen*, generate ideas and reach a consensus on *what should happen*, and then define *how to make it happen*.

**Scenario 1** – Dispersion, or “business-as-usual”, or “trend”, assumes that JKM continues the trends of the recent past well into the future without modification. Urban growth will continue largely unplanned. If stakeholders do not wish to see the dispersion scenario materialise, then they will need to do different things and do things differently than in the past.

**Scenario 2** – Concentration aims to *concentrate new development in the existing urban area footprint* in order to (i) create compact urban areas and (ii) preserve the region’s natural systems and commercial agricultural areas, among other aims. Kampala’s position as Uganda’s primate city will be reinforced. This scenario will require a high level of planning, management, implementation, and control.

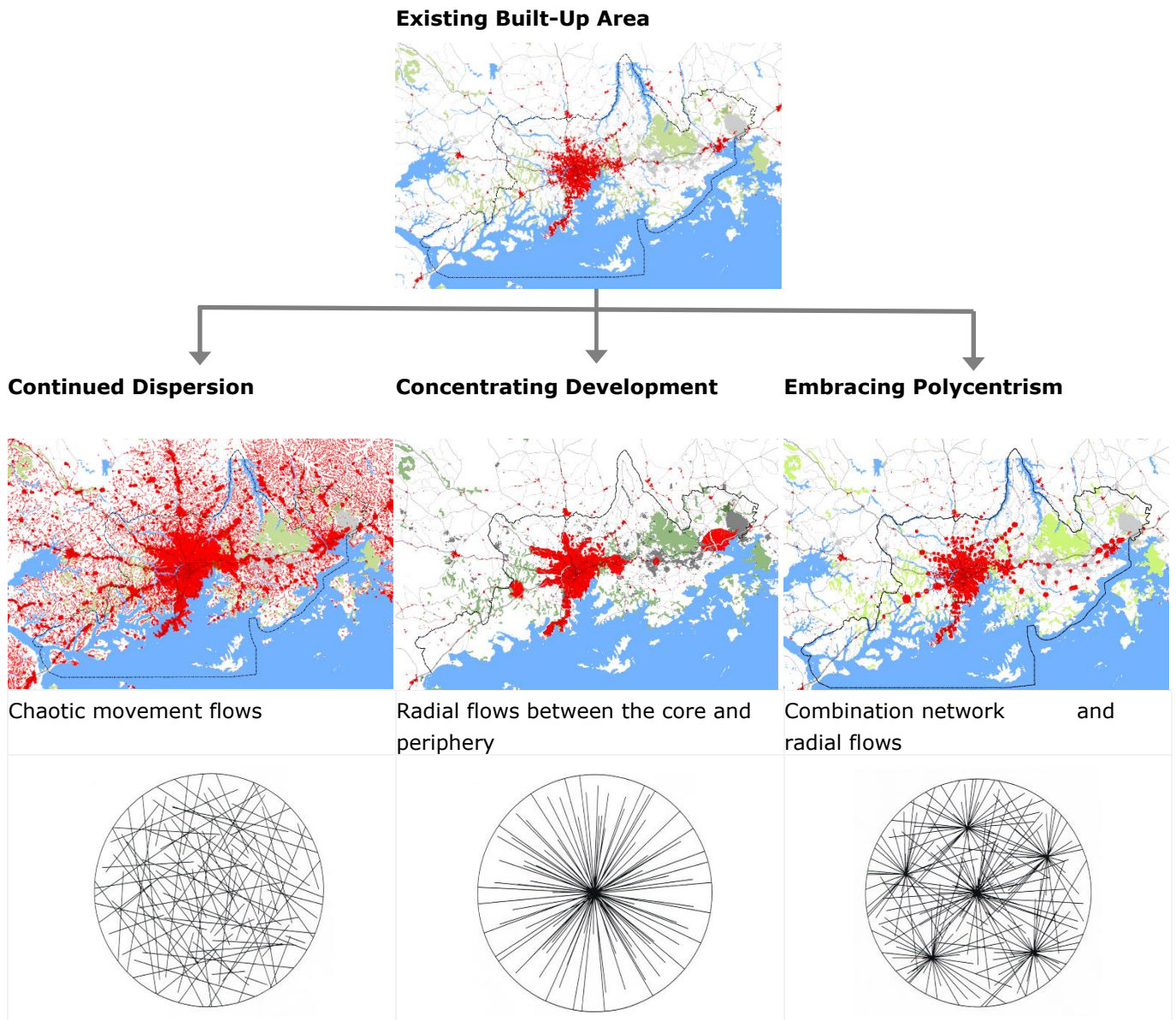
**Scenario 3** – Polycentrism encourages growth in growth areas, corridors, activity centres, and with increased emphasis on redevelopment. Kampala will still be the largest city but will be supported by a network of secondary and tertiary cities. The scenario will also require high levels of planning, management, implementation and control.

A quick way to characterise these scenarios is by the general direction of growth: dispersion grows out, concentration grows up, and polycentrism selectively grows up and out.

While the scenarios are spatial in nature, they have a wide range of implications for the potential achievement of economic, equity and environmental goals.

Figure 40 shows the existing situation in terms of urban built-up areas and the built-up areas in 2040 under three scenarios, and a simplified diagram of the transportation system and likely movement patterns.

Figure 40: Three Scenarios for JKM in 2040



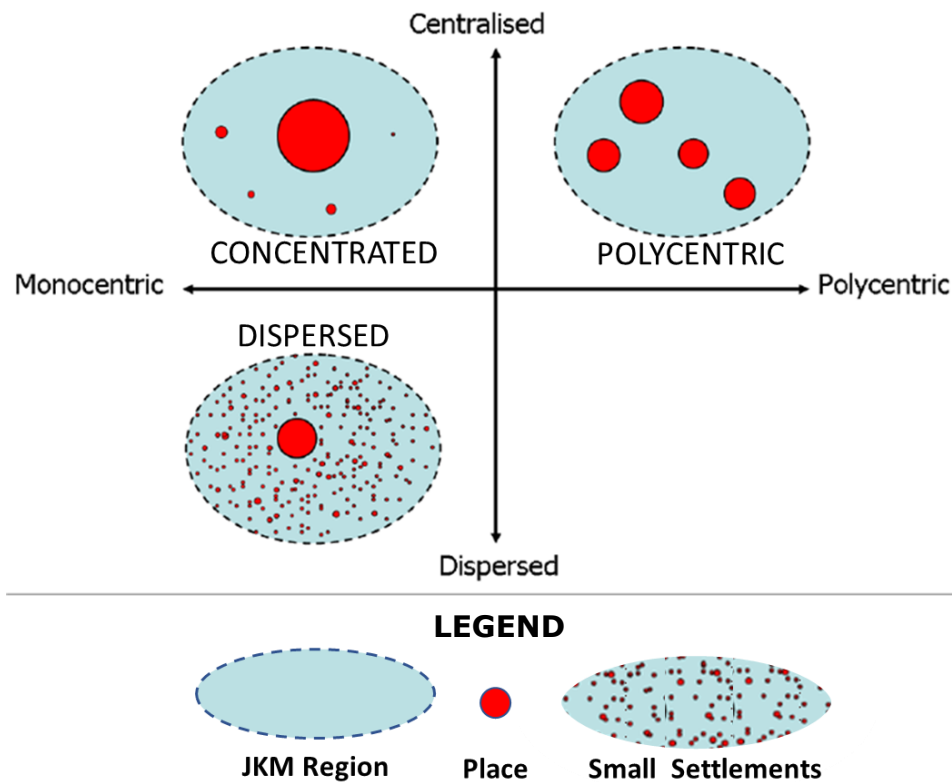
Source: COWI A/S

The three scenarios may also be positioned in a matrix defined along two different dimensions of the regional form: a monocentric-polycentric dimension and a centralised-dispersed dimension (Figure 41).

The concentrated scenario strongly promotes centralised, monocentric growth in the largest city (Kampala) but allows contained growth in a small number of secondary cities (Jinja, Entebbe). The dispersed scenario is one of dispersed-monocentric growth, allowing growth to continue in the largest city and go where it wants to. And the polycentric scenario is one of polycentric-centralised growth, promoting a strong network of primary and secondary cities.



Figure 41: Dimensions of regional form



Source: COWI A/S based on GaWC Research Bulletin 330; *Environment and Planning A*, 42 (6), (2010), 1383-1402

### 3.5.2 Datasets Used for Scenarios

We developed these scenarios using multiple datasets including built-up area images derived from remote sensing, building footprints derived from remote sensing, and past and projected population growth figures from UBOS. These are discussed below.

#### **Building footprints**

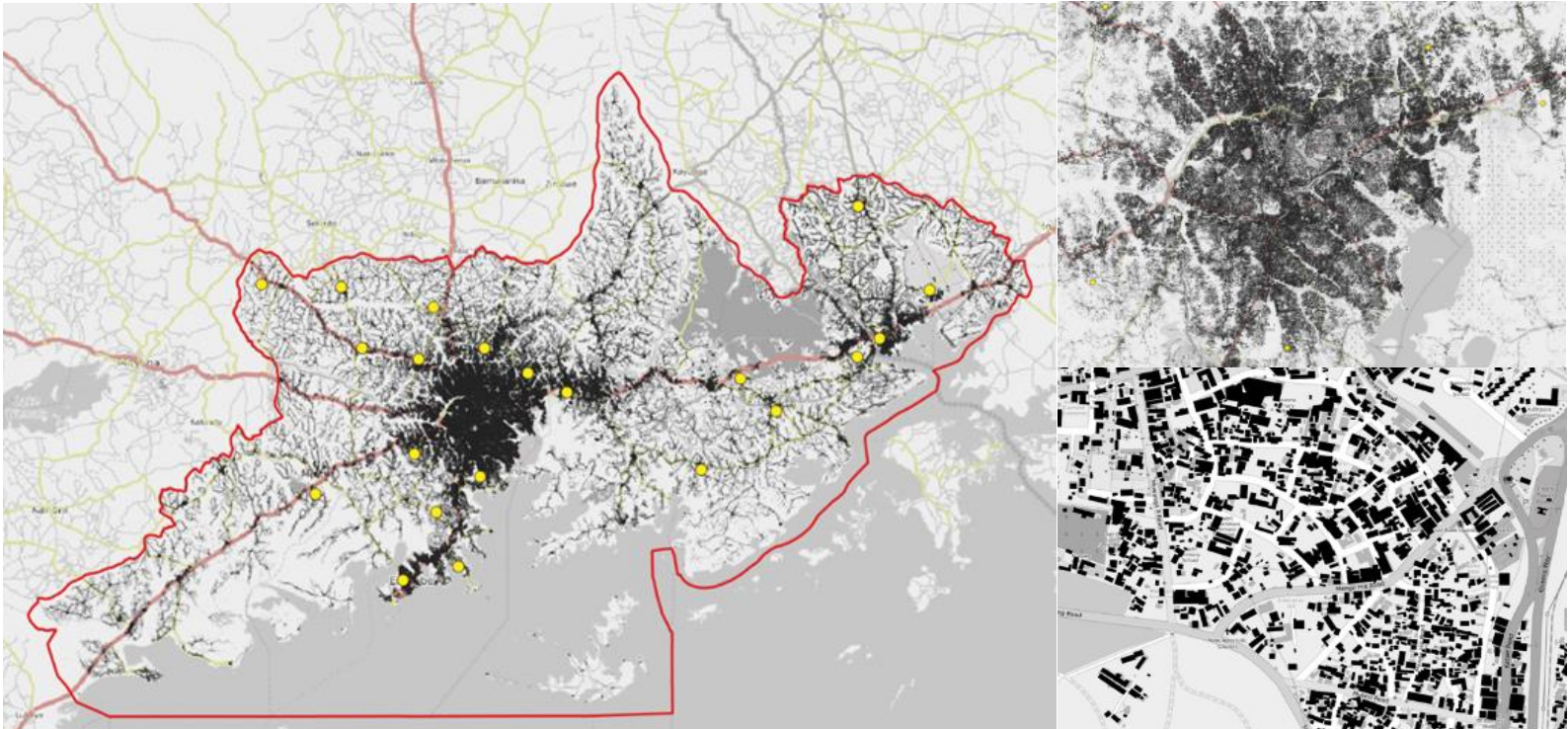
A building footprint is the shape of a building as seen from the sky. The density of a group of building footprints is the sum of individual building areas divided by the total area of the group. Where buildings are packed close together — the map is darker and more solid — the area is of higher density. The size of a building's footprint is an indicator of its use; smaller footprints are likely to be residential structures; larger footprints are more likely to be commercial, institutional, or industrial.

We use two shape-file datasets for building footprints. One, obtained from Microsoft,<sup>41</sup> is based on automatic, artificial intelligence recognition from a photo. The other, Open Street Map (OSM), is based on data from land offices and crowd-sourcing. Because the two datasets differ, we combined them and removed the OSM buildings that overlapped.

<sup>41</sup> <https://www.microsoft.com/en-us/maps/building-footprints>. Microsoft has generated high-quality building footprints leveraging Artificial Intelligence. It detects building footprints from the Bing search engine imagery. Operators removed noise and suspicious data and applied a polygonization algorithm to detect building edges and angles to create a proper building footprint.

Our analysis of the building database found that almost all of the JKM Corridor territory has some buildings on it —except for areas near watercourses, the lake and national parks. At a smaller scale, the ratio of building footprint areas to an area of analysis — such as a block, neighbourhood, cluster, or district — helps to identify potential growth and areas and nodes. Figure 42 shows building footprints at different scales: JKM, Central Kampala, and precinct in Kampala CBD

Figure 42: Building Footprints at different scales



Source: Bing Building Dataset 2018

### 3.5.3 GRID3 Uganda Settlement Extents<sup>42</sup>

As presented previously, CIESIN at Columbia University provides a set of analysed building footprints. The dataset, to reiterate, consists of three feature classes — built-up areas (BUA), small settlement areas (SSA), and hamlets (hamlets). These are defined as follows:

### 3.5.4 Future Population and New Growth Drivers

The three scenarios are based on the UBOS population projections for 2030 and 2040. For the sake of comparison, we assume that all three scenarios will grow at the rate projected by UBOS. Nevertheless, the scenarios will likely attract different types and levels of investment and different types and numbers of people —which will impact the total population size.

We can expect that new growth drivers will influence the distribution and size of the total population in JKM. For example, Jinja, now a city, may attract more investment and population than it would have had it remained a municipal area. The possible development of new towns — Sisa-Nsangi Satellite City, Mpatta Satellite City, Nsangi New Town, and Ntenjeru New Town — may attract population from places both within and beyond the JKM Corridor area. Finally, the set of known and unknown public and private

<sup>42</sup> GRID is Geo-Referenced Infrastructure and Demographic Data for Development.



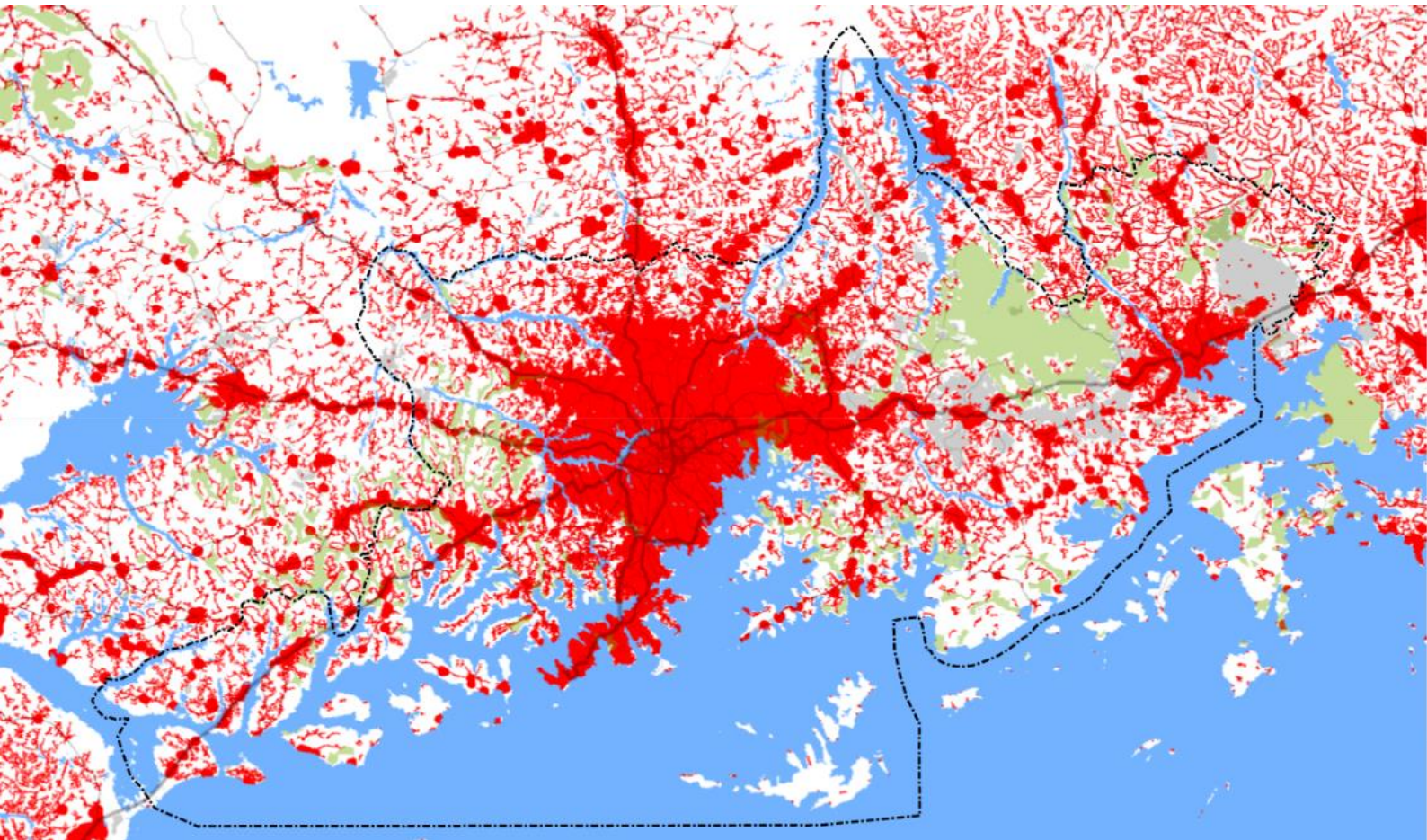
projects may attract additional new private investment, development and new population. A key example is the Kampala Industrial and Business Park, located at Namanve in south-eastern Kira Municipality, in Wakiso District.

## 3.6 Scenario 1: Continued Dispersion

### 3.6.1 Characteristics

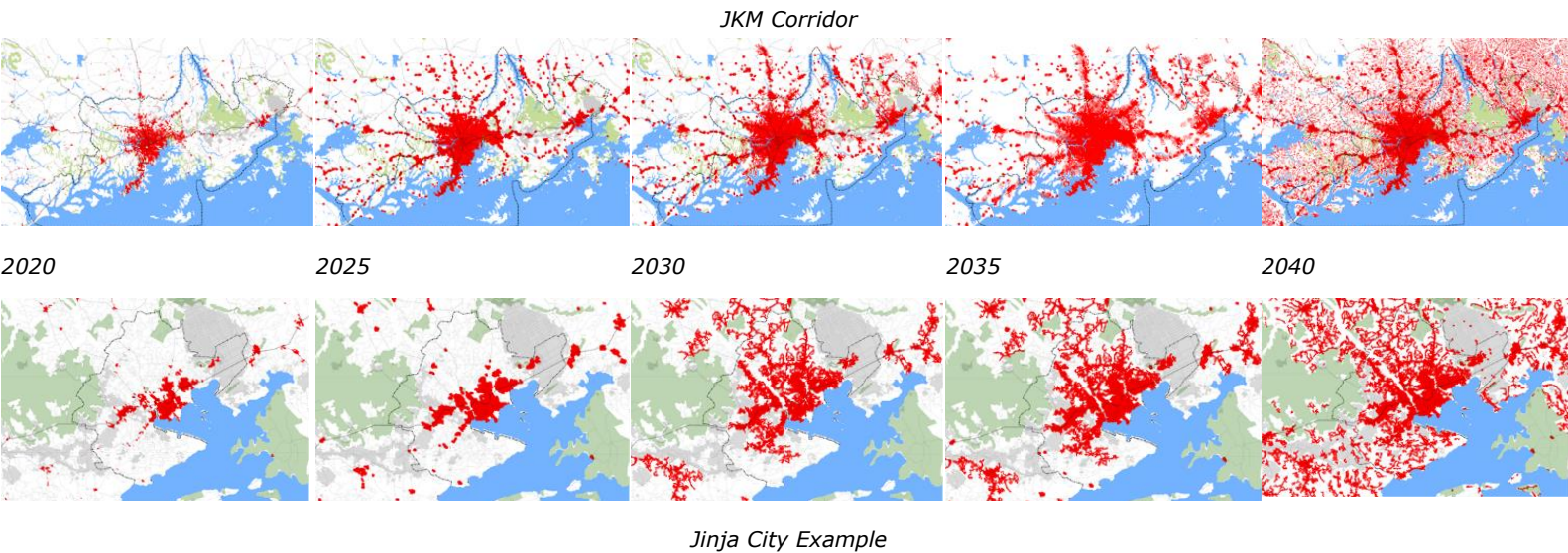
Scenario 1: Continued Dispersion - assumes that existing policies and practices that influence development will remain unchanged and that the historically dispersed, low-density development trend will continue unabated until 2040. This scenario may also be called a *trend scenario* or *business-as-usual*. Under this scenario, JKM's built-up area in 2040 may look like Figure 43.

Figure 43: Scenario 1 – Dispersion - JKM Corridor Dispersion at 2040



Source: COWI A/S

Figure 44: Time series of built-up area growth



Source: COWI A/S

Figure 44 above shows how this scenario may unfold over time in the JKM Corridor and Jinja in each five-year period between 2020 and 2040.

Under this scenario, based on evidence of dispersion, we believe that new growth will largely take place on greenfield sites, at the urban fringe, adjacent to main roads, and near rural settlements – favouring those near urban areas. To a lesser extent, some new infill and multi-storey development will also spring up in existing urban built-up areas, including informal areas.

Without explicit policies to control it, dispersed development will be haphazard and fragmented. Development will “leapfrog” — skipping over underdeveloped areas and sites — resulting in accelerated expansion and wasted development opportunities.

Small, scattered neighbourhoods will emerge, most lacking improved infrastructure. Low densities will not justify public transport and commuting will be slow and costly. The neighbourhoods may endure years if not decades of construction, as the best sites are built at first, others much later only after financing is found. Average built-up densities will decrease, as the “built-up” area expands faster than the population. Critically, this scenario consumes more land than other scenarios.

### 3.6.2 Implications

A dispersed development scenario may have the following economic, social and environmental impacts, as evidenced in scores of studies:

#### **Economic and fiscal implications**

Dispersed populations will need new infrastructure and services. But the greater the dispersion, the higher the cost of planning, building, operating and maintaining this infrastructure. It also makes investments in alternative modes — walking, cycling and public transit — more expensive and so less feasible.



Development may be fragmented, with the best sites developing first, shrinking the supply of easily developable land. Developers may not provide paved roads, power and other infrastructure until the development is built-out, leaving early occupants to endure or provide their own.

Dispersion will increase the average distance between households and existing commercial and employment centres. Over time, to address this shortfall, some new commercial and job centres may emerge, but likely not to the size, number and quality.

Job seekers will find fewer job opportunities within a reasonable commuting distance, some workers will spend more time and money commuting. Others will react by buying, or more frequently using, their own car, trading the extra expense for a reduced commute time. Still, others, shunning a long commute, will settle for closer but less lucrative jobs.

Firms will see the size of the labour market shrink and may have to pay more to attract good talent. More distant supply chains will increase transport costs. The potential to attract a new, particularly young, population may decrease with increased distances from shops and jobs. Shoppers will be less likely to travel to existing commercial centres, and these centres may start to decline higher levels of congestion and poor-quality infrastructure and housing. Overall jobs may grow at a lower rate owing to a lack of plans, policies and infrastructure.

Dispersion will increase the need for more roads and the low densities will not justify investment in public transport.

In summary, a dispersion scenario may have the following economic and fiscal impacts:

- > Increased need for infrastructure
- > Higher infrastructure costs
- > Increased commuting time and cost
- > Less specialisation of firms
- > Lower overall job growth
- > Tourism industry damage
- > Increased personal transportation costs
- > Increase risk and damage from floods
- > Increased private costs and risks.

### **Social (mobility, health, education) implications**

Dispersion is linked with reduced mobility and access, particularly by poorer households without own cars and low commute budgets. Households will be from and less likely to engage with and benefit from public amenities such as schools, hospitals, and government offices.

With spatial dispersion, especially where roads are poor, people and firms remain separated from each other and from economic opportunity. Neighbourhoods are poorly connected and thus cannot interact with as many people as in a city with higher exposure. High fragmentation means that population density varies widely, which increases infrastructure costs and increases travel times.

Dispersion is linked to poorer health outcomes. Increased car use is linked to obesity, traffic injuries and fatalities, respiratory illnesses and financial stress. Individual households will be more isolated and, with emergency response hindered by distances, at greater risk of breaches in security, natural disasters or accidents.

Dispersed development is less inclusive and less diverse. Lacking agglomeration efficiencies, commercial centres tend to be similar and bland. Low-density school districts may lack student numbers for efficient class sizes; efficient-sized school districts will need to be larger but making walking or cycling to school impractical.

Yet dispersed settlement may provide some benefits. For the middle class, they lend themselves to gated communities offering more safety and security. Disease transmission may be attenuated in low-density dispersed settlements. The larger plots offer greater opportunities for subsistence farming. In some cases, dispersed low-density settlements have less congestion, more affordable housing, and lower consumer costs (Gordon and Richardson, 1997; O'Toole, 2009). Dispersed development may result in less expensive land in outlying areas, which increases the affordability of larger houses on larger lots. In some countries, lower-density, dispersed suburbs have better school systems, and lower crime rates.

In summary, a dispersion scenario may have the following social impacts:

- > Degraded human health
- > Increase traffic congestion and traffic-related injuries/fatalities
- > Social fragmentation
- > Decreased neighbourhood quality
- > Degraded, noisy surroundings
- > Reduced diversity
- > Decrease in social capital
- > Increased economic disparity
- > Delays in emergency medical services response times

### **Environmental implications**

Dispersion consumes large quantities of land and requires the removal of more trees and natural ground cover. It results in a large loss of open space, parks, wildlife habitats and farmland. It disturbs the ecological balance and reduces biological diversity, rainwater infiltration, and groundwater replenishment. Farmland may be indirectly loosed when low-density development increases the price of land and farmers sell out to developers. The dispersed development pattern requires more water consumption and energy consumption, Environmental. It also results in increased water pollution and air pollution.

In summary, the dispersion scenario implies mostly growing out. Land consumption is high. Travel distances are longer, and costs are high. Low densities discourage and preclude investment in public transport and non-motorised options. Car ownership and use go up, along with congestion and greenhouse gas emissions.

## **3.7 Scenario 2 – Concentrated Development**

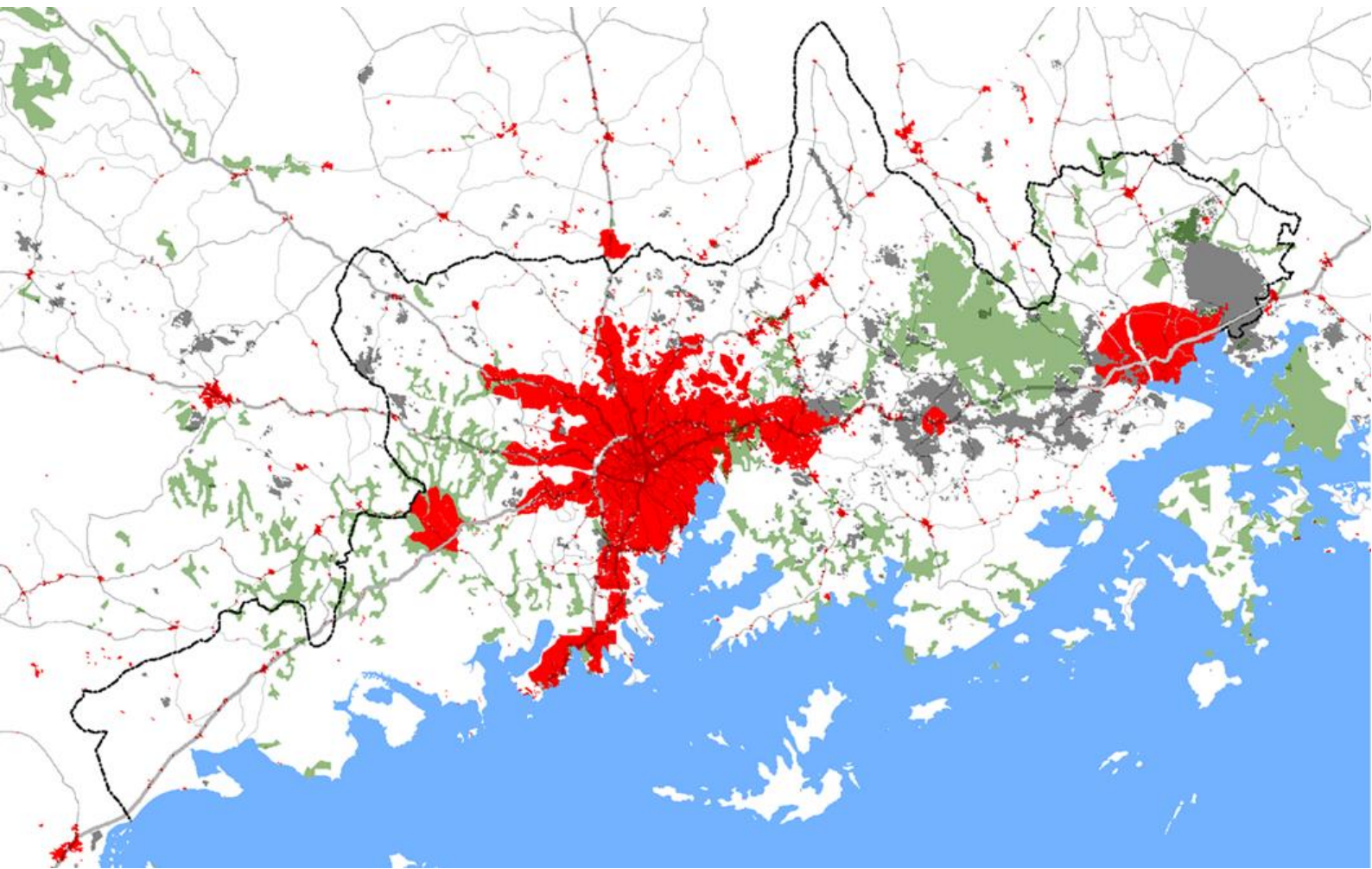
### **3.7.1 Characteristics**

Scenario 2: Concentration – envisages a more centralised and monocentric urban region. It requires that governments at all levels develop supportive policies, practice strong development planning, and implement these plans — to restrict expansion and eliminate uncontrolled sprawl. The development will largely be directed to the existing urban structure and the largest and most dense centres. Urban areas will be compact. Figure 45 depicts the built-up area in the JKM Corridor in 2040 under the concentration scenario. Figure 46 provides a time series of images showing how the dispersion scenario may unfold in

JKM over two ten-year periods between 2020 and 2040 and how the scenario may unfold in Jinja over four 5-year periods.

Development will comprise infill development on vacant plots, redevelopment of existing plots at higher floor-to-area ratios and higher plot coverage, and will limit the expansion of development into greenfield sites. Expansion areas will be constrained by an urban growth boundary.

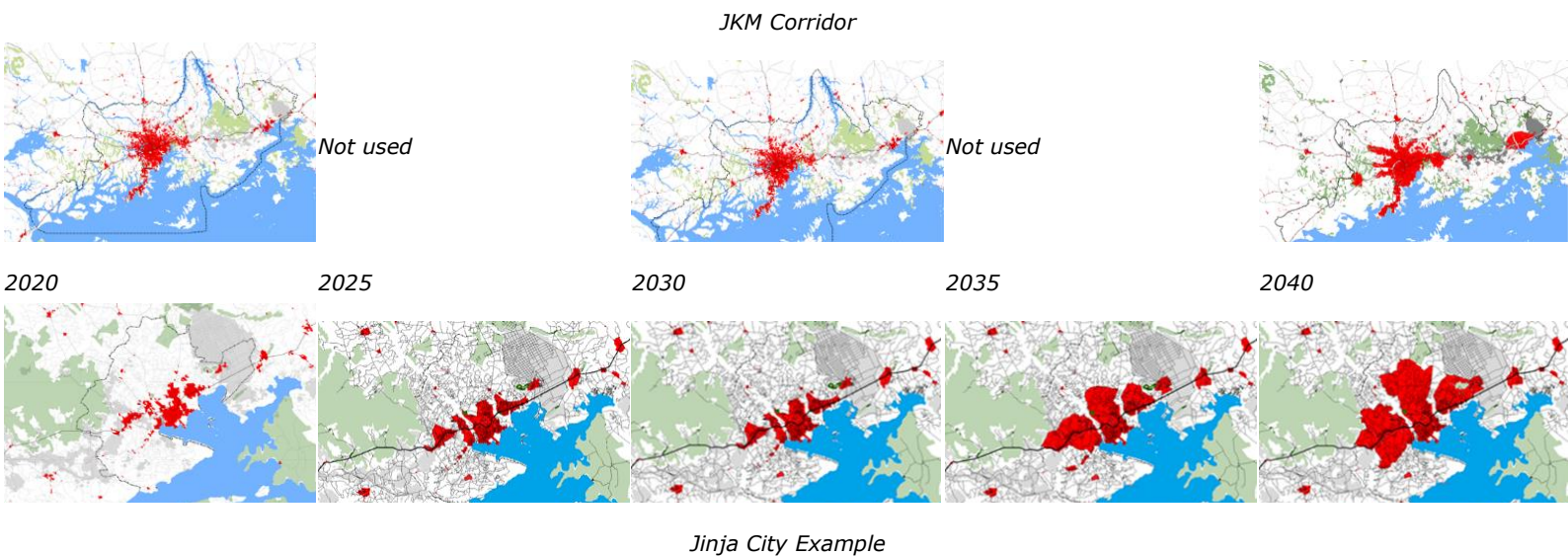
Figure 45: Scenario 2 – Concentration - JKM Corridor at 2040



Source: COWI A/S



Figure 46: Time series of built-up area growth



Source: COWI A/S

Scenario 2 is similar to the preferred model for future growth as presented in the Draft, Wakiso, Physical Development Plan (2018–2040) report, prepared by the Wakiso District Local Government (2017), and discussed in Box 3.

*Box 3: Preferred future growth model in the Draft Wakiso Physical Development Plan*

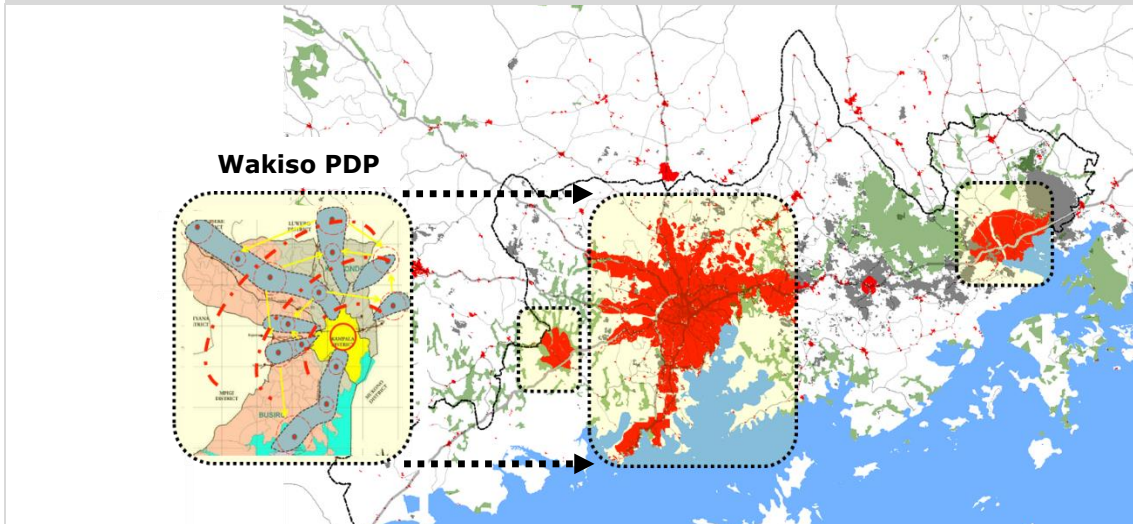
By 2040, with strict controls, the built-up footprint for GKMA may be that described in the Wakiso PDP. The PDP considers three scenarios for future population growth in the district. Based on different population growth, immigration rates and intervention policies, these scenarios are the business-as-usual, worst-case scenario, and best-case scenario. Business as usual assumes no regulation of migration, the worst case assumes accelerated immigration, and the best case assumes regulation and decreased migration. The scenarios have different growth rates and end-year populations: population under business-as-usual grows at 6.6 percent and reached 10.5 million by 2040, under the ideal case it grows by 3.3 percent and reached 4.6 million, and under worst best case it grows by 5 and reaches 7 million.

The PDP consider the strengths and weaknesses of three spatial growth models: (i) independent satellite towns; (ii) urbanised belt; (iii) transport corridor/wedge. The PDP consultant analyses these models and formulated a fourth model (iv) integrated radial/satellite town model. This model has the following features:

- > A metropolitan area with a defined urban limit.
- > A wedge-shaped buffer area between Kampala City and Wakiso District and between Wakiso District and the outlying districts of Mukono, Luwero, Nakaseke, Mityana and Mpigi.
- > Planning, managing and strengthening the existing cores and centres of Nansana, Wakiso, Kakiri, Namayumba and Masulita, along Hoima road, Kyengeru along Masaka

road, Kira along Jinja road; Kasangati, Gayaza and Kiwenda along Gayaza Ziobwe road; Makindye–Sabagabo, Kajansi, Katabi and Entebbe along Entebbe road.

- > Links between the above urban centres, Kampala City, Business Centre Districts and the outlying districts.



Source: COWI and Draft Wakiso Physical Development Plan

### 3.7.2 Implications

The three greatest advantages of this scenario are conserved land, compact development, and higher densities.

**Conserved land** could remain in or be developed for agricultural production, be safeguarded to ensure viable ecosystem services, or be developed for recreational uses.

**Compact development** patterns offer lower costs to the public for roads, water, stormwater management, sewage treatment, solid waste management and other infrastructure and services. Compaction offers more diverse mobility options — particularly public transport, walking and cycling — and time and money saved in commuting and waiting in traffic. It results in lower kilometres travelled, higher transit ridership, lower fuel/energy consumption and greenhouse gas emissions. It is associated with reduced pedestrian and motor vehicle fatalities, increased physical activity and reduced obesity, reduced household transportation costs, increased upward social and economic mobility and increased social interaction and neighbourliness.

Compact development supports geographic concentrations of specialized firms, industries, and institutions. When these are collocated, they can share labour and other productive inputs and generate productivity, efficiency, and knowledge spillovers.

**Higher densities** will offer a wider choice in housing type, mixed-use neighbourhoods, more vibrant streets and public spaces, and more accessible shops and entertainment facilities. Higher densities will support the development of “15-minute neighbourhoods” where households can walk to most of the

shops and services they require. Higher densities also support the funding of public transport. This in turn will attract businesses, investors and talented job seekers who benefit from a more productive environment.

When one considers the cost of transportation as part of a household budget, shorter commuting distances between work and home will improve housing affordability.

Executing this scenario will require a combination of strategies. These will include restrictions on greenfield development, development cordons, and greenbelts. It will require the development of vacant lots, greyfield land<sup>43</sup> and brownfield land<sup>44</sup>. Developing brownfield sites, which include abandoned, underused or contaminated properties will help to reduce noxious environmental impacts, but may be riskier and more time-consuming. Infilling and developing grey field sites will strengthen the surrounding neighbourhoods and take advantage of the infrastructure already in place.

Dwellings and plots may be smaller, and buildings taller and cover more of their plot area. Transportation demand management will replace the build-more-roads agenda, including disincentives for motor vehicle ownership and use, parking restrictions, and investments in non-motorised and public transport such as light rail and busways. Infrastructure designed for lower densities will need upgrading or replacement.

This scenario implies that job growth and population will be accommodated in the existing built-up areas, mostly in Kampala, Jinja and Mpigi growth areas and in other municipalities with the strongest transport connections to the core. Population growth will be concentrated near places of high industrial and commercial employment.

Under a concentration scenario, existing informal settlement areas will experience greater pressure to redevelop, with some risk of gentrification. The scenario will require aggressive policies to limit displacement from informal housing areas and expand affordable housing. The more limited area for development would enable developers to cross-subsidize affordable housing with market-rate housing in urban areas.

Compact development may reduce infrastructure costs and development pressure on green spaces and agricultural land.

Most existing built-up areas have room to grow. There are vacant lands and plots and redevelopment capacity around the major roads. There are older shopping centres and car-oriented corridors that could be transformed into well-designed mixed-use centres. Vacant residential plots can accommodate infill development; under-developed plots can accommodate new rooms and dwelling units, and office and industrial buildings can also be redesigned office for to house more people and jobs.

One disadvantage of the concentrated development scenario is that large lots of land for industrial uses are not typically considered.

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<sup>43</sup> Greyfield land is economically obsolescent, outdated, failing, or underused real estate assets or land.

<sup>44</sup> Brownfield land is previously developed land that is not currently in use that may be potentially contaminated.

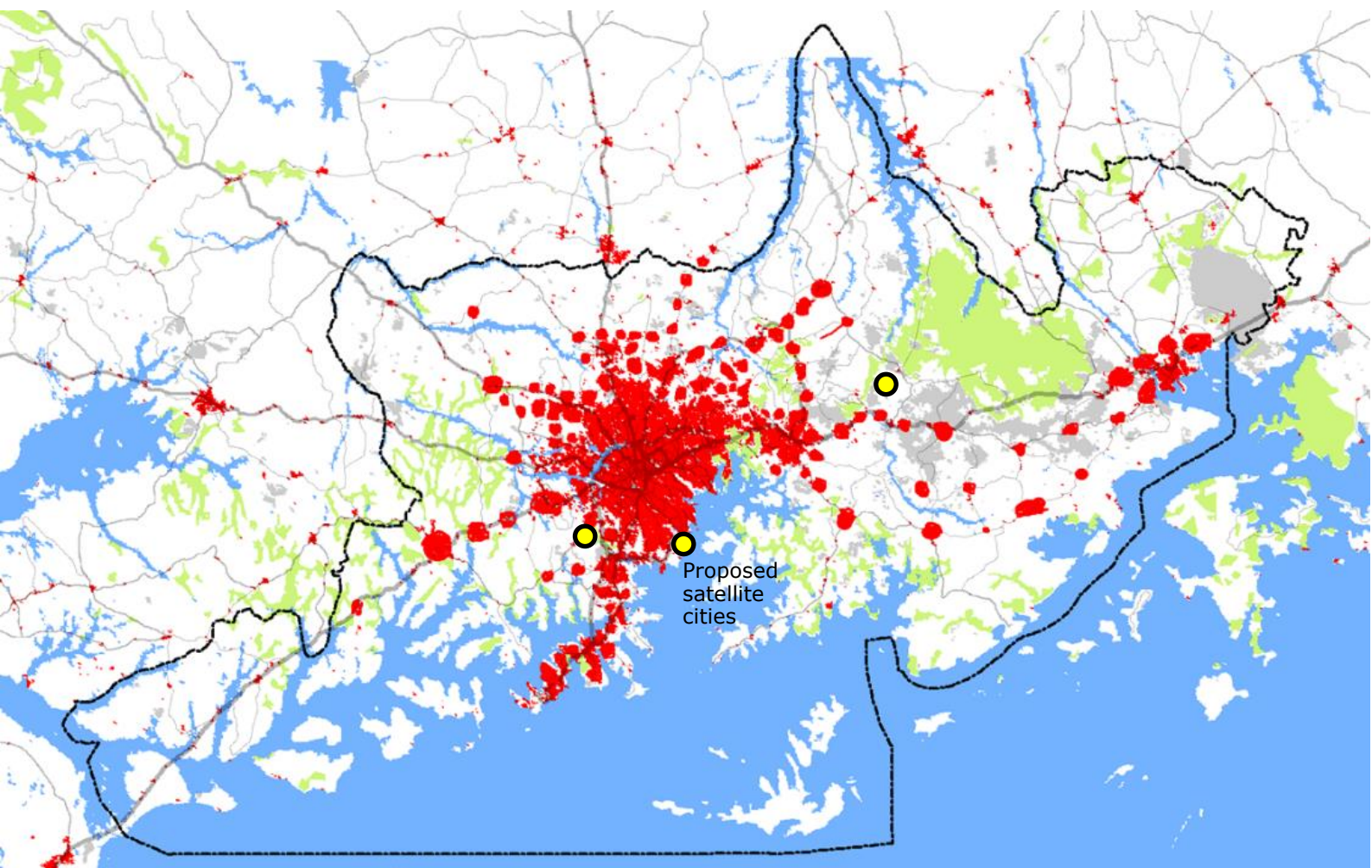


## 3.8 Scenario 3 – Polycentrism

### 3.8.1 Characteristics

This polycentric scenario combines features of the dispersion and concentration scenarios. It assumes that most of JMK's growth can be guided into prioritised polycentric entities – sub-corridors, centres and nodes – with the balance unfolding in a more dispersed pattern. Development will largely follow the existing regional structure and spread along the primary access routes to urban centres. Radial road structures will be strengthened in the JKM subregion and the Jinja sub-region.

Figure 47 depicts the built-up area in the JKM corridor in 2040 under the Polycentrism scenario, including the two proposed satellite cities. *Figure 47: Scenario 3 – Polycentrism – in JKM Corridor*

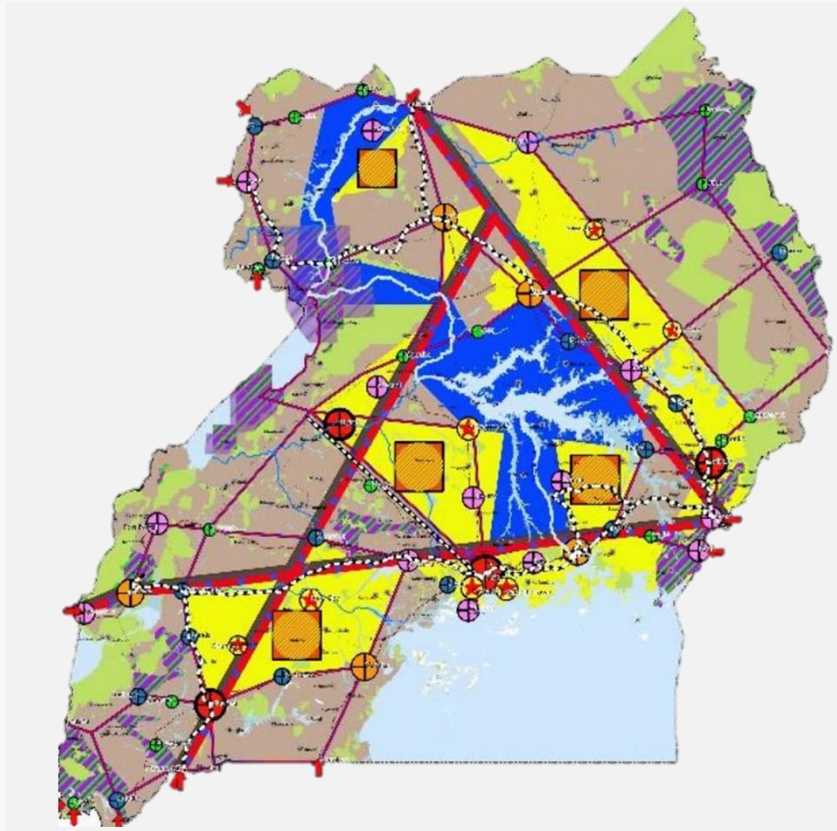


Source: COWI A/S

The scenario is informed by the spatial framework set out in the National Physical Development Plan, which is summarised in Box 4.

Box 4: Description and National Physical Development Plan

The scenario follows closely the framework set out in the National Physical Development Plan, which advocates a population-sized hierarchy of centres: the capital city, regional cities, sub-regional cities, urban settlements, major towns, and townships. NPDP also accommodates new towns, including satellite towns; border towns; and ‘Rurban’ (or peri-urban) towns. NPDP considered the spatial implications of six themes —economic, social, environment and tourism, agricultural, urbanisation and connectivity — and combined these into an “NPDP integrative scheme” or “Integrative Physical Plan” (IPP). IPP’s planning concept is “regional growth of urbanised zones and corridors constrained by agricultural clusters and natural resources”. At the national scale, IPP features a polycentric settlement system, a triangular expressway system, a triangular expressway system, and a system of natural and agricultural areas. Within the JKM, the IPP



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Source: *National Physical Development Plan*

Polycentric regions are advocated by international best practices, including ESPON, the European Spatial Planning Observatory and the American Planning Association. Accordingly, many studies have been undertaken to quantify the impacts of polycentric plans (see Box 5).

*Box 5: Examples of Comparative Studies of Polycentric Regional Structures*

There is evidence that these three forms are associated with different levels of economic performance and different quality-of-life indicators. For example:

- > A recent study of 126 regional plans in the USA found that almost all had a polycentric structure, with a hierarchy of centres connected by high-quality transit. The study found that the most effective centres are those that score high on the so-called "D" variables — Density, Diversity, Design, Destination accessibility and Distance-to-transit.
- > A study of USA metropolitan areas found that polycentricity is associated with higher labour productivity than a single monocentric region – perhaps because (i), there are fewer agglomeration diseconomies, such as congestion, pollution and fierce competition for land and workers and because (ii) smaller centres of a polycentric region "borrow" size from their neighbours, compared to a self-standing city of similar size.
- > A study in the Netherlands found that polycentric regions had significantly fewer cultural, leisure and sports amenities than monocentric regions in which the urban population is concentrated in a single city.
- > Another study<sup>45</sup> found that dispersed low-density regions had negative and positive attributes, depending on one's perspective. From one perspective, dispersed regions consume more land and infrastructure, provide fewer fiscal impacts, higher housing costs and personal travel costs and more automobile dependence. From another perspective it found that dispersed development offered safer neighbourhoods, appreciating housing values, and unrestricted use of automobiles.

Several studies found that doubling metropolitan size increases metropolitan labour productivity: one by over 10 percent, one by between 3 and 8 percent (Rosenthal and Strange, 2004), and an average of 5.4 percent (Melo et al. 2009).

Under the polycentric scenario, there will be a focus on identifying the best centres and developing local plans for these centres. The plans will focus on infill development, densification, and upgrading of infrastructure and services.

This scenario also allows for the development of new satellite towns and smaller nodes. This will build on existing and potential resources and opportunities; provide alternative development options and

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<sup>45</sup> The Cost of Sprawl, Transportation Research Board, 2002



destinations for residences and new businesses, and support the transit-oriented-development (TOD) concept.

Planners will promote development in existing growth areas, corridors, centres and nodes, and identify opportunities for new areas, centres and nodes. These entities will be developed into a hierarchical system of centres that will include: Downtown Kampala, regional centres, town centres, sub-corridors and transit-oriented-development (TOD) neighbourhoods. Each centre will have a different menu of housing types, but all will have diverse, affordable housing options. All centres will encourage mixed development. In more detail, these are:

**National Centre/Downtown Kampala** serves as the business and cultural hub of the country and the region. It has the most intensive and dense form of development for both housing and employment, with high-rise development in its central business district. Centrally located in the KCCA region, the centre's role in finance and commerce, government, retail and entertainment may be strengthened.

**Sub-Regional centres** — examples are Jinja and Entebbe — are centres of industry, commerce and local government services serving a market area of, say, hundreds of thousands of people. Sub-regional functions include education institutions, judiciary, hospital, security services, and the like. They are the focus of transit and highway improvements. They are characterized by two- to four-storey compact employment and housing development served by high-quality transit.

**Industrial areas and freight/ferry terminals areas** may also serve as regional centres and provide the ability to produce and move goods in and out of the region. Access to these areas is centred on rail and the highway system.

**Town centres** — provide localized services to tens of thousands of people within, say, a 3 to 5-kilometre radius. They feature one-to-three-storey buildings for employment and housing. Town centres have a strong sense of community identity and are well served by transit. They have industries, commercial establishments, public recreational and cultural facilities, basic judiciary services and basic security services.

**Sub-corridors** are transport routes for people and goods. They are ideally served by public transit and are centred on roads rather than transit nodes. The corridors may be designed as mixed-use boulevards that encourage biking and walking and maximize transportation infrastructure. They may be lined with multi-family buildings, townhouses, shopping, and employment. Linear corridor settlement patterns enable development to be close and efficiently connected with linear infrastructures, such as roads, cycleways and rail and buses. Possible sub-corridors in JKM are identified in section 0, and we will identify commercial corridors in the next phase.

**Main street nodes** have a traditional commercial identity but are on a smaller scale with a strong sense of the immediate neighbourhood. Main streets feature good access to transit. Examples include Main Street, Jinja; and Kampala Road, Kampala.

**Transit-Oriented-Development (TOD) neighbourhoods** are areas of development, approximately one kilometre in radius, centred around and within walk distance of a light-rail or busway station, that feature mixed-use development with a variety of shops and services that will remain accessible to bicyclists, pedestrians and transit users as well as cars. The areas (mostly suburbs) around these communities may remain at the same densities as found in Dispersion Scenario. Densities are high adjacent to the station and taper off at the perimeter, encouraging people to ride public transportation.

In addition to the centres are the **Primarily Residential Areas**. Under the polycentric scenario, most of the existing neighbourhoods will remain largely the same, although some redevelopment may be permitted so as to put vacant land and under-used buildings to better use. New neighbourhoods will be planned with smaller single-family lots, mixed uses and a mix of housing types including row houses and accessory dwelling units.

### 3.8.2 Implications

The polycentric scenario envisages a **moderate level of physical expansion**, falling between the previous scenarios but closer to the concentration scenario. Like the concentration scenario, it calls for a fair amount of multi-storey development, redevelopment of brownfield sites, and infill development on vacant plots. This scenario strives to maximize growth accommodated through infill on previously developed lands and within existing urban areas.

This scenario's mixed-use — residential, commercial, office, and light industrial— development tends to **reduce driving distances and congestion, and improve air quality**. It provides the full range of housing types, from single-family detached to multi-storey towers, in a wide variety of locations and price options. The range of housing types in each centre is also determined by the type of centre: for example, larger and denser centres will have more multi-storey units.

To reduce energy consumption and greenhouse gas emissions, the scenario encourages non-motorised and public transport options and accommodates, but does not encourage, the use of private vehicles. Congestion, kilometres travelled, and public transport ridership will be moderate.

To preserve natural resources, the scenario promotes growth in areas that are already planned for growth and avoids development in areas that are in or near areas with natural resources, good agricultural land, parks and wetlands.

Places will be identified for the expansion of labour-intensive manufacturing and the growth of public sector facilities.

About half of new growth is accommodated as infill or redevelopment; the rest occurs on previously undeveloped land.

In summary, the scenario delineates where growth and investment are encouraged to achieve high-quality communities, enhance economic opportunity and sustainable infrastructure, and where it is discouraged and or prohibited to protect or restore the natural environment. It encourages the redevelopment of brownfield and greyfield sites and sites that are near to and can use existing infrastructure. It aims to create greater economic opportunities through place-making. It aims to provide a wide range of housing and transportation opportunities and to supply infrastructure more cost-effectively.

### 3.9 Scenario Assessment and Comparison

To compare the strengths and weaknesses of and trade-offs between the three scenarios, we prepared a comparative table. First, we identify a set of six performance criteria that relate to the vision and six goals for the JKM Corridor Plan, as quoted below.<sup>46</sup>

It has been decided by stakeholders that the vision that stakeholders craft should be ambitious and transformational. It must encourage and guide the necessary move along the trajectory from transport corridor to development corridor, in which wider benefits are shared more widely and equitably.

**The vision should ultimately be one of a JKM Corridor in which economic opportunity, growth and trade are promoted, and are developed and realized in an inclusive and sustainable fashion for the benefit of all citizens of the corridor.**

Inherent in such a vision is that the competitive advantages of all districts, cities and towns are better used in line with state-of-the-art global territorial development strategies. Moreover, JKM Corridor economic growth must further benefit all the people of Uganda through economic and spatial linkages to all national regions, and through regional integration and trade to a wider East Africa, principally through the Northern and Central Corridors – and then beyond, into the international sphere. In addition, all of JKM Corridor’s human settlements – from the smallest to the largest villages, towns and cities – must become places of opportunity, rather than poverty.

From this vision emerge the six goals, which are, in short:

- > Widespread economic growth and opportunity
- > Equitable social development and housing
- > Efficiently planned, regulated and managed land uses
- > Enhanced mobility and connectivity
- > Productivity-enhancing economic and municipal infrastructures and services
- > A resilient and sustainable natural and urban environment.

For each performance criterion, we identify at least one corresponding indicator, with some criteria having multiple indicators. We score the performance of each scenario on each indicator, from 1 to 10 (low to high), based on our expert knowledge and literature review. Against each indicator, we offer an explanation for the scoring.

For example, for energy efficiency, we state that bigger and more compact cities are more energy efficient than smaller cities – based on studies that found the larger cities have more compact street patterns, natural building shadows offering solar shading, better thermal insulation, centralised mechanical and electrical equipment, shared utilities and fewer private car journeys.

Figure 48 summarises the comparative performance of each scenario. The performance assessment may stimulate discussion around the different scenarios, which may yield a hybrid scenario or refinement of the preferred scenario.

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<sup>46</sup> See A129822 Draft WP1 (D3) Vision Goals and Guiding Principles

Figure 48: Comparison of Scenarios

VISION/Indicator	SCENARIO			ASSERTION
	Dispersed	Concentrated	Polycentric	
<b>WIDESPREAD ECONOMIC GROWTH AND OPPORTUNITY</b>				
promotes specialisation	1	2	3	polycentric + concentrated cities promote specialisation; shift from agri to industry.
economic growth	1	3	2	large cities more successfully compete to attract capital, firms and people.
global appeal	1	3	2	high profile cities attract international investment.
financial maturity	1	3	2	larger cities have more breadth/depth of financial sector, driving productive investment.
talent attraction & development	1	3	2	larger cities have more, high quality universities that provide highly skilled workers.
jobs (international)	1	3	2	larger cities attract more international companies, but hire less new employees.
jobs (local)	2	1	3	smaller cities will drive job growth for ugandan nationals, including lower skilled jobs.
efficiency of agricultural sector	3	1	2	dispersed small cities provide more support to agri industry and increase value-added.
rural market linkages	3	1	2	dispersed cities give rural households more access to urban markets, due to low travel times.
support to small businesses	3	1	2	dispersed cities provides more local support small business, located mostly in rural areas.
access to international markets	1	2	3	good access to international markets needs specialised port city.
exports	1	2	3	polycentric scenarios has lower export costs because closer to export routes.
<b>EQUITABLE SOCIAL DEVELOPMENT AND HOUSING</b>				
health	3	1	2	large cities have more air pollution, malnourishment, disease spread in slum areas.
access to local facilities	1	2	3	larger cities with large budgets = better infra: polycentrics plan in advance of population
income distribution	1	2	3	multiple urban centres distribute income more evenly than larger cities.
poverty reduction	1	2	3	more jobs opportunities in dispersed + polycentric due to easy access by rural poor.
creative culture	1	3	2	cultural vibrancy is higher in larger cities.
political representation	3	1	2	access to political representatives higher in a distributed model.
<b>ENHANCED MOBILITY AND CONNECTIVITY</b>				
prevalence of informal settlements	1	3	2	informal settlements more likely to appear in larger cities where population is less controllable.
transport efficiency	1	2	3	polycentrics have better developed road and rail networks to reduce transit times.
regulatory efficiency for business	1	3	2	larger cities have existing business support services - more difficult in dispersed model.
local government fiscal autonomy	3	1	2	dispersed cities have more control over finances and more local representation.
cost of public service delivery	1	3	2	public services cost more in dispersed populations; urban centres offer efficient delivery.
<b>RESILIENT AND SUSTAINABLE NATURAL AND URBAN ENVIRONMENT</b>				
ghg intensity of the economy	1	3	2	larger cities are more efficient; transport energy use per capita declines with size increase.
energy efficiency of economy	1	3	2	larger cities are more energy efficient, more compact + energy efficient.
environmental quality - air	1	3	2	dense cities less car-dependent, walkable, public transit friendly, better air quality.
environmental quality - water	1	3	2	dense cities make water treatment more viable.
environmental quality - noise	3	1	2	larger cities have more noise due to transport, industrial and construction activities.
forests + natural habitats	1	3	2	smaller cities are more sprawling and land-encroaching than one large city.
biodiversity	1	3	2	habitats damaged/destroyed + biodiversity lost when more land is consumed.
energy efficiency	1	3	2	larger cities, with denser, taller buildings are more energy efficient.
water use	2	1	3	polycentric and dispersed more water efficient than large city.
waste generation	1	3	2	waste is easier and cheaper to manage in bulk.
exposure to climate risks	3	1	2	large cities more exposed to natural hazards, reduced in many smaller cities.
vulnerability	1	3	2	large cities less vulnerable to climate+disasters due to better infra & protection capacity.
<b>PLANNED, REGULATED AND MANAGED LAND USES</b>				
connectivity between urban areas	1	2	3	clustered and polycentric models have the best transport links between cities.
social+economic activities co-located	1	2	3	polycentrics have more compact + mixed land use, which enables co-location of activities.
public space provision	1	2	3	pre-existing cities have less open space. planned cities can plan for open space.
access to housing	1	3	2	larger cities with large budgets = better infra: polycentrics plan in advance of population
cost of urbanisation & infra	1	3	2	polycentric cities have higher infra dev costs; large cities have infra already in place.
<b>ECONOMIC AND MUNICIPAL INFRASTRUCTURES AND SERVICES</b>				
access to clean water	1	2	3	larger cities with large budgets = better infra: polycentrics plan in advance of population
access to education	1	2	3	larger cities with large budgets = better infra: polycentrics plan in advance of population
access to healthcare	1	2	3	larger cities with large budgets = better infra: polycentrics plan in advance of population

Source: COWI A/S

## 3.10 Spatial Strategies

### 3.10.1 Introduction

This section presents the spatial strategies for the development and use of land in the JKM Corridor. The overall spatial strategy is to promote polycentric, concentrated, metropolitan growth while preserving and sustainably using the corridor's green-blue resources. The strategy identifies and supports a hierarchy of dispersed urban centres to absorb most of the future growth in a compact and concentrated way, provide room for expansion when it is shown to be necessary, and foster natural resource conservation and

protection. In line with the KPDP, the PDPDs of Wakiso, Entebbe and Jinja, the JKM spatial strategy elements are:

- > **Protect and conserve what is valuable.** Protect, conserve, enhance and sustainably use natural assets — like water bodies, forests, woodlands, farmland, and open spaces — and cultural heritage resources. Protection refers to permanently keeping the assets safe from degradation and loss; conservation refers to consuming the resources slowly and only when needed.
- > **Make room for growth.** Plan to absorb future growth in two ways: (i) in existing urban areas — through infill, taller buildings and increased densities and (ii) through new, delineated and developed expansion areas that are next to existing built-up areas (and do not leap-frog).
- > **Support metropolitan development.** Structure growth in the two metropolitan regions — around Kampala and Jinja — to encourage economic and employment market integration and agglomeration. Discourage growth outside of these metro areas, except for limited places such as corridors between the two metropolitan regions. Keep the metros separate and do not allow their built-up areas to merge.
- > **Grow the centers.** Encourage population growth in existing strategic growth centres through intensification and densification and discourage growth elsewhere. These centres are located throughout JKM, vary in character, are boundary-delineated, are planned for or possess infrastructure and services, and are capable of becoming complete communities.
- > **Avoid or limit growth in unsuited settlement areas.** Discourage population growth in areas that do not have existing or planned services such as municipal water and wastewater systems (level 4 areas), are within green areas, or are close to hazardous or climate-change-vulnerable lands.
- > **Plan land use and infrastructure together.** Encourage development in places with existing infrastructure, encourage the upgrading of existing infrastructure, and use infrastructure investment to guide expansion.
- > **Connect places where people live to places where they work.** Connect living and workplaces through multi-modal transport systems including active transport, especially for low-income people.
- > **Improve access to housing, jobs and mobility.** Housing options will be decent, diverse, and affordable for all income levels. Job opportunities will be abundant, with various skill levels to retain and attract a diverse economic base. Mobility will be efficient, multimodal and balanced.
- > **Encourage complete communities.** These are communities with a diverse mix of land uses including residential and employment; with good access to stores, services, and public services; with a diverse range and mix of housing types; with good access to multiple transport options; with sufficient public service facilities; with sufficient and accessible open spaces and recreational facilities; and with healthy, local and affordable food options. They are also planned to mitigate and adapt to the impacts of a changing climate, improve resilience and reduce greenhouse gas emissions, and contribute to environmental sustainability. And they integrate green infrastructure and appropriate low-impact development.

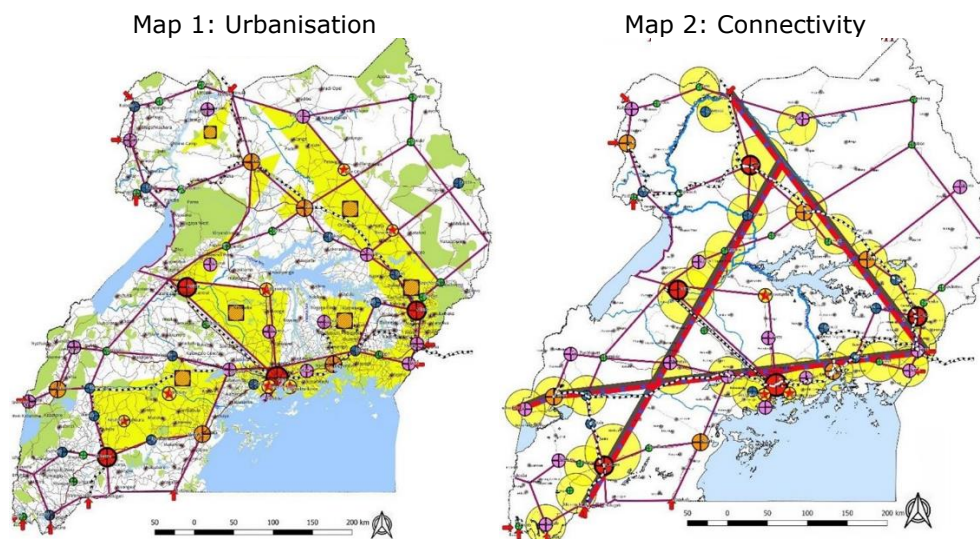
### 3.10.2 Alignment with other spatial and physical development plans

The JKM Corridor spatial strategy aligns with other key physical development plans including the National Physical Development Plan (NPDP), Kampala Physical Development Plan (KPDP), Wakiso Physical Development Plan (WPDP), Jinja Model Town Physical Development Plan and Entebbe Physical Development Plan (EPDP).

#### **National Physical Development Plan (2019)**

We align with the National Physical Development Plans' (NPDP) concept of spatial form, which is a "polycentric" settlement system, connected by a triangle of expressways, aligned with the agricultural zones and natural resources. Blocks. We accept the NPDP planning concept of urbanised zones and corridors constrained by agricultural and natural resources clusters. And in planning the JKM Corridor, we recognize that it is one of the three connectivity/urban development corridors of the national "Triangle" that aims to limit GKMA expansion, and protect areas and water systems.

Figure 49: Selected NPDP maps



Source: NPDP

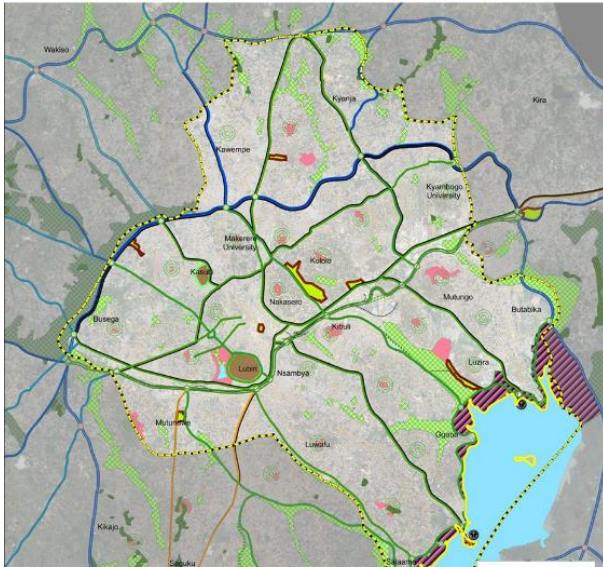
#### **Kampala Physical Development Plan (2012)**

We reflect KPDP "Radial Integrated" spatial model in our support for KMR metropolitanism and growth along radial corridors and along inner, middle and outer concentric corridors. Like KPDP, we support population growth in the three existing urban cores of Mukono, Wakiso and Entebbe; in a hierarchy of other centres; in new satellite towns in the Ssaisa-Nsangi and Nakisunga-Ntenjeru area; and in Wakiso-Nansana as a potential growth area. And we support an east-west freeway through the city centre and an extensive BRT system along the existing corridors.

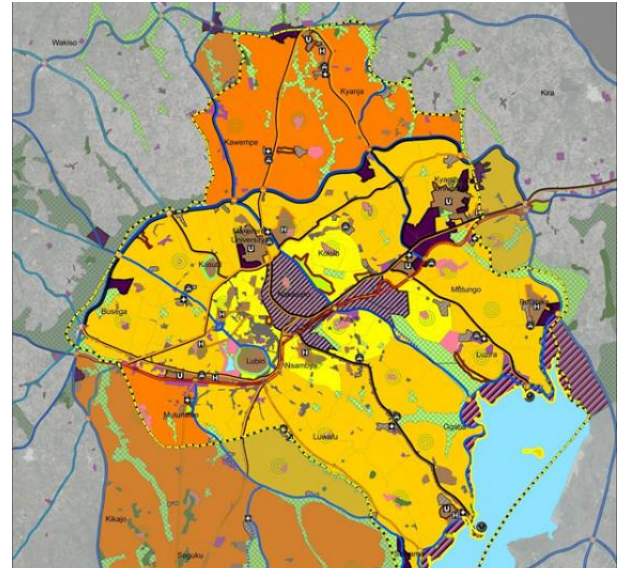


Figure 50: Selected KPDP maps

Map 1: Natural Resources and Open Space



Map 2: Integrated Land Use Plan



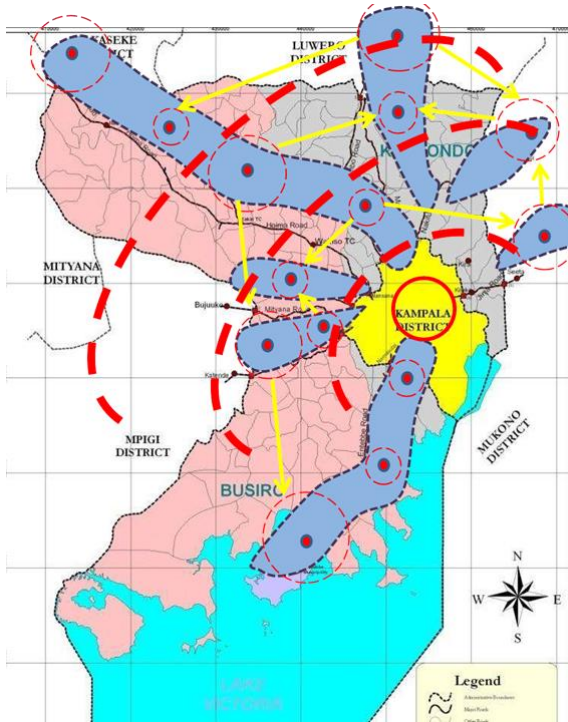
Source: KPDP

### **Wakiso Physical Development Plan (2018-2040)**

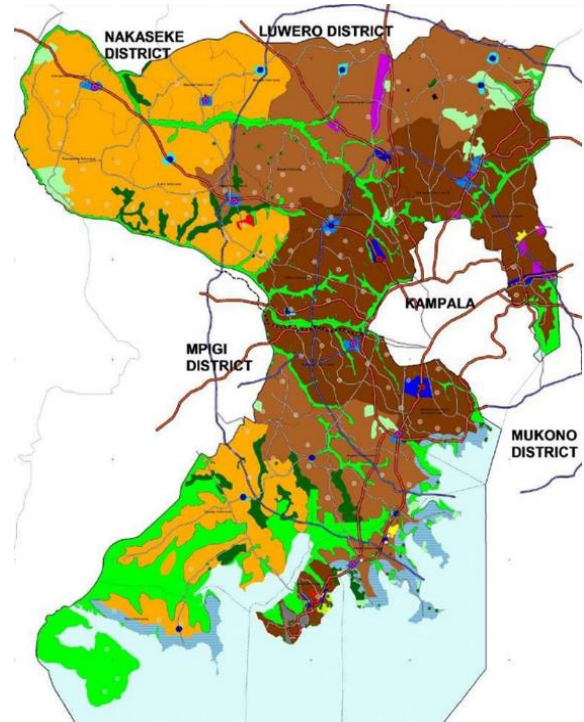
The Wakiso Physical Development Plan was based on the integration of three spatial models — independent satellite towns, urbanized belt, and transport corridor/wedge — into the Integrated Radial Satellite Town Model (Figure 51 Map 1). Key initiatives are urban centre strengthening; new town development; new and stronger transportation corridors with better links between centres; green infrastructure areas to stop urban sprawl between Wakiso and the neighbouring areas and between the urban centres within Wakiso District; and a corridor system of radial routes from Kampala City but terminated with a buffer along the extensive natural systems.

Figure 51: Selected WPDP Maps

Map 1: Integrated Radial Satellite Town Model



Map 2: Integrated Land Use



Source: WPDP

**Jinja Model City Report**

The Jinja Model City Integrated Physical Development Plan 2020-2040 supports the city's vision, which is "A sustainable and prosperous city with excellence in tourism, commerce and industry by 2040". Broad strategic interventions identify land use activities by place. For example agro-processing in Budondo, manufacturing and processing in Bugembe, food production in Lukolo, housing and commerce in Mafubira, and tourism and hospitality in Buyala.

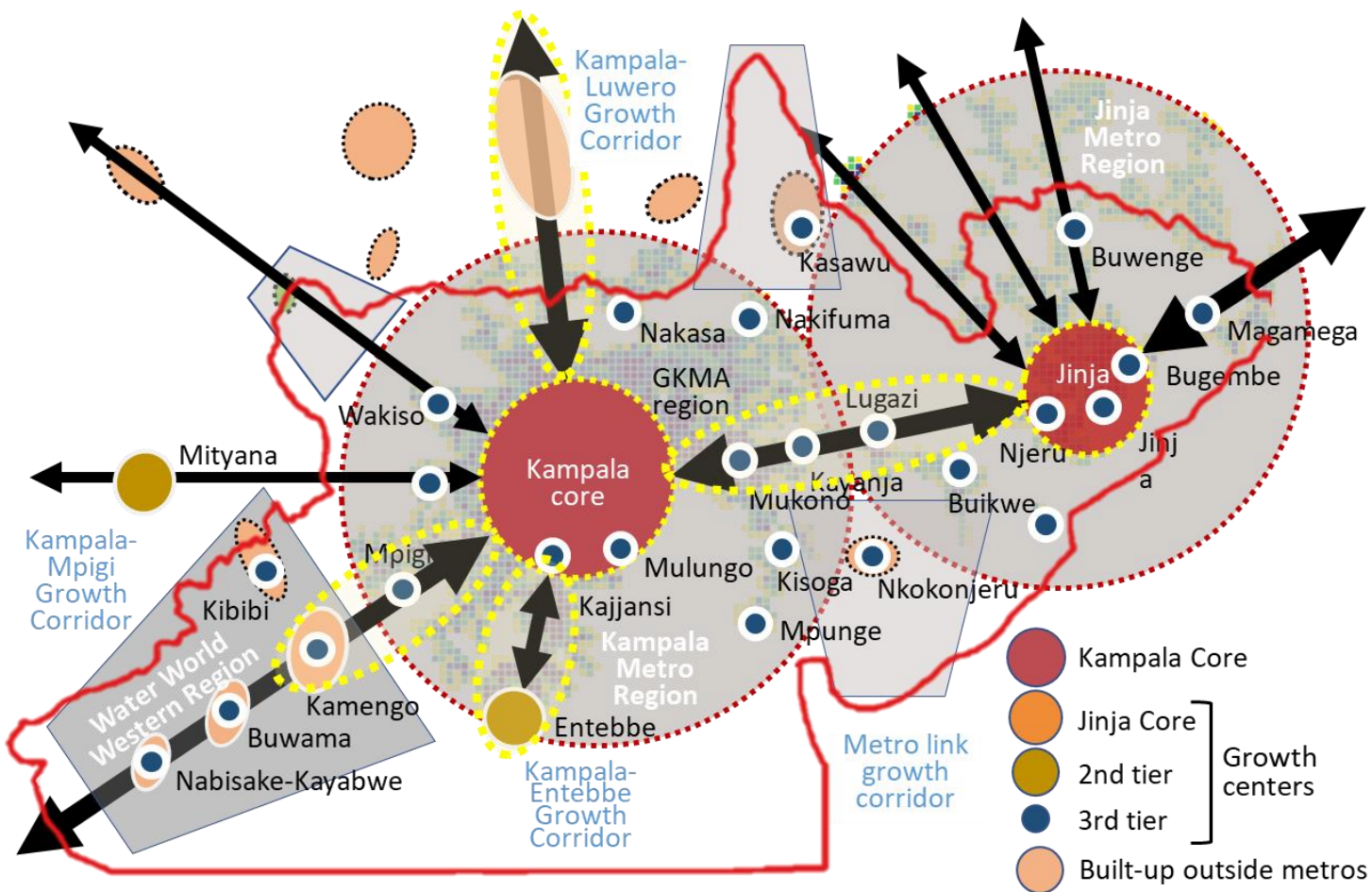


**Transport corridors** are aligned to the National Transport Masterplan. They are designated as either primary corridors, with thick black lines, or secondary corridors, with thin black lines. Three primary transport corridors link Mpigi-Kampala, Jinja-Kampala, Entebbe-Kampala and Luwero-Kampala. Two secondary corridors link to Kampala and three links to Jinja. The Metro-Link corridor line between Kampala and Jinja, designated here as one line, is comprised of four physical elements: the existing Kampala-Jinja Road, the new Kampala-Jinja Expressway, the existing MGR rail and the proposed SGR rail.

The concept does not show the waterways. The concept includes part of the NTMP proposed network of four- and six-lane expressways connecting the major urban and activity centres, namely Kampala-Jinja-Iganga, Kampala-Nakasongola-Masindi; Kampala-Hoima; Kampala-Fort Portal, Kampala-Masaka and (not yet shown) Nakasongola-Kamuli-Iganga.



Figure 53: Spatial Strategy Concept



Source: COWI A/S

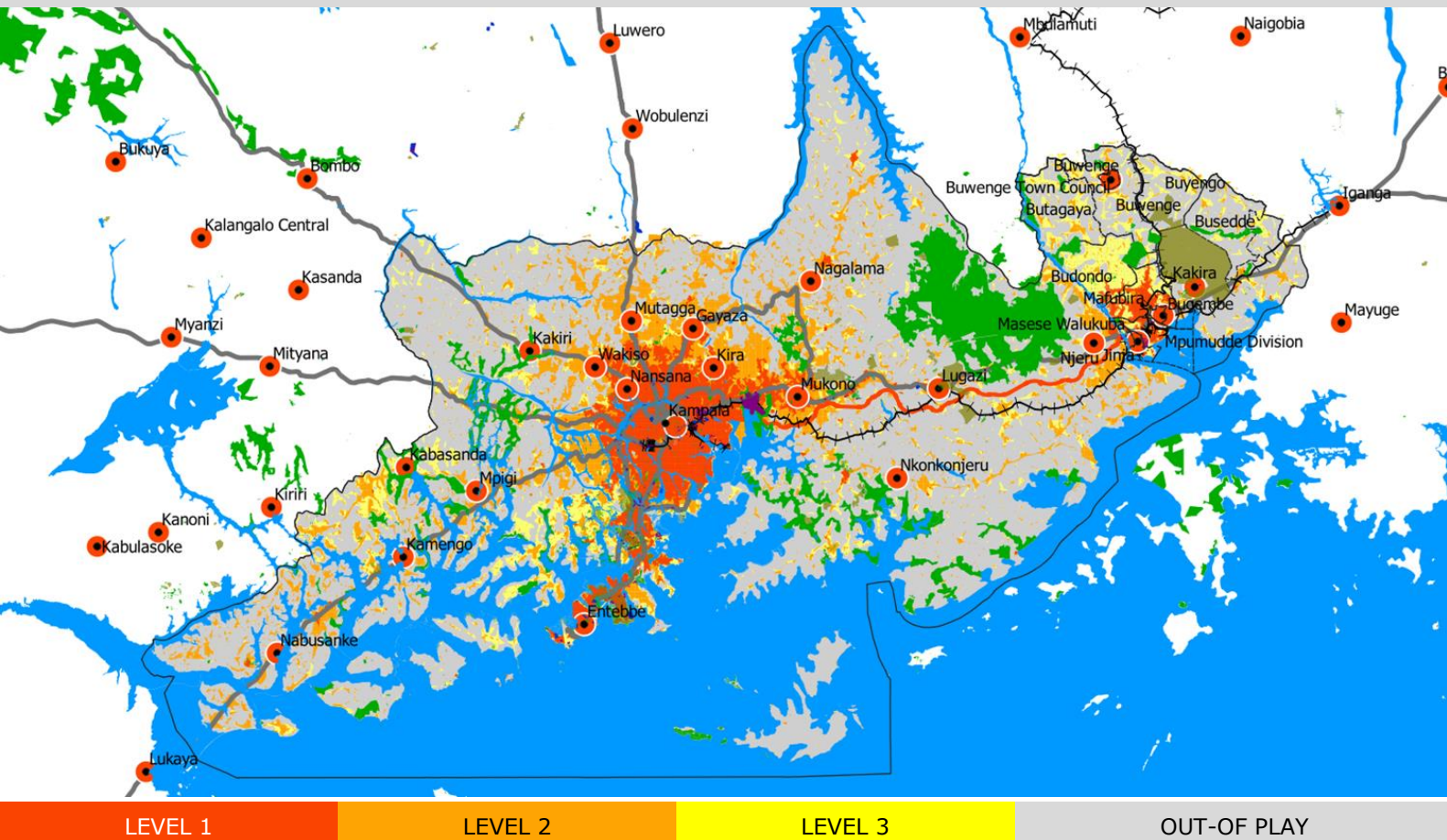
**Land use policy concept**

Our land use concept does specify the type of land use — for example, commercial, residential, industrial — but rather specifies areas by development priority level in terms of preferred development intensity and density (Figure 54). The concept is based on the US State of Delaware's Strategies for State Policies and Spending<sup>47</sup>, a set of strategies that have guided all public sector investment in Delaware for over 22 years and is continually updated.

<sup>47</sup> Delaware has one of the best strategic growth plans in the USA, arguably a consequence of the support of now President Joe Biden, who as Senator represented the state for decades. The Delaware example is also relevant to JKM because, like JKM, it is on a major North-South linear corridor that runs along a coastal shoreline. The Delaware map was developed using spatial data analysis that balanced policies that favour growth for different areas with policies that favour land preservation, agriculture and agricultural industry development, and natural resource management. Geospatial data on land use were collected, standardised and combined. Data values were classified into logical groups to form a set of four levels that were then smoothed.



Figure 54: Land use concept



Source: COWI A/S

The concept divides the JKM territory into three levels of priority for investment and development and a level where land is classified as out-of-play for development. Levels 1-3 are designated to support physical growth, investment and economic development — in descending priority order. Out-of-play is rural in nature and is where most of JKMs open space, natural areas and agricultural areas are located; these areas contain agribusiness activities, farm complexes, and small settlements.

These levels help to shape the growth of the urban region through the targeting of public investment in infrastructures such as roads, water supply, sewers and other public facilities. They signal the government's intentions to the private sector which can then factor this information into its own investment decisions. The levels are not intended to restrict landowners' rights to use or develop their lands.

**Level 1 areas** are the centres of cities, municipalities, and towns, generally with higher density than their surrounding areas. In these areas, government policies and investments will encourage a wide range of land uses and densities, promote multi-modal mobility options, foster efficient use of existing public and private investments, and enhance community identity and integrity. These areas also have slums, blighted neighbourhoods, and informal settlements that need redevelopment, economic revitalization and expanded housing options.

**Level 2 areas** are the less developed but rapidly growing areas that have or are planned to get public water and wastewater services. They are usually near level 1 areas and serve as transition areas between level 1 and level 3. They have a limited variety of housing types, mostly detached single-family dwellings.

In these areas, the government will encourage multiple lands uses and densities, multi-modal mobility, efficient use of existing public and private investments, and enhance community identity and integrity. Investments will discourage single-family-dwellings and promote mixed residential-commercial-office use, open spaces and recreational facilities, and other public facilities and services.

**Level 3 areas** are of three types, 3a, 3b and 3c. Type 3a lands are not needed or desired to accommodate expected population growth during the plan period. Type 3b lands are those near or within levels 1 or 2 but have environmental, agricultural or infrastructure issues. Type 3c are lands (i) with leapfrog development not contiguous with existing infrastructure; (ii) with existing but disconnected development; and (iv) lacking adequate infrastructure. Level 3 is not a priority for investment owing to limited financial resources, or higher development costs. They will be developed once level 1 and 2 areas are mostly built out, or when infrastructure or facilities are logical extensions of existing systems.

**Out-of-Play areas** are rural and include open-space, natural areas and places for the agricultural industry. These areas may also have villages, small settlements and hamlets as well as agribusiness activities and farm complexes. But in some cases, private recreational facilities, such as campgrounds or golf courses may be considered. These areas may also include uses with specific requirements that are not appropriate for a location elsewhere, such as those with public safety impacts or impacts on or with neighbouring uses. They should not be used for urban and suburban development unrelated to agriculture and to the areas' needs. In these areas, the government should aim to retain the rural landscape, preserve open spaces and farmlands, support farmland-related industries, and establish defined edges for more concentrated development.

Some of these areas are not available for development and comprise forestlands, wetlands, parks and fish and wildlife preserves, natural habitats, and areas for improving water quality and reducing flood risk. They include publicly owned lands, private conservation lands, lands with legal and/or environmental constraints on development, and lands with permanent open-space protection.

Out-of-play areas do not preclude any changes or development; government entities, private property owners, and conservation organizations may invest in these areas for the purposes for which they were acquired and preserved. Examples could include improvements to park lands, water control structures, and poultry houses on preserved agricultural lands.

### 3.10.4 Strengthen two metropolitan regions

The JKM spatial strategy supports the development of two non-jurisdictional metropolitan regions that fall within the JKM Corridor: the Kampala Metropolitan Region (KMR) and the emerging Jinja Metropolitan Region (JMR). These regions presently account for the majority of JKMs urban and rural population and most of its land area.

#### **Why develop metropolitan regions?**

Widespread evidence from other countries shows that well-governed and well-connected polycentric metropolitan regions, or 'metros' — compared to fragmented and unconnected urban and rural areas, and compared to one large primary city — have higher quality-of-life, higher per capita productivity and greater competitiveness. Compared to one large primary city, metros have less traffic congestion and pollution.

Figure 55 shows the JKM with its two metropolitan regions. The coloured one-kilometre-square cells show the share built-up area – the darker the tone, the more built-up<sup>48</sup>. Theoretically, cells that are less than fully built-up have development potential and could accommodate growth horizontally in the gaps between built-up parcels. Even fully built-up cells may be able to absorb growth in the vertical dimension.

**Prevent merging metros.** The two metro areas are distinct — their built-up areas do not (yet) touch! — and are separated only by a rural area and the Mabira Central Forest Reserve. But this separateness is under threat: a linear built-up tentacle (A) presently extends<sup>49</sup> some 25 kilometres from Kampala into the JMR, leaving a small section that is not developed. The area between the two regions that are not developed should be protected and earmarked for green uses such as tourism and recreation.

**Develop the metropolitan cores.** Each of the metropolitan areas has an urban core, which is a built-up area of high-density at the centre of the metro region. Built-up area density is highest (dark brown) in the 11-kilometre radius core of Kampala and the 5-km radius core of Jinja City. To the extent possible, these cores should be supported to further intensify and densify while ensuring that the level of infrastructure and services is not compromised.

**Contain other built-up areas.** Six areas are identified as a cluster of more than one contiguous high-density built-up cell. These include three that are roughly equally spaced along the western road: (B) Nabusanke-Kayabwe, (C) Buwama and (D) Kammengo. Two are between the KMR and JKR metro circles: (G) Nkokonjeru in the south on corridor 12 and (F) Kasawu in the north on corridor 5. One, (E) Kibibi, is not on any corridor.

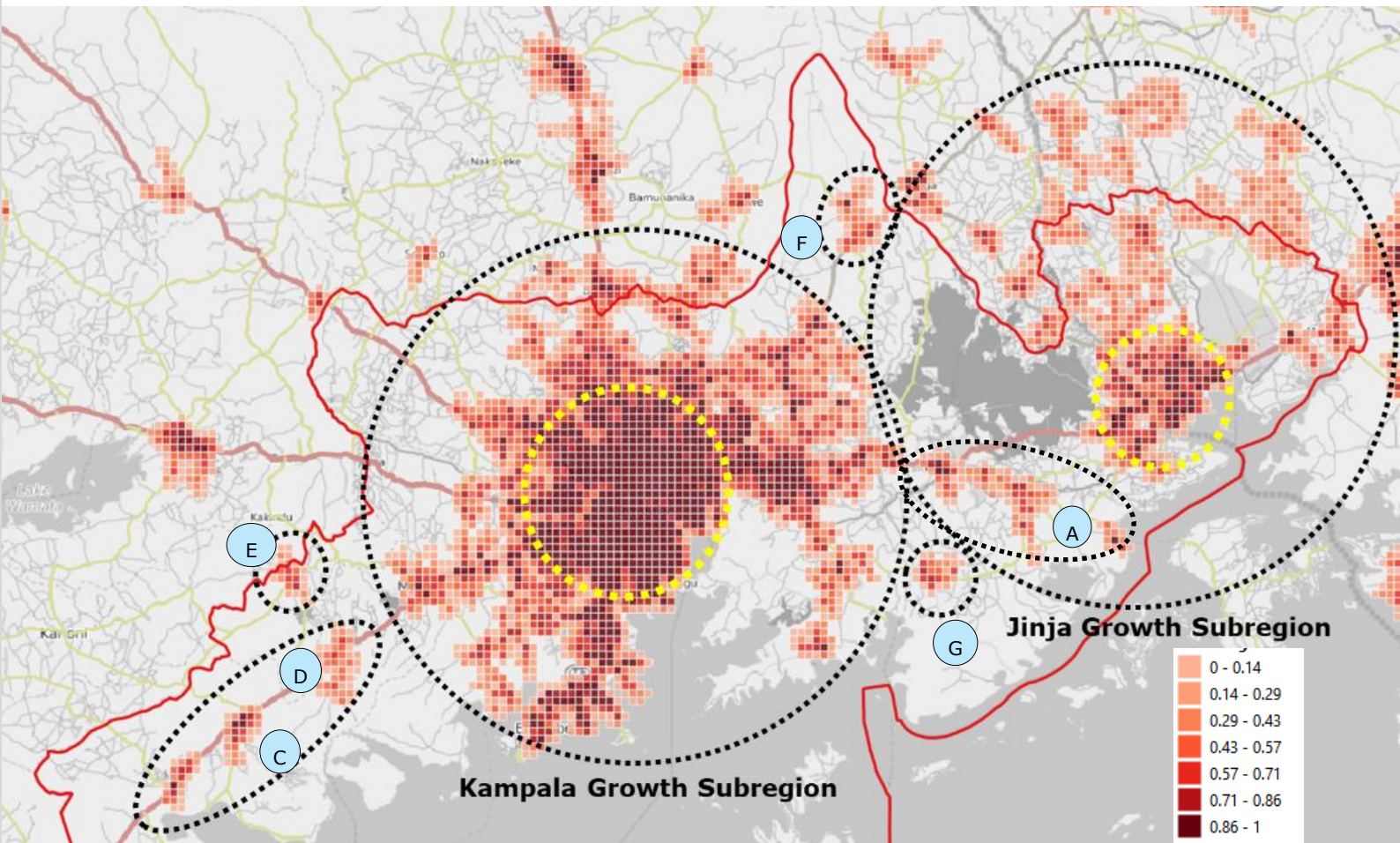
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<sup>48</sup> For example, a dark brown cell is between 86 and 100 percent built-up; a light brown cell is less than 14 percent built-up.

<sup>49</sup> This developed extends along the Mukono-Kyetume-Katosi-Nyenga Road from Lugazi through Buikwe, to the Kyindi Ferry port to Buvuma Island.



Figure 55: Two metropolitan regions in JKM

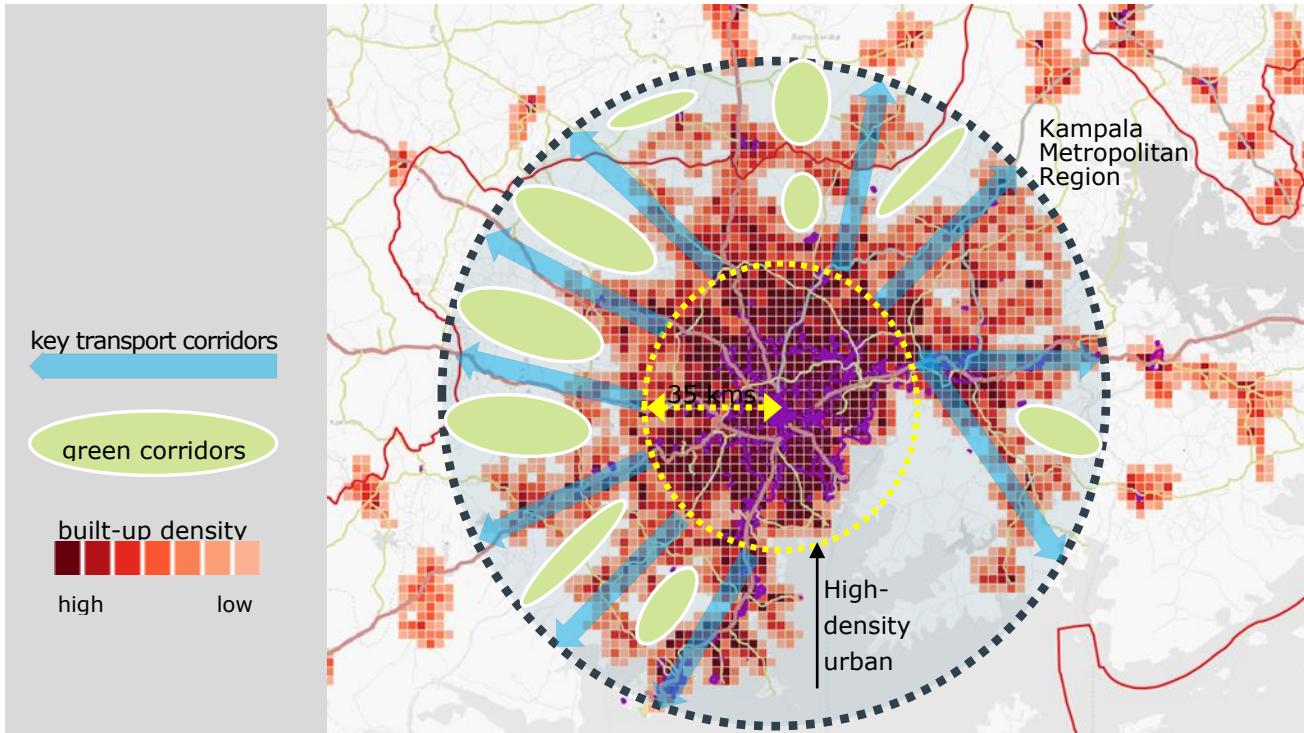


Source: COWI A/S analysis of CIESIN GRID data

**Kampala Metropolitan Region**

The Kampala Metropolitan Region is a contiguous built-up area, largely contained within a 35-kilometre radius that is centred at Kampala CBD. The built-up tentacles indicate that development largely follows the region's radial roads. KMR varies in density from its lower-density periphery to its high-density urban core. The space between the built-up tentacles of the KMR is still relatively undeveloped.

Figure 56: Kampala Metropolitan Region

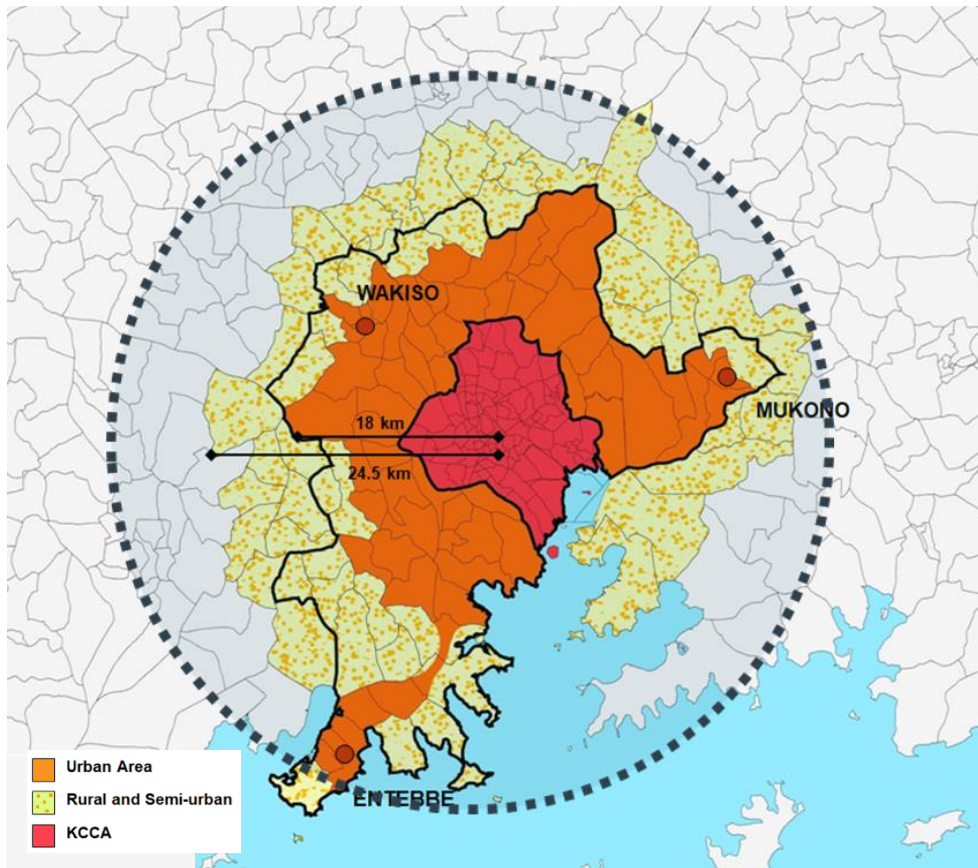


Source: Bing Buildings and COWI A/S

The Kampala Metropolitan Region completely contains the current GKMA, as shown in Figure 57.



Figure 57: Kampala Metropolitan Region and GKMA



*Source: COWI A/S*

The spatial strategy includes the following elements to strengthen KMR:

- > **Develop the metropolitan core.** KMRs high-density urban core, with dark brown cells, is contained in a circle within a 11-kilometre radius from the CBD. The core's high density and the large area present an opportunity for developing walkable neighbourhoods supported by a high-quality public transport system. The core is designated for level 1 priority.
- > **Direct level 1 growth in the core's key activity centers.** The areas with key activity centres that are most receptive to absorbing growth are the Central, Rubaga, Nakawa, Bunamwaya and Makindye divisions of KCCA and within the boundaries of the Northern Bypass Road, and the water features.
- > **Develop the tentacles with TODs.** The high-density areas also extend along these tentacles, particularly southward on the Entebbe Road and Entebbe-Kampala Expressway to Entebbe and eastward on the Jinja-Kampala Road A109 to Mukono. Development along these tentacles should be concentrated using level 1 priority and spaced along the road corridors in the form of transit-oriented-developments (TOD) that are linked to the core.
- > **Conserve green corridors.** These areas between the urban tentacles remain largely rural and undeveloped but are experiencing strong development pressures. These should be conserved unless and until it is determined that the land is needed to accommodate growth, with uses earmarked for tourism and recreation.

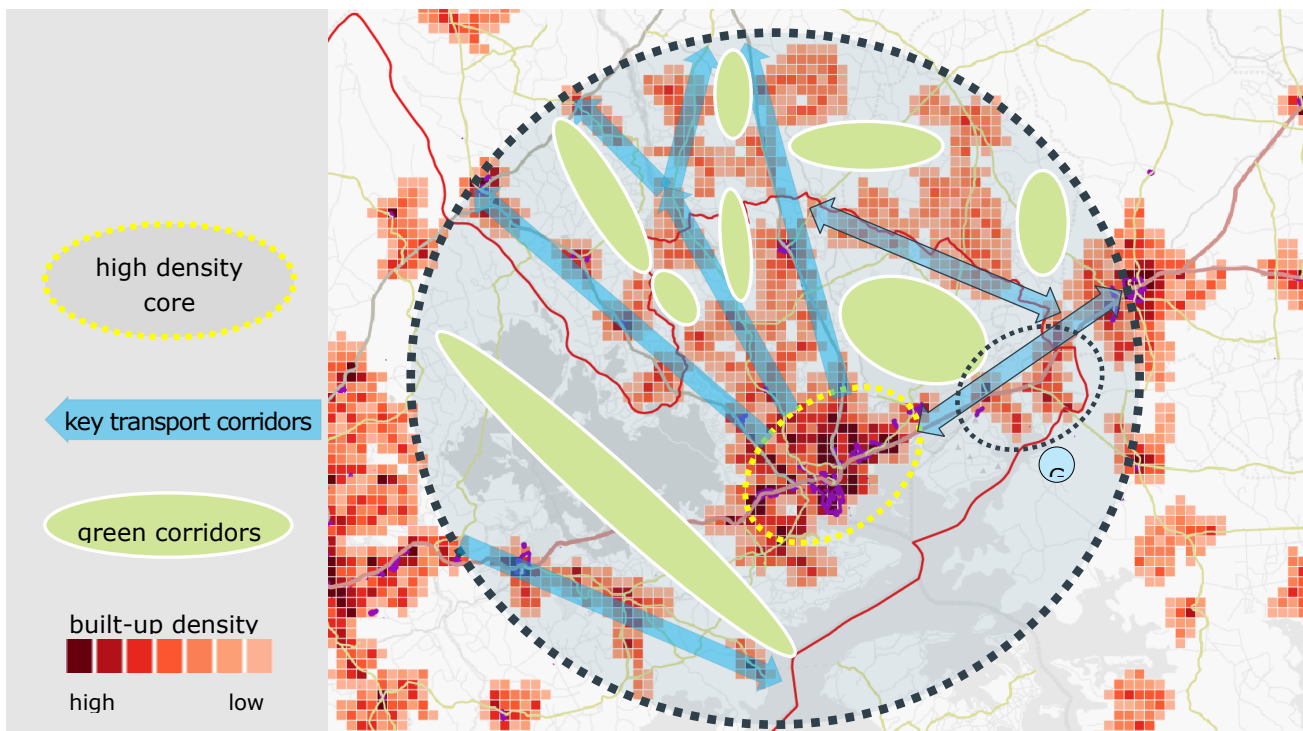
### **Jinja Metropolitan Region (JMR)**

The Jinja metropolitan region (JMR) — defined as the area within a roughly 35-kilometre circle radius of Jinja City — is less well-formed than KMR. Its built-up areas are fragmented and varied in density. Its green corridors are also fragmented, and bounded by built-up areas. While KMR's urban development was shaped largely by radial and circumferential roads, clear tentacles have not emerged in JMR. Another feature of JMR is the agricultural holdings north-east of Jinja city.

The spatial strategy includes the following elements to strengthen KMR:

- > **Support the structured growth of JMR.** The JMR has great potential but lacks a dedicated plan to guide its growth.
- > **Add Iganga to JKM.** The built-up pattern of JMR is influenced by Iganga, which lies just outside the boundaries of the JKM corridor, only 35 kilometres from Jinja. The corridor between Jinja and Iganga is largely built-up with a cluster (A) between them and clusters running south of Iganga. Adding Iganga to JKM would shift the centre of gravity from Jinja to a triangular area with Jinja and Iganga as anchors and the agricultural holdings at its centre.
- > **Develop the metropolitan core.** JMR's high-density urban core (dark brown) extends some 5 kilometres from the CBD. The core's high density and the large area present an opportunity for developing walkable neighbourhoods supported by a high-quality public transport system.
- > **Direct level 1 growth within the key activity centres in the core area.** This is largely identified as the cities of Jinja, Njeru and Bugembe, the latter two only 7 kilometres from Jinja.
- > **Conserve green corridors.** These are areas between the tentacles of the major transport corridors. These areas between the urban tentacles remain largely rural and undeveloped but are experiencing strong development pressures. These should be conserved unless and until it is determined that the land is needed to accommodate growth, with uses earmarked for tourism and recreation.

Figure 58: Jinja Metropolitan Region



Source: Bing Buildings and COWI A/S analysis

### 3.10.5 Strengthen the Corridors

Key road corridors should be planned and managed to improve the flow of people and goods to avoid ribbon development and to better connect centres to each other.

Figure 59: What is Ribbon Development

Ribbon development is linked to traffic congestion, road accidents, reduced carrying capacity, the uneconomic extension of utilities, overcrowding of the frontage of the main road, and wastage of valuable land in the interior. Where ribbon development is already occurring, planners should consider creating parallel service roads, raising highways above ground level, adding green-belts, creating nodes at intersections, and acquiring and servicing land.

The principal corridor in JKM is the Northern Corridor, which we split into the metro-link corridor between Kampala and Jinja, and the Kampala-Masaka corridor. Other import corridors that have been attracting development include all the radials from Kampala, especially (j); corridor (b) between Entebbe and Kabasanda; and corridors (m), (t) and (u) that connect to the less developed subregion in the JKM's southeast. There are two parts of the main corridor, the "Metro Link Corridor and the Kampala-Masaka Corridor.

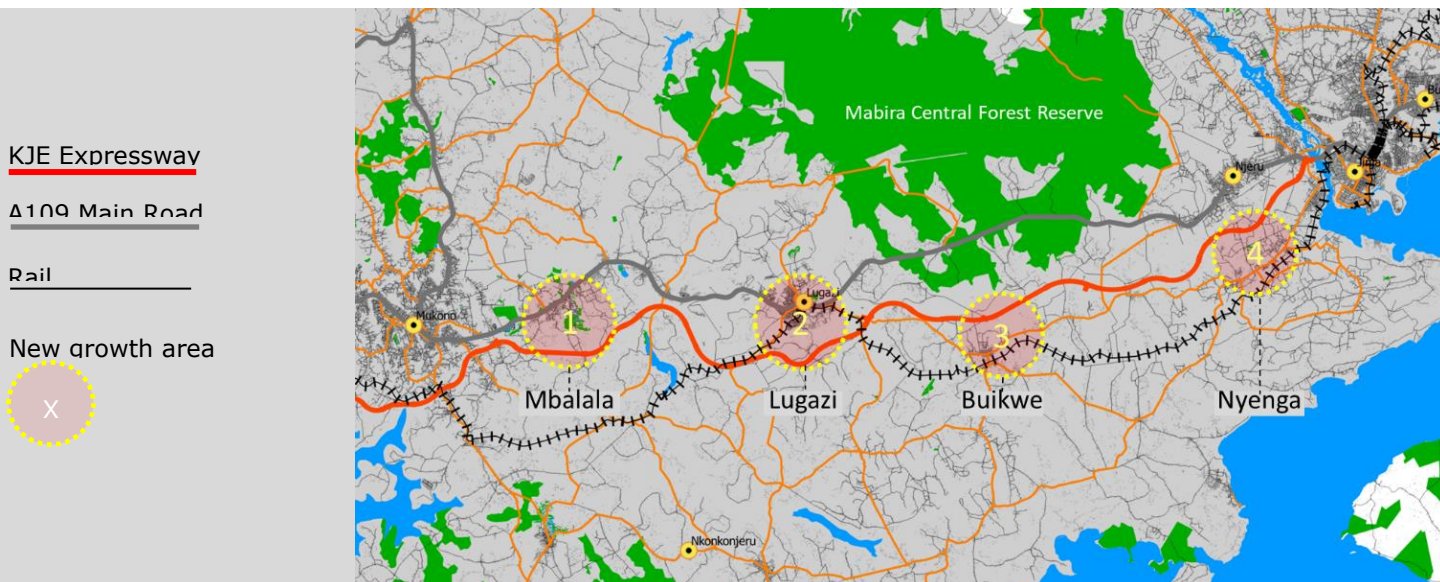
Of the two corridors, the Metro-Link has the greater potential for economic development given that the location of economic activity within the JKM Corridor has been increasing in the area, as evidenced by the change in intensity of night-time lights (see Chapter 4).

### **Develop the Kampala-Jinja "Metro Link Corridor"**

The spatial strategy supports development in the area between the two metropolitan regions and along the Kampala-Jinja transport corridor, which we term metro-link-corridor (MLC). This area has the characteristics to support new industrial-based, residential and commercial mixed-use, multi-centred development. This area is:

- > Largely undeveloped.
- > Home to industries in Kesenge between Mukono and Lugazi.
- > Well-served by an existing level 1 road and meter gauge railroad.
- > Served by three, level 2, north-south connector roads.
- > Site of the planned high-speed Kampala-Jinja Expressway.
- > Site of a planned standard gage railroad.
- > Easily accessible to and from the high population centers.

Figure 60: Kampala-Jinja Transport Corridor



Source: COWI A/S

The major constraint to development in this area is a large area of agricultural land and a national park. Nevertheless, these features may be considered as assets to improve the attractiveness of development in this area, the farmland providing access to locally grown fresh food and the national park providing diverse recreational opportunities.

We identify four locations for mixed urban development: Mbalala (1), Lugazi town (2), Buikwe (3) and Nyenga (4). All are partially developed but have nearby undeveloped land, and each has its strengths. Moreover, Lugazi and Buikwe are 2 of the 9 places in which the government is establishing industrial parks. The others are Mbale, Namanve, Jinja, Kapeeka<sup>50</sup>

- > **Mbalala town**, with about 45,000 people in 2020, 9 kilometres east of Mukono and 30 kilometres east of Kampala, already has an emerging industrial park. The park's 32 industries presently employ

<sup>50</sup> <https://www.monitor.co.ug/uganda/news/national/mbalala-a-former-den-of-thieves-turns-into-mukono-s-industrial-hub-1908636>



some 17,000 mostly local people. Three of the larger factories are the Tian Tang Group (mattresses, steel bars, plywood), Global Paper Limited, and C.C.L.E (motor cycle tires and tubes). Other factories make face masks, blankets and plastic shoes. Namataba, which may be part of the new development, is only a few kilometres east of Mbalala, has a central market, the Limkokwing University of Creative Technology (based in Malaysia), and the Kampala Cement Company Limited.

- > **Lugazi town**, with about 114,000 people, is roughly centred between Kampala and Jinja, at an A109 and rail line intersection, houses a sugar factory and plantation, the recently upgraded Kawolo General Hospital, a central market, Lugazi School of Nursing, the Kasuku Tea Estate (one of Uganda's largest) Uganda), a central market and nearby agricultural land.
- > **Buikwe town**, with some 18,500 people in 2020, growing at 1.95 percent annually between 2015 and 2020, is the administrative centre of its district. It is 67 kilometres east of Kampala and 11 kilometres south-east of Lugazi. It has a central market and an 80-bed community hospital, open in 2007, specializing in paediatrics, surgery, internal medicine, gynaecology and maternity. The town also hosts more than four places of worship.
- > **Nyenga town**, with 55,600 people in 2020, one of the three urban divisions of the city of Njeru, is 7 kilometres south of Njeru Division. It has a Roman Catholic Church, a Mission Hospital, a 75-bed community hospital, the Saint Francis School of Nursing and Midwifery, and the Nyenga Children's Home for destitute children.

### **Develop Kampala-Mpigi Corridor**

The spatial strategy supports development along the Kampala-Mpigi Corridor, which as part of the Northern Corridor that links to Kigali Rwanda and the Democratic Republic of the Congo.

The corridor links JKM to Uganda's Western Region, which may experience significant population growth and economic development<sup>51</sup>. More people may be expected to transverse the corridor between the regions for work, shopping, recreation and family visits. And more firms may be expected to truck their products and materials between the regions.

The area along the corridor has the characteristics to support the small town, compact development; tourism-, recreation- and leisure-based development; and educational institutions. This may include accommodation (small hotels, bed and breakfasts), boating and water-sports, and restaurants.

The corridor flows through a picturesque landscape of wetlands, forests and small islands. This area is largely undeveloped, easily accessible to and from the high population centres, well-served by an existing level 1 road and eventually to be served by a high-speed Kampala-Mataaka Expressway.

Located directly along the road are four small towns (Mpigi, Katende, Kamengo, Babusanke) and several large villages (Mpambire, Matal Maria, Budde, Buwama, and three others with names unknown). The

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<sup>51</sup> According to the NPDP. Masaka, a sub-regional growth pole with a current population of 115,000, is expected to grow to between 0.5 to 1 million by 2040. The AGUR (agricultural/urban block) and urbanisation zone, is planned as a special economic zone with agricultural industries, biotechnologies and value added small and medium enterprises.



corridor connects to the Entebbe-Kabasanda corridor, which also connects to Kabanda town and Kibbi and Butabaka large villages.

In this corridor, we believe that Mpigi Town has the greatest potential for targeted investment and growth. With about 50,000 people, it has grown by 2.3 percent between 2015 and 2020. Its links with Kampala are strong, only 37 kilometres along a future expressway. It will have a fast and direct link to Entebbe when the bridge is built. Key assets include a central market, Chief Magistrate's Court, military and police barracks, prison, and 100-bed hospital. It is also the capital of traditional handmade drum factories.

Like in other coastal areas, new development along the coastline should be elevated at least two meters above current water levels.

Figure 61: Kampala-Mpigi Corridor



Source: COWI A/S

### **Develop Kampala-Entebbe Corridor**

The Kampala-Entebbe Corridor is arguably JKM's most developed sub-corridor. It connects two places of national importance — Uganda's international airport and Kampala — whose growth generates a high demand for development. Yet it is spatially constrained by Lake Victoria and the wetlands, with little room to expand, leading to a relatively high density along its entire length.

The recently completed four-lane, limited-access, 51-kilometer Entebbe–Kampala Expressway was expected to significantly reduced travel time between Entebbe and Kampala by avoiding the old Kampala–Entebbe Road, which is narrow and congested. It had been estimated the expressway would reduce travel time from Kampala to Entebbe to 30 minutes as compared to 120 minutes<sup>52</sup>.

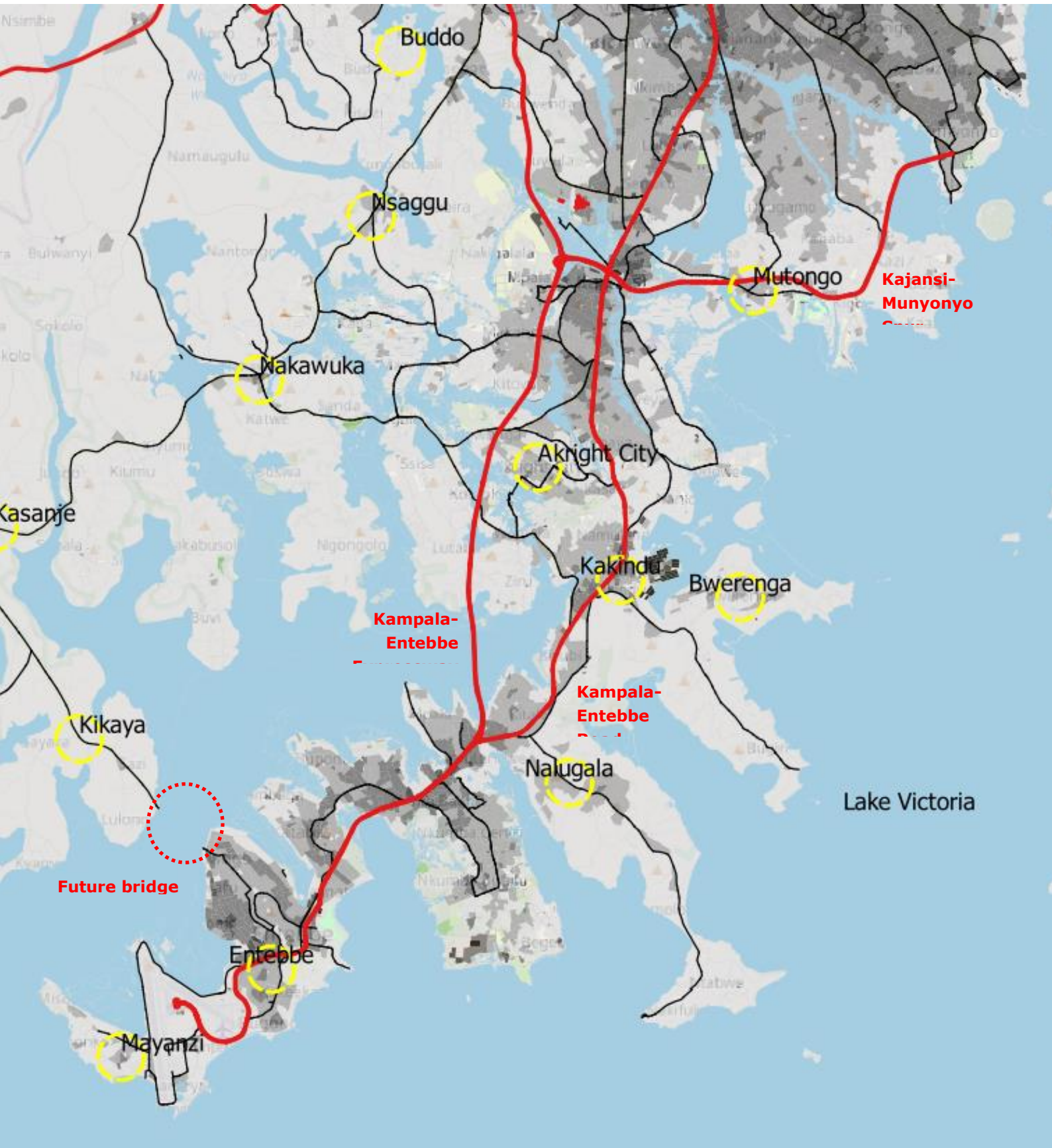
The best places to invest in infrastructure to support growth and development are around the intersections between the expressway and the arterial roads. These are the Entebbe airport, Kampala-Entebbe Road, Nakigalala and Busega (A109).

It is not clear how places along the old Kampala road (such as Kakindu, Namulanda, and Kajjansi) may be impacted by the new expressway, It is also not clear how the new expressway will impact mobility, who will use it, and where they will come from. Uganda started to collect road tolls in January 2022 and the impact of this on-demand has not yet been determined.

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<sup>52</sup> A check of Google maps on 19 March 2022 at 18:00 found that the travel time between Kampala and Entebbe on the expressway was 44 minutes versus 63 minutes on the road.

Figure 62: Kampala-Jinja Corridor



Source: COWI A/S

### 3.10.6 Grow the centres<sup>53</sup>

#### **The Polycentric Strategy**

"Grow the centres" is a short way of referring to the polycentric development strategy that JKM stakeholders selected over the other two options that they considered: continued dispersed development and concentrated development.

The polycentric strategy supports the metropolitan and corridor strategies. Overall, the strategy aims to develop existing centres to accommodate most of JKM's residential and commercial growth, and a large share of its industrial growth. In order of priority, the strategy aims to: (i) strengthen and revitalize existing centres within the two metropolitan regions; (ii) strengthen and revitalize other centres in selected corridors; (iii) create a limited number of new centres or satellites (see section 0 Develop new towns and satellites).

What are Centers? In short, they are places that provide a preferably balanced combination of housing, jobs, education, shopping, entertainment, recreation and more in a relatively small area.

Why grow the centres? Because investing in growing centres is the best way to deliver the largest number and greatest diversity of opportunities to the largest number and greatest diversity of people. By being denser than surrounding suburban and exurban areas, centres can better realize the benefits of investments in public transport and public facilities. And by the more efficient use of land, energy, infrastructure and other resources, centres also benefit the economy and the environment.

Why a polycentric region? Compared to one large city, a polycentric region has less congestion, less pollution and less competition for land and workers. Polycentric regions consume less land and infrastructure. Their housing and travel costs are lower, labor productivity is higher. Their smaller centres can "borrow" size from their neighbours, compared to a self-standing city of similar size.

The polycentric strategy is supported by the National Physical Development Plan. NPSD calls for "a polycentric settlement system to "limit the expansion of the Greater Kampala Metropolitan Area in favour of planned urbanization along the corridors", maximise the use of resources, improve education and health care, enhance economic activity in the periphery, and allow GKMA to grow in an orderly and more sustainable way". Polycentrism is also supported by planners and researchers the world over, in Europe, USA, China, Japan and Australia and by planning bodies such as the European Spatial Planning Observatory (ESPON), American Planning Association (APA), Royal Town Planning Institute (RTPI) and the Australian Planning Institute.

The spatial strategy calls for a hierarchy of centres of different roles, sizes, functions and characters. These include a capital city, regional cities, sub-regional cities, major towns and townships. Within JKM, these centers include Kampala City, Jinja City, a major town (Entebbe), a minor town (Mpigi), two new satellite towns, suburban centres, and neighbourhood activity centers.

The centres will vary in their roles based on the number of jobs in their market-shed, as well as by existing density and public transport service characteristics. Larger centres may have pedestrian- and public-transport-friendly areas with a mix of high-density residential and commercial land use and a

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<sup>53</sup> "Grow the centers" essentially is the polycentric strategy that was approved by stakeholders.



distinct downtown or main street. Smaller centres may reflect existing job concentrations and a mix of office, retail and services, but lack pedestrian-scale characteristics.

### **How To Grow The Centers**

Once we agree on a strategy for growing centres, we are faced with the question of how best to do it. Best practice dictates that there are at least four approaches: (i) increasing the centre's total floor area; (ii) improving the way it functions; (iii) supporting commercial activities; and (iv) linking the centres together.

#### *Increase floor space*

The floor area can be increased through a combination of actions such as building higher, filling the gaps, and redeveloping plots.

- > **Build higher.** This strategy applies to existing and new buildings on existing and new plots. Adding more floors to existing buildings increases its floor space but may require additional measures such as strengthening footings and structure and adding stairways and lifts.
- > **Cover plots with more buildings.** On-grade additions and new free-standing buildings will increase the floor area of a plot. Several USA cities are revising their zoning codes to permit up to three dwelling units on plots formerly zoned for single-family houses
- > **Fill the gaps.** Vacant plots or vacant areas can be developed with plot densities that are at least but preferably higher than those in the surrounding neighbourhood.
- > **Redevelop existing buildings.** Existing buildings, particularly those that are outdated or derelict, may be demolished and the site rebuilt with higher floor-area-ratios and plot-densities. This strategy may be used for residential, commercial or mixed-use properties.

#### *Improve performance*

A strategy to increase a centre's population must be accompanied by measures that improve its performance, such as by encouraging mixed uses, including those that provide employment, multiple dwelling types, public transport and active mobility. Studies show that centres work best when they are not only dense but also diverse and accessible.

- > **Encourage mixed uses.** Polycentric centres must aim for mixed-uses — residential, commercial, office, schools, health facilities, and light industrial — preferably within walking distance of each other, which will reduce driving distances and congestion, and improve air quality. While centres may favour one or more uses, they will be more vibrant and livable with a mix of uses.
- > **Encourage multiple dwelling types.** Polycentric centers must aim for a wide range of residential building types, prices and tenure types — from single-family to 3-4 storey multi-unit walkups, and even multi-storey elevated towers, where appropriate, and based on the type of centre. Larger and denser centres will have more multi-storey units
- > **Link centres with good public transport.** To thrive, the centre must be linked by an efficient public transport system that connects directly to other centres.



- > **Encourage a high job-per-population ratio.** A recent study<sup>54</sup> found that they should have high activity density, a high ratio of (0.2 to 0.5) of jobs per population; high density (150 to 300) of intersections per square mile; high regional job access within 30 minutes by transit.

## **Centers and Transport**

### *Promote public transport*

Improved public transport (PT) supports the growth and vitality of centres. It benefits urban centers and public transport riders. Typically, when centres are served by good public transport, they experience increased property values, which can be taxed; higher local shop revenue, because riders pass shops and spend more than car users; decrease demand for parking; fewer accidents, injuries and deaths; and less road congestion, noise and fumes.

Public transport also benefits its riders. They enjoy a healthier lifestyle; an opportunity to read, write, and relax during trips; and, forgoing car ownership, savings to spending on other things. And for the carless, children, seniors and disabled, enjoy independent mobility that they would not otherwise have.

Nevertheless, the public transportation system in JKM remains inadequate<sup>55</sup>. Existing bus services, Pioneer Easy (stage) Bus and the Ewakula Ennume bus, cover few routes and provide rudimentary service. Pioneer Easy covers four routes to Namugongo, Bweyogerere, Luzira and Kajjansi but follows no schedule and has designated bus stops or terminals. Ewakula Ennume bus covers three routes and serves Gayaza, Kasangati, Mpererwe, Kawempe, Maganjo, Namugoona, Matugga and Nabweru.

Two new bus service providers are planning to enter the market. Tondeka Metro Bus will serve seven routes to Mukono, Nsangi, Wakiso town, Matugga, Entebbe, Ggaba and Buloba Kiweesa. KCCA is planning new bus services covering the CBD on two critical routes<sup>56</sup>. It also planning a Bus Rapid Transit (BRT) system for the GKMA core, which include nine BRT corridors (Masaka road, Bombo road, Hoima road, Entebbe road, Ggaba road, Jinja road, Port Bell road, Kira road and Gayaza road).

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<sup>54</sup> Guidelines for a Polycentric Region to Reduce Vehicle Use and Increase Walking and Transit Use; 2020; <https://doi.org/10.1080/01944363.2019.1692690>

<sup>55</sup> State-owned bus companies collapsed in the late 1990s, leaving informal transport operators such as minibuses and motorcycle Boda Bодas to dominate the sector.

<sup>56</sup> Route 1 covers areas such as: city square, Centenary Park, Lugogo cricket ground, Kololo high secondary school, Kira road police station, Kamwokya market, Mulago hospital, Wandegeya and Watoto Church. Route 2 covers areas such as City square, Watoto Church, Wandegeya, Mulago Hospital, Kamwokya Market, Ntinda, Spear Motors and Nakawa Market.

Figure 63: Public transport services

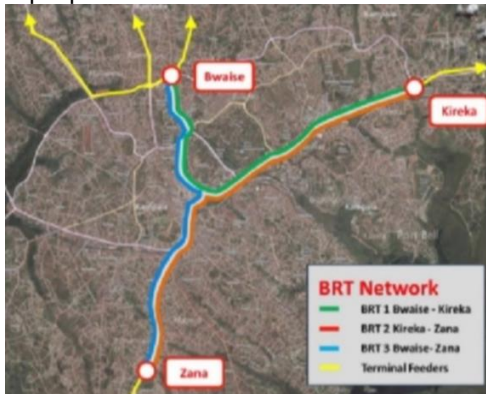
## Pioneer bus routes



## Ewakula Ennume bus routes



## 3 proposed BRT routes



Source: COWI A/S

The following initiatives are proposed to improve public transport in a way that also supports centres.

- > Establish a dedicated agency for urban transport and identify officials to be recruited and send them for further training. Develop government agency awareness, skills and understanding of urban transport, management and planning of cities.
- > Invest in public transport support facilities in key JKM towns (not just Kampala) such as bus stops, bus terminals and railway stations, establish efficient and well-integrated transport systems and improve the quality of services provided.
- > Expand public transport service to areas that have achieved, or plan to achieve, public transport-supportive densities.
- > Facilitate improved linkages between and within municipalities from nearby neighbourhoods to urban growth centers, transit station areas, and other strategic growth areas.
- > Work with existing public transport service providers to support PT service integration within and across municipal boundaries. Support existing bus service providers to expand their service areas and improve level-of-service.

- Prioritise public transport in areas with existing or planned higher residential or employment densities to optimize return on investment and the efficiency and viability of existing and planned service levels.

### *Promote active transport*

Improved active transport – walking and cycling, but also called non-motorized transport – also benefits the centres and the walkers. Benefits include: faster travel, more comfort, improved traffic safety, increased mobility, reduced energy consumed, less land consumed, and more accessible amenities. Potential benefits linked to reduced use of cars are reduced GHG and other emissions, reduced noise pollution, reduced mobility costs, lower congestion and faster travel time, more social interaction, and more attractive public spaces.

With these potential benefits, it is no surprise that active transport planning is now an essential part of urban planning the world over, including in Uganda<sup>57</sup>. A recent survey of Ugandan towns, including three in the JKM corridor, revealed that walking already constitutes over half of all trips in these towns., with only 20 percent by boda boda, 11 percent by minibus taxis, and less than 10 percent in private cars.

If active transport were actively supported, a higher share would walk, walk further, and walk safely. Therefore, the strategy includes the following policies:

- Plan for active transportation networks that are comprehensive and integrated with other modes to provide safe, comfortable movement by pedestrians and bicyclists, continuous links between strategic growth areas, adjacent neighbourhoods, major trip generators, and transit stations.
- For walkers - plan for wide pavements, paths and dedicated road crossings, green elements and plentiful seating to increase convenience and comfort.
- For cyclists - plan for dedicated cycle paths, separated from motorized traffic. Ensure good connectivity and coverage of bike path networks and provide end-of-trip facilities such as adequate and secure bike parking, and shower and locker facilities at workplaces.
- Build on existing NMT investment in Kampala and use this as a role model city for NMT planning<sup>58</sup> and evaluate and expand the pedestrian projects in Jinja and Entebbe.
- Reduce the dominance of the car, for example by introducing car-free zones and softer measures that make car use less attractive. Measures include limited car parking, traffic calming and lower speed limits.

### 3.10.7 Cluster the centers

A polycentric strategy provides an opportunity for synergy, where the whole of all centres is greater than the sum of individual centres. The opportunity for synergy also applies to clusters of centres that are near to each other or can be brought closer through investments in improved transport. Centres that are close

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<sup>57</sup> Uganda's NMT policy, dating from 2012, promotes NMT in infrastructure planning, provision, regulation and enforcement. But so far very few roads are NMT-sensitive and most lack safe pedestrian walkways, crossings and footbridges.

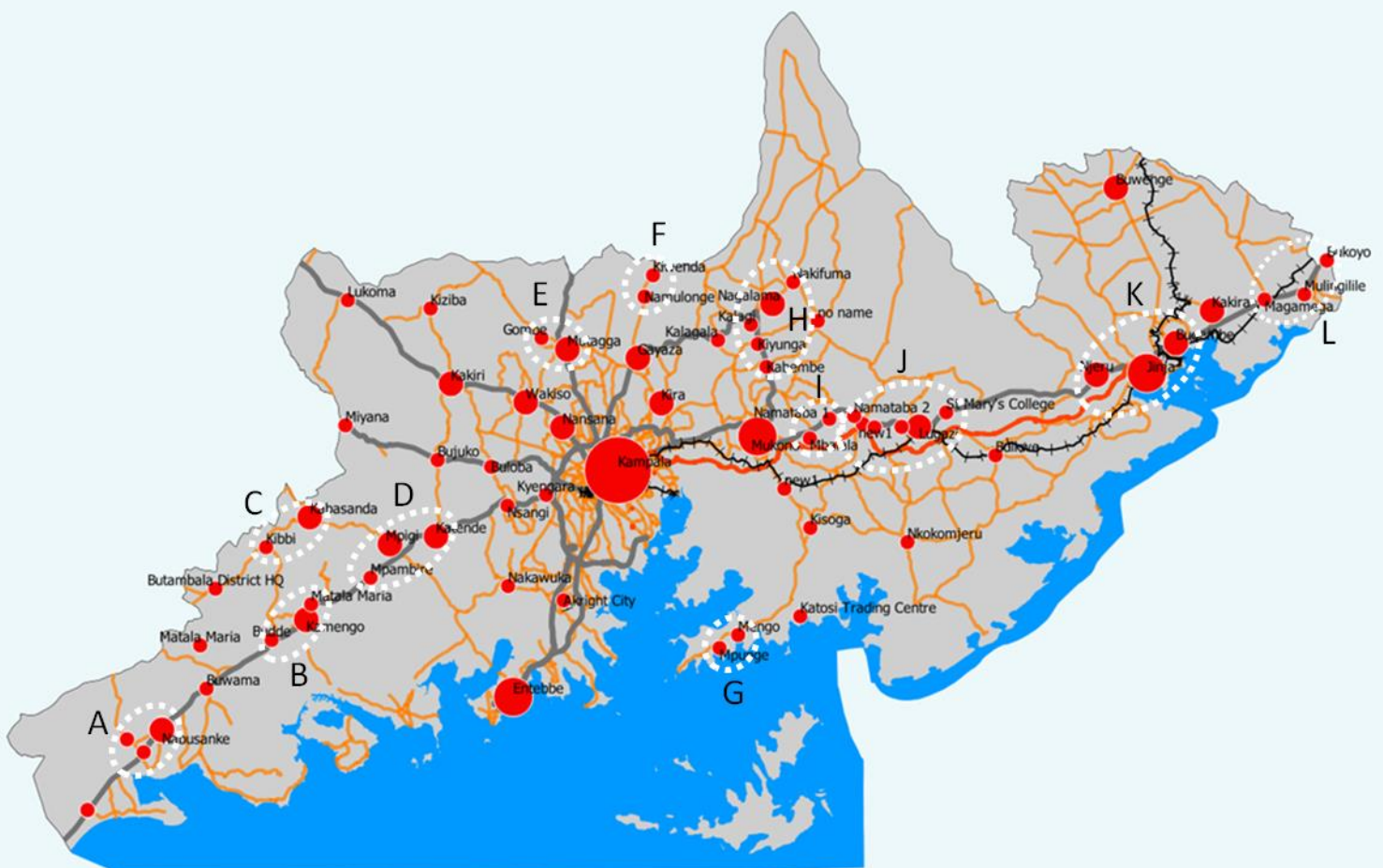
<sup>58</sup> Kampala has built about 2 kilometers of pedestrian walkways, rehabilitated or building several kilometers of pedestrian walkways with World Bank and African Development Bank funding.

can share public facilities and services, engage easily in trade, and pool their populations to attract high-level services and investment that they could not do alone. Centres can collaborate over matters of mutual interest, jointly plan and develop infrastructure, and enhance their social capital. Potential benefits of centre-to-centre cooperation and integration are:

- > Greater economies of scale, such as a larger labour market and job market, greater access to wider business and knowledge networks, and more political power to lobby the government and compete for resources.
- > Greater economies of scope, where firms have complementary strengths and assets, for example, in the form of research, technology and economic bases.
- > Greater social capital leading to more partnerships between firms and people.
- > Shared facilities, reducing financial costs and risks for places involved, and allowing access to a greater variety of facilities.

Figure 65 identifies twelve potential clusters of multiple centres, based on their proximity. For example, cluster J, strung 18 kilometres along A109, includes six large villages (Namataba 2, Namagunga, Kitenga, St Mary's College, and one without a name) and Lugazi town.

Figure 64: Map of Potential Clusters of Centers



Source: COWI A/S

Figure 65 provides a list of the potential clusters that are shown on the map, with the largest centre in the cluster indicated in red. Some clusters have only two centres while others have up to five. Where the cluster has centres of different tiers, the largest centre may be designated as the cluster coordinator.

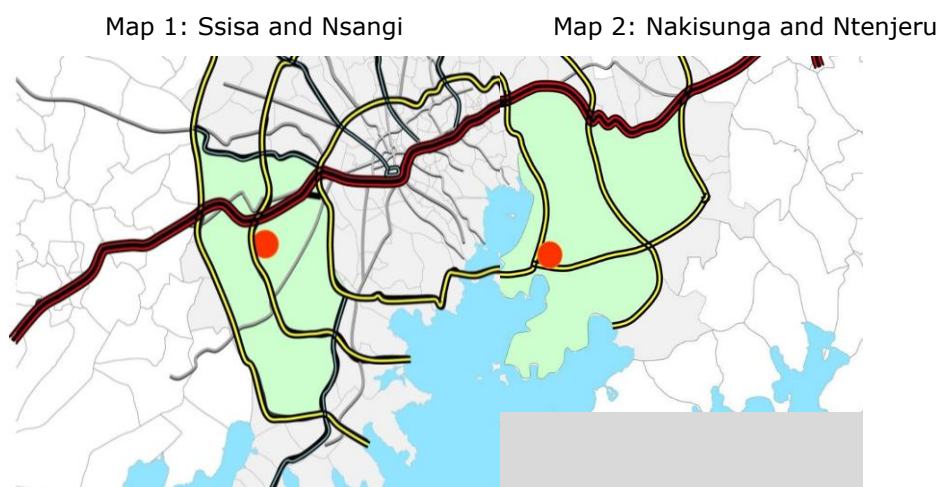
Figure 65: Potential clusters of centers

A	<b>Nabusanke</b> and two unnamed small towns.
B	Kamengo, Matala Maria, Budde
C	Kabasanda and Kibbi
D	Katende, Mpambire and Mpigi
E	Gombe and Mutagga
F	Kiwenda and Namulonge
G	Mengo and Mpunge
H	Kabembe, Kalagi, Kiyunga, Nagalama, Nakifuma
I	Mbalala and Namataba 1
J	<b>Lugazi</b> , Namataba 2, St Mary's College and two unnamed large villages
K	<b>Jinja</b> , Njeru and Bugembe
L	Bukoyo, Magamega and Mulingilile

### 3.10.8 Develop new towns and satellite cities

The strategy of developing new towns and satellites is already part of NDPD. NPDP calls for five new towns and two satellite towns in GKMA. Satellite towns are expected to grow to 250,000 by 2040. These satellites aim to decongest central Kampala and provide quality housing, employment and entertainment nodes. The first two highest priority satellite cities are planned at Nakigalala (a site straddling Sisa and Nsangi Sub-counties in Wakiso District) and Nakisunga–Ntenjeru (currently in Mpatta sub-county) in Mukono District. Site 1, Nakigalala, is near an interchange on the Entebbe Expressway about halfway between Kampala and the international airport, on the spur to Munyonyo, which will eventually connect to the proposed Jinja Expressway – huge potential for Transit Oriented Development.

Figure 66: Maps of Proposed Satellite Towns



Source: KPDP Final Report 2013



# THE JINJA- KAMPALA-MPIGI CORRIDOR

## PHYSICAL DEVELOPMENT PLAN

JUNE 2023

### CHAPTER 4 INDUSTRIALISATION AND ECONOMIC DEVELOPMENT STRATEGY



**Government of Uganda**  
Ministry of Lands, Housing and Urban Development

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## 4 INDUSTRIALISATION AND ECONOMIC DEVELOPMENT STRATEGY

### 4.1 Introduction

**This chapter provides an overview of the spatial economy of the JKM Corridor, followed by a broad strategy for its development and industrialisation.** The corridor has evolved over time to become the preeminent driver of Uganda's economy, generating the majority of GDP, and attracting the majority of inward investment. Manufacturing clusters are emerging to the east of Kampala from Kira to Mukono and in Jinja (and between), while Kampala remains the centre for high-value, tradable services. As this chapter will demonstrate, the JKM Corridor will be critical for Uganda to realise the objective of Vision 2040 to become a prosperous, industrialised economy. Moreover, a strong JKM economy will benefit the whole of the country, as well as Uganda's neighbours, by creating and absorbing demand for agricultural products and raw materials, facilitating access and integration into export markets, producing manufactured products for domestic (and regional) consumption that would otherwise be imported, and generating tax and foreign exchange revenues that can be used to fund development across the country. Investments in infrastructure and industrial land should aim to promote clustering and agglomeration economies and reduce access to inputs and markets for Ugandan firms, recognising that, whether they produce for export or domestic consumption, they are competing in a global economy.

#### 4.1.1 Uganda's industrialisation and economic development policy and strategic objectives

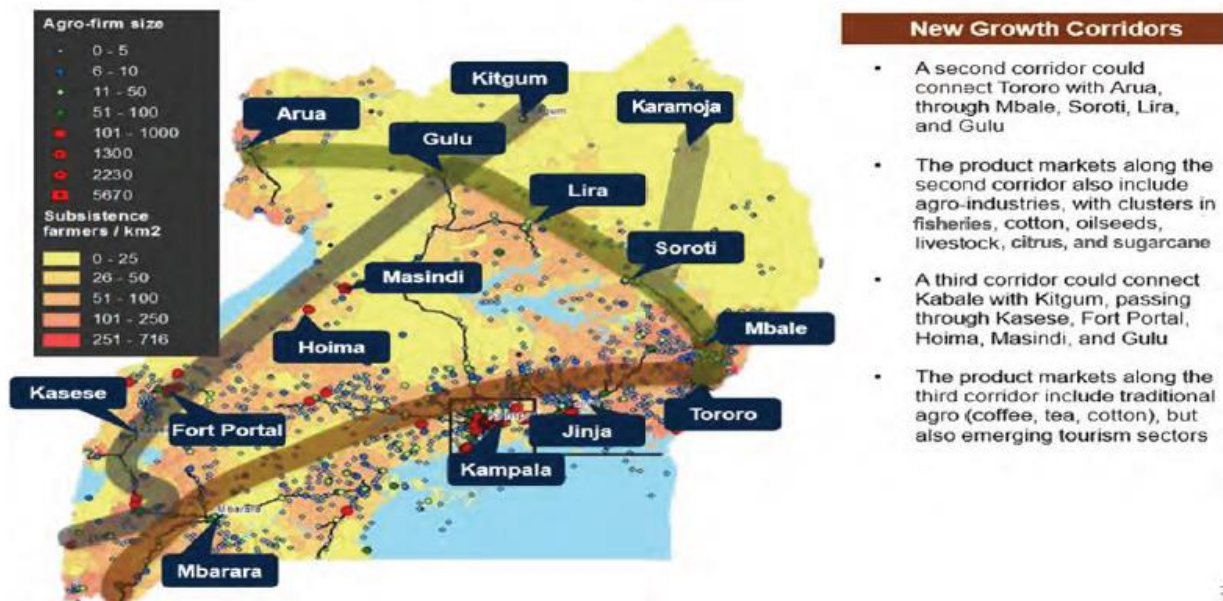
**The industrialisation and economic development strategy for the JKM Corridor should align with, and contribute to, national policy, plans and strategies.** The most pertinent of these are summarised in brief below.

**Uganda's Vision 2040, launched in 2013, is: "A Transformed Ugandan Society from a Peasant to a Modern and Prosperous Country within 30 years"**. Industrialisation is viewed as critical to achieving this vision, and the strategy identifies three "lifeline" industries that can be used as a springboard for the subsequent phase of advanced industrialisation: agro-based industries, the iron and steel industry, and oil and gas. Vision 2040 also identifies "economic zones" of which the JKM Corridor is the primary "industrial hub".

**Vision 2040 is implemented via 5-year National Development Plans (NDPs), of which the latest, NDP III, covers the period 2021-25.** The theme of NDP III is "*Sustainable Industrialisation for inclusive growth, employment and wealth creation*". Manufacturing sector interventions under NDP III are structured around four objectives: 1) investing in infrastructure, including serviced industrial parks, to support manufacturing in the planned growth corridors (of which JKM is at the heart, see Figure 1 below); 2) increasing value addition for import substitution and enhanced exports; 3) increasing access to regional and international markets; 4) strengthen the legal and institutional framework to support manufacturing.



Figure 1: Uganda's growth triangle corridors, NDP III



Source: NDP III

**The National Industrial Policy (2020) recognises and seeks to address many of the challenges highlighted above.** Specifically, those of "low productivity and capacity utilization, insufficient supply of quality raw materials for value addition, low technology uptake and adoption, high cost of value addition, inadequate skilled human resources, and limited capacity to comply with standards and regulations for product quality, safety, and environmental protection." The NIP aims to increase the GDP share of manufacturing from 15.4 percent to 26 percent, boost employment from 9.8 to 15 percent of formal jobs, double manufacturing exports and reduce imports, amongst other objectives, through five strategic policy interventions:

- 1 Public investment in strategic industrial projects and supporting infrastructure in Uganda's growth triangle (see Figure 1 above);
- 2 Increase and sustain the supply of quality raw materials for value addition;
- 3 Develop and strengthen skilled human resources in order to increase productivity;
- 4 Promote the adoption and upgrading of industrial technologies;
- 5 Promote resource-efficient and environmentally sustainable industrialisation.

### Three categories of manufacturing value chains are prioritized for development:

- 1 **Agro-based industries:** Fruits, Coffee, Cotton, Textiles and Apparel, Tea, Cassava, Grains, Oil Seeds, Sugar Cane, Bananas, Dairy, Leather, and Leather Products.
- 2 **Extractive-based manufacturing industries:** Iron and Steel, Oil and Gas (LPG), Synthetics, Plastics, Petrochemicals, Salt, Cement, and Fertilizers.
- 3 **Knowledge-intensive industries:** Pharmaceuticals, Automobiles, Electricals, and Electronics, and Products Assembling.

## 4.2 Historical Evolution of the JKM Corridor Spatial Economy

**It is important to understand the contemporary spatial economy of the JKM Corridor from a historical perspective.** The corridor's emergence and current development are shaped by physical, spatial, economic and infrastructural features which date back to the early days of British colonial rule. Kampala, Jinja and Entebbe, along with other colonial towns and townships in Uganda's southwest (such as Mbarara and Masaka) and southeast (Iganga, Mbale), were founded in the 20 years following the advent of colonial rule and the formation of the British Protectorate of Uganda in 1894, and the declaration of a township ordinance in 1903.

Entebbe was declared the capital of the Protectorate, a status which endured until independence in 1962. Kampala, which was the capital of the Buganda Kingdom in the 19th Century, continued as the administrative hub of the Buganda region, with private land tenure secured by Baganda chiefs for half of the kingdom. Jinja, located at the source of the Nile River, served similarly as the administrative centre for the Busoga region. The economic position and centrality of the town and its surrounding area were strengthened by access to the Uganda Railway from the coast at the Kenyan Indian Ocean port of Mombasa to the Lake Victoria port of Kisumu 1,400 km away, after its completion in 1901. The 61-mile-long Busoga Railway, which opened in 1912, complemented the Uganda Railway by linking Jinja with the Lake Kyoga steamer services at Namasagali to the north.

A road network was slowly built up to complement this rail corridor, with connections from Kampala southwards to Entebbe, eastwards to Tororo and Mbale, and westwards to Masaka and later Mbarara.<sup>1</sup> The railway line was then extended from Kisumu to Kampala, making it the terminus of a real rather than nominal Uganda Railway in 1931. In the same period, the construction of a 7 km branch line to Port Bell on the lakeside outskirts of Kampala, allowed inland water transport of agricultural produce, goods and people to Jinja, Kisumu and west and south to Bukoba and Mwanza, in the then German East Africa.<sup>2</sup>

These transportation linkages reinforced the British Colonial Administration policy of East African regional integration. In 1917, Uganda established a customs union with Kenya, which Tanganyika (later Tanzania) joined 10 years later. The three countries maintained close economic integration through the customs union and other institutions created during the colonial era and post-independence, culminating in the formation, albeit initially short-lived, of the East African Community (EAC) in 1977.

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<sup>1</sup> By independence Uganda had less than 1,000 km of tarmac roads, with road building under post-independence governments adding a further 3,000 km by 2012.

<sup>2</sup> A new inland port at Bukasa is under development at Bukasa in Waskiso District, some 20 km by road from Kampala's Central Business District, designed to carry up to 5.2 million tonnes of freight per year.

In the first 30 years of the 20th Century, colonial authorities encouraged the growth of cash crops, the transport of which would fund the operating costs of the railways and other transportation infrastructure. The fertile crescent on and adjacent to the Lake Victoria shoreline, spatially connected by growing towns, saw cash cropping rapidly developing in what was by then already a corridor region, initially with bananas, sugar, coffee, and tea. Cotton was strongly promoted as a cash crop by the British government and textile manufacturers to provide input to British mills.

A shortage of wage labour for cotton persuaded British colonialists eventually to understand, as a British Cotton Growing Association report of the time put it, that there was a strong preference for *"farming [rather] than when working for wages on a plantation owned by Europeans."*<sup>3</sup> The Buganda region benefited in particular, and Baganda chiefs utilised freehold (*mailo*) land for cotton, and production grew rapidly as did cotton exports to many countries – including, by 1910, to Japan.<sup>4</sup> Coffee growing came to complement cotton, and eventually supplanted it as the principal crop for the region.

The Lake Victoria basin districts saw in-migration from other parts of Uganda, population growth and increasing segregation in the three principal towns, and the emergence of a regionally scaled labour market. This early spatial patterning of economic growth impelled a core-periphery structuring, to use the terminology of regional science, of Uganda's space economy that has endured to the present day. Nearly 50 years ago, a Ugandan geographer summed up the early experience:

*It was in the pursuit of the goal of "economic efficiency" that Britain proceeded to concentrate her development efforts in the most promising areas (hereafter referred to as the "favoured areas" or the "core") of Buganda and (though to a lesser extent) Busoga, Toro, Bunyoro and Ankole for maximum returns on investment, and virtually neglected the rest of the country (hereafter referred to as the "less favoured areas" or the "periphery").*<sup>5</sup>

The Buganda region and its neighbouring areas became the most economically advantaged zone of Uganda – and specifically the portion within 40 km of the Lake Victoria shoreline which was fused with the railway corridor, Uganda's *"main transport artery...along which pass the exports and imports of the country."*<sup>6</sup> Kampala, at the centre of the region, and as the transport nodal point in the centre of the country from which the road network radiated, began its slow rise to prominence as the country's primate city. By 1944, the township of Kampala covered some 4,600 acres and the settlement was declared a municipality in 1949; 10 years later the town's population was 46, 735 in an area of 8.25 square miles (5, 376 acres).<sup>7</sup>

The interwar period saw the beginning of processing activities such as cotton ginning, coffee curing and sugar milling. The latter was the largest scale: a sugar plant, which was later to become the Sugar Corporation of Uganda Limited (SCOUL), was established by the entrepreneur Nanji Mehta in Lugazi in

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<sup>3</sup> Quoted in Sven Beckert, *Empire of Cotton: A New History of Global Capitalism*, Penguin Books, London, 2015, p. 366.

<sup>4</sup> *Ibid*, p. 377.

<sup>5</sup> C.J. Bakwesegha, "Patterns and Processes of Spatial Development: The Case of Uganda," *East African Geographical Review* No. 12, 1974, pp. 52-53

<sup>6</sup> International Bank for Reconstruction and Development (IBRD), *The Economic Development of Uganda*, The Johns Hopkins Press, Baltimore, 1962, p. 302.

<sup>7</sup> See Hannington Sengendo, "Urban Geography of Uganda" in BakamaNuma, Bakama, B. A Contemporary Geography of Uganda, Africa Books Collective, Kampala, 2011.

1924. The Kakira Sugar Works was established in Kakira, just east of Jinja, by the Madhvani family in 1930.

But it was in the immediate post-war period that colonial industrial policy promoted industrialisation in Britain's colonial possessions, driven by the UK's parlous economic situation, with an emphasis placed on support to processing industries for export ("dollar-earning"), and on manufacturing enterprises for import substitution ("dollar saving"). The latter manufacturing category included transport-cost-sensitive products such as bricks, cement and furniture; and goods that competed with imports, such as textiles, clothing, soap, and food and beverages, notably beer.

The Worthington Plan (1947-56) increased public expenditure on productive public investments, notably economic and transportation infrastructure, and agricultural extension.<sup>8</sup> The facilities of the international airport at Entebbe were improved, and the runway extended, with a formal reopening in late 1951. Several capital projects aimed at opening Uganda's peripheral resource frontiers, notably the extension of the railway westwards from Kampala to allow exploration and exploitation of copper and cobalt deposits at the Kilembe mines near Kasese, which was completed in 1956. To the east, phosphate deposits near Tororo were also mined.

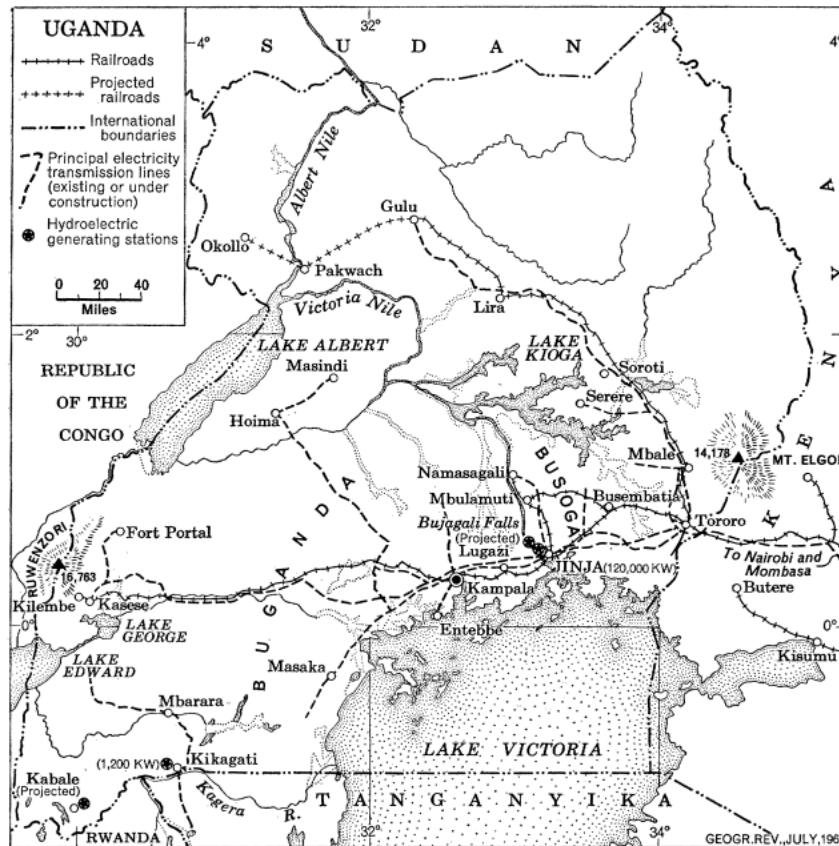
The most significant single project, however, was the construction of the Owens Fall Dam and hydroelectric power station (later Nalubaale Dam and Power Station) at Jinja in 1954, which was completed in 1954.<sup>9</sup> Between the late 1950s and the early 1970s, the power station provided a capacity of between 120 and 150 megawatts to underpin – along with potable water and a well-functioning drainage system – industrial development in Uganda, and specifically in Jinja, which had been granted municipal status in 1956. Figure 2 below illustrates this infrastructural development.

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<sup>8</sup> Marios Obwona, Isaac Shineyewa, Julius Kiiza and Eria Hasali, "The evolution of industry in Uganda," Learning to Compete Working Paper 9, Brookings Institute, Washington, 2016. Learning to Compete (L2C) is a collaborative research program of the Africa Growth Initiative at Brookings (AGI), the African Development Bank, (AfDB), and the United Nations University World Institute for Development Economics Research (UNU-WIDER) on industrial development in Africa.

<sup>9</sup> The Kiira Dam was completed one mile away in 1999.

Figure 2: Principal railroads and electric power lines in Uganda, 1963



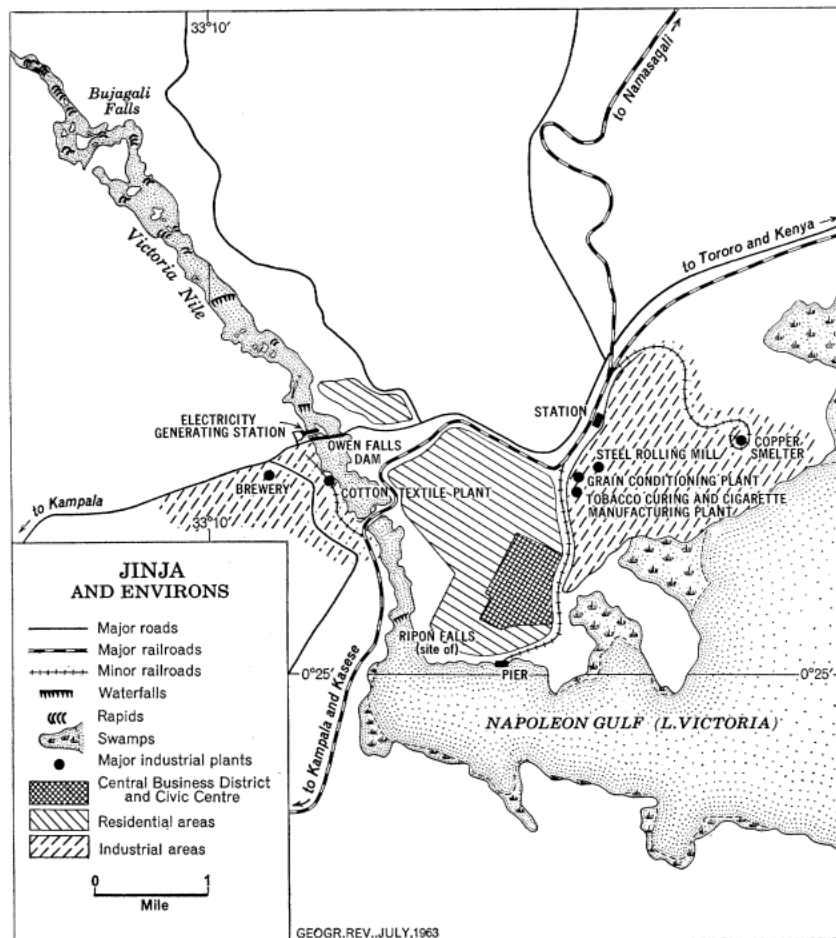
Source: B.S. Hoyle, "The Economic Expansion of Jinja, Uganda," *Geographical Review* Vol. 53, No. 3 (July 1963), p. 378.

Jinja, together with the adjacent town of Njeru across the River Nile, became the industrial hub of the country, a position which lasted some 20 years. The Uganda Development Corporation (UDC) complemented the infrastructure put in place for industrialisation by guaranteeing risk capital for British investors. Uganda Cement Industries was formed with UDC assistance in 1952 and was joined in Jinja by the Nyanza Textile Industries ("Nytil") textile mill, the East African Steel Corporation's scrap-fed steel-rolling mill, the first in eastern Africa, the Kilembe copper smelting plant, Nile Breweries, Jubilee Soda, Uganda Grain Milling and paper, pulp, wood, match, tyre and tobacco factories.

By the 1960s, there were some 50 industrial plants in the town. These factories were located in two distinct industrial estates on either side of the Nile River, in Jinja and Njeru respectively, as Figure 3 demonstrates, making the twin town area an urban complex second to Kampala.



Figure 3: Industrial estates in Jinja and Njeru, 1963



Source: B.S. Hoyle, "The Economic Expansion of Jinja, Uganda," *Geographical Review* Vol. 53, No. 3 (July 1963), pp.387

While electrical tariffs from the Jinja power station did not favour location in the town itself (they were made equal for industrial plants across the national territory), the availability of other inputs and raw materials in the immediate area such as water, cotton, coffee, tea, sugar, and wood acted as a powerful locational draw to industrial interests. Kampala's manufacturing plants at the time tended to be oriented to the local market, notably foodstuffs and beverages (soft drinks) and woodworking; the city also began to specialise in producer services and transportation, and maintenance and repair. A crucial constraint for Kampala was land availability. As an account of the mid-1960s put it:

*Land available for industrial development is now non-existent in Kampala, and the growth of Jinja in the past few years is in large part attributable to the fact that it has ample land with good rail facilities, suitable for such development. The establishment of an industrial estate in Kampala will alleviate this problem to a certain extent, but Jinja will continue to grow because of the availability of good sites and other facilities.*<sup>10</sup>

Jinja's rise as an industrial centre consolidated the emergence of a road, rail and transportation corridor and a dual-centred economic region at the heart of Uganda's territory. However, as the national centre of political and economic gravity gradually shifted to the Kampala and Entebbe agglomeration in the post-

<sup>10</sup> F. I. Nixon, "Factors Influencing the Location of Industry in Uganda," mimeo, Makerere College, Kampala, 1966, 6.

independence era after 1962, accelerated by the expulsion of the Asian population in the early 1970s, which was pre-eminent in the ownership and management of its industries, Jinja's economic position waned. Factories closed and industrial decline – in effect the de-industrialisation of the town – set in.

The advent of the National Resistance Movement (NRM) government in 1985 saw much disputed structural adjustment and a tentative revival of the national economy. Kampala City and the broader metropolitan economy began to be developed more actively. In particular, the provision of industrial land and the creation of industrial estates in Nakawa, Nateete and Kawempe as proposed by the Kampala Development Plan of 1972, and later largely implemented, allowed for the establishment of new factories – principally light manufacturing in agro-processing, food and beverages, chemicals, plastics, pulp, paper and furniture, and metal products – from the 1990s onwards as the economy improved to achieve an average GDP growth level of 5.6 percent from 1986 to 2002.<sup>11</sup> It took until the early 2000s for manufacturing to return to Jinja, drawn by the town's infrastructural endowment, and historical attributes as an industrial centre.

To the west of Kampala, in both the colonial and post-independence eras, what is now present-day Mpigi District was a rural district, characterised by agricultural production in the form principally of food crops for the Kampala population (maize, bananas, tomatoes, onions, ground nuts) and forest reserves Mpanga, Degeya, Lufuka) and the conversion of forestry resources into marketable products (the district is, in particular, historically renowned for its drum-making). Originally West Mengo in the late 1960s, then Mengo from 1974, it finally became Mpigi District in 1980.<sup>12</sup> To the north and south of Kampala, in the other districts making up the present-day corridor, similar agriculturally based areas were also prevalent.

Over the course of 120 years, from the colonial period onwards, the JKM Corridor has simultaneously urbanised and industrialised, emerging as the core of the more extensive transport and industrial corridor that stretches between Masaka and Mbale. This phenomenon is part of the contemporary global trend of massively scaled urban development at the levels of metropolitan areas, city regions or *corridors*, described a decade ago in UN Habitat's occasional series *The State of African Cities*:

*In sub-Saharan Africa, as in all regions where trade between cities and their hinterlands has accelerated, urban development corridors are now emerging in the wake of rapid demographic expansion and urbanisation. An urban development corridor can emerge where two or more large urban cores are located along a single connection trunk line (road, rail, sea, or river) that is organised in such a way as to*

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<sup>11</sup> As Fredrick Omolo-Okalebo writes in his Doctoral thesis: *The Kampala Development Plan of 1972 took care of the industrial areas, old and new. The old industrial area planned in the 1930s along Jinja Road by British Consultant, A.E. Miram was maintained and new industrial sites were proposed based on a number of principles, including: location near high density residential areas; dispersed in various parts of the urban area; and location on relatively flat land. Following the above principles, a total of 1,678 hectares of land was reserved for industrial use in the Development Plan. The areas proposed included: Nakawa/Ntinda, Nalukolongo, Portbell and Kinawataka (Kampala Development Plan, 1972). It should be noted that the current Namanve Industrial Park was gazetted as forest reserve in the 1972 plan and was only converted as industrial park in the 1990s by the Uganda Investments Authority. Its prime and central location along Kampala-Jinja highway, and abundant acreage (approximately over 894 acres) that were considered fairly enough to accommodate factories, business offices, warehouses, and distribution centres were some of the reasons for the selection of the site. See *Evolution of Town Planning Ideas, Plans and their Implementation in Kampala City 1903-2004*, PhD thesis Makerere University, Kampala, and Royal Institute of Technology, Stockholm, 2011, p. 131.*

<sup>12</sup> In 2000, Busiro and Kyadondo counties and Entebbe Municipality were separated from Mpigi to create Wakiso District. Mpigi District was further split into the three districts of Butambala, Gomba and Mpigi District in 2010.

*attract flows of people, goods, and services while large and regular trade flows pass through urban or rural transit points between the larger urban cores. The part played by each of the urban nodes in the corridor is, all other things being equal, determined by respective population, physical and electronic accessibility, functional specialisation, and location specific advantages, especially in economic terms. Continuous urban fabric or spatial occupation and morphological proximity are sometimes also seen as distinctive features of urban corridors, but this is not always a necessary condition. These features are more the outcomes of corridor dynamics than essential conditions for their emergence. It is the corridor's networking mechanisms that fill the spatial gaps, taking advantage of good connections among emerging conurbations.*<sup>13</sup>

*A shared challenge among these new urban configurations is the provision of area-wide governance, planning and guidance to spatial developments, as well as holistic management of such regional urban systems. Traditional governance structures such as municipal government, provincial boards, federal district authorities, etc., have, without exception, proven inadequate because their legal and institutional structures have been designed for single-municipality, monocentric cities, rather than multi-municipal, multi-nodal regional urban systems.*<sup>14</sup>

The *State of African Cities* report refers specifically to the challenges of the JKM (referred to as Kampala-Entebbe) Corridor as:

*Demographic expansion within the Kampala-Entebbe corridor now results in planning, traffic, infrastructure, housing and social challenges that require holistic, integrated, area-wide decision making among the public authorities in Kampala, Wakiso District and Entebbe. The agenda should include transportation networks, waste management, infrastructure, and the development of light industrial, commercial and residential functions within the corridor. Continued demographic and economic growth of the Kampala and Entebbe Municipalities and rapid development of the area between them can result in greater economic efficiency and productivity **if spatial, economic and social interventions are planned, coordinated and implemented as an area-wide initiative.***

In prescient words directly relevant to the JKM Corridor Plan, goes on to advocate for a new approach to for a new strategic approach to spatial, urban and investment planning, which will help Uganda to leverage the potential of the JKM Corridor and its legacy as a vital transport link and industrial core to drive transformational and inclusive economic development:

*Holistic sustainable development (including social) of this incipient corridor calls for prompt administrative and legal reforms to ensure continued close cooperation between the local authorities involved. On top of this, **perhaps the most important immediate objective would be the development of a prospective medium-term vision (including the economy and transportation) through broad participatory processes, to be complemented by a strategy for resource mobilisation involving not just government but also financial and other partnerships.***<sup>15</sup>

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<sup>13</sup> UN-Habitat, *The State of African Cities 2010*, Nairobi, 2010, pp 129-130.

<sup>14</sup> *Ibid* pp 30.

<sup>15</sup> *Ibid*, pp. 166-168.

## 4.3 The Contemporary JKM Corridor Spatial Economy

### 4.3.1 Uganda's macroeconomic context and growth drivers

**Prior to the Covid-19 pandemic, Uganda's economy had registered strong growth of 7.5 percent in 2019.** However, the Covid-19 pandemic and subsequent lockdowns to prevent the spread of the virus damaged Uganda's economy, with growth declining to 0.5 percent in 2020. The fiscal deficit widened to 6.6 percent in 2020 from 5.2 percent in 2019 as the government directed spending towards public health, including increased testing and cross-border surveillance of Covid-19. The government also provided support to businesses, but overall, the economy remained subdued, reducing tax revenues. Government borrowing increased to cover revenue shortfalls. The debt-to-GDP ratio rose to 40.8 percent in June 2020 from 35.9 percent a year earlier.<sup>16</sup>

**Growth is expected to rebound in 2021, though the economic outlook remains challenging with the continuation of the pandemic worldwide.** Key sectors including manufacturing, construction, and retail and wholesale trade should rebound, though the tourism and hospitality sectors are likely to remain subdued. Planned investments in infrastructure will likely increase the debt-to-GDP ratio further to around 50 percent by 2023.<sup>17</sup> Given the continuing uncertainty in the macroeconomic outlook constraining global demand and access to capital, it will be critical that investments are planned, prepared and implemented efficiently and effectively to maximise their development impact.

**Foreign Direct Investment (FDI) to Uganda reached a record high of USD 1,266 in 2019, but overall the trend for FDI inflows has been fairly flat.** FDI in 2019 was like that of Kenya and Tanzania and around half of that of Ethiopia.<sup>18</sup> Key investments include the oil and gas sector, as well as projects in construction, manufacturing and agriculture. China accounts for more than half (55 percent) of planned FDI for the past three years, India 11 percent, and Kenya 5 percent with a range of projects from other countries including the UK, USA, Sri Lanka, Lebanon, and Russia. The trend for planned investments largely mirrors that of inflows as projects are executed in following years, with planned investments highest in 2015/16 when inflows were down and declining in the most recent period 2019/20. Thus, FDI inflows can be expected to decline in the next couple of years and the longer-term trend is flat. The COVID-19 pandemic is expected to further negatively impact FDI in the short term.<sup>19</sup>

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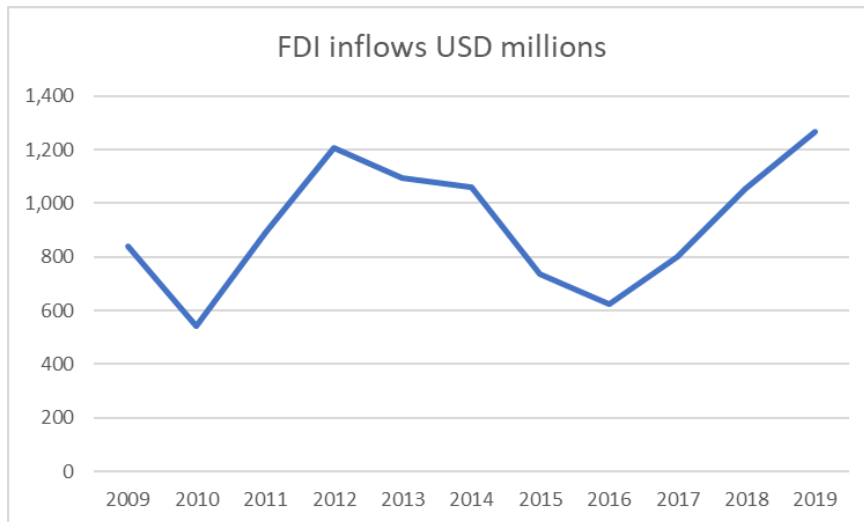
<sup>16</sup> <https://www.afdb.org/en/countries/east-africa/uganda/uganda-economic-outlook>

<sup>17</sup> *ibid*

<sup>18</sup> UNCTAD World Investment Report 2020

<sup>19</sup> UIA Annual Investment Abstract 2019-20

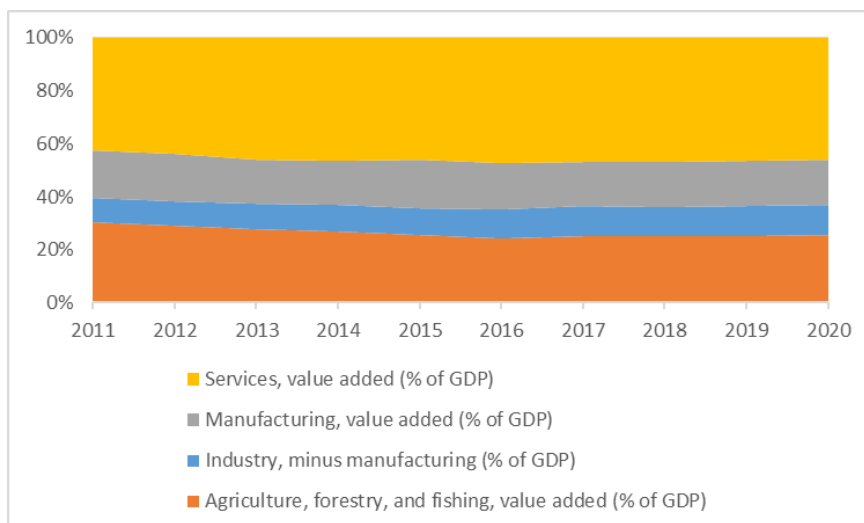
Figure 4: FDI Inflows to Uganda, 2009-2019, USD millions



Source: UIA Annual Investment Abstract 2019-20

**Uganda is comparatively more industrialised than its neighbours, but the share of manufacturing as a percentage of GDP has stagnated in the last decade**, at around 16 percent compared to 11 percent average for Sub-Saharan Africa, 7.5 percent for Kenya, 8.5 percent for Tanzania, 8.4 percent for Rwanda and 5.6 for percent Ethiopia.<sup>20</sup> Moreover, the share of the population employed in manufacturing has declined from 5.5 percent in 2009/10 to 3.8 percent in 2016/17 while two-thirds of the population (64.3 percent) remain employed in agriculture despite it contributing less than a quarter of GDP, with services contributing 43 percent of GDP and employing around a quarter of the population.<sup>21</sup>

Figure 5: GDP composition, Uganda, 2011 to 2020



Source: World Bank, World Development Indicators

<sup>20</sup> World Bank, World Development Indicators

<sup>21</sup> UNHS 2016/17, UBOS

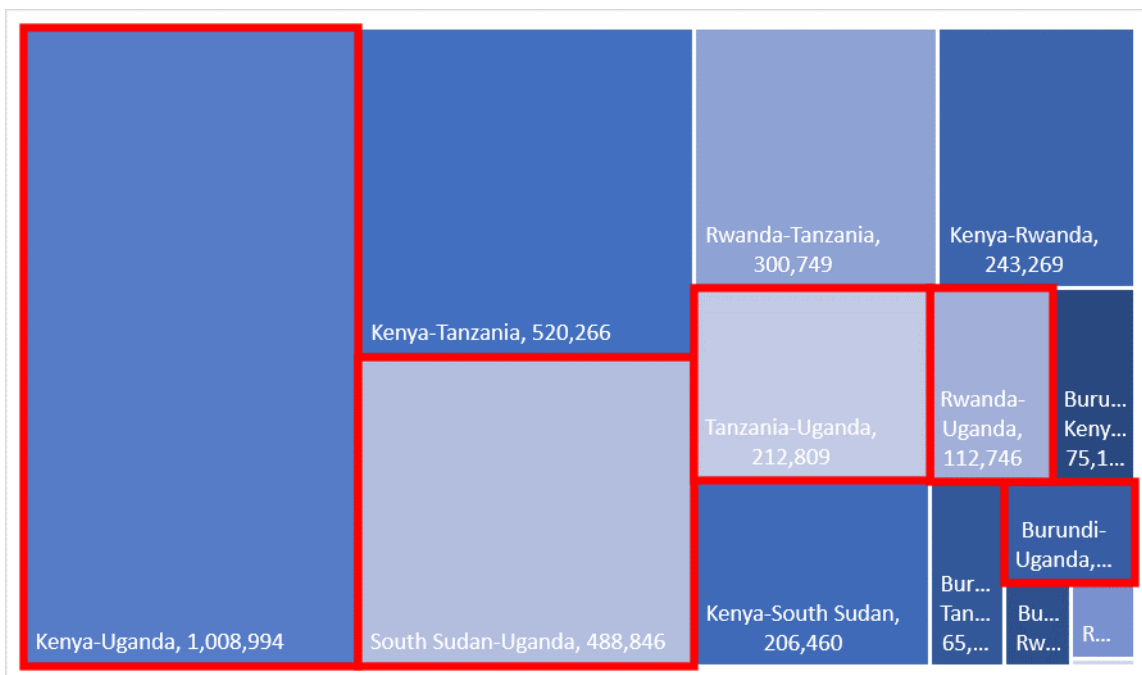


**Manufacturing firms face difficulties in achieving the economies of scale needed to grow and increase their productivity.** The vast majority of manufacturing firms (94 percent) are micro, small and medium enterprises (MSMEs), especially in agro-processing. Smaller firms in particular are constrained by a lack of access to high quality inputs, reliable and cost-effective power and other infrastructure services, and affordable credit, which constrains their ability to compete with larger, more established international competitors.

**Industrial production is mainly low-value addition agro-processing** (e.g., sugar, cotton and coffee processing, and beverages). In addition, elementary household items and building materials are produced. Low value addition production comprises 75 percent of production. Growth subsectors are chemicals and pharmaceuticals, bakery, cotton ginning, fish processing, and printing and publishing.<sup>22</sup>

**Uganda – and the JKM Corridor – is at the heart of the EAC and COMESA regional trading communities.** As Figure 6 below shows, Uganda is a vital trading partner for all EAC member states, ranking as the most important regional partner (in terms of total USD volume) for Kenya and South Sudan, and the third for Burundi, Rwanda and Tanzania. More than half (56 percent) of all EAC trade flows through Uganda (either through import or export). Uganda is also a vital trade partner for eastern DRC, accounting for just over a third of DRC's imports from EAC countries.

Figure 6: Trading partners in the EAC, 2020, USD 000's



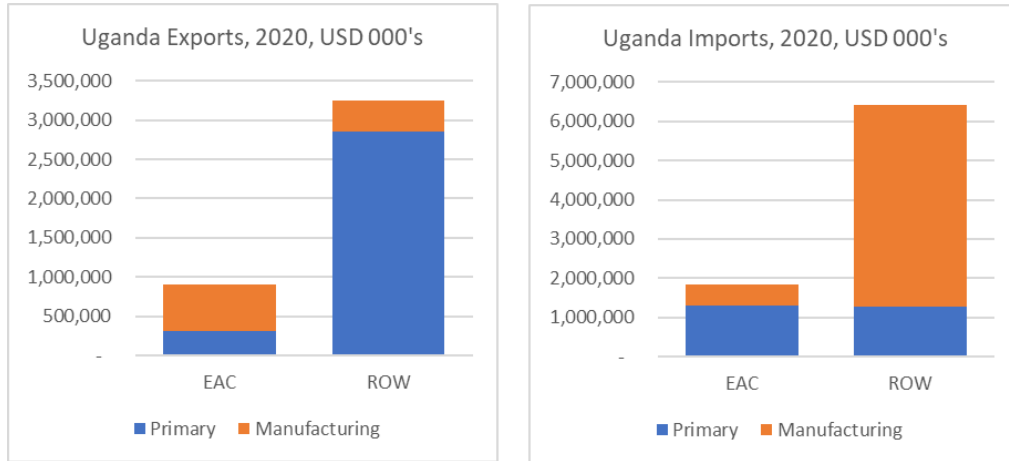
Source: UNCTAD STAT, merchandise trade matrix in thousands of United States dollars, annual, 2015-2020

**Uganda is a vital market for exports of primary commodities, and a key source of imports of manufactured products for EAC countries.** Almost two-thirds (65 percent) of Uganda's exports to EAC countries are manufactured goods, while 70 percent of imports from EAC are primary commodities.

<sup>22</sup> AfDB (2021) Uganda Country Diagnostic Note: On the Path to Middle-Income Status and Structural Transformation: Challenges and Opportunities

The EAC market accounts for 60 percent of Uganda's total manufacturing exports but just 10 percent of primary commodity exports. Uganda's current account deficit was -6.6 percent of GDP in 2019.<sup>23</sup>

Figure 7: Uganda exports and imports, EAC and Rest of the World, 2020, USD 000's



Source: UNCTAD STAT, merchandise trade matrix in thousands of United States dollars, annual, 2015-2020, Lall classification

<sup>23</sup> World Bank, World Development Indicators

Figure 8: Uganda exports to EAC and DRC, 2018, USD 000's

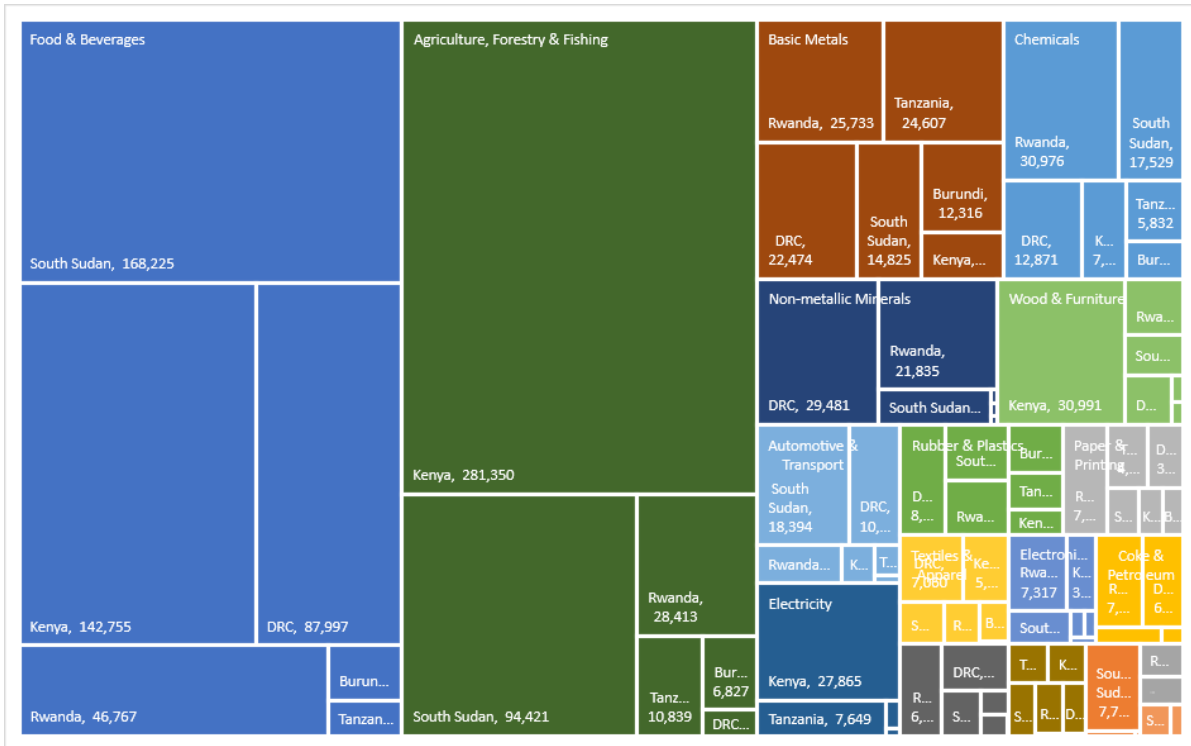
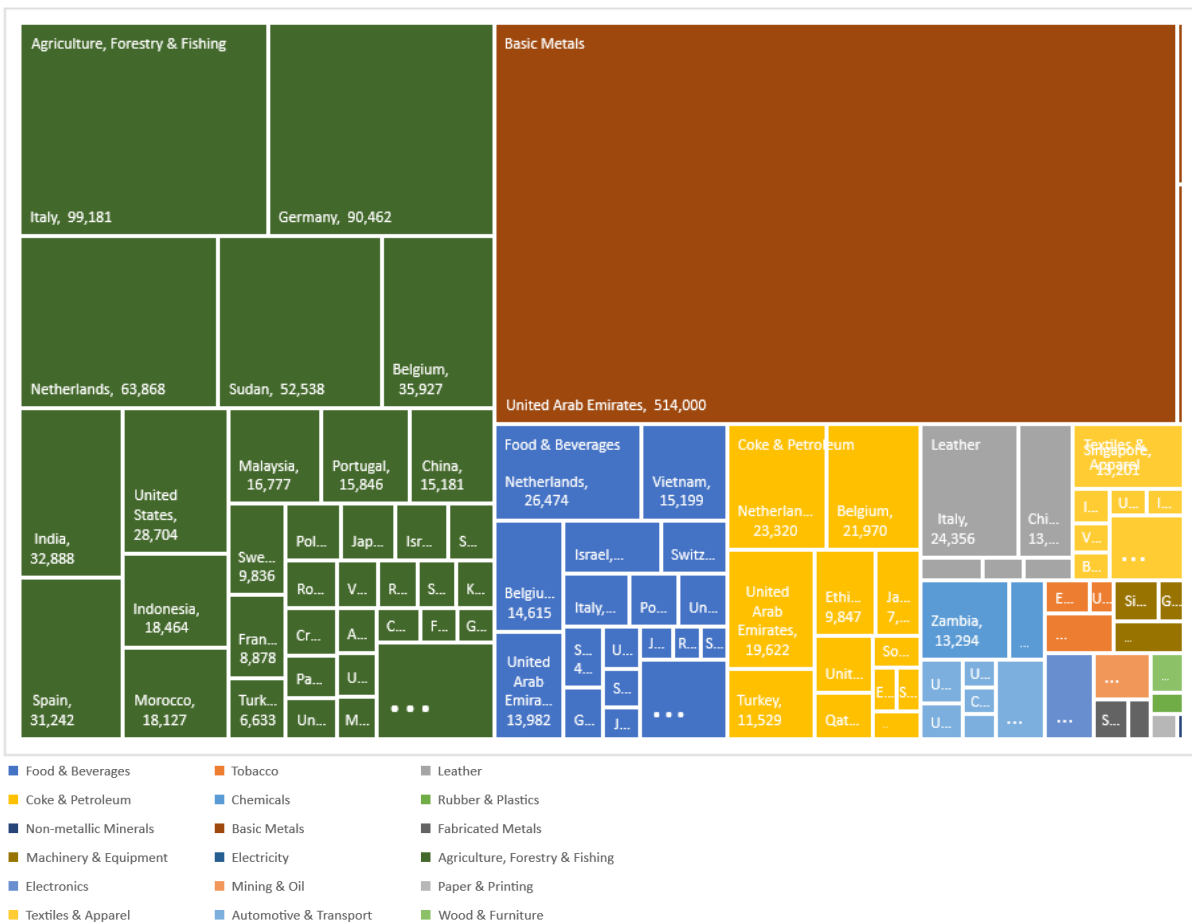


Figure 9: Uganda exports to the Rest of the World, 2018, USD 000's

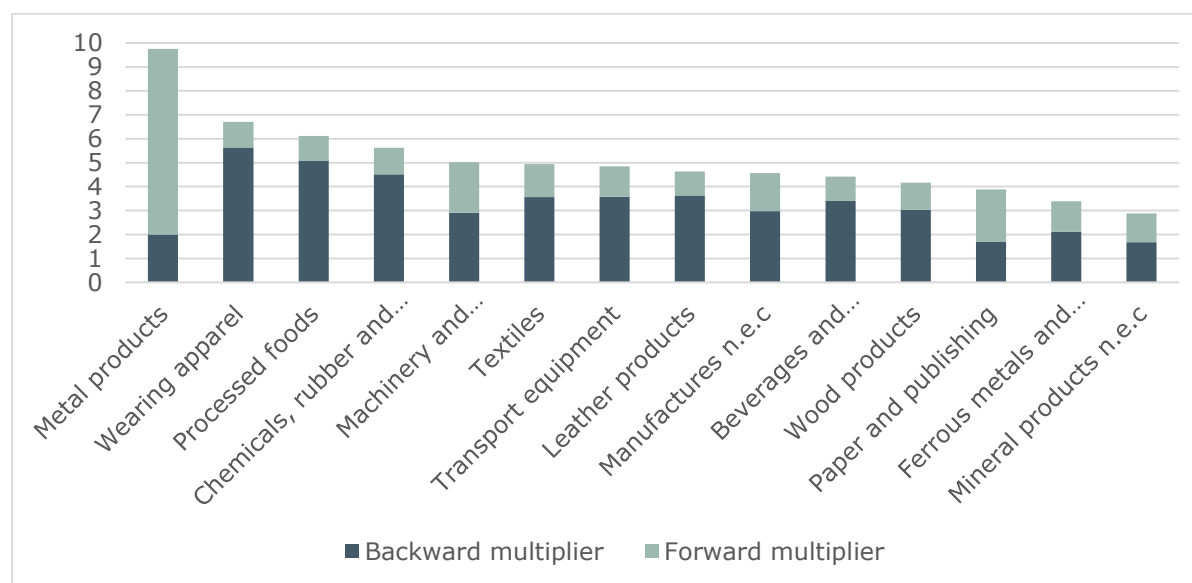


Source: UN COMTRADE data accessed via World Bank World Integrated Trade Solution (WITS)

**The manufacturing sector in Uganda has strong backward linkages to primary sectors – each increase in manufacturing output raises output in primary sectors several times over.** As Figure 10 below shows, the backward multiplier for the manufacturing sector as a whole is 3.32, rising to 5.64 for ‘wearing apparel’ and 5.09 for ‘processed foods.’ These high multipliers, particularly in sectors such as ‘wearing apparel’, demonstrate a *legacy of integrated value chains that can form the foundations of an inclusive industrialisation process* that stimulates demand for inputs, thereby increasing output, creating jobs and raising incomes in backward linking sectors, especially agriculture.

This contrasts with the experience of export-oriented industrialisation from some countries in Africa that have focussed on sectors such as product assembly or ‘Cut-Make-Pack’ (CMP) apparel manufacturing, therefore ‘plugging into’ global value chains with negligible backward linkages to domestic sectors. In some cases, such as Ethiopia, the direct investment in the manufacturing sector has not resulted in the structural transformation anticipated, while firms located in industrial zones have little interaction with, and impact on, the wider economy. Plugging into global value chains at the final stages of production (i.e., assembly, CMP etc.) can be a successful pathway to inclusive development but only where it is achievable at scale (i.e. creating 100,000s or millions of direct jobs) or serves as a platform to ‘move up’ the value chain later.

Figure 10: Backward and forward multipliers of Uganda manufacturing exports, 2014



Source: Authors’ estimates based on indirect value added (forward and backward linkages) accessed via World Bank World Integrated Trade Solution (WITS)

**Developing domestic – and especially regional – value chains will be key to realising Uganda’s development objectives and Vision 2040.** While the importance of integrating Uganda into global value chains (i.e., producing manufactured products for export to North America, Europe, and Asia) is highlighted in the NIP, and should not be wholly discounted, these value chains are highly cost-competitive and, as noted above, often do not generate the substantial linkages to the rest of the economy necessary for transformative and inclusive economic development. An alternative strategy is to leverage domestic demand and focus on producing products for Ugandan consumers, commonly referred to as import substitution, and exemplified in the Buy Uganda, Build Uganda (BUBU) policy formulated in 2014 and officially launched in 2017, which also aims to encourage exporting firms to make greater use of domestic inputs.

While the aims of BUBU are commendable, and there has been some success in deepening domestic value chains, particularly in the oil sector, there are notable limitations to a strategy focussed purely on the domestic market. The Ugandan market for manufactured products, while growing, remains small, constrained by the high proportion of the population living on very low incomes and/or reliant on subsistence agriculture; the number of Ugandans classified as 'middle class' (earning between \$4 and \$20 per day) was estimated at 8.3m.<sup>24</sup> Additionally, Uganda's neighbours have adopted similar policies including 'Buy Kenya, Build Kenya' and 'Made in Rwanda', which taken together undermine the progress in regional trade and cooperation that has been made since the launch of the common market in 2010, including the application of tariffs on regionally produced goods through 'stays of application' which have increased in recent years.<sup>25</sup>

**Access to regional markets will be vital to achieving the economies of scale necessary to develop and sustain a competitive manufacturing sector.** In the first instance, this means focussing on sectors that have a comparative advantage globally *and regionally* with the aim of *regional import substitution*: replacing products produced globally and imported to EAC with those produced in Uganda utilising domestic and regionally produced inputs. Access to a larger regional, rather than the only domestic, market will enable Ugandan firms to increase production to the levels required to be competitive with globally produced products. At the same time, sectors should be de-prioritised where there is less regional comparative advantage, i.e., other EAC countries are better placed to produce these goods. Thinking regionally also means leveraging the scale of regional value chains to access global markets, a strategy for complex sectors such as automotive manufacturing, whereby the assembly of the final product (i.e. a car) takes place in one location utilising intermediate inputs (i.e. paints, tyres etc.) sourced from across the region. These two approaches, termed 'Made in Africa (or EAC)' and 'Factory Africa (EAC)', should be critical drivers of regional integration in the next decade.

**There is significant potential for Uganda to expand its role as a supplier of manufactured products to its regional neighbours.** In 2018 the EAC region imported \$27.8bn of manufactured goods, of which Uganda accounts for just 3.2 percent (see Figure 11 below). For certain sectors, however, this rises substantially, including 'Food & Beverages' (18 percent), 'Wood & Furniture' (12 percent) and 'Non-metallic Mineral Products' (10 percent) revealing a comparative advantage. These value chains, highlighted amongst others in the National Industrial Policy 2020 (NIP), have the potential for greater regional import substitution.

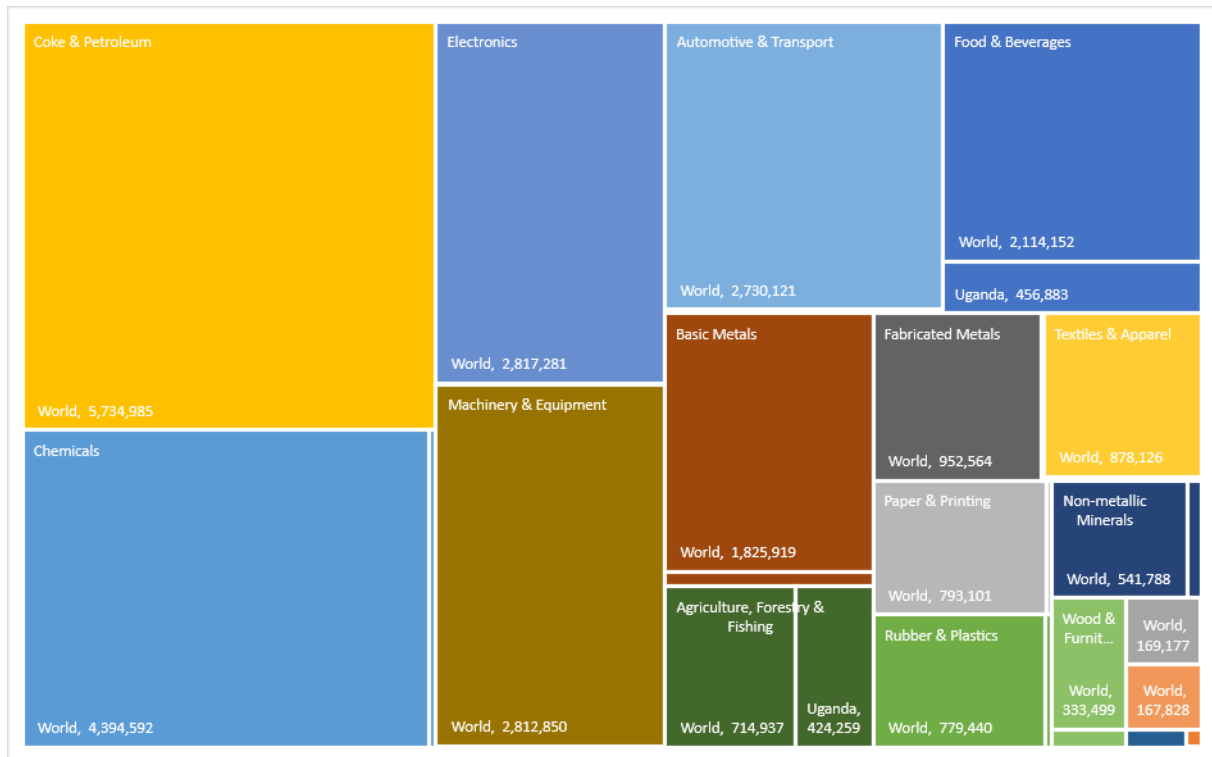
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<sup>24</sup> [https://media.africaportal.org/documents/Ugandas\\_vision\\_of\\_middle\\_income\\_status-why\\_the\\_growth\\_of\\_the\\_middle\\_class\\_mat\\_nGIucZp.pdf](https://media.africaportal.org/documents/Ugandas_vision_of_middle_income_status-why_the_growth_of_the_middle_class_mat_nGIucZp.pdf)

<sup>25</sup> "A strategic framework for export led industrialisation in Eastern & Southern Africa" prepared by Triple Line for TMEA, August 2021



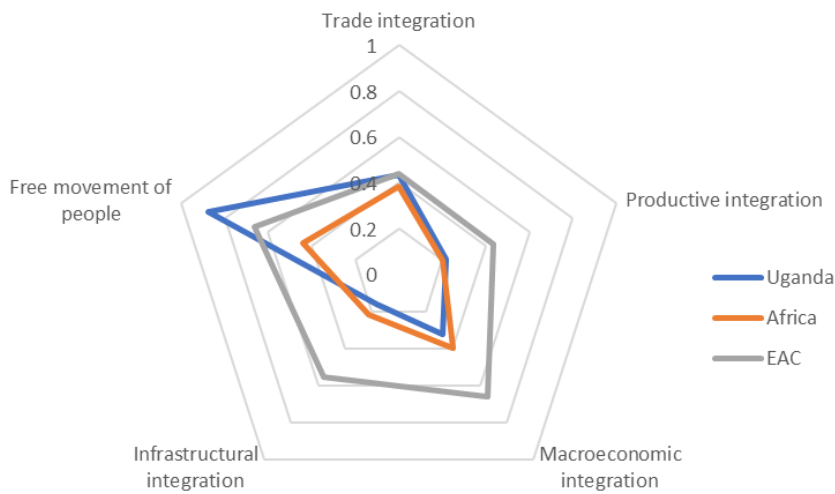
Figure 11: EAC (excluding Uganda) and DRC imports from Uganda and RoW, 2018, USD 000's



Source: UN COMTRADE data accessed via World Bank World Integrated Trade Solution (WITS)  
 Legend as above in Figures 3 and 4

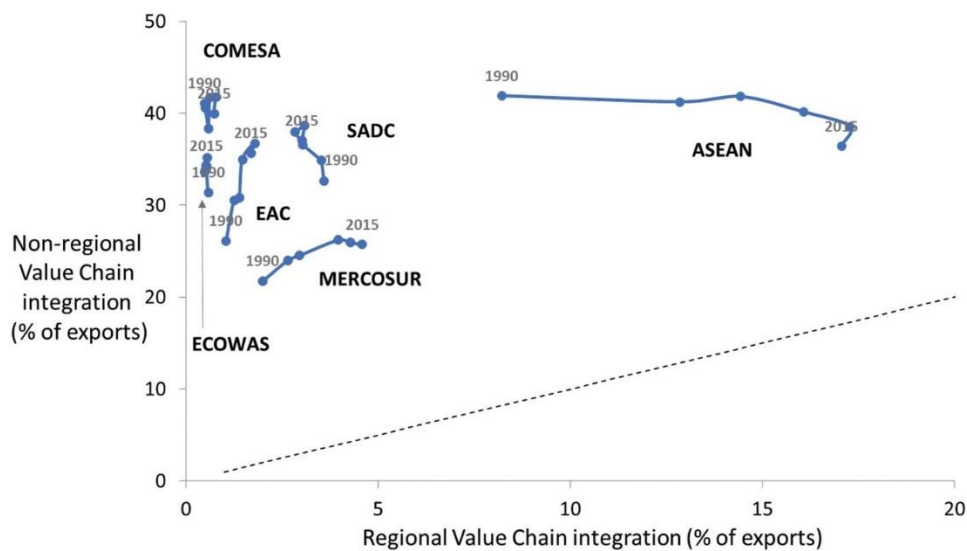
**Though the EAC is relatively well-integrated compared to Africa in general, it lags far behind regions such as ASEAN and MERCOSUR.** Figure 12 shows the Africa Regional Integration Index for the EAC, while Figure 13 illustrates the integration of EAC into global and regional value chains. Between 1990 and 2015, the share of EAC exports integrated into global value chains increased significantly, while the share of exports integrated into regional value chains remained at around 2 percent; compared to ASEAN at more than 17 percent. In practice, this means that exports from EAC countries outside of the region are being used as inputs to produce products that are then exported to further countries (e.g. tea leaves exported and processed into tea bags which are then exported elsewhere) – with this value-added being captured elsewhere or 'leaking' out of the region – a reflection of the high proportion of primary versus manufacturing exports to global markets (see Figure 7).

Figure 12: Africa Regional Integration Index Score for Uganda RECs



Source: Africa Regional Integration Index, <https://www.integrate-africa.org/>

Figure 13: Regional vs non-regional value chain participation EAC and comparators



Source: de Melo, J. and Twum, A. (2020). Prospects and Challenges for Supply Chain Trade under the Africa Continental Free Trade Area. <https://www.atlantis-press.com/journals/jat/125951740/view>

**Improving connectivity will be essential to boosting regional integration and Uganda’s access to regional and global markets.**

The vast majority of Uganda’s international trade transits through Mombasa and the Northern Corridor (98 percent versus 2 percent through Dar es Salaam) where transport times remain high, taking a semi-trailer truck about 5.75 days on average to cover the 1,200km distance between Mombasa and Kampala<sup>26</sup>, though costs to import a container into Kampala have declined significantly from USD 4,000-4,500 to USD 3,000-3,500<sup>27</sup> owing to a decline in the cost of

<sup>26</sup> JOINT NORTHERN AND CENTRAL CORRIDORS PERFORMANCE REPORT (2020) Northern Corridor Transit and Transport Coordination Authority

<sup>27</sup> ODI. (2017). Resolving the unresolved non-tariff barriers in the East African Community. [https://assets.publishing.service.gov.uk/media/59d5fc36e5274a5be9d131ee/EAC\\_NTBs\\_Stage\\_2\\_report\\_260917\\_final.pdf](https://assets.publishing.service.gov.uk/media/59d5fc36e5274a5be9d131ee/EAC_NTBs_Stage_2_report_260917_final.pdf)

inland transport on the Northern Corridor from USD 2.61 per km in 2015 to USD 1.88 per km in 2019<sup>28</sup>. Nonetheless, the cost of transport remains much higher than international competitors such as Europe and China, where the cost of transport makes up around 8 percent of the value of goods produced compared to 30 percent in the EAC, constraining the use of inputs sourced regionally as they are generally uncompetitive and more expensive than those sourced from abroad.<sup>29</sup> Uganda ranks 102<sup>nd</sup> in the 2018 Logistics Performance Index, comparing poorly against neighbours Kenya (68) and Rwanda (57), though it did score significantly higher in the 2016 iteration (ranking 58).<sup>30</sup>

### **Box 1: The Northern Corridor**

The Northern Corridor is a multi-modal trade route linking the landlocked countries of the Great Lakes Region with Kenya's sea port, Mombasa. The Northern Corridor Transit and Transport Agreement (NCTTA) treaty was signed in 1985 and revised in 2007 for regional cooperation to facilitate inter-state and transit trade between the Member States of Burundi, Democratic Republic of Congo, Kenya, Rwanda, and Uganda. South Sudan acceded to the Agreement in 2013.

The Northern Corridor Transit and Transport Coordination Authority (NCTTCA) was established by Member States to oversee the implementation of the agreement, to monitor its performance and to transform the Northern trade route into an economic development corridor, which will transform it into a seamless, efficient, smart and green corridor. Intra-Northern Corridor trade has been increasing over the years: in 2018, growing by about 2 percent for Burundi; 13 percent for DRC; 33 percent for Kenya; 14 percent for Rwanda and 38 percent for Uganda.

The main Northern Corridor artery is served by a combination of transport modes and infrastructure facilities that include: The Port of Mombasa; a road network; a rail network; rail-lake transport; inland water routes; inland container depots; and an oil pipeline. These form key parts of the Northern Corridor infrastructure which facilitates the flow of goods across Member States. These volumes continue to grow: in the period January to December 2019, the Port of Mombasa recorded 34.4 million tons with a growth of 3.5 million tons or 11.4 percent compared to the 30.9 million tons registered in the corresponding period in 2018.

*Source: NCTTCA reports and promotional material. See: <http://www.ttcanc.org/>*

**Disruption of global supply chains due to the Covid-19 pandemic, as well as the African Continental Free Trade Agreement (AfCFTA), provide a unique opportunity and motivation to reorganise value chains and promote regional trade.** Though EAC countries had already committed to the free movement of labour, capital, goods and services through the East African Common Market Protocol of 2010, implementation has been mixed and as noted above has been regressing in some areas. The formal launch of the AfCFTA on January 1<sup>st</sup> 2021 should give renewed impetus to the removal of barriers and promotion of intra-African trade over the next few years. Moreover, international freight

<sup>28</sup> JOINT NORTHERN AND CENTRAL CORRIDORS PERFORMANCE REPORT (2020) Northern Corridor Transit and Transport Coordination Authority

<sup>29</sup> "A strategic framework for export led industrialisation in Eastern & Southern Africa" prepared by Triple Line for TMEA, August 2021

<sup>30</sup> <https://lpi.worldbank.org/international/scorecard/radar/254/C/UGA/2018#chartarea>

costs are soaring (see Figure 14) and the pandemic has disrupted global supply chains causing shortages of goods worldwide and increasing the competitiveness of domestically and regionally produced products.

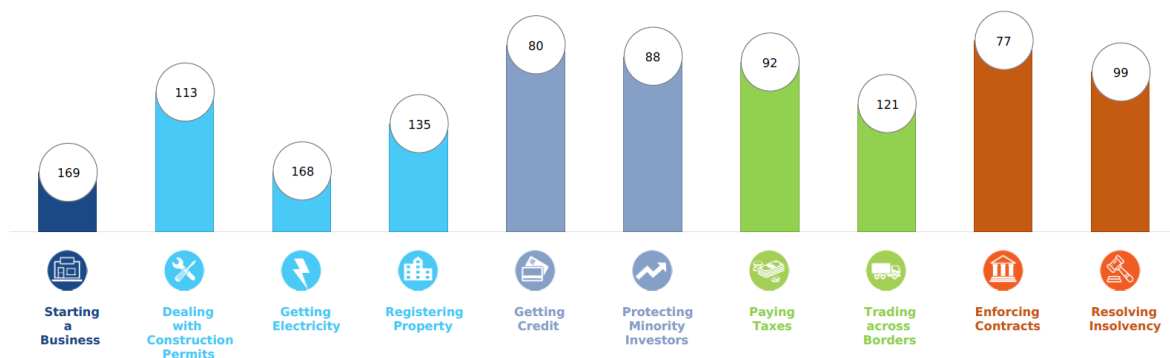
Figure 14: Freightos Baltic Index (FBX): Global Container Freight Index



Source: <https://fbx.freightos.com/>

**Uganda must continue to improve its business environment if Ugandan firms are to take advantage of these emerging opportunities and secure a greater share of domestic, regional and global markets.** As Figure 15 shows, access to markets is not the only problem facing Ugandan businesses and foreign investors who also need better access to basic infrastructure and services – particularly power – and support to navigate and reduce the administrative burden of doing business. Investment in ‘hard’ physical infrastructure must be coupled with ‘soft’ measures to improve the business environment.

Figure 15: World Bank Doing Business Ranking, Uganda, 2020



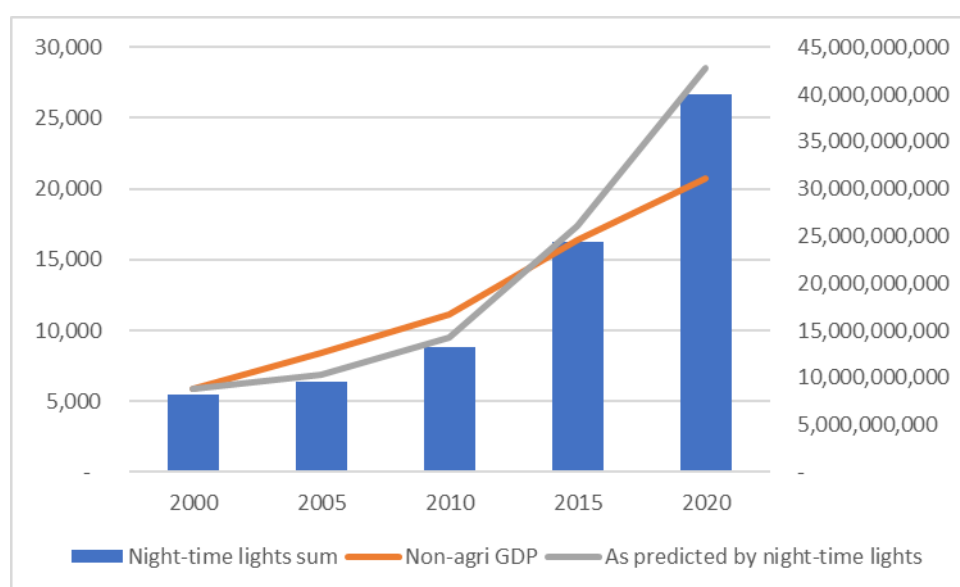
Source: World Bank Doing Business <https://www.doingbusiness.org/en/rankings>

**As the primary corridor of economic activity in Uganda, the centre of the EAC and COMESA regional trading blocs, and the main artery of the Northern Corridor linking Rwanda, DRC, South Sudan and Uganda to the port of Mombasa, the JKM Corridor is critical not just to Uganda’s development but that of the wider region – it can and must become an engine of inclusive industrial development and regional integration.**

### 4.3.2 Role and importance of the JKM Corridor to the Ugandan and East African economies

**The JKM Corridor accounts for 83 percent of Uganda's and 17 percent of the EAC region's non-agriculture GDP**, as measured using the intensity of night-time lights as a proxy.<sup>31</sup> This has declined, however, from 93 percent in 2000. Between 2000 and 2020, the sum of the intensity of night-time lights increased by 4.8 times while non-agriculture GDP (in constant 2015 USD) increased by 3.5 times; however, the relationship was much stronger in the preceding intervals indicating a good fit for night-time lights as a proxy for GDP (see Figure 16 below). The GKMA alone is home to 10 percent of the national population but contributes 31 percent of the national GDP, 65 percent of non-agricultural GDP, 70 percent of manufacturing firms, the preponderance of Uganda's producer services, and nearly 10 percent of the country's total jobs and close to half of its formal employment.<sup>32</sup>

Figure 16: Growth in the intensity of night-time lights versus non-agriculture GDP



Source: Authors' estimates using data from Chen, Zuoqi; Yu, Bailang; Yang, Chengshu; Zhou, Yuyu; Yao, Shenjun; Qian, Xingjian; Wang, Congxiao; Wu, Bin; Wu, Jianping, 2020, "An extended time-series (2000-2018) of global NPP-VIIRS-like nighttime light data" <https://doi.org/10.7910/DVN/YGIVCD>, Harvard Dataverse, V3 and World Bank World Development Indicators

**Median incomes are more than three times the national average in Kampala, with a better educated and entrepreneurial workforce driving productivity.** The percentage of the population living in poverty is the lowest in the Central Region, of which the JKM corridor comprises the major urban settlements, at 8.7 percent compared to a national average of 20.3 percent, 25.3 percent in Eastern, 35.9 percent in Northern and 14.4 percent in Western. In urban areas in Central, it is just 4.4 percent and 1.6 percent in Kampala. Median monthly incomes are also higher, UGX 667,000 in Kampala and around UGX 300,000 in the rest of the region compared to a national average of UGX 190,000. Literacy

<sup>31</sup> Night-time lights are widely accepted as a suitable proxy for GDP and have been used by...

<sup>32</sup> See *From Regulators to Enablers: The Role of City Governments in Economic Development of Greater Kampala*, World Bank, 2017; *Unlocking the Economic Potential of Greater Kampala for Increased Productivity and Growth*, NPA Policy Brief No. 05, National Planning Authority, Quarter 1, 2018/19; and *Greater Kampala Economic Development Strategy: United towards job creation, improved liveability and sustainable development in Greater Kampala 2017-2015*, Final Draft September 2017, mimeo, Government of Uganda, Kampala.



rates are the highest in the country, 93.0 percent in Kampala, 87.2 percent in Buganda South and 80.5 percent in Buganda North compared to a national average of 76.1 percent, and the gap between male and female literacy is the smallest. Similarly, the proportion of the population with post-secondary education is 27.4 percent in Kampala, 15.7 percent in Buganda South and 9.2 percent in Buganda North compared with 8.1 percent nationally. Prior to COVID-19, more than half of households (55.4 percent) in Kampala had at least one household enterprise, 45.3 percent in Buganda South and 32.7 percent in Buganda North, compared with 35.1 percent nationally.<sup>33</sup>

**Manufacturing is concentrated in and around Kampala, especially large firms, and heavy industry.** Kampala hosts 32 percent of manufacturing firms employing 35 percent of workers while the Central Region hosts a further 27 percent of firms and 26 percent of workers. The JKM region is relatively more specialised in non-food manufacturing, as Figure 17 below indicates, which contributes just less than three-quarters (74 percent) of manufacturing jobs in Kampala with the main sectors being Other Manufacturing<sup>34</sup> (17 percent), Metal Products (16 percent), Textiles & Wearing Apparel (14 percent), Furniture (11 percent) and Paper Products & Printing (10 percent). Kampala hosts 84 percent of Paper Products & Printing workers, with a further 8 percent in Central, in Other Manufacturing the shares are 69 percent for Kampala and 19 percent in Central and in Metal Products they are 38 percent in Kampala and 29 percent Central.

Figure 17: Manufacturing sector location quotients, employees, Regions

Manufacturing Employees	Kampala	Central	Eastern	Northern	Western
<b>Total Food Manufacturing</b>	<b>0.63</b>	<b>1.08</b>	<b>0.97</b>	<b>1.32</b>	<b>1.43</b>
Processing of Meat & Fish	1.53	1.16	1.14	0.09	0.15
Grain milling products	0.44	0.96	2.64	1.17	0.78
Bakery Products	1.35	1.15	0.70	0.48	0.64
Coffee & Tea Processing	0.20	0.78	0.17	2.96	2.48
Animal Feeds	1.60	0.69	1.07	0.24	0.60
Other Foods	0.47	1.95	0.97	0.20	1.02
Beer & Spirits	1.30	0.38	3.01	0.54	0.04
Soft Drinks & Mineral Water	1.17	0.36	0.08	0.08	2.48
<b>Non Food Manufacturing</b>	<b>1.27</b>	<b>0.94</b>	<b>1.02</b>	<b>0.77</b>	<b>0.69</b>
Textiles & Wearing Apparel	1.02	0.89	0.89	1.36	1.05
Leather & Related Products	1.84	0.13	1.49	1.38	0.20
Saw milling	0.76	0.44	3.15	1.05	0.57
Paper Products & Printing	2.49	0.30	0.27	0.27	0.15
Bricks, Cement & Concrete	0.63	1.17	1.64	0.13	1.26
Metal Products	1.13	1.18	1.22	0.64	0.54
Repair of Machinery and Equipmen	1.48	0.97	1.13	0.82	0.22
Furniture	0.93	1.11	1.03	1.00	0.96
Other Manufacturing	2.07	0.78	0.61	0.04	0.12

Source: Consultant analysis based on data from Uganda Business Census 2010/11

**High value and tradable services are highly concentrated in Kampala, which has a clear competitive advantage in these sectors compared with other regions.** Excluding Accommodation

<sup>33</sup> All statistics from Uganda National Survey Report 2019-2020

<sup>34</sup> In the Uganda Business Census 2010/11 aggregation this includes a variety of sectors such as chemicals, plastics and rubber, motor vehicles etc.

& Food and Other Financial Intermediaries services, Kampala hosts 61 percent of all tradable service sector employees, rising to 90 percent for Real Estate Activities, 80 percent for Accounting Activities, 80 percent for Advertising and Marketing Activities, 75 percent for Legal Activities and 73 percent for Computer Programming & Related Activities. Tradable and high-value service sectors employ relatively few people (less than 50,000 in total across the whole country) but contribute significantly to GDP (13.8 percent) and can be important contributors to the external trade balance. Except for tourism-related services, which have potential in locations across the country, tradable service sectors will continue to be concentrated in and around Kampala as they require access to pools of highly skilled labour, infrastructures such as high-speed broadband and international airport and are complementary (i.e., strong linkages with each other e.g., legal firms, architects and engineers providing services to real estate activities etc.).

**Economic development strategies and policy policies must recognise the competitive advantage and primacy of Kampala in this area and aim to boost its competitiveness versus other regional hubs such as Nairobi, Kigali, and Dar es Salaam.** A quick comparison with Kenya using data from the two countries' latest Business Censuses reveals a potential comparative advantage for Uganda (Kampala) in sectors such as Legal & Accounting Activities, Architectural & Engineering and Advertising & Marketing, while Kenya (Nairobi) is specialised in Finance & Insurance and Computer Programming. However, the two surveys were conducted several years apart (Uganda in 2010/11, Kenya 2017) so caveats must be made in interpreting the data, particularly regarding jobs related to computer programming which are likely to have significantly increased in recent years in line with global trends.

*Table 1: Workers per tradable services sector, data from Business Censuses*

Sector	Uganda	Kenya
Legal & Accounting Activities	3,775	2,489
Architectural & Engineering	3,072	1,691
Scientific Research & Development	1,156	1,121
Advertising & Marketing Activities	920	689
Other Professional, Scientific Research	4,158	21,094
Computer programming & related activities	1,899	18,504
Finance & Insurance	27,135	42,507

*Source: Uganda Business Census 2010/11 and Kenya Census of Business Establishments 2017*

Figure 18: Tradable, high-value service sectors location quotients, employees, Regions

Tradable Services Employees	Kampala	Central	Eastern	Northern	Western
Real Estate Activities	2.32	0.37	0.01	0.01	0.10
Legal Activities	1.93	0.17	0.53	0.59	0.56
Accounting Activities	2.07	0.12	0.73	0.40	0.24
Architectural & Engineering	1.69	0.18	0.32	0.36	1.38
Scientific Research & Development	1.20	1.10	1.35	0.01	0.57
Advertising and Marketing Activities	2.06	0.40	0.47	0.04	0.26
Other Professional, Scientific Research	1.24	0.88	0.78	0.95	0.81
Travel & Tour Operators	1.94	0.61	0.40	0.03	0.32
Accommodation & Food	0.86	1.16	1.03	1.06	1.05
Publishing	1.73	0.84	0.30	0.25	0.46
Television & Radio	0.72	1.13	1.44	1.49	0.87
Telecommunications	1.87	0.44	0.41	0.98	0.27
Computer programming & related activities	1.88	0.36	0.61	0.74	0.30
Central & Commercial banking, Insurance	1.43	0.46	0.85	0.98	0.88
Other financial intermediaries	0.54	0.73	1.81	1.20	1.66

Source: Consultant analysis based on data from Uganda Business Census 2010/11

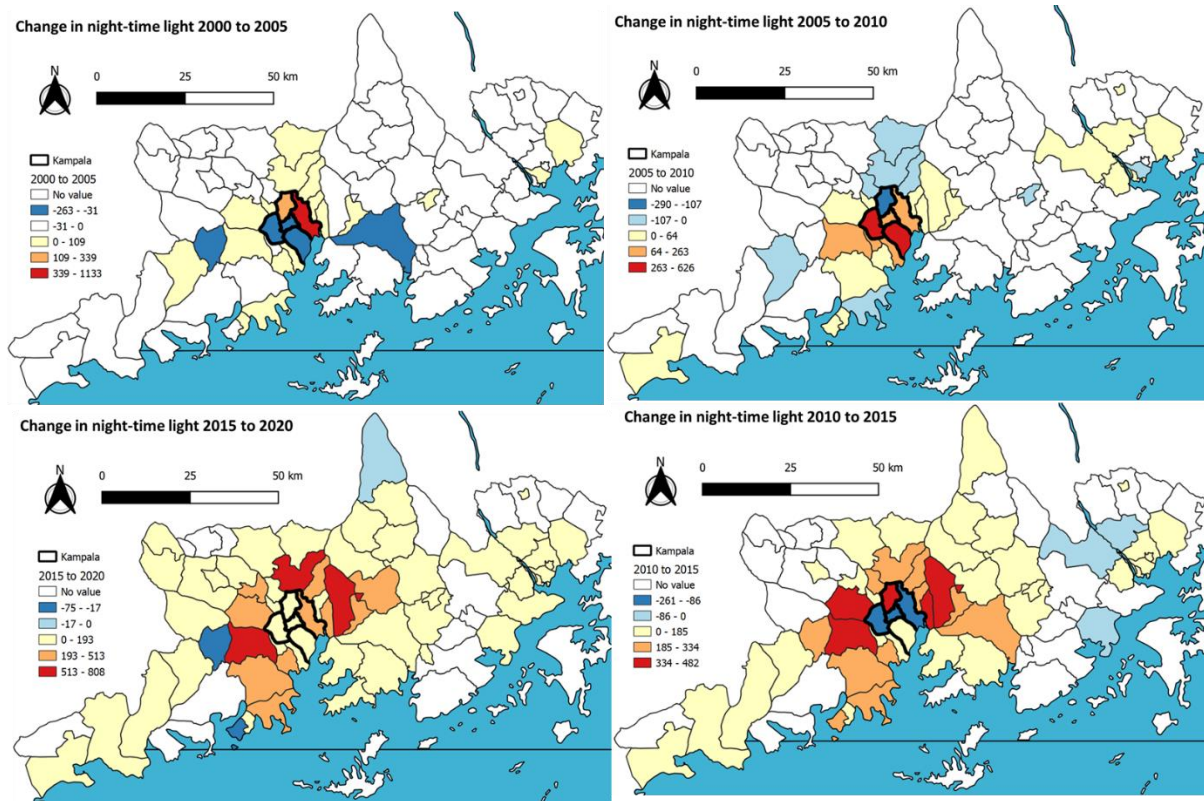
**Kampala and the surrounding districts concentrate on FDI, particularly in manufacturing projects.** Central Region accounted for 86 percent of all licensed investment projects in 2019/20, with 48 percent in Kampala, 16 percent in Wakiso and 14 percent in Mukono. In value, Central Region accounted for around two-thirds (64 percent) of total planned investment in the last five years from 2015 to 2020, and three-quarters (75 percent) in the latest year. Total planned investment in Central Region was around USD 4bn. More than half of investment projects are in the manufacturing sector.<sup>35</sup>

#### 4.3.3 Spatial economy and location of economic activity within the JKM Corridor

**Economic activity has been dispersing away from Kampala city to the surrounding GKMA, with the process accelerating significantly after 2010.** Figure 19 below illustrates the change in the intensity of night-time lights in five-year intervals from 2000 to 2020. Between 2000 and 2020, the total intensity of night-time lights in the JKM Corridor increased by 4.3 times. For the five sub-counties of Kampala city, however, this increase was just 1.66, while outside Kampala it was 23.45 times. The fastest growth outside Kampala was between 2010 and 2015, during which the level of economic activity within the city remained roughly the same and actually decreased in Central, Nakawa and Rubaga divisions – indicating not just slower growth but a likely relocation of economic activity from these areas to neighbouring sub-counties.

<sup>35</sup> All figures from UIA Annual Investment Abstract 2019-20

Figure 19: Dispersion of economic activity from Kampala to surrounding sub-counties as measured by the change in intensity of night-time lights, 2000 to 2020 (clockwise)

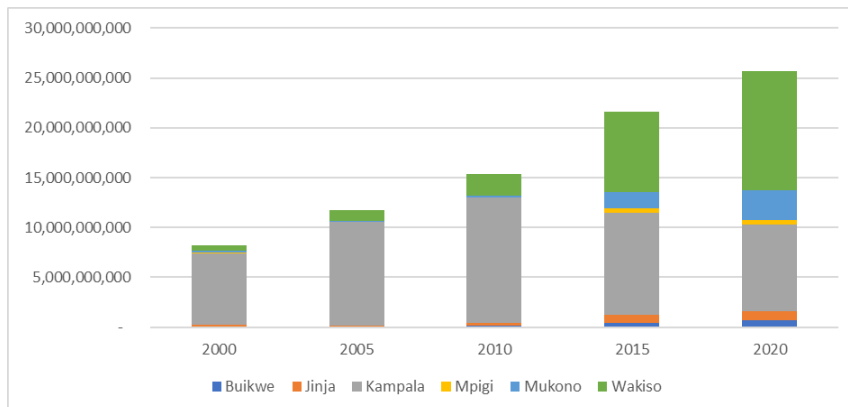


Source: Authors' estimates using data from Chen, Zuoqi; Yu, Bailang; Yang, Chengshu; Zhou, Yuyu; Yao, Shenjun; Qian, Xingjian; Wang, Congxiao; Wu, Bin; Wu, Jianping, 2020, "An extended time-series (2000-2018) of global NPP-VIIRS-like nighttime light data" <https://doi.org/10.7910/DVN/YGIVCD>, Harvard Dataverse, V3

**Wakiso district now comprises almost half (47 percent) of non-agricultural economic activity in the JKM Corridor, with just a third (34 percent) in Kampala city** (see Figure 20 below). In 2005, Kampala's share was 89 percent, decreasing slightly to 82 percent in 2010; by 2015 it had reduced to 47 percent as activity dispersed to surrounding areas in Wakiso. Mukono district increased its share of non-agricultural GDP from 1 percent in 2010 to 12 percent in 2020, while Jinja increased from 2 percent to 4 percent.

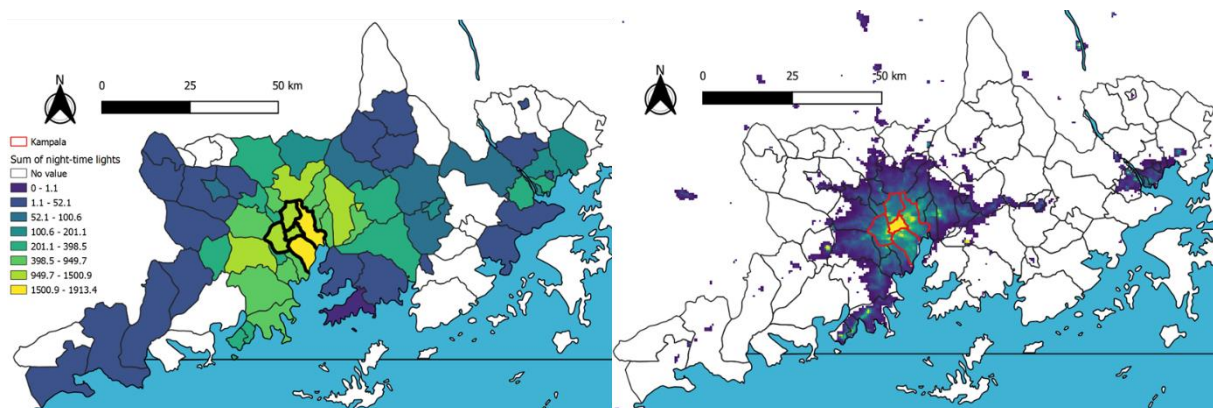
**Though the expansion of the city and economic activity is occurring in all directions, it is particularly prominent along the main trunk of the corridor**, east as far as Buikwe municipality, west to Mpigi and especially Kyengera, and south to Entebbe. Several sub-counties including Goma (Mukono district), Kira, Kasangati and Wakiso (all Wakiso district) recorded no night-time lights in 2000 and minimal by 2010 before growing rapidly, while Kyengera in the west started to develop prior to 2010 but accelerated rapidly after this point.

Figure 20: Non-agricultural GDP(constant 2015 USD) as estimated from night-time lights intensity by the district in the JKM Corridor, 2000-2020



Source: Authors' estimates using data from Chen, Zuoqi; Yu, Bailang; Yang, Chengshu; Zhou, Yuyu; Yao, Shenjun; Qian, Xingjian; Wang, Congxiao; Wu, Bin; Wu, Jianping, 2020, "An extended time-series (2000-2018) of global NPP-VIIRS-like night-time light data" <https://doi.org/10.7910/DVN/YGIVCD>, Harvard Dataverse, V3 and World Bank World Development Indicators

Figure 21: Night-time lights intensity by district and actual 'raw' lights data, 2020



Source: Authors' calculations using data from Chen, Zuoqi; Yu, Bailang; Yang, Chengshu; Zhou, Yuyu; Yao, Shenjun; Qian, Xingjian; Wang, Congxiao; Wu, Bin; Wu, Jianping, 2020, "An extended time-series (2000-2018) of global NPP-VIIRS-like nighttime light data" <https://doi.org/10.7910/DVN/YGIVCD>, Harvard Dataverse, V3

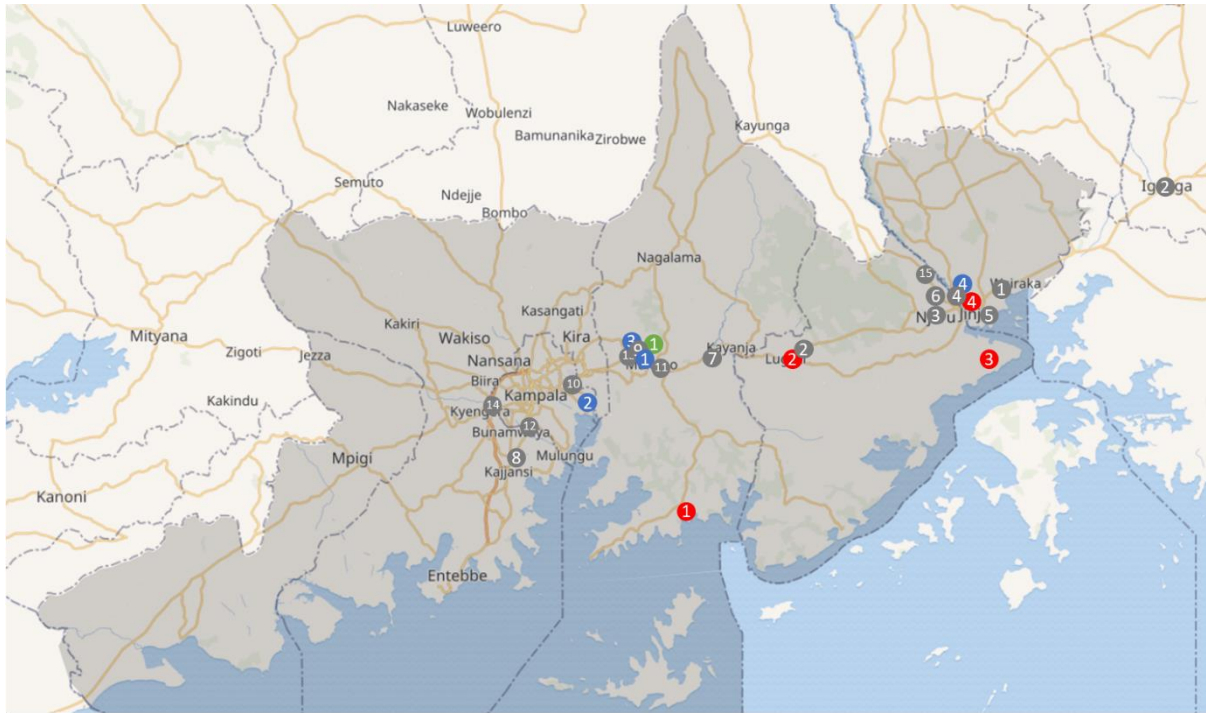
**Industrial Parks (IPs) – operational and planned – are all located to the east of Kampala towards and in Jinja.** Kampala Industrial and Business Park (IBP) at Namanve is the largest currently operational covering 890 ha, while two smaller IBPs are located at Luzira and Bweyogerere, with one planned in Jinja, which also hosts two private IPs. Figure 22 below shows the location and size of operational and proposed IPs in the JKM Corridor.

**At present, Uganda has 15 companies producing downstream steel products – all but one is located in the JKM Corridor – east of Kampala towards and clustering in Jinja.** Production is primarily for the domestic market, with a few companies exporting to EAC. Most of the raw material, in the form of semi-processed steel, for these steel industries is imported from abroad, mainly Japan and South Africa. In addition to imported raw materials, few companies produce intermediate steel from scrap



metal in induction furnaces for use as raw material for final steel products manufacture.<sup>36</sup> Iron and steel production is a key potential growth sector for the JKM Corridor and is discussed in more detail in the final development strategy section.

Figure 22: Locations of existing and planned IPs and steel manufacturers



Public IPs = blue ●	Private IPs = red ●	SGR IP = green ●	Steel factory = grey ●
1 – Kampala IBP, Namanve (890ha)	1 – Katosi IP (2,500ha)	1 – Mukono SGR IP (120ha)	1 – Steel Rolling Mills
2 – Luzira IBP (28ha)	2 – Lugazi IP (60ha)		2 – Tembo Steel (Lugazi & Iganga)
3 – Bweyogerere IBP (20ha)	3 – MMP IP (400ha)		3 – Bavima Steel Ltd
4 – Jinja IBP (74ha)	4 – Jinja IP (81ha)		4 – Madhvani Steel Ltd
			5 – MMI Steel Ltd
			6 – Pramukh Steel Ltd
			7 – Tian Tang Steel
			8 – Roofings Ltd – Lub
			9 – Roofings Ltd – Nam
			10 – Uganda Baati
			11 – Viva Steel Ltd
			12 – EA Roofings Ltd
			13 – STEEL TUBE
			14 – Mesha Steel
			15 – Yogi Steel

**Demand for industrial land can be forecast using an Incremental Capital-Output Ratio (ICOR) approach.** The ICOR is the ratio of investment to growth and is used to estimate the level of capital investment required to achieve a specified increase in output, in this case, the increase in manufacturing output by 2030, as targeted by the NIP, which aims to increase the share of manufacturing output from

<sup>36</sup> TIEG (2020) Technical Assistance to the National Planning Authority, including a Feasibility Study for Establishing a Comprehensive Iron and Steel Industry in Uganda

15.4 percent in 2018/19 to 26 percent by 2030. Results of the forecasting under various scenarios are presented below.

Table 2: Results of the industrial land demand forecast, 2030

	NIP target with high growth (Vision 2040)	NIP target with mid-growth	Business as Usual
GDP growth rate	8.2 percent	6.4 percent	6.4 percent
Manufacturing percent GDP by 2030	26 percent	26 percent	15.4 percent
Increase in manufacturing output	US\$ 13.82bn	US\$ 11.12bn	US\$ 4.35bn
ICOR	4.94	4.94	4.94
Investment required	US\$ 68.29bn	US\$ 54.92bn	US\$ 21.47bn
Industrial land demand per US\$m <sup>37</sup>	0.6 ha	0.6 ha	0.6 ha
Total new industrial land demand, 2030	41,000 ha	33,000 ha	13,000 ha

Source: Authors' analysis using data from UBOS, UIA, Vision 2040

**Approximately 41,000 ha of additional industrial land will be required by 2030 for Uganda to achieve the ambitious targets set out in the NIP and Vision 2040.** An assessment of IP projects in the pipeline, to be developed by UIA, indicates a total supply of just over 8,500 ha, significantly short of the 41,000-ha required to achieve targets or even the 13,000 ha under the BAU scenario. This does not include, however, privately developed IPs or industrial land not located/designated as IPs (e.g. Free Zones, informal/micro enterprises etc.).

**Additional new IP projects will likely be required in the JKM Corridor.** Based on previous trends for investment and the location of manufacturing activities, the majority of demand for industrial land would be expected to be concentrated in the JKM Corridor. Two-thirds of investment was concentrated in Central Region (including Kampala) in the last five years, while 61 percent of manufacturing employment is concentrated here. At present, the pipeline of IPs located on the JKM Corridor amounts to around 6,000 ha, with around a third implemented by UIA and the rest proposed private developments – leaving significant scope for the development of a new pipeline of future IP projects in the corridor region.

**JKM Corridor has a high concentration of commercial agriculture and cash crop production, as well as major agro-processing facilities.** Despite being the most urbanized area of the country, agricultural land use still constitutes 62 percent of the total area of the corridor. Moreover, the JKM Corridor has a higher proportion of large-scale commercial agriculture and cash crops than other regions of the country including coffee, tea, floriculture, bananas, sugarcane, vanilla etc. The Mukono "ZARDI" (Zonal Agricultural Research and Development Institute) (which contains all JKM districts except Jinja)

<sup>37</sup> This has been calculated based on the total investment in the Kampala Industrial and Business Park to-date including provision of IP infrastructure and investment in manufacturing facilities by tenants. It has been validated by reference to a 2018 study commissioned by FCDO *Invest Africa Regional Study: Planning, financing and managing industrial parks in sub-Saharan Africa* which undertook a similar analysis for the region and estimated demand of 0.51-0.68 ha per US\$ 1m for Uganda.

has the highest production of sweet bananas and coffee but produces relatively fewer food crops such as sorghum, rice, millet and soya beans.<sup>38</sup> Commercial farms are particularly concentrated in Buikwe and Jinja districts. Two of the three largest sugar processing factories are located in the corridor: Kakira Sugar Works Limited in Jinja and Sugar Corporation of Uganda Limited in Lugazi. Lake Victoria accounts for 40 percent of the total fish catch, though has been declining in recent years from 245,000 MTs in 2014 to 140,000 MTs in 2018. There are an estimated 136,000 artisan fishermen on Lake Victoria, while nearly 700,000 people around Lake Victoria benefit from fishery-related activities like local fish-processing, fish trade, boat building, industrial fish processing, net making, trade in fishing equipment, fisheries research, extension service and administration.<sup>39</sup>

## 4.4 Planning the JKM Corridor for a Prosperous Future – Industrialisation and Economic Development Strategy

The following strategic objectives, recommended based on the preceding analysis, will enable the JKM Corridor to fulfil its role in delivering Vision 2040 and the objectives of NDP III and the NIP.

### 4.4.1 Strategic Objective 1: Leverage and enhance the JKM Corridor’s connectivity to access raw materials and build competitive value chains in priority industrial sectors

**The JKM Corridor can be the gateway for Ugandan firms to access new markets to sell or source inputs for their products.** Most of the Uganda’s trade, internal and external, flows through the corridor, which forms the primary trunk of the Northern Corridor connecting the port of Mombasa to Uganda as well as to Rwanda, Burundi, DRC and South Sudan. For Ugandan manufacturing firms to be competitive they need lower-cost access to intermediate inputs. The JKM Corridor can provide this through better transport links, logistics and supply chains that connect manufacturing firms to agricultural producers in rural areas as well as imports flowing up through Mombasa (e.g., machinery, equipment, intermediate inputs etc.). Ugandan manufacturers also need access to markets for their products, domestic, regional, and global. Production for the domestic market alone is unlikely to achieve the economies of scale required to be competitive and it is imperative that Ugandan firms leverage the drive for greater regional integration (and AfCFTA) to access wider markets, especially the EAC.

**Significant investments in transport and logistics infrastructure are planned – and required to unlock access to markets and inputs that will drive the industrialisation process – which should shape the future development of the JKM Corridor.** Agro-industrialisation and iron and steel are key manufacturing sector opportunities – identified as “lifeline” sectors in Vision 2040 and prioritized in the NIP – and in which Uganda and the JKM Corridor have a potential comparative advantage. Improved access to input and product markets will be essential to realise their potential. Several nationally strategic infrastructure projects have been proposed, or are already underway, in the corridor, including the Kampala-Jinja Expressway, rehabilitation of the railway and investments to ports and shipping on Lake Victoria, which have the potential to enhance market access and reduce input costs for firms located on the JKM Corridor. As per Strategic Objective 2, the objective should be to crowd-in investment and promote clustering in locations with ready access to this connective infrastructure (see Figure 23 below).

<sup>38</sup> Annual Agricultural Survey 2019 Report

<sup>39</sup> “The political economy of fisheries sector in Uganda: ruling elites, implementation costs and industry interests” subweb.diis.dk, 2014

## **Agro-industrialisation**

**The JKM Corridor locates all stages of the agro-industrialisation value chain, from production, post-harvest handling and storage, processing, and access to markets for export and consumption.** Investment is required to improve each stage. The JKM Corridor concentrates a high proportion of the large-scale commercial farms in Uganda, producing cash crops with the potential for value addition. These include sugarcane, coffee, tea and vanilla, as well as fish from Lake Victoria. Increased output is necessary, however, to provide sufficient produce at scale for agro-processing, which should include absorbing/creating demand for agricultural products from other areas of the country.

- 1 Further commercialization of the agriculture sector should be encouraged through the provision of land for investors in suitable locations, targeting crops with the potential for value addition;
- 2 Investment in post-harvest handling and storage of agricultural products is required to reduce post-harvest losses by 20 to 40 percent.<sup>40</sup> NDP III proposes facilities for fish in Mukono and grain in Jinja, however other subsectors and general storage facilities, including cold storage and refrigeration, should be developed in suitable locations that are well-connected to the main corridor infrastructure and planned transport infrastructure investments;
- 3 Serviced industrial land for agro-processing facilities should be located in urban centres along the main corridor, with access to agriculture inputs, labour, and domestic and export markets.

## **Iron and steel**

**The iron and steel sector has been identified as a potential growth sector in which Uganda could have a comparative advantage.** Uganda has abundant exploitable iron ore deposits, as well as limestone and dolomite, which provide the key raw materials inputs to the industry, while coal and/or gas could be imported from Tanzania to fuel the process. Domestic and regional demand is expected to grow as steel products are inputs to other manufacturing sectors (e.g., automotive) and the construction sector. Domestic production of iron and steel would substitute for imports, improving Uganda's trade balance. A nascent steel sector exists, located primarily on the JKM Corridor (see above); however, to be truly competitive the value chain must be deepened.

**Connectivity between raw materials production and manufacturers needs to be improved, requiring significant investment in transport infrastructure.** Uganda imports more than 60 percent of its inputs to the steel industry. The most exploitable iron ore deposits are located in Kabale in southwestern Uganda. There is also a proposal for an integrated iron and steel production facility at this location, which could produce semi-processed steel to input to rolling mills. This will require significant investment in transport infrastructure – including potentially the rehabilitation of the railway – to transport iron ore and/or intermediate steel inputs to the existing steel production clusters located primarily to the east of Kampala towards and in Jinja. Coal or gas will also be required for the production of intermediate inputs (e.g., direct reduced iron) – a few manufacturers located in JKM Corridor (e.g., Tembo, Steel Rolling Mills, Pramukh) have the capacity to produce direct reduced iron products, while the majority focus on downstream products. This must be imported from Tanzania; in the short-term, this would be coal via Lake Victoria offloading at Port Bell, while in the longer term there is an MoU to construct a gas pipeline from Dar es Salaam to Kampala. The main limestone deposits are located in Tororo.

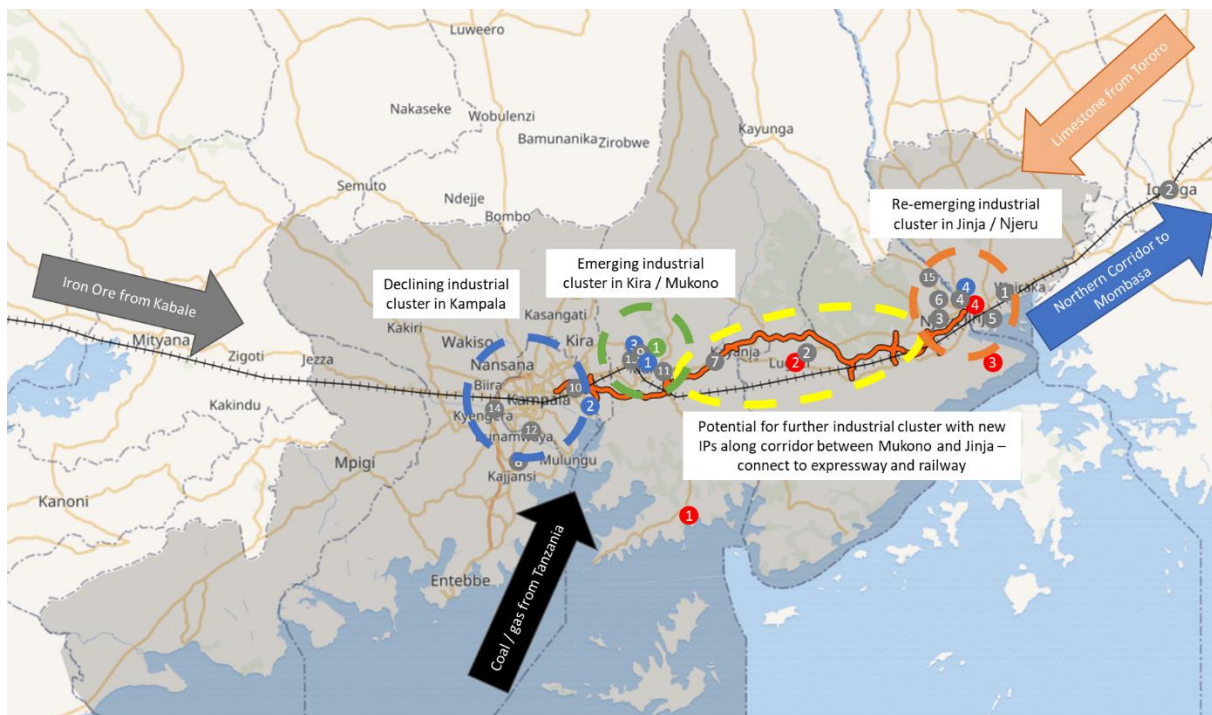
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<sup>40</sup> EPRC (2018) Fostering a Sustainable Agro-Industrialisation Agenda in Uganda

**Uganda should have a regional comparative advantage – assuming raw materials can be exploited – enabling exports of steel products to EAC neighbours.** The current domestic demand for steel products is likely insufficient to justify the significant investments required to access raw materials (i.e. iron ore from Kabale and coal from Tanzania). However, there is significant potential to export to EAC countries that lack raw materials inputs (e.g., Kenya). It is critical that Uganda’s steel manufacturers can access EAC markets with minimal costs (i.e., tariffs, quotas, transport costs etc.).

**The JKM Corridor already concentrates almost all steel production in Uganda – these clusters should be reinforced.** Firms with the capacity to produce intermediate iron and steel products should be supported to ramp up capacity and linkages strengthened with downstream producers. Significant investment is required to develop new supply chains for iron ore and coal. The JKM Corridor is the confluence of these supply chains, as well as the access to a key export market in Kenya.

Figure 23: The Kampala-Jinja Expressway and railway rehabilitation/upgrade should unlock the potential for a new industrial cluster between Mukono and Jinja



Source: COWI A/S

#### 4.4.2 Strategic Objective 2: Promote agglomeration economies by developing IPs along the JKM Corridor – especially in the east from Mukono to Jinja

**To be competitive, Ugandan firms need access to inputs – land, (skilled) labour, capital, primary and intermediate products, power, utilities and services, technology, etc. – at efficient rates in comparison to their competitors.** Agglomeration economies – the benefits of firms clustering or co-locating in an area – can reduce the cost of many of these inputs. Localization economies occur when firms of the same sector co-locate and include reduced labour costs from access to a larger pool of skilled labour; reduced primary and intermediate input costs, developing and deepening value chains, from producers having access to a larger market; knowledge and technology spillovers. More general benefits referred to as urbanization economies, including reduced costs of services (e.g., power, utilities, transport, financial, legal etc.), which can be provided more efficiently when firms are located together rather than dispersed.



**Whether producing for domestic consumption or exporting, Ugandan firms are competing in a global market against firms from across the world – many of which are located in large-scale urban agglomerations with access to lower-cost inputs.** For example, the top five exporters in the textiles and apparel sector, which has been prioritized in the NIP, are China, Vietnam, Bangladesh, India and Turkey, with the majority of manufacturers clustered in large cities of more than 5 million people.

**Knowledge-intensive sectors tend to be even more concentrated and benefit especially from spillovers and access to skilled labour.** As noted above, high-value tradable sectors (finance, legal, consultancy, computer programming etc.) are located almost exclusively in Kampala, which is competing with other regional hubs such as Nairobi, Dar es Salaam and Kigali for investment and market share. The scope for these activities to be located outside of Kampala (and surrounding areas) is highly limited for the foreseeable future.

**The potential scale of the JKM Corridor must be leveraged to improve the competitiveness of Ugandan firms – further concentration and clustering should be the objective.** Investment in new infrastructure in the manufacturing and tradable services sectors – i.e., serviced industrial land (IPs), commercial office space, transport, logistics, power transmission etc. – should be concentrated where it will deliver the greatest returns in terms of attracting inward investment, job creation and revenue generation. This is the JKM Corridor. Arguments for dispersing investment to other locations, such as taking advantage of underutilized assets (existing infrastructure, housing stock, land), lower labour costs, or regional balance do not yet apply or are otherwise significantly outweighed by the benefits of agglomeration, *in Uganda's current stage of development*. The following is therefore recommended:

- 1 Identify and make available suitable land for industrial development (IPs) along the main JKM corridor – east of Kampala towards Jinja in Wakiso, Mukono and Buikwe districts are likely to be the prime locations – in-line with forecast market demand (see section above);
- 2 Localize value chains by promoting clustering of suppliers through co-location on IPs and provision of serviced land for MSMEs and complementary services (e.g., warehousing, logistics etc.) adjacent to IPs (see Box 3 below);
- 3 Allocate sufficient funds for 'last mile' connective infrastructure (access roads, water supply, power transmission) to ensure that IPs are integrated into local utility/transport networks – missing / poor connective infrastructure can significantly increase transaction costs and negate locational agglomeration economies; at the same time, well-planned location of IPs could reduce the investment required in connective infrastructure (i.e., clustering IPs along trunk infrastructure);
- 4 Plan to locate housing (and associated infrastructure and services) near to, or accessible to, industrial land (i.e., well connected to trunk transport networks). Reduced travel times increase the size and flexibility of the labour market, which results in more efficient allocation of labour, increase productivity for firms, and raises wages. Failure to do so will again negate potential agglomeration economies.

**Box 2: Importance of agglomeration economies and last-mile connectivity for industrialisation – evidence from Ethiopia Industrial Parks Program**

Since 2015, Ethiopia has pursued a policy of export-oriented industrialisation, driven by an ambitious industrial parks (IP) program that has invested around US\$1.5bn in 16 IPs. However, these IPs are not concentrated in one area, but rather have been located in different cities across the country. Though it is still relatively early, and some IPs have only been operational for a few years, there are clear signs that the strategy of spatial 'balance' has lessened the impact of the program. Export revenue from manufacturing was targeted to increase as a share of total merchandise exports from less than 10 percent to 25 percent in 2020 and 40 percent by 2025 when it would reach US\$3.6bn; in reality manufacturing exports are around US\$400m and remain just less than 13 percent of total merchandise exports. Similarly, GTP II targets an increase in manufacturing employment from 380,000 to 758,000 in 2020 and to 1.5m in 2025, while IPs have created less than 100,000 jobs to-date.

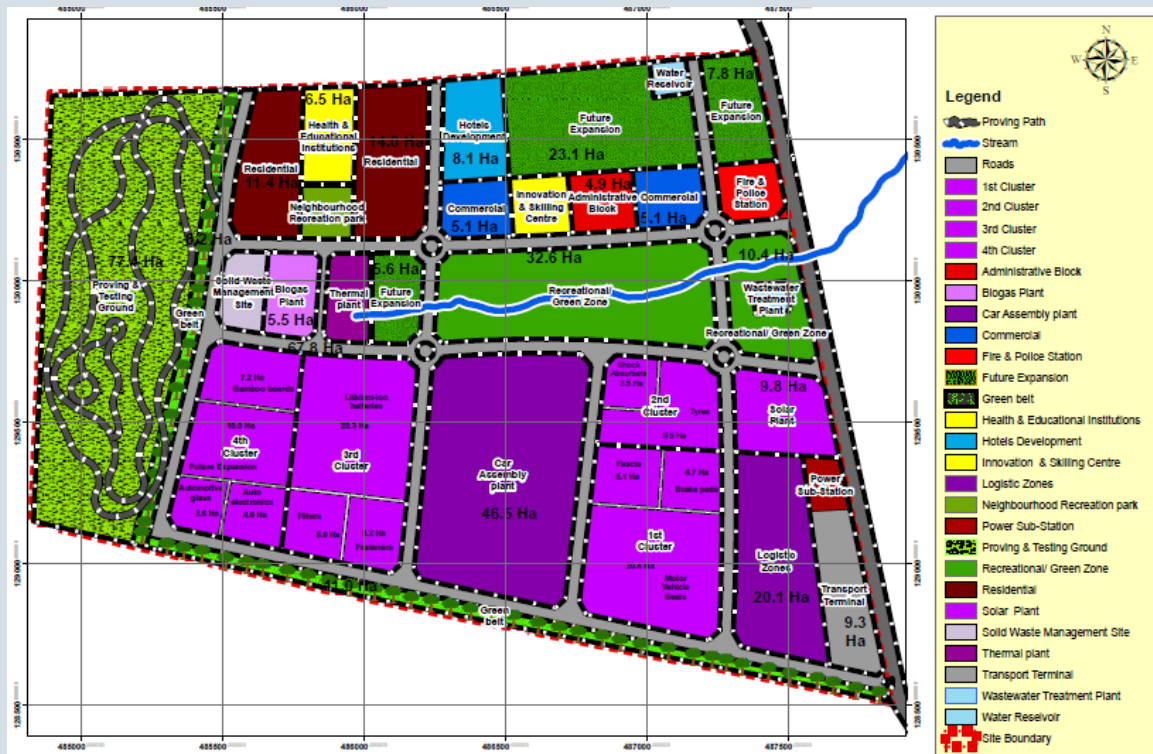
Several IPs are empty or have low occupancy, despite being officially operational for two or more years, in particular those located in smaller cities, far from trunk infrastructure, e.g. Jimma (508km to the west of Addis Ababa), opened in 2019 but currently unoccupied. In contrast, IPs located in Addis Ababa, Adama (90km from Addis Ababa, located close to the Modjo dry port and on the railway) and Hawassa (285km to the south, but the flagship IP of the program) account for 86 percent of the total jobs created. IPs in secondary cities face a range of constraints including missing 'last mile' infrastructure such as access roads, power and water, poor connectivity to transport and logistics infrastructure – despite investing US\$4bn in the railway many IPs are located in cities far from this or major transport corridors – insufficient skilled labour and high turnover of staff, and weak integration into local value chains and a lack of domestically sourced inputs for production. Concentrating investment in fewer locations – at least initially – could have avoided many of these issues as well as delivering greater returns on investment in IPs and complementary infrastructure.

**Box 3: Kiira Motors Corporation, Vehicle Assembly Plant and Eco Automotive Industrial and Technology Park (Eco AITP)**

Kiira Motors Corporation (KMC) is a Ugandan state-owned enterprise (SOE) that manufactures electric vehicles (EVs), initially for the domestic market but with the long-term target of exporting for the regional market. KMC is a strategic anchor investor designed to catalyze investment and entry of domestic SMEs into the production of automotive components. KMC and GoU have set an ambitious target for 65 percent local content value by 2030, which will require sourcing components and services from up to 300 local suppliers.

A vehicle assembly plant is currently being constructed in Jinja Industrial and Business Park, which will have capacity for 5,000 vehicles per year, with the first phase expected to be completed by December 2022. In the medium-term, the development of the Kiira Eco AITP has been prioritized as a strategic project in Uganda's Third National Development Plan (NDP III), and will comprise of a vehicle assembly plant for SUVs and pick-up trucks, as well as facilities for training workers, testing vehicles, technology and innovation center, logistics services, and serviced land for component suppliers in 10 targeted clusters (lithium-ion batteries; seats; filters; brake pads; bamboo boards; automotive glass; fascia; tires; shock absorbers; automotive fasteners). The AITP will thus create an integrated automotive supply chain in one self-contained cluster.

Plan of AITP



Source: KMC Strategic Investment Plan

#### 4.4.3 Strategic Objective 3: Support businesses and build the capacity of workers to benefit from emerging industrialisation opportunities

**Businesses need more than just improved access to physical infrastructure and services if they are to improve their productivity.** As the World Bank Doing Business Ranking for Uganda (see Figure 9) indicates, firms face a range of challenges that constrain productivity including administrative (obtaining permits etc.), financial (access to credit) and legal (contract enforcement), as well as access to skilled labour. Support should be provided to businesses located in the JKM Corridor to address these challenges, including the following recommendations:

- 1 Locate One Stop Shops in IPs that can provide support for investors to apply for permits, and visas, pay taxes, customs, utility bills etc.;
- 2 Promote linkages between larger manufacturers and MSMEs via a matching service that identifies where MSMEs are producing inputs needed by large manufacturers and provides support to help them meet minimum standards and requirements;
- 3 Co-locate business incubation and workspaces/land for MSMEs in or adjacent to IPs, with associated support services;
- 4 Locate “Skills Hubs” within IPs that will provide training to workers in collaboration with investors;
- 5 Promote linkages between TVET and higher education institutions and private sector companies to design courses and provide training to workers in line with the needs of businesses.

# THE JINJA- KAMPALA-MPIGI CORRIDOR

## PHYSICAL DEVELOPMENT PLAN

JUNE 2023

### CHAPTER 5 HOUSING AND REGIONAL INFRASTRUCTURES STRATEGY



**Government of Uganda**  
Ministry of Lands, Housing and Urban Development



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## 5 HOUSING AND REGIONAL INFRASTRUCTURES STRATEGY

### 5.1 INTRODUCTION

The potential of the JKM Corridor to boost Uganda's economy and production base is very high, as the bulk of the country's GDP is generated within this region, especially within its urban areas. However, as noted in the strategic assessment, the lack of appropriate infrastructure affects the Corridor's productivity, stifles growth opportunities, including the potential for industrialisation, and hampers further economic development. Adequate infrastructure provides the means through which economic activity can grow and productivity increase. Infrastructure is a key foundation of the proper and efficient functioning of the region, including its cities, municipalities, and other urban settlements.

Most of the economic growth within the JKM Corridor occurs within and around urban areas – cities, municipalities, and towns. However, as the strategic assessment indicated, these urban areas benefit from poor infrastructure services and have insufficient and inadequate housing options for their populations. In addition, within the next 20 years, the JKM Corridor will continue to experience strong urban population growth which will require urban physical expansion. The availability of planned services and affordable housing for the rapidly growing JKM Corridor's urban population will affect not only this population's well-being but also the region's economic activity. Housing – its quality, location, and spatial structure – has a major impact on urban form but also mobility, connectivity, and economic productivity.

Efficient and effective infrastructure provision and access to sufficient and affordable housing that is planned to serve the region's social life and economy are fundamental to meeting the Corridor's potential in supporting industrialisation for Uganda. Enabling infrastructure and adequate housing will support growing and diversified economic activities, enhance productivity, and strengthen Uganda's industrialisation agenda, particularly as industrial, agricultural and consumer products and outputs are routinely produced within the Corridor.

The strategy proposed below considers key impediments and challenges to infrastructure and housing delivery and the need to overcome these shortcomings to support the achievement of Uganda's national development priorities as expressed in the NDP III, especially the need for industrialisation, sustainable urban development, and job creation.

The proposed strategy emphasises the need to increase investment in infrastructure that will foster the productive sectors of the economy to optimise the use of the increased infrastructure capacity and vice versa; and also, the need to foster the provision of municipal infrastructure that will support the sustainable articulation of economic and productive tenets of cities and urban areas. Our strategic proposals will in addition advance the argument that the provision of decent housing should be seen not only as an economic burden but also as a social and economic opportunity that will support the region's overall growth.

## 5.2 The current state of infrastructures supporting the JKM Corridor's industrial development and employment

The provision of social and economic infrastructure in Uganda has gradually increased since the country attained independence in 1962. However, this increase has also suffered some critical challenges. Studies by the World Bank<sup>1</sup> (2017) suggest that Uganda has a financing gap of about US \$1.4 billion a year for infrastructure investment. In addition, the cost of inefficient infrastructure is high, estimated at US\$300 million a year, mainly due to poor governance and the sector's inability to complete projects within budget and on time.

At all levels of infrastructure provision and management both at the national and municipal scale, there are issues associated with the quality, quantity, and overall management of infrastructure. The infrastructure gap manifests in sub-standard roads, ports and airports adding to the cost of exporting commodities and hampering intra-regional trade.

Infrastructure within the JKM corridor comprises various facets of economic and social infrastructure principally to support the economic progression and social cohesion within the corridor. Within the context of the JKM Plan, the focus will be on the following categories of infrastructure:

- > Water treatment and supply-related infrastructure, i.e., distribution networks, treatment plants and standpoint locations;
- > Sewage treatment and disposal infrastructure covering sewer lines and onsite sanitation facilities;
- > Solid Waste Management facilities, like landfills and dump sites;
- > Electricity generation and distribution;
- > Economic infrastructure that supports industrialisation and production in various sectors;
- > Telecommunications/Postal Services.

### 5.2.1 Key issues affecting infrastructure development

The JKM Regional Corridor encompasses five districts (Mpigi, Wakiso, Mukono, Buikwe, and Jinja) and two cities (Kampala and Jinja) as well as several municipalities and towns that together accounted for 15 percent of the 2014 national population and more than 30 percent of Uganda's Gross Development Product (GDP). However, the infrastructure demand largely outstrips supply, and the assessment of the current state and quality of infrastructure reveals the following challenges:

- > Economic infrastructures and services which directly support production – electricity, rail, roadways, industrial land, and business development services – are in a fair-to-poor state and this increase the costs of infrastructure asset maintenance and overall reduces business competitiveness. Electricity supply along the Corridor, for example, is often costly and unreliable;

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<sup>1</sup> <https://www.worldbank.org/en/country/uganda/brief/infrastructure-finance-deficit-can-public-private-partnerships-fill-the-gap#:~:text=Uganda percent20has percent20an percent20estimated percent20infrastructure,within percent20cost percent20and percent20on percent20schedule.>

- > Connectivity and economic inclusion are weak as infrastructure deficits and a poorly connected, fragmented built environment frustrate potential productivity increases;
- > Water services in urban centres are provided by National Water and Sewerage Corporation (NWSC). In terms of water infrastructure services and supply, the Corridor districts have a development plan and have qualified and committed personnel for effective service delivery. However, while the major urban centres have access to piped water supply systems, there exist many water-stressed areas, especially in fishing communities;
- > In addition, inadequate O&M of WASH facilities along the JKM Corridor undermine the water service quality and the stability of the system. This results in water supply services that are of reasonable quality in large urban centres – such as Kampala where access to piped water is almost universal – but whose quality coverage is much lower in other districts;
- > The region is endowed with adequate surface and sub-surface water reserves, although the management of water catchment areas would need to be strengthened;
- > There are gaps in coordination efforts, particularly among institutions responsible for planning and implementation (local governments versus policymakers (MDAs) for infrastructure planning, provision, and maintenance. This leads to mismatches in coordination and reporting and implementation at times is conducted without the knowledge of the urban authorities and some of them are not embedded in the existing physical development plans.

The JKM Corridor will only attract investment and be able to produce goods that can be exported if the start-up and entry costs in the form of access to infrastructure are competitive.

Whilst the specific challenges and gaps in infrastructure planning, provision and maintenance have been outlined above, the key factors leading to the observed infrastructure challenges within the corridor could be summarised as follows:

- > Technical capacity issues manifesting in weak business processes affecting the quality and reliability of infrastructure planning, provision and management;
- > Local governments have a weak capacity for project preparation and are not always able to integrate with infrastructure planning, delivery and implementation of key dimensions related to gender, social inclusion and climate resilience. This would be crucial to withstanding the effects of climate change without loss of operational ability;
- > Inadequate financing from Central Government to meet the requirements for wider infrastructure provision;
- > Weak inadequate infrastructure asset management and maintenance leading to rapid deterioration of quality and serviceability. This results in high operational costs leading to high prices of goods and services affecting cities' efficiency and the Corridor's competitiveness.

The issues above are particularly pronounced within the JKM area, as the effects of rapid urbanisation are moving ahead of the infrastructure curve, leading to fast-increasing demand against a continuing low infrastructure supply base.

### **Decentralisation and infrastructure development**

Under the 1997 Local Governments Act, local governments are responsible for preparing their own development plans and for overseeing the execution of those development plans in coordination with appropriate sector administration hierarchies – within local governments and nationally. Local governments were also given responsibility for infrastructure development and service delivery in a broad range of areas, including healthcare, education, waste management, water, and roads. The categories of infrastructure under each jurisdiction whether national or local government is stipulated in the respective acts and regulations. For instance, when it comes to the road network, the national roads are all under the Uganda National Roads Authority (UNRA) whilst the bulk of the other roads (Urban, District, Community etc) are then managed by each local government. However, water supply, electricity and industry remain under the national government.

Urban areas were given further responsibility for providing uniquely urban services such as street lighting, fire brigades, solid waste collection and management, and regulation and licensing of commercial and business activities, predominantly around trading and markets (Lambright, 2014: 41). In Kampala alone, roughly 80 percent of services were devolved to the KCC and then subsequently to KCCA.

The remit for the provision, management and maintenance of municipal infrastructure lies with the respective city and municipal authorities. However, as described below, the Municipal Infrastructure financing system is inadequate and highly dependent on the provision of grants from the Central Government and various support from Development Partners often linked to specific projects.

However, local management of infrastructure and infrastructure services are generally disturbed by the weakening of local government structures, systems and processes that cannot effectively deliver on their oversight functions; weak linkages between local government and central government ministries; and, as will be further discussed below, inadequate funding from central government coupled with delays in disbursement of funds from central government.<sup>2</sup>

### **Infrastructure planning and financing**

Infrastructure planning in Uganda is centrally driven through Vision 2040, and subsequent 5-year National Development Plans. Although Uganda has a well-developed national planning and budgeting system, the integration of sectors and tiers of planning remains disjointed, particularly between development and physical plans. NDPIII has sought to shift from this approach by proposing development programmes that require a cross-sector approach to planning, budgeting, and implementation. Despite this effort, critical challenges remain to effective infrastructure planning and financing at both national and municipal levels, including within the JKM Corridor.

Those challenges are often underlined by gaps in technical capacity, especially at the local government level. National infrastructure is managed by national agencies covering roads, water, and electricity, and is generally in a much better state of technical and institutional management.

Municipal engineering and infrastructure planning are underpinned by strong capacity gaps in areas of planning and infrastructure management and delivery. Except for Kampala where the KCCA is sufficiently resourced technically, other similar localised authorities in the JKM Corridor are not technically resourced to the required levels. Gaps are particularly noted in terms of project preparation capacity. In addition,

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<sup>2</sup> “Impact of Local Government Councils Score Card Initiative”, Advocates Coalition for Development and Environment (ACODE) 2021.



coordination of infrastructure development across the region is even stronger than at the national level. The experience of the GKMA Strategy implementation may provide lessons in that direction.

Issues of access to land for infrastructure development present also considerable obstacles to infrastructure development. The current difficulties in access to land often imposes a heavy burden on infrastructure development projects in terms of land compensations that may make projects unfeasible.

Financing of infrastructure is undertaken through both Government budget allocation and various channels of financing from Development Partners. However, as described above, the country still faces a chronic financing gap for infrastructure development estimated at USD 1.4 billion per year which results from rising debt levels, declining aid flows and structural features within the tax system that cap resources available for development.

Financing difficulties have impacted local government units severely. Local governments throughout Uganda are constrained by systemic features that in general favour central government dominance over the allocation of financing for infrastructure and delivery of municipal services. The JKM corridor is no exception.

The current legal framework allows for Local Governments to be financed from various financing channels including grants, (conditional, unconditional, equalisation and performance base), own source revenues, projects and borrowing. However, the central government has traditionally been the main provider of financing for public infrastructure and other public goods. Inter-Governmental Fiscal Transfers (IGFT) constitute the most significant portion of local government (LG) financing, currently estimated at 95 percent of the average LG budget.

Locally generated revenue to support investment and maintenance of infrastructure is available, although this is understood to be insufficient. Local governments depend mostly on conditional grants from the central government which are the major source of financing for municipal infrastructure development. Local revenue includes those from tendered markets, plan fees, trading licenses, tax stage, forest collection, court fees, community centre, fish permits, development fund, parking fees, local service tax and cattle permits.

While these sources look numerous, the requirement to co-fund, a condition for accessing grants still stands as a challenge. This local revenue is in any case insufficient to fund investments and local service delivery. Reforms introduced through the 2005 Local Government Rating Act exempted owner-occupied residential houses in urban areas from property taxes, which could have been an important source of local revenue. Consequently, municipalities suffer from a chronic lack of financing for locally determined infrastructure priorities and expansion of service delivery.

Investments in urban infrastructure and services have therefore not kept pace with the growing demographic and economic importance of urban centres, resulting in the growth of unplanned settlements, urban poverty, inadequate basic urban services, and a deteriorating urban environment. Financing challenges have pushed the government to think about possible new financing avenues such as the effective utilisation of alternative sources of development financing, like the private sector, pension funds, development partners and CSOs; strengthening Public Investment Management to increase the return on public investment.

## **Infrastructure maintenance and operation of assets**

Maintenance of urban infrastructure has been a key challenge across Ugandan cities, municipalities, and towns, including within the JKM Corridor - Local governments have not developed a proper asset management and maintenance regime. This is mostly due to a lack of appropriate policies, coupled with technical and financial capacity difficulties.

In addition to the lack of an appropriate maintenance regime, the current national and local financial budgeting cycles, through which funds are released on a quarterly basis, with also reported funding gaps, largely constrain long-range asset maintenance planning over longer cycles. For instance, the Uganda Road Fund (URF) indicates that currently only 50 percent of the financial requirements for road maintenance are provided.

Ineffective Asset Management and Maintenance Regimes inhibit the benefits of infrastructure investments due to premature deterioration. The quality of municipal infrastructure in the JKM Corridor well demonstrates the issue at hand here. Maintenance, particularly for municipal infrastructure, is apparently not well instigated into the overall infrastructure management cycle. Infrastructure Asset Management systems cover the overall requirements needed for planning, budgeting, maintenance prioritization and optimization of maintenance schedules. Whilst KCCA has made progress in asset management systems, other municipalities, and urban areas in the JKM Corridor are not faring well in that area. Outside the KCCA, the overall infrastructure asset values, condition, quality of assets, and maintenance requirements are not appropriately identified nor known which results in deficient budgeting and resource planning. Overall, this affects the quality and intervention needed to plug gaps and scale up the efficiency of infrastructure.

### **5.2.2 Issues affecting specific sectors in municipalities**

The general issues affecting infrastructure at the municipal level revolve around infrastructure sufficiency, quality, planning and maintenance and sustainable development. Other specific issues may relate to land acquisition and implementation delays.

#### **Water and sanitation**

##### *Poor and insufficient water supply infrastructure*

The current water supply network is under pressure from increasing urbanisation and high population in the JKM Corridor area. According to JKM Area Specific Profiles (2017), the average of households with access to piped water is as follows: Mpigi (10 percent), Jinja (53 percent), Buikwe (53 percent), Mukono (23 percent), Wakiso (51 percent) and Kampala (81 percent). The overall average of households with access to piped water for the whole of Uganda is 20 percent. Previously, there were within the JKM Corridor noted instances of supply inadequacies, intermittent supplies, and long spells of non-flow of water, especially in areas outside Kampala. However, the National Water & Sewerage Corporation (NWSC) completed in June 2021 the Katosi Water Supply Scheme and has increased the daily water supply from 240 million litres to 400 million litres in Kampala Metropolitan. Challenges remain on aspects of high quantities of Non-Revenue Water (NRW), currently, at 31.3 percent, which are due to old/aged networks (especially in Kampala), high rates of water theft, illegal connections, and bursts and leakages cut across most of the urban areas.

Maintenance of water supply infrastructure constitutes a significant challenge that is reflected in its functionality. Water supply facilities are in a varied state of functionality with the best levels recorded in

Kampala and the lowest in Mpigi. This affects the availability of clean water and the quality of water delivered from those facilities.

Availability and access to safe water is also significant issue in the region. Generally, except for Kampala and Mpigi, most of the districts have low access to safe water measured as the percentage of people within 1 km (rural) and 0.2 km (urban) of an improved water source. In the most populated areas along the Corridor, the groundwater table is affected by the proliferation of onsite sewage treatment and a high number of septic tanks with negative effects on the quality and safety of the water supply.

In addition to the piped water supply, there are other sources including protected springs and boreholes. Mukono district has 3,094 water points of which 39 percent are protected springs followed by boreholes at 19 percent. Data review shows that in Mukono, 221 water points have been non-functional for over five years and are considered abandoned. NWSC serves 92 percent of Mukono Municipal Council in Mukono. In Buikwe, 147 water points have been non-functional for over 5 years and are considered abandoned. NWSC serves at least 2 sub-counties.

Jinja has 1,204 domestic water points and 1 piped scheme which serve a total of 324,226 people – 240,167 in rural areas. 188 water points have been non-functional for over 5 years and are considered abandoned. NWSC serves 95 percent of Jinja City in Jinja.

#### *Widespread sanitation challenges: poor coverage and inadequate infrastructure*

Sanitation infrastructure, services, and management along the JKM Corridor are still weak and would need additional investment. According to the Ministry of Water and Environment Sector Performance Report (2017/18<sup>3</sup>), less than 10 percent of the Urban population within the GKMA has access to sewer systems for liquid waste management – and this is the best-served area of the Corridor. In addition, there are high levels of vandalism of sewer components, such as manhole covers, allowing in stormwater and affecting the operational efficiency of the sanitation infrastructure. The bulk of households has onsite sanitation facilities in form of septic tanks. This brings significant challenges – the Corridor is littered with septic tanks which, as described above, may cause groundwater contamination due to deficiencies in the design and construction of those tanks.

Delivery of both household and public onsite sanitation facilities in small towns is mainly dependent on the cost of construction, the reliability of the water supply, and the lack of awareness regarding the health and economic benefits of access to adequate sanitation. The lack of effective sanitation cover and access in the JKM urban areas brings however numerous challenges including the spread of diseases, and impediments to economic/social growth thereby curtailing economic progress.

### **Solid Waste Management**

Solid waste management is a critical challenge in the urban areas of the JKM Corridor, particularly in the GKMA. Population growth and lifestyle changes have led to the generation of large waste volumes. According to the Ministry of Water & Environment Sector Performance Report (2017/18), full waste collection and disposal services to controlled sites with recycling and energy generation account for less than 50 percent of the waste generated. It is estimated that energy generation and recycling account for 10 percent of the waste generated.<sup>4</sup> Kampala City generates more than 1,500 tonnes of waste per day of which less than half is collected and disposed of at appropriate facilities. Jinja is reported to generate

<sup>3</sup> [https://www.mwe.go.ug/sites/default/files/library/SPR\\_percent202018\\_percent20\\_percent20FINAL\\_0.pdf](https://www.mwe.go.ug/sites/default/files/library/SPR_percent202018_percent20_percent20FINAL_0.pdf)

<sup>4</sup> <https://www.kcca.go.ug/media/docs/IFC-KWM-PIM-12-MARCH.pdf>

more than 80 tonnes of waste per day and less than 50 percent is collected and appropriately disposed of. The issue of growing waste generation is steadily increasingly pressing thus a fresh and consistent approach to solving it needs to emerge.

As a result of the increasing urban population in the region, the existing infrastructure is not able to cope with the volume of waste generated. The mix of peri-urban and urban settlements within the JKM Corridor leads to varied behavioural and societal patterns and approaches to solid waste generation and management. Although urban authorities have attempted to enact by-laws on solid waste management, these initiatives have not led to substantial improvements. Solid waste is often disposed of in inappropriate places and is strewn in urban areas which lead to increased costs of clean up and a high proliferation of diseases.

Urban authorities confront significant funding challenges which hamper establishing proper waste management systems. The ability for them to generate adequate funds to support improved waste management practices and approaches is constrained by the fiscal challenges with which many of the municipalities/cities face.

Gender and Social Inclusion (GESI) along with climate change considerations have not featured prominently in the waste management sphere in Uganda. Women and children are observed to be largely involved in the waste management supply chains and face various levels of hardship that are often ignored. Associated infrastructure for waste management is also not resilient to climate change effects, resulting in losses of operational efficiency in many instances, e.g., severe weather, unexpected waste volumes generated etc.

Addressing the gaps in solid waste management requires a mix of appropriate infrastructure to supply the collection and recycling of waste, aligned with appropriate softer interventions covering engagement and sensitisation to ensure that waste is seen from a lens of social and economic perspective and positive benefits linked to employment, social inclusion, and economic productivity.

## **Access to energy**

### *Energy generation and supply*

With the construction of hydropower dams in Karuma and Isimba, plus the additional capacities in Jinja (Naluubale Dam) there has been a shift from a previous supply deficit to a surplus-generation capacity of nearly 1,800 MW nationally. The use of biogas, wind energy and other renewable energy forms are not yet developed in the project area. In aggregate terms, the total national electricity generation capacity increased from 601MW in 2010 to 1839MW in 2020.<sup>5</sup> As a result, the power supply in Uganda has greatly increased and there have been few incidents of supply-related load shedding since 2013, which is reflected in a relatively stable energy supply within the JKM Corridor.

However, while the energy supply in the JKM Corridor is largely stable, issues of supply consistency have been reported resulting from maintenance gaps and capacity issues with associated distribution infrastructure networks. While supply capacity has improved, power uptake is still low. At the household level, the number of consumers connected to the power grid are still low.

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<sup>5</sup> <https://www.era.go.ug/index.php/stats/generation-statistics/installed-capacity>

### *Distribution and Tariffs*

For Uganda and the JKM Corridor alike, continuing economic development with power sector investment is no longer a question of supply but a question of how to stimulate the productive use of electricity to take advantage of a surplus of generation. In reality, as discussed below, the key issue in current power generation and supply relates to the mismatch between supply and demand.

At a national level, electricity distribution in Uganda is currently undertaken by nine distribution companies of which Umeme Limited is the largest. However, constraints in transmission and distribution systems and their interconnection limit the use of existing supply to around 693 MW regardless of the national installed capacity in the country.

The Ministry of Energy and Mineral Development (MEMD) "Priority and Issue Paper of 2019" estimated that this bottleneck is suppressing around 450 MW of potential near-term demand, increasing the cost of service by a further \$0.10/kWh and increasing cost due to unutilized capacity by \$125 million per year by 2023. The situation over the use of energy supplied remains a major issue, as supply must be paid regardless of whether it is used. The mismatch between supply and demand could increase total electricity costs by over \$950 million per year and increase the cost of service to more than \$0.30/kWh.

There are multiple power generation stations across the JKM Corridor, however, the supply of electricity is irregular. Access to electricity is high in and around Kampala, but much lower outside that area. Many households along the Corridor rely on fuel wood for their own consumption, especially in rural areas, with significant impacts on the region's forest cover. Households' access to electricity is also hampered by low affordability. The contribution of renewable energy is insignificant. In terms of energy to support industries, the continuous development of industrial areas and parks will make those easier to engage and monitor.

Given the above, the main cause of the underperformance of the Ugandan power sector is low uptake which leads to high tariffs across all customer segments,<sup>6</sup> including within the JKM Corridor. A diagnostic study for Uganda highlighted three high-priority recommendations to address present challenges, which can be applied to the JKM Corridor:

- > Revisit the construction of new (large) power stations to balance grid supply and demand at the least cost;
- > Strengthen infrastructure investments for transmission and distribution investments to enable evacuation of power and serve latent demand;
- > Encourage distributed generation, mini-grids, and energy efficiency in the system.

### **ICT development**

According to the Policy Report - The State of ICT Uganda, at 14 percent Uganda has one of the lowest ICT penetration rates in Africa. The issues of connectivity and access are still significant across the JKM, especially outside the GKMA.

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<sup>6</sup> There are different tariffs for different categories of users including Generation, Distribution and Bulk Supply. Tariff Reviews are undertaken quarterly by the energy Regulatory Authority in line with the Adjustment Methodology, and the Electricity (Application for Permit, Licence and Tariff Review) Regulations, 2007.

At a national level and also spanning the Corridor, the government of Uganda, through the Ministry of ICT, has implemented the National Data Transmission Backbone Infrastructure and e-Government Infrastructure (NBI/EGI) project for high-speed communications involving the laying of Fibre Optic Cables and installation of related equipment, which include switches, optical transmission equipment, data communication equipment, fixed network equipment, video equipment, computers, servers, training and service. The NBI/EGI is designed to reduce the cost of doing business in government, improving communication between government agencies and reducing the need for officials to commute for meetings and thus increasing efficiency. However, the key challenges remain including the provision of bulk Internet bandwidth over the NBI which is still low.

Within the JKM Corridor, the districts have various ICT policy documents and strategies to support greater mainstreaming and use of ICT. Within Kampala, KCCA has embraced the use of ICT and this is reflected in their Information Systems Strategic Plan. However, a survey of operations of various MDAs within the JKM Corridor reveals that none of the municipalities within the JKM is using smart technology to a significant extent. Local governments and service units such as hospitals and schools lack operation budgets for ICTs, and the MDAs with standalone systems are hesitant to migrate to the NBI. Ultimately, the fibre optic cable will link Uganda to the submarine cables on the East African coast providing access to the rest of the world through Kenya.

Overall, the challenges to wider access to ICT include i) the high cost of ICT services relative to other countries in the region; ii) low levels of ICT awareness; iii) low application of ICT in business.

## 5.3 The current state of housing within the JKM Corridor

Uganda has been experiencing rapidly growing urbanization with an urban population growth rate of around 6 percent since 2014.<sup>7</sup> The country's urban population is expected to comprise 40 percent of Uganda's total population by 2040. Currently, the JKM Corridor region has already over 50 percent of Uganda's urban population. The region is strongly urbanised, with around 75 percent of its population living in urban areas. The rapid increase in urban households will put great pressure on the urban housing supply. Given JKM Corridor's high urbanisation, the requirement for decent, affordable urban housing is likely to weigh strongly on the region's development agenda.

### 5.3.1 Key issues affecting housing planning, financing and supply

The rapid increase in urban population within an already strongly urbanised JKM Corridor confronts a series of issues and challenges which in summary are:

- > The increasing housing needs is a result of the growing number of households in a context in which unsatisfied demand is already high;
- > Weak housing supply offering very often housing of very low quality;
- > Very low affordability of most of the JKM Corridor's urban households leading many households to adopt poor rental solutions;

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<sup>7</sup> <https://data.worldbank.org/indicator/SP.URB.GROW?locations=UG>. The urban population growth rate seemed to accelerate between 2014 and 2017, when it went from 5.9 percent to 6.2 percent, but it is now at 6 percent.



- > A challenging housing finance landscape, which is not able to offer housing loans and support affordability to a large share of urban households;
- > Difficult access to land in a complex land tenure system, where much of the land potentially available is not controlled by the state or local governments;
- > A regulatory context in which while housing is gaining higher significance, with NDP III focusing on sustainable urban development, legislation for effective housing improvements still lacks traction.

These issues are discussed in detail below.

### **Growing urban population and increasing housing need**

As Table 1 below shows, taking 2014 as a baseline, more than 2.1 million urban housing units will need to be provided in the region by 2040, just to respond to the demand of newly formed households. This means that the region would need to produce around 82,000 housing units per year on average, just to cope with newly formed households.<sup>8</sup> This number provides an underestimated need, as further urbanization will lead to a reduction in household size across the region and will increase the demand for housing. It should also be noted that this number does not take into account the current already unmet demand. So, the real housing need within the region will be higher than 82,000 units per year.<sup>9</sup>

Table 1: JKM Corridor Urban Housing need based on newly formed households (2014-2040)

District	HH Size (pp/hhold)	Urban pop 2014 (Census)	Urban pop. 2030 (forecast)	Urban pop. 2040 (forecast)	Gain urban pop. 2014 - 2030	Housing Requirement 2014-2030	Gain urban pop. 2030 - 2040	Housing Requirement 2030-2040
Mpigi	4.1	43,360	120,155	207,850	76,795	18,730	87,695	21,389
Wakiso	4.1	1,681,449	4,464,000	8,891,870	2,782,551	678,671	4,427,870	1,079,968
Kampala	4.1	1,507,080	1,927,400	2,189,556	420,320	102,517	262,156	63,941
Mukono	4.1	162,710	240,200	266,009	77,490	18,900	25,809	6,295
Buikwe	4.1	299,628	411,750	491,972	112,122	27,347	80,222	19,566
Jinja	4.1	172,714	448,582	537,265	275,868	67,285	88,683	21,630
<b>TOTAL</b>		<b>3,866,941</b>	<b>7,612,087</b>	<b>12,584,522</b>	<b>3,745,146</b>	<b>913,450</b>	<b>4,972,435</b>	<b>1,212,789</b>

The housing need will be particularly strong in Wakiso where most of the projected urban population growth will happen. However, this trend may change, with stronger growth than expected in other districts as well, as investments and developments are promoted in the region. The growth of the urban population in the Jinja district could increase because of spatial restructuring following the recent establishment of Jinja City. The urban population of Jinja District in 2030 has considered the inclusion of the populations of Budondo and Mafubira sub-counties. While in the 2014 census the population of these two sub-counties were considered rural, in 2020 they were included within Jinja City's administration area and have started to be counted as urban population.

Other developments are planned in the JKM Corridor area. MLHUD has been discussing the development of two new towns possibly at the Ssisa-Nsangi Nakisunga-Ntenjeru sub-county, in Wakiso district, and Nakisunga-Ntenjeru sub-county, in Mukono district.<sup>10</sup> The implementation of the GKMA Economic Development Strategy will also impact population movements and demand for housing. In any district-

<sup>8</sup> This number tallies well with the number indicated in the CAHF (2020) Uganda housing report which indicated housing need for urban Uganda more than 160,000.

<sup>9</sup> If the size of urban households for strongly urbanised areas such as Kampala and Wakiso is reduced to 3.9, the housing need increases by 3800 units per year, to 85,800.

<sup>10</sup> MLHUD, 2016, Site selection of new towns for Greater Kampala metropolitan area (GKMA), Final report

specific scenario, the demand for urban housing along the JKM Corridor will grow significantly in the next twenty years.

### **Weak housing supply and poor housing quality**

Until the 1990s, formal housing provision in urban Uganda was controlled by the public sector, mainly through the National Housing Corporation (NHCC) which was established in 1964 as a fully owned government body. However, after 1992, Uganda adopted a private sector-oriented housing delivery model and the NHCC was later partly privatised.<sup>11</sup> The company, which continues to be the main provider of formal housing in Uganda, behaves today as any other private sector real estate developer in the market.

However, NHCC and other formal private sector developers have so far delivered only a limited number of units per year, which have been mostly addressed to mid to high-income households. A recent study by the World Bank indicates that “formal housing delivery is below 5,000 registered, conventionally constructed units per annum, all costing more than US\$50,000”.<sup>12</sup> Presently, apart from a few small-scale NGO-promoted experiments, no formal housing developer is providing housing units for mid-low- to low-income households in Uganda. The current formal housing supply in Uganda cannot respond to the country’s housing needs and this is also the case within the JKM Corridor.

As a result, most housing units produced in the JKM Corridor, including in the GKMA area, are built by individuals themselves, often incrementally over several years, or through the services of small builders, often informal, working for individual households. Informal builders are effectively the most important providers of housing in Uganda.

#### **Small-scale housing finance for low-income households**

Habitat for Humanity (HFHU) is implementing the Housing Microfinance (HMF) Program, a credit transaction that is directed towards low-income households to help finance their housing needs. HFHU also offers Home Improvement Loans (HILs) to families. Along the **JKM Corridor**, the organisation is particularly active in **Buikwe** District. HFHU is currently working with MFI entities and several banks, such as Centenary Bank, Opportunity Bank, Finance Trust Bank and Housing Finance Bank to develop affordable housing loans.

The Union of Housing Cooperatives in Uganda (UHOCU) is currently negotiating an MoU with the Housing Finance Bank which will lead to an agreement to provide loans to housing cooperative societies at a lower interest rate.

Informal housing delivery is however poorly supported at scale – it is not guided nor supported by urban authorities and urban planning units, and it is in general of very poor quality. Sites and services schemes have been ended, as the government has been supporting a private sector-led housing provision. As a result, the majority of informally provided housing ends up contributing to the emergence of non-planned, precarious, congested and poorly served informal settlements. The GKMA Economic Development Strategy indicates that 50 percent of GKMA residents live in slums. This has a significant impact on the urban population’s general well-being, but also on mobility and productivity within the JKM Corridor.

<sup>11</sup> Following the National Shelter Strategy published in 1992 the GoU shifted from public housing policy towards support housing provision through individuals, the private sector, and NGOs. In 2016, this strategy was reviewed into the National Housing Policy which kept the government's position.

<sup>12</sup> The World Bank, 2022, Creating Markets in Uganda – Growth through the Private Sector and Trade. The Wakiso Physical Development Plan (2017) states that most housing units supported by the NHCC have benefited higher income groups.

### **Low affordability and increasing poor rental solutions**

Housing affordability in Uganda is very low. This is the case not only because of the low income of most households but also because of very weak access to finance as is discussed below. A recent study by the Centre for Affordable Housing Finance in Africa (CAHF) indicates that 68 percent of Uganda's urban households require affordable housing solutions costing below UGX20m, and 38 percent of urban households can only afford products costing UGX10m. The same study indicated that, in 2019, the price of the cheapest, newly built house by a formal developer in urban Uganda was UGX 125 million, which was affordable to less than 4 percent of Uganda's urban households.<sup>13</sup> For low-income households, the formal housing economy is currently far too expensive.

The absence of sufficient affordable urban housing ownership opportunities forces many Ugandan urban residents to rent basic housing. The latest census in 2014, showed that **in Kampala** around 80 percent of the households rent their dwelling and in Wakiso almost 60 percent do so. The **Wakiso** Physical Development Plan (2018-2040) points to how unmet demand for urban housing has escalated to unprecedented levels in the district. Access to housing ownership is likely to continue decreasing. Between 2012/2013 and the 2017/2018 national household surveys, urban rental has increased substantially from 8 percent to 48 percent.<sup>14</sup> Much of this rental is provided by single-room dwellings of less than 10m<sup>2</sup>, at average monthly rents of Ush150 000 (US\$40) and below.<sup>15</sup>

The above indicates that the Uganda housing market has so far not shown the capacity to produce affordable urban housing nor to create housing access mechanisms to meet the demand from the large majority of urban households. However, some signs indicate that formal housing producers are now looking into supplying housing options to lower-income households. The high-end housing supply seems to be confronting growing competition within the sector making it more difficult to sell housing units which affects return on investments.

Part of the mechanisms to improve access to housing is related to housing finance. Appropriate housing finance products in Uganda, in particular products that are addressed to mid to low-income households, would significantly increase access to decent housing.

### **Challenging Housing Finance**

One of the major obstacles to increasing housing affordability and to broader access to decent housing in Uganda results from the challenges for low-income households to access mortgage funding. On the one hand, interest rates for housing financing offered by commercial banks are very high, ranging from 16 percent to 19 percent;<sup>16</sup> on the other, commercial banks ask for bankable collateral which low-income households are not able to provide. The recently published "Creating Markets in Uganda" (2022) indicates that only 11.5 percent of Ugandan households can afford mortgage-financed housing that costs more than US\$37, 000. Even in more economically dynamic urban areas, such as in the GKMA, only a small share of households can access bank-supported housing finance.<sup>17</sup> Even at the high end of the market, many households end up asking for loans from family members.

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<sup>13</sup> CAHF annual report (2020)

<sup>14</sup> CAHF explains this rapid increase in rental by a shift for many urban individuals and families who used to share housing with family and friends a decade ago but were now forced to rent housing because of an increasing monetization of urban housing.

<sup>15</sup> CAHF, *ibid.*

<sup>16</sup> CAHF indicates that Housing Finance Bank proposes 17.3 percent interest rate. Centenary and Stanbic Bank offer rates of approximately 19 percent and 16 percent respectively.

<sup>17</sup> CAHF, *ibid.*

Several non-banking organisations and microfinance institutions have emerged and are now offering housing finance as well as small loans for incremental house building and home improvements. The CAHF Annual Report for Uganda (2020) reports that in 2019, the Uganda Microfinance Regulatory Authority issued more than 500 licences to different microfinance institutions offering finance for housing.

Non-banking organisations offer more flexible conditions, including lower loan amounts, they accept social collateral and allow for negotiable repayment terms. These products allow also low-income households to access housing finance that is flexible enough to adapt to an incremental building.

Although non-banking organisations are helping a share of the population that has been excluded from housing finance, their outreach is still narrow as is often their financial capacity. A broader effort will be necessary for a wider impact.

### **Difficult access to land and land tenure**

Land governance and land access challenges constitute major obstacles to the provision of affordable housing in Uganda. Uganda has a complex land tenure system with very little land directly managed by the state – an estimated more than 75 percent of the land in the country is under customary tenure.<sup>18</sup> NDP III identifies land tenure and land use planning as a significant concern for Uganda's development pointing to “vested land ownership to residents, with urban authorities no longer holding statutory leases.” Experiences across Africa show that insecure tenure constitutes one of the key obstacles to decent housing. Security of tenure positively impacts household income as it supports household investments into their homes and in using houses as an economic good. As a result, the security of tenure contributes also to overall economic development.

A vibrant urban land market does exist in Uganda, especially within the GKMA areas. However, this market is unregulated and is based on a complex tenure system of formal and informal market relations. More than 80 percent of land transactions apparently bypass the centralised registry. This complex land tenure system and urban land market, which functions largely outside the state, restrict land supply, feeds land speculation, and drives prices up, especially in urban areas and along the JKM Corridor.

The situation described above makes land acquisition very costly. Currently, local governments have great difficulty in zoning and purchasing adequate land for infrastructure investments. Some local governments, such as those within the GKMA area, are talking about purchasing land and land-banking. However, there is still little work done in relation to assessing the land that would be available for acquisition and the resources this would require.

### **Difficulties in implementing a policy agenda for housing**

The GoU is aware of the challenges with which urban Ugandans are confronted to access adequate and affordable housing – in particular, households with low-income levels. The Uganda National Housing Policy (UNHP, 2016) recognises that there are major issues with housing provision in terms of both quantities supplied and quality of housing units. However, this policy has also confirmed that the Ugandan state has withdrawn from public housing, leaving the responsibility for house provision to individual households and the private sector. At the same time, although, for many years, housing deserved little policy attention, the UNHP in 2016 and recently the NDP III have brought urbanisation and housing into the government's focus again. However, the government is still defining the lines along which to intervene concretely.

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<sup>18</sup> See [Customary law | Gender and Land Rights Database | Food and Agriculture Organization of the United Nations \(fao.org\)](#)

This hesitation in terms of concrete policy direction is felt by the sector's key stakeholders within the JKM Corridor, who point to continued weak support to the sector by the GoU. They refer to the deficient housing finance, the absence of public support to access land for housing, and the huge gaps in infrastructure for basic services, which make the construction of decent housing very expensive. Housing developers within the GKMA estimate that land acquisition and infrastructure provision for housing developments add approximately 30 percent to total project costs.

In addition, sector stakeholders point to a continued lack of regulation in relation to key dimensions of UNHP. Two key policy developments with impact on the housing sector took place in 2020: the ratification of i) the Building Control Regulations 2020<sup>19</sup> and ii) the Income Tax (Rental Rates) Regulations 2020. The first supports the construction of building structures in accordance with acceptable standards; the second allows for the collection of public revenue from rental estates.

However, stakeholders within the housing sector note that a real estate bill that has been drafted for a few years has not yet been approved. Policies such as "promotion of access to planned and serviced land at affordable prices" and "increasing availability and access to affordable housing finance" are all put forward in the UNHP 2016. As the housing sector stakeholders note, even if the UNHP was published in 2016, there is not yet a plan for the effective implementation of these crucial policies.

## 5.4 Policy framework for infrastructure development and housing supply

### 5.4.1 Uganda Vision 2040

Uganda Vision 2040 seeks to promote transformational changes to lift Uganda from a predominantly agriculture-based economy and low-income country to a competitive upper-middle-income country within 30 years. The document, which puts forward the country's overarching development ambitions and aspirations, identifies nine areas of opportunity which include industrialisation and urbanisation.

Vision 2040 is being implemented through five-year medium-term National Development Plans (NDP). The latest of these plans, NDP III, has been approved in 2020 and is now under implementation.

#### **Infrastructure development and Vision 2040**

Vision 2040 goals are underpinned by significant investment in infrastructure. The Vision calls for front-loading investments in infrastructure targeting areas of maximum opportunities with a focus on oil, energy, transport and ICT. However, a review of the current stock and pipeline of infrastructure in Uganda suggests that progress towards 2040 appears impeded and successful attainment of the goals requires significant investment and efficient implementation of critical infrastructure projects, which would need to be scaled up, considering that most infrastructure projects in the NDP II were rolled over to NDP III.

#### **Housing development and Vision 2040**

The document also acknowledges Uganda's growing urbanisation and appreciates this trend as a necessary dimension of the development direction to be taken by the country. It recognises the need for

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<sup>19</sup> Referring to the Building Control Act No. 10 of 2013.

the development of legislation and planning capacity to deal with urbanisation and the demographic pressure that is emerging in Uganda's main urban centres.

In addition to the need for increased physical planning capacity, the Vision recommends that efforts should be directed towards dealing with increasing urban density and appropriate planning for housing. The Vision indicates that Uganda is likely to need about 12.6 million new housing units by 2040 and recommends that the Government in partnership with the private sector invests in appropriate housing to produce decent urban settlements. The role envisioned for the private sector within the housing effort corresponds to the position described in Uganda's National Housing Policy referred to below.

#### 5.4.2 Infrastructure and housing development within NDP III

Uganda is currently implementing its third NDP (NDPIII) which was rolled out in 2021. NDP III's strategic goal is **"To Increase Household Incomes and Improve Quality of Life of Ugandans"**, which will be pursued under the overall theme of **Sustainable Industrialization for inclusive growth, employment and sustainable wealth creation**. The Plan has 18 development programmes which pursue the following key objectives:

- > Enhance value addition in key growth opportunities;
- > Strengthen the private sector to create jobs;
- > Consolidate and increase the stock and quality of productive infrastructure;
- > Enhance the productivity and social well-being of the population;
- > Strengthen the role of the state in guiding and facilitating development.

Sustainable urbanisation and the development of productive industry that will promote industrialisation, inclusive growth and sustainable wealth creation are at the core of NDPIII.

#### **Infrastructure development within NDP III**

The National Development Plan (NDP) III (2020/21 – 2024/25), the third in a series of six 5-year plans, is the most important policy document to guide development decisions in Uganda. NDP III notes that Infrastructure plays an important role in contributing to a higher rate of economic growth leading to the improvement of the country's standard of living. Productivity in virtually every sector of the economy is affected by the quality and performance of the country's transportation, water, power supply and other types of infrastructure.

In terms of energy, NDP III emphasizes that the availability of a reliable energy supply is critical for economic growth, poverty reduction, as well as the social and cultural transformation of society. Sustainable development and utilization of energy resources are required to allow the current and future generations to meet their energy needs.

The key objectives under the various thematic areas of infrastructure are as follows:

#### *Integrated Transport Infrastructure and Services*

- > Objective 1: Optimise transport infrastructure and services investment across all modes;



- > Objective 2: Prioritise transport asset management;
- > Objective 3: Promote integrated land use and transport planning;
- > Objective 4: Reduce the cost of transport infrastructure and services;
- > Objective 5: Strengthen and harmonize policy, legal, regulatory and institutional frameworks for infrastructure and services;
- > Objective 6: Increase transport interconnectivity in the eastern region to promote intra-regional trade and reduce poverty.

### *Energy Development*

The key objectives are stated as follows:

- > Objective 1: Increase access and utilization of electricity;
- > Objective 2: Increase the generation capacity of electricity;
- > Objective 3: Increase adoption and use of clean energy;
- > Objective 4: Promote the utilisation of energy-efficient practices and technologies.

### *Digital Transformation*

The key objectives are stated as follows:

- > Objective 1- Increase the national ICT infrastructure coverage;
- > Objective 2- Enhance the usage of ICT in national development;
- > Objective 3- Enhance ICT research, innovation and development;
- > Objective 4- Increase the ICT human resource capital;
- > Objective 5- Improve the legal and regulatory framework.

Within the context of the JKM Corridor, alignment to NPD III will largely be focused on the programmes that seek to consolidate and increase the stock and quality of productive infrastructure which cuts across several of NDP III's development programmes. Some of the initiatives/projects stated in NDP III to strengthen and improve the infrastructure context and resolve the constraints are as follows:

### *Transport*

- > Construct and upgrade strategic transport infrastructure (tourism, oil, minerals, and agriculture);
- > Implement an integrated multi-modal transportation hub (air, rail, road, water etc.);
- > Upgrade transport infrastructure around Lake Kyoga to facilitate connections across the lake (linking Nakasongola, Lango, Teso and Busoga through tarmacking of roads around the lake and introduction of ferry services on the lake).

### *Energy Development*

- > Expand the transmission network to key growth economic zones (industrial and science parks, mining areas and free zones);
- > Expand and rehabilitate the distribution network (grid expansion and densification, last mile connections, evacuation of small generation plants, quality of supply projects);
- > Construct 200 off-grid mini-grids based on renewable energy;
- > Promote the use of energy-efficient equipment for both industrial and residential consumers,

### **Housing development within ND PIII**

One of the programmes promoted by NDP III is directed towards "Sustainable Urbanization and Housing". The programme's Objective 2 is to "Promote urban housing market and provide decent housing for all". The programme seeks, among other targets, to reduce by 20 percent the acute housing deficit estimated nationally at 2.2 million and to decrease from 60 percent of urban areas to 40 percent the percentage of urban dwellers living in slums and informal settlements.

Access to decent housing is therefore at the core of the PIAP for "Sustainable Urban Development and Housing" for the NDP III implementation period, through the implementation of the following sub-programmes:

- 1 Increased mortgage reach, through the development of an inclusive housing finance mechanism including capitalization of the housing Finance Bank and revisiting the mandate of NHCC; Capitalizing housing finance to provide affordable mortgages.
- 2 Increased housing stock, through the development and implementation of an investment plan for adequate and affordable housing; Designing and building inclusive housing units for government workers; and incentivizing real estate companies to undertake low-income housing projects to address the housing deficit.
- 3 Upgrade slums in cities and municipalities, by addressing infrastructure in slums and undertaking slum upgrading.
- 4 Increased compliance with building codes and decent housing through developing, promoting and enforcing building codes.
- 5 Reduced cost of housing construction through the promotion of sustainable housing materials and implementation of a low-cost housing program and methods.

In consequence, interventions in the Sustainable Urbanisation and Housing policy domain of NDP III prominently include the promotion of land consolidation, titling and banking, and the establishment and automation of the land registration and administration system, as well as a raft of measures to improve spatial, physical and land use planning.

### **5.4.3 Key sector policies supporting infrastructure development**

The development of infrastructure within the JKM corridor is supported through a number of policies, laws and regulations largely at the national level as follows:

- > The Constitution of the Republic of Uganda, 1995;
- > Local Government Acts 1997, 2006, CAP 243.

Other directly supporting policies and related laws may include:

- > National Transport Policy and Logistics Strategy<sup>20</sup>;
- > National Urban Solid Waste Management Policy (NUSWMP);
- > Uganda Green Growth Development Strategy 2017/18 – 2030/31 (UGGDS);
- > Greater Kampala Metropolitan Area (GKMA) Waste Management Policy;
- > National Building (Building Standards) Code; 2019 National Urban Policy (NUP) 2017;
- > National Climate Change Act 2021;
- > Public Procurement and Disposal of Public Assets (Amendment) Act 2021.

### **Water and sanitation**

The key legal and policy documents relating to water supply and sanitation are:

- > Strategic Water and Environment Investment Plan 2018-2030;
- > A water supply Master Plan (2040) for Kampala and some parts of Wakiso and Mukono Districts currently informs the planning and investment decisions related to the water supply system;
- > National Water Policy (NWP) 1999;
- > The National Environment Management Policy, 1994;
- > The Water Act, Cap. 152;
- > National Climate Change Policy.

### **Waste management**

The National Urban Solid Waste Management (NUSWM) Policy of 2017 provides guidelines for the provision of urban solid waste management.

The Local Government Act (LGA) of 1997 specified that the responsibility for the segregation, collection and disposal of waste lies with the municipal authorities.

With the public authorities lacking both the budget and technical expertise to provide waste management coverage for a rapidly growing urban population, it is beneficial that waste management services include

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<sup>20</sup> Expected to be presented to Cabinet of Uganda for approval by December 2021

private companies, non-governmental organisations, community-based organisations and small enterprises.

### **Energy**

Uganda's Electricity sub-Sector is run under a liberalized set up following its Liberalization in 1997 and the enactment of the Electricity Act in 1999.

The Energy Policy 2002 seeks to meet the energy needs of the population for social and economic development in an environmentally sustainable way. Therefore, the Policy calls to increase access to modern and reliable energy services through the following:

- > Establish the availability, potential and demand of various energy resources in the country;
- > Increase access to modern affordable and reliable energy services as a contribution to poverty eradication;
- > Improve energy governance and administration;
- > Manage energy-related environmental impacts;
- > Increase the role of the private sector in the power sector operations and future development.

Uganda's Electricity Supply Industry is now regulated under the Electricity Act, 1999, Chapter 145, the Energy Policy, the National Environment Act, Chapter 153, and the Statutory Instruments and Guidelines issued by the Electricity Regulatory Authority (ERA).

### **ICT development**

The National ICT Policy 2014 is aimed at supporting the realization of the national vision. The broad policy objectives of the national ICT policy are to;

- > Build a knowledge-based human capital;
- > Promote innovation in economic and social systems;
- > Expand ICT infrastructure and its integration throughout the country;
- > Deepen utilization of ICT services by government, private sector, Non-Government Organizations and Citizenry;
- > Enhance research and innovation in ICT products, applications, and services;
- > Improve ICT governance and environment in Uganda.

#### 5.4.4 National housing policy and housing regulatory frameworks

##### **Uganda National Housing Policy, 2006**

###### ***Policy Objectives***

- 1 To increase the production of adequate housing for all income groups, from the current 60,000 to 200,000 housing units per annum to meet the housing need by 2022;
- 2 To improve the quality of the existing housing stock;
- 3 To promote efficient utilization of energy and other resources in housing;
- 4 To increase access to affordable housing;
- 5 To improve security of land tenure;
- 6 To improve the mechanisms for development and management of real estate industry.

The Uganda National Housing Policy (UNHP), published in 2016,<sup>21</sup> recognises that "investment in the housing sector has been minimal over the years leading to inadequate housing both in rural and urban areas" (p.5). The Policy seeks to provide a framework that will enable its vision of providing "Adequate Housing for all". According to the UNHP, the current level of construction of approximately 60,000 housing units per year cannot respond to a demand that is estimated at 200,000 housing units per year.

The GoU has however been withdrawing from a role as a provider of public housing to taking the responsibility for creating the enabling environment that will stimulate housing development and provision by the private sector. As a result, the national policy establishes that housing delivery is the "responsibility of individual households and the private sector".

While the GoU takes up an enabler position this role entails, according to the UNHP and some of its key statements, there is a large array of policy positions that the government should develop to support housing provision as described below.

## 5.5 Strategic direction for infrastructure for economic development and employment

The overall strategic direction for this plan is anchored on the high-level strategies articulated in Vision 2040 and National Development Plan III. As a result, this strategy will focus on modalities for consolidating and increasing the stock and quality of productive infrastructure. Investment opportunities in Uganda are being promoted and highlighted in the oil and gas, tourism, agriculture and manufacturing sectors. Growth within all these sectors requires a good infrastructure network providing a foundation upon which aggregate demand can be supported.

The strategy for infrastructure development will make proposals to be implemented both at the municipal level and the JKM Corridor level. The former will seek to support cities and urban development; the latter will seek to harness the Corridor's economic dynamics and propose activities and investments that will steer regional economic development. Although there have been noted challenges in the planning and coordination of infrastructure and municipal services, the Government of Uganda has been prioritising coordinated economic development. For example, in 2013, the Cabinet approved the Greater Kampala

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<sup>21</sup> The Uganda National Housing Strategy replaced the National Shelter Strategy which was established in 1992 to formulate viable housing strategies to improve shelter and living conditions.

Metropolitan Area (GKMA), which led to a special planning area, and, more recently, the GKMA Economic Development Strategy was approved.

### 5.5.1 Strategies at Municipal Level

The assessments of infrastructure state, conditions and adequacy and coupled with the interactions with the stakeholders within the JKM corridor provided deeper insight into the practical challenges and infrastructure gaps. Overall, the need for infrastructure as an enabler to support economic development and drive industrial activity in NDP III clearly comes out as one of the key needs. Within the corridor and specifically at the local levels, opportunities that can be harnessed and supported to strengthen the industrialization agenda include:

Ref	Issues	Industrial Opportunity that Infrastructure can Unlock
1	Underdeveloped Tourism Potential in Jinja, Njeru areas	Development of Tourism Infrastructure at the Source of Nile, Itanda Falls,
2	Inadequate economic Infrastructure at the municipal level to support SMEs and local industrial activity.	Industrial parks coming up at Mutai (Jinja) and this is a spin-off from the Kiira Motors Industrial Park.  Strengthen Fishing potential at various landing sites by developing the associated infrastructure
3	Electricity reliability and high unit costs generally within the corridor	Tapping into organic power generation and renewable sources and use of organic products and residual outputs from industries within the JKM Corridor.  Investments in electricity distribution infrastructure and strengthening maintenance of infrastructure.  Targeted Tariff reviews and incentives for industrial activity  Development of infrastructure in the industrial parks within JKM.
4	Significant waste management challenges, poor attitudes of stakeholders in waste management	Integrated waste management covering generation, recycling, and disposal.  Linkages to landfills and coordinated assessment and development of needed infrastructure. Potential to boost economic activity through employment.



		Partnerships with JKM industries to setting up public sanitary facilities in various places like markets, and industrial locations.
5	Green Development and Planning lacking	Development of Green Physical Development Plans to provide for green and resilient infrastructure within the corridor and at the municipal level.
6	Weak dialogue and engagement between City Authorities and Central Government Agencies in Infrastructure Sector, eg NWSC, UNRA etc	Coordinated and developed plans for infrastructure delivery.  Support in financing for large central government infrastructure in areas of transport, water and sanitation.

The support from various development partners in areas of urban planning and resilience continues to consolidate the state of urban infrastructure, with the recent large support being the World Bank-funded Uganda Support to Municipal and Infrastructure Development (USMID).<sup>22</sup>

Whilst it has been noted that the various policies and legal frameworks supporting infrastructure development are in place, appropriate and realistic strategies must be considered to aid effective planning and implementation. The strategies below are aligned with the different strategic actions in the current NDP III in areas of infrastructure planning, infrastructure supply improvement, clean energy production, renewable energy utilization waste management and infrastructure sector capacity building.

### **Municipal Infrastructure Preparation and Financing**

A major observation has been the low levels of stock of municipal infrastructure largely reported due to issues of infrastructure planning and the availability of adequate financing to cater for sustainable provision of infrastructure.

Suggested strategies include:

- > Early development of infrastructure development plans to be able to attract potential financing. Adopt early project preparation strategies to align with potential financing opportunities and engagement with various stakeholders;
- > Review of Physical Development Plans (PDPs) to realign and retrofit to meet expectations of the infrastructure plans being able to attract financing and encourage economic development;
- > Harness and leverage the role of the private sector. With the dwindling financial resource envelopes and the constrained fiscal spaces, in light of the COVID-19 pandemic and other economic challenges, the role of public sector partnerships with the private sector in infrastructure provision becomes

<sup>22</sup> The USMID Program (US\$150million) is a 5-year program whose overall objective is to enhance the institutional performance of the 14 program Municipal Local Governments to improve urban service delivery.

paramount.<sup>23</sup> This would also allow creating stronger linkages with employment prospects within the economy; and

- > Strengthening infrastructure technical and professional skills in JKM district governments, through technical assistance and through creating partnerships with training institutions.

## **Water and Sanitation Sector**

### *Strengthen Water Supply Infrastructure*

It has been noted that water supply quality, consistency, and overall availability are affected due to demand surges and also infrastructure challenges. This is attributed to poor and insufficient water supply infrastructure.

Strategies that are suggested to plug the gap include:

- > Strengthening the water supply network asset management to ensure that infrastructure is efficiently utilised to reduce supply challenges due to pipe bursts, and vandalism;
- > Assess and examine options for innovative financing and asset management options for upgrading the water supply pipe network to reduce non-revenue water losses;
- > Promote the use of additional sustainable techniques like water harvesting to augment water supply challenges;
- > Create awareness relating to water supply infrastructure monitoring so that stakeholders can rapidly co-support fault reporting to reduce supply constraints on the network due to leaks and bursts.

### *Improving Environmental Quality and Water Pollution Reduction*

It is observed that issues of water pollution within the JKM corridor are on the rise in part due to industrialization and in part due to weak enforcement, coupled with a general lack of awareness of environmental issues by various stakeholders.

Strategies that are suggested to plug the gap include:

- > Targeted technical Support/Sensitization towards tackling water source pollution as this is severely affecting the eco-system;
- > Integrate GIS-based planning and modelling to improve the management of water catchment areas and reduce pollution and environmental degradation;
- > Developing community support programmes to improve the livelihood of communities settled around swamps and wetlands to better support co-existence in mitigating practices leading to water pollution.

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<sup>23</sup> A number of initiatives are being rolled out involving private sector partnerships to deliver infrastructure including, the Infrastructure Industrial Parks Development at Kampala Industrial and Business Park.

### *Improving Sanitation Provision and Management*

Issues of sanitation inadequacies within the JKM corridor are on the rise in part due to inadequate facilities for liquid waste management. Onsite sanitation treatment options are prevalent for some communities, but the bulk does not have access to appropriate sanitation management options.

Strategies that are suggested to plug the gap include:

- > Undertake early preferability studies for sustainable wastewater treatment options for the respective districts as this will support early sourcing of financing and options assessment by potential financiers;
- > Adopt the development of mini sanitation treatment solutions for various catchment areas to mitigate the numerous uses of onsite sanitation, i.e., septic tanks in various households;
- > Develop specific interventions to address social inclusion challenges for the water-stressed areas, especially in fishing communities within the JKM districts/villages.

### **Fresh Approaches to Solid Waste Management**

With recycling factories sprouting up in JKM Districts, and increased development of additional and innovative uses for waste that are attracting private capital, there is an opportunity for JKM's municipalities/cities to change this challenging sector through the development of new business models and build local economies around a waste-to-resource mandate.

Suggested strategies include:

- > Attracting private sector participation by developing a conducive policy environment and setting up appropriate waste management infrastructure for diversion, sorting, efficient waste transportation, recycling, and recovery. Private Sector has currently been involved in solid waste management in Kampala and Jinja;
- > Adopt sustainable approaches to solid waste management through green approaches, green practices, and sustainable techniques;
- > Mainstream Gender and Social Inclusion (GESI) into Solid Waste Management plans to ensure negative cultural perceptions and gender imbalances are strengthened.

### **Strengthen the quality and capacity of distribution infrastructure and align to the tariff structure**

Whilst the energy provision within the JKM corridor appears relatively stable and consistent, there are still issues affecting the reliability and quality of the electricity distribution infrastructure. The infrastructure for distribution is poor and requires significant maintenance and overhaul to meet the demands. Whilst generation capacity is currently positive (in excess) industrial and domestic uptake is low due to distribution infrastructure challenges. As a result of weak supply updates and distribution infrastructure, the tariff levels are high.

Suggested strategies include:

- > Strengthen partnerships with the energy regulators and providers to support the discussions on energy tariff reviews and packages for specific segments of energy demand in the various industrial clusters in the JKM municipalities/ districts;
- > Roll out sensitization and awareness programmes to support the effective integration of biogas and clean fuels into the overall energy matrix;
- > Explore investment and financing approaches utilising great private sector involvement (PPPs) to draw additional financing specifically targeting infrastructure for transmission and distribution;
- > Explore smarter, green, and sustainable options for energy provision for streets and communities to supplement the conventional supply sources.

### **Scale up investments in ICT to support wider use of ICT and GIS applications, including in infrastructure management**

Infrastructure in JKM is noted to have issues around the quality of infrastructure and the overall state of maintenance and management. A lack of systems and tools for asset identification, management, and maintenance in part leads to challenges in efficient infrastructure provision and maintenance. This leads to cost escalation in planning and provision of infrastructure, which is particularly the case in the ICT provision: low use of ICT in infrastructure asset management has been partly related to the high cost of ICT services relative to other countries in the region; ii) low levels of ICT awareness; iii) low application of ICT in business.

Suggested strategies include:

- > Improve the roll out and coverage of ICT infrastructure associated with enabling facilities such as optical fibres and backbone infrastructure to support greater connectivity and ICT use;
- > Examine and profile techniques for mainstreaming GIS systems to support infrastructure asset management, planning and maintenance;
- > Roll out sensitization and awareness programmes to support wider acceptance of ICT and modern technologies into the overall business and management;
- > Strengthen data collection to improve infrastructure planning, needs analysis and condition monitoring of infrastructure assets.

## 5.5.2 JKM Corridor-Level Infrastructure Strategies

The strategies below have been identified and are aligned to the different strategic actions in the current NDP III, in areas of infrastructure planning, infrastructure supply improvement, clean energy production, renewable energy utilization waste management and infrastructure sector capacity building.

### **Industrial Zones Gap Assessment and Analysis**

The JKM corridor is a large contributor to Uganda's GDP on account of the various industries existing in the region, including numerous SMEs and a diversity of clusters of economic and social productivity. The potential to spur and support economic growth lies in providing infrastructure and associated facilities for industrial parks/zones.

Signifying the importance of revamping infrastructure for industrial parks, the Parliament of Uganda in 2019 approved a request for the Government of Uganda to borrow Euro € 219,482,721 from the UK Export Finance (UKEF) for the design and building of infrastructure within the Namanve Industrial Business Park to be implemented by Lagan Group (UK). The works are ongoing and understood to cover all related infrastructure to aid the efficient functioning of the park and attract investors. Strategies that are suggested to plug the gap include:

- > Supporting assessment, scoping, and project preparation of critical infrastructure requirements to Industrial parks/zones. This will support the reinvigoration and improvement of the stock of infrastructure. New investments will be attracted, and jobs created. Access and park competitiveness improved;
- > Review and strengthen policies on industrial parks, setting, zoning and alignment with the development plans of the Central Government and the respective City/Urban Authorities in the JKM corridor.

### **Integrated planning and provision of Municipal Infrastructure**

Municipal infrastructure within the JKM Corridor should be coordinated and streamlined in terms of quality, expectations and overall level of planning and implementation. This will avoid disjointed planning and provision within the Corridor. The coordinated development of cities' infrastructure plans across the region will also make it easier to attract financing and encourage more effective economic development.

Strategies that are suggested to plug the gap include:

- > A coordinated and integrated approach to municipal infrastructure provision with attendant alignment to the identified growth centres and opportunities. Specific linkages to transport and improved urban mass travel options leading to reductions in traffic congestion are expected through improved traffic demand prediction from identified growth centres to better inform spatial planning and infrastructure provision;
- > Assess and pilot options for attracting private sector investment in sanitation provision through targeted infrastructure road shows and twinning arrangements with "smart and eco-friendly" cities and urban authorities in the world;
- > Seek for integrated review and development of the Physical Development Plans (PDP) for the JKM corridor districts/municipalities;
- > Strengthen partnership and cooperation with the Central Government providers (Water, Power etc) of urban utilities, so that the planning and roll-out of infrastructure and services is aligned with the respective city/municipal authority plans;
- > Improving the resilience of infrastructure to climate change and ensuring the adaptability of existing infrastructure is critical. Tapping into opportunities for Technical Assistance in preparing projects that

are bankable to secure financing from agencies like Green Climate Fund<sup>24</sup> and Africa Nationally Determined Contributions (NDCs) Hub<sup>25</sup>.

### **Skills Development and Capacity Building**

The National Development Plan (NDP I) and NDP II supported the development of infrastructure to a point. With the recent roll-out of NDP III the major theme is - Sustainable industrialisation for inclusive growth, employment, and sustainable wealth creation. The importance of the JKM Corridor to Uganda's industrialisation agenda is clear. The potential of employment creation is huge but will need to be underpinned by a skilled workforce that can cover areas of municipal planning, industrial support, and programme implementation. Strategies that are suggested to plug the gap include:

- > Review & Update the National Building Code 2018 to plug gaps in technical efficiency and this will support improved building planning and construction in urban areas;
- > Capacity building and targeted programs to develop expertise in municipal planning, development control, structure plans execution etc.;
- > Twinning arrangements with host cities/municipalities in Africa or other continents. This will support skills development, knowledge sharing and best practice dissemination.

### **Sustainable Solid Waste Management**

With the increasing levels of urbanization in the JKM corridor, the issue of solid waste management becomes a critical consideration that requires a coordinated and coherent approach to waste within the corridor. Strategies that are suggested to plug the gap include:

- > Harness the potential of the private sector and support the development of viable engagement and partnerships to support innovations and leverage financing for waste management activities;
- > Development of specific policies that support sustainable waste management and particularly gaps in addressing the recycling of waste, for example, waste to energy schemes;
- > Promote greener and climate-friendly approaches to waste management that support aspects of waste generation and waste management so that the entire waste chain adopts green techniques and can assess related Green Financing from various multilateral and bilateral agencies, eg Green Climate Fund (GCF)<sup>26</sup>, Africa Climate Change Fund (ACCF) etc.;
- > Adopt approaches that focus on aspects of waste management from the education and sensitization approach. This has been noted to be lacking in the JKM corridor possibly on account of uncoordinated efforts at waste management by the cities and municipalities;

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<sup>24</sup> <https://www.greenclimate.fund/>

<sup>25</sup> <https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/africa-ndc-hub>

<sup>26</sup> The Green Climate Fund is a fund established within the framework of the UNFCCC as an operating entity of the Financial Mechanism to assist developing countries in adaptation and mitigation practices to counter climate change.



- > Mainstream Gender and Social Inclusion (GESI) into development plans to ensure negative cultural perceptions and gender imbalances are improved.

### **Sustainable Energy Planning and Provision**

A reliable and efficient energy supply underpins improved industrialization and would align well with the NDP III theme of Sustainable Industrialization for inclusive growth, employment, and sustainable wealth creation. The noted challenges of electricity reliability in the JKM corridor could be addressed through the adoption of supporting sustainable energy mix options. The use of alternative sustainable options appears not to have been exhaustively progressed.

Strategies that are suggested to plug the gap include:

- > Engagement and coordination planning with the respective energy regulators to support policy review and dialogue to support the improvement of distribution infrastructure in the corridor noting that the bulk of Uganda's GDP is generated in this corridor;
- > Promoting the use of industrial gas for manufacturing applications would support the vast economic and industrial activities within the corridor. Gas is being used mainly in households for domestic cooking and some industrial sites for welding activities. With reported challenges with electricity tariffs and reliability issues, options for gas would seem viable;
- > Coordinate the piloting and roll-out of biogas as the potential is great in the JKM corridor with the various industries and the associated by-products that have high energy potential;
- > Explore smarter, green, and sustainable options for energy provision for streets and communities.

### **ICT and GIS Mainstreaming in Municipal Infrastructure**

The potential for the adoption and application of Smart Technology within the JKM Corridor is huge and many opportunities have been identified. Successful use of smart technology would rely on underpinning infrastructure and supporting technical skills in the following areas:

- > JKM skills uplifted in Programming applications etc. - Training and skills development in handling smart technological applications is critical to the sustainability of the systems adopted;
- > Data collection, storage, and management - Smart Technology relies on significant amounts of data. Processes and systems for storage would be reviewed. The integrity of data would need to be safeguarded;
- > Development of Policies for Data Management- The majority of the JKM districts/cities did not have policies for data management and handling. Such is necessary to ensure full and societal acceptance of the proposed smart technology applications;
- > Capture and consolidate the dividends of internet connectivity and telecoms to boost business planning and augment business platforms for trade and e-commerce.

## **5.6 Strategic direction for Housing**

Within the next 20 years, housing for the rapidly growing JKM Corridor's urban population will impact not only this population's well-being but also the region's economic activity. Housing has a major impact on

urban morphology, mobility, and economic productivity. The JKM Corridor's economic development will therefore be closely linked to a strategy promoting regulated housing development offering viable housing options to the region's urban households.

Our strategic proposals described below stem from the understanding that the provision of decent housing is not only an economic necessity but also a social and economic opportunity that will support the region's overall growth.

### 5.6.1 Establish a JKM Corridor "Housing Task Force"

As described above, housing constitutes a key issue that needs to be confronted in order to increase social and economic outcomes and to promote more productive urban settlements within the JKM Corridor. However, while housing has been gaining higher policy attention, the issue has not managed to lead to strong concrete policy measures that can have an impact at scale.

The JKM Corridor Development Plan proposes that a "Housing Task Force" be established to draw higher policy, legislative and planning focus, and also more resources. This "Housing Task Force" should be led by MLHUD, perhaps by the group leading the implementation of the PIAP SUD. This Task Force would convene a group of highly committed stakeholders, including local governments, the private sector, housing finance institutions, NGOs, and housing cooperatives.

It would push for key legislation to be adopted and support the selection and conceptual development of JKM Corridor priority projects proposed by NDPIII.<sup>27</sup> It would promote an integrated approach to the planning and development of housing, urban infrastructure, and services. It would follow the implementation and achievement of key housing initiatives and project conditions across the JKM Corridor and promote lessons and visibility of achievements.

### 5.6.2 Increase affordability: Support housing financing

Access to housing finance is one of the fundamental challenges for low-income households which, within the current Uganda housing financing system, do not have the capacity to access loans. This is a significant obstacle to increasing housing affordability and inclusion. Most of the housing access schemes discussed above, including housing for civil servants, require access to affordable housing loans. Without accessible housing loans, decent housing is unaffordable for most urban residents. So, establishing mechanisms to make housing loans more accessible is crucial. As explained above, small housing finance programmes are available through NGOs and housing cooperatives, but these schemes cannot address housing finance challenges at scale.

The intention to create such housing finance mechanisms is included both in the UNHP<sup>28</sup> and in the PIAP SUD, within NDPIII. The PIAP for the Sustainable Urban Development Programme indicates the GoU's intention to establish the Uganda Mortgage Refinance Company (UMRC) to recapitalize the Housing Finance Bank and support SACCOs and cooperatives, to address housing affordability, in particular for low-income households.

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<sup>27</sup> Some of the key legislation to be developed is proposed in NDPIII / SUD Programme under the objective "2.2. Develop, promote, and enforce building codes/ standards".

<sup>28</sup> Policy Statement 4: Increase availability and access to affordable housing finance for all income groups.

The GoU, through the Ministry of Finance, is also working on a Mortgage Liquidity Facility (MLF), which would provide long-term finance at a reasonable interest rate. All these possible arrangements will be based on experiences currently being implemented in Tanzania and Kenya. The UMRC is inspired by the Kenya Mortgage Refinance Company (KRMC) which has been established in 2018 as a Public-Private Partnership (PPP). In Uganda, these initiatives are however at the concept stage and the GoU anticipate that they will be operational only in 3 to 4 years.

**The Kenya Mortgage Refinance Company (KRMC)** was established to support the “Affordable Housing Pillar” of the Kenyan Government’s Big Four Agenda. KRMC aims to address the shortage of long-term finance in the Kenyan financial market and to increase the availability and affordability of home loans to Kenyans. The Company provides long-term funds to primary mortgage lenders (Banks, Micro Finance Banks and Saccos) who will then advance the same to individual borrowers and re-finance mortgage loans.

The establishment of financial institutions and mechanisms, such as the UMRC, would be fundamental to support the implementation of the PIAP SUD and address the housing crisis in a substantial way, in particular along the JKM Corridor where the pressure on housing is already significant. A share of the households that currently do not have access to housing loans would be able to leverage their savings to have access to these new financial schemes. The establishment of these types of financial institutions is a domain where organisations such as the AfDB and the WB could intervene. For example, KMRC in Kenya is now available to receive funds disbursed by the World Bank and continental DFI (Development Finance Institution) African Development Bank (AfDB), in the order of KES 35 billion in form of debt financing through the National Treasury.<sup>29</sup>

### 5.6.3 Increase affordable housing options and housing delivery for low-income households

As indicated above, the housing backlog within the JKM Corridor is significant: the region requires around 82,000 housing units per year on average, just to cope with newly formed households.<sup>30</sup> Support for housing delivery for low-income households should be directed towards both affordability, with more accessible housing finance, and the promotion of a larger array of low-cost housing options of higher quality than what is generally available.

#### **Support emerging schemes for affordable housing especially in the two JKM Metropolitan Poles and Growth Centres**

While the housing need in the next 20 years within the JKM Corridor constitutes a considerable housing backlog, it also offers an array of opportunities. With the appropriate support to the market, both on the supply and the demand side, this backlog should attract private sector investors and housing developers. In a recently published study looking into private sector growth in Uganda, housing is indicated as one of the sectors providing significant opportunities for market development and economic growth.<sup>31</sup>

As housing affordability in the region is low, the current formal housing economy is clearly too expensive for a significant share of urban residents. However, there is a share of the mid-level income urban population that could have access to formally built housing if developers adjusted their housing options to target that segment. Several investors and housing developers are currently looking into this possibility

<sup>29</sup> [Press Release - Kenya Mortgage Refinance Company \(kmrc.co.ke\)](https://www.kmrc.co.ke/press-release)

<sup>30</sup> The effective housing need is higher if the gradual reduction of household size and the current unmet housing need are considered.

<sup>31</sup> The World Bank, 2022, “Creating Markets in Uganda: Growth through the Private Sector and Trade”.

and within the JKM Corridor area, this should be supported by GoU. The construction of low-cost housing units is now attracting both large real estate developers, such as NHCC and the NSSF but also other smaller real estate investors. NHCC already has plans for low-cost housing estates (see text box below).

A strategy towards providing affordable housing options to mid-level income households should be pursued especially in the JKM two Metropolitan Poles and Growth Centres. Low-cost housing estates should already be considered in the planning of the two new satellite cities proposed for the GKMA area. This is a strategy that appropriate government agencies, such as MLHUD and local governments, should actively support especially through:

- > Involving more strongly key private sector housing developers in the discussions around options for low-cost housing provision and solutions to the regional housing issues. As a recent study shows, Uganda's housing sector offers significant potential for private sector participation along the different activities of the housing value chain<sup>32</sup>;
- > Developing partnerships with real estate developers which are interested in serving the large market that is outside the 4.5 percent which is currently targeted by the formally built houses. Formal housing projects will need to shift focus to the broader household demand available in the middle-upper and middle-lower market segments. Partnerships should be developed in particular with NHCC and other large developers working within the region;
- > Encourage a more active role by local government in the provision of urban infrastructure services by government agencies. Improve access to infrastructure services through serviced land across the JKM Corridor;
- > As discussed above, for a larger proportion of urban households to have access to better quality/formally built housing, access to housing finance is crucial and the mechanisms suggested above need to be put in place.

#### **Current housing initiatives with the potential to increase affordable housing supply**

NHCC, which is going through a period of change, would like to strengthen in its mandate an ambition to support NDPIII's implementation and its Sustainable Urban Development programme. The company has plans to construct affordable housing units costing around UGX 30 to 50 million, which would be payable over ten years. NHCC's Bukerere housing project, on 320 acres in Bukerere, Kyagwe, Mukono District has detailed a first production phase to cover a total of 58 acres on which 638 affordable housing units will be developed. This development would however depend on availability of cheaper long-term financing.

Similarly to NHCC, the National Social Security Fund (NSSF) is planning to increase their housing supply capacity aiming at lower housing prices. The Buganda Kingdom is working with foreign investors to move forward with a project of 400 low-cost housing units costing UGX 52 million on the periphery of the GKMA.

These proposals are aligned with NDP III. Revitalising the NHCC as a low-cost housing provider and working more closely with real estate companies are also intentions included in the PIAP SUD.

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<sup>32</sup> Ibid.

### **Draw upon current low-cost housing experiments to feed scaling up**

As above explained, low-income households cannot access the current formal housing market. They build their houses by themselves or with the assistance of informal builders, which are often of poor quality.

In Uganda, there are currently several small-scale experiments supported by housing cooperatives and NGOs that can provide productive paths to increase quality housing options for low-income households. The Uganda Housing Cooperatives Union (UHOCU) is working with its members in both directions – to support both quality and affordability. UHOCU has developed a "Demonstration Centre", in Luweero District, in collaboration with Makerere University Urban Action Laboratory and College of Engineering and Design, and the University College London, supporting the production of cheaper housing construction and building materials. Together with Ugandan architects, UHOCU is working on the development of models for affordable houses in Buikwe and Gulu which reduce the overall cost of construction.<sup>33</sup> Currently, they have produced a model for a 3-bedroom unit that will cost less than UGX 45 million. The architectural drawings for both projects are under approval next to local authorities. This is significantly cheaper than the formal options currently available, although it will still be too expensive for a large share of the JKM Corridor households.

We would suggest the models described above to be widely shared both with local authorities and with real estate developers that are currently developing low-cost housing projects. MLHUD could promote the connection between these small-scale experiments and large housing initiatives within the JKM Corridor to support the scaling up of these low-cost housing options. These would be the case of development by large housing investors such as the NHCC, as well as the "High density affordable housing pilot project" which will be promoted by the GKMA Economic Development Strategy within the metropolitan area. These initiatives could be crucial for areas such as Wakiso,<sup>34</sup> where housing demand will grow very rapidly given the very high urban population growth that is expected to happen in the next 20 years, but also for the GKMA satellite city planning and the projects stemming from the Jinja City PDP (2020).

In order to make these options attractive to as many households as possible, this will need to be combined with appropriate housing finance to which we refer above.

### **Increase the quality of the informal building sector**

Even if the costs of formally built housing units reduce to the levels being proposed by real estate companies and UHOCU, many low-income households will not be able to afford them. For many of the JKM Corridor households, building incrementally by themselves or with the help of informal builders will continue to be the only feasible path for most urban households along the JKM Corridor.

As a result, increasing the skills of these informal builders and promoting their stronger integration into the formal construction market will significantly support stronger housing quality for low-income households. Building artisans, such as bricklaying, plastering, plumbing, tiling, etc. are available within Uganda, but these are in general poorly skilled.

There are currently several initiatives in Uganda promoting skills development in the construction sector which should be supported and expanded. Investing in and developing professional and artisan skills, training, and improvement would also be important to support the professionalisation of the construction sector. Strengthening the skills development in a sector where demand is existing will also support its potential contribution to regional economic growth and employment creation.

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<sup>33</sup> Construction materials in Uganda are among the most expensive in the region. Several housing stakeholders have been asking for a favourable tax framework targeting construction materials.

<sup>34</sup> Especially in high growth population centres, such as Kira and Nansana.

A key partner for this effort could be the Skills Development Facility (SDF) which, among other sectors, offers capacity development in the construction sector. Skills development in the informal construction sector would also allow for promoting wider compliance with national building codes which is one of the activities promoted by NDP III and the PIAP SUD. Skills development and professionalisation of the construction sector should be widely supported, in particular initiatives that would allow for broadening of the supply of formal housing.

#### 5.6.4 Support to targeted housing development

##### **Industrial parks and housing**

The Uganda Investment Authority is planning several Industrial and Business Parks (IBPs) throughout the country to create jobs and stimulate manufacturing. Nine IBPs are already operational of which four are located along the JKM Corridor: Namanve, Bweyogerere, Luzira and Jinja.

The development of industrial parks without proper consideration for housing often leads to the creation of slums, as workers seek housing next to their employment place. In general, industrial development will attract not only workers of the created industries but also people looking for jobs or wishing to develop services and other economic activities linked to the industries being developed.

In addition, the availability of housing and infrastructure services within or around industrial parks has a strong positive impact on the performance of those industrial parks. Conversely, the absence of adequate housing and social conditions for industrial parks workers can negatively impact the performance of those industries. In Ethiopia, for example, high staff turnover in industrial parks has been thought to be partly the result of housing difficulties for workers in those parks (see text box below).<sup>35</sup>

In the JKM Corridor, planning for industrial development and industrial parks should therefore be made alongside planning for the needs in housing and infrastructure services that industrial development will stimulate. This requires that land be planned not only for industrial development but should also be serviced to allow for appropriate housing and infrastructure services development. Along the Corridor, through the Greater Kampala Metropolitan Area and in key secondary cities, integrated planning strategies should be promoted linking the planning of industrial parks to the supply of urban services and housing.

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<sup>35</sup> High staff turnover was also linked to very low wages paid to workers of industrial parks.



### **Ethiopia's industrial parks and housing**

In Ethiopia, there are currently more than 55,000 people working in various industrial parks (Ref: Industrial Parks Development Corporation, IPDC). This number was expected to increase to 250,000 when all manufacturing hubs become operational. The industrial parks and the opportunities they offer have attracted workers from across the country to the areas where these parks are built, increasing the need for housing and infrastructure services.

IPDC has been discussing with the city administrations hosting industrial parks, with private sector developers and international partners to deal with housing for industrial park workers, as lack of appropriate housing presents major challenges to the functioning of those parks. According to an assessment made by IPDC, the major reason behind high staff turnover in industrial parks relates to housing difficulties. Shints Garments, operating inside Bole Lemi Park, is said to have managed to reduce staff turnover by more than 85Pct after constructing houses for its employees. IPDC is exploring several possibilities to encourage housing supply for industrial parks workers: by facilitating bank loan for those who have land around industrial parks and build houses that can be affordable for employees, secondly, by giving land for the investors to build dorm kind of houses for their workers and lastly by working with private developers to design appropriate housing solutions. (fanabc.com, Nov 6, 2020; capitaethiopia.com, August 23, 2021).

### **Housing support for civil servants**

Inspired by experiences in Kenya, MLHUD is also considering different schemes that would support housing for civil servants, or at least for specific groups of civil servants, such as teachers and nurses. The government would like to do away with housing allowances which are not always used and adopt a scheme that would be addressed to different types of civil servants and situations. However, these discussions are still in the early stages. Such an initiative is also already planned under the SUD PIAP, within NDP III, under objective "Design and build inclusive housing units for government workers".

#### **The Kenya Civil Servants Housing Scheme Fund<sup>37</sup>**

Before 2001, the Kenyan government offered different type of support to civil servants' housing, including housing allowances and provision of housing units. However, these measures made for a complex and unequal scheme. In July 2001, the government started the implementation of a new housing policy for civil servants through which it encouraged its employees to own their houses. In 2004, the Civil Servants Housing Scheme Fund (CSHSF) was established, providing a tenant purchase scheme. The scheme has facilitated more than 3,000 civil servants to access housing through housing finance loans or sale of houses constructed through the Scheme. The CSHSF has partnered with two mortgage finance institutions, Home and Loan of KCB and Housing Finance, with nationwide coverage.

## **5.6.5 Increase access to land and infrastructure services**

Urban expansion and increased access to housing and infrastructure require that urban land is available. The formal housing development is hampered by Uganda's complex land tenure system and incomplete land registry. Poor land administration and conflicts around land tenure and transactions complicate land identification and release for housing development and create additional costs for infrastructure projects, including infrastructure services.

To support regional regulated urban expansion and economic development, local governments will need to significantly improve land administration, and plan for land availability for future housing and

infrastructure development. Control over urban land along the JKM Corridor by local governments is however currently limited as previously explained.

Some local governments within the GKMA area are planning to purchase land from major landowners to promote local development and decent and affordable housing. The GKMA Economic Development indicates that conversations in that sense are taking place with landowners such as the Buganda Kingdom and the Church. However, these démarches are still in their early stages. Work is yet to be done in relation to assessing the land that would be available for acquisition and the resources this would require. Some government institutions, such as the Uganda Investment Authority, have nevertheless been able to access land to promote industrial parks.

Integrated routes for accessing land should be adopted for urban expansion industrial development and housing. In particular, land to be made available for urban expansion should provide access to infrastructure services – that is, it should be serviced land. Access to serviced land will more easily attract housing investors, especially in the two JKM Metropolitan Poles, and within the two new towns being currently considered in Wakiso and Mukono districts.

### 5.6.6 Produce an implementable slum upgrading action plan for the JKM Corridor

Urban expansion, in cities and towns along the JKM Corridor, has in large part been happening through informally built settlements marked by poor-quality housing and precarious infrastructure services. Many of these settlements will require overall support to improve living conditions and increase urban productivity. In these areas, slum upgrading can be an effective tool. Slum upgrading will allow for drawing upon the investment already made by residents in these areas and promote stronger urban structure and access to services. This requires a long-term vision towards improving housing, infrastructure services and living conditions. An implementable action plan for slum upgrading in the JKM region should be established together with local governments and key stakeholders.

Uganda has a “National Slum Upgrading Strategy and Action Plan” which was published in 2008, but this has not been implemented.<sup>36</sup> However, under NDP III, with a strong emphasis on sustainable urbanisation, there exists now the opportunity to consolidate productive slum upgrading concepts. This would require an effective effort of drawing upon current interventions promoting slum upgrading within the JKM.

Slum upgrading is one of GKMA Economic Development Strategy’s dimensions, which is looking into upgrading 62 informal settlements in Kampala City, with an estimated population of 560,000.

In addition, a concrete experience of slum upgrading is currently being prepared - The Slum Redevelopment Projects in Kasokoso and Kinawataka, neighbourhoods within the KCC territory. These two projects are linked to the resettlement and safeguarding process stemming from the Jinja-Kampala Expressway project (JKE) which will require that around 400 households are resettled in the two neighbourhoods mentioned above. The project is funded by the EU and is supported by UNRA, the agency managing the construction of the JKE, and the MLHUD. Cities Alliance is spearheading the resettlement and the slum upgrading processes, together with partners Act Together and Slum Dwellers International.

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<sup>36</sup> The National Slum Upgrading Strategy and Action Plan was promoted by the MLHUD and supported by UNDP.

The JK Expressway resettlement and slum upgrading programme could provide the basis and the lessons for producing a practical and implementable slum upgrading action plan for the JKM Corridor region that could be used by the GKMA Economic Development Strategy and later be extended to other urban areas along the Corridor and in Uganda.

**The Slum Upgrading Concept for Kasokoso and Kinawataka (SUC)** will be based on a long-term vision, incremental investment and mobilization and participation of the two neighbourhoods' residents. The SUC is grounded on the creation of a Housing Support Centre (HSC), a community centre that will:

- > Support the management of the process and stimulate income generation activities for vulnerable families.
- > Support to the construction of better-quality housing through housing design support; construction training; access to more effective building tools and better building materials.
- > Provide access to appropriate financing through a Micro-credit Support Finance Centre, a loan facility for slum upgrading as households in these areas do not have enough cash to help building of houses with higher quality.
- > Provide access to a Community Upgrade Fund which will support small house upgrading and, above all, will provide a path to incremental access to common infrastructure, including infrastructure services.

>

The SUC is grounded on two key steps that will precede actual slum upgrading effort:

- 1 Making land available for the slum upgrading improvements: that is, to identify and make land available through buying or special arrangements. For example, the JKE cuts through land owned by NHCC on which informal settlements have developed. Cities Alliance, together with UNRA, is currently discussing with NHCC possible arrangements that will allow the slum upgrading effort to have access to land that currently belongs to NHCC.
- 2 Plan the land in a structured way – that is, in a way that produces “organized land” allowing for good mobility and better access to services. Since the slum upgrading is linked to the JKE contract, the project is seeking to obtain from JKE works that a basic good grid roads is established in the two neighbourhoods.

In addition, the SUC is proposing three major types of interventions towards the slum upgrading:

- 1 The construction or upgrading of various types of housing units including multi-storied buildings with shared facilities.
- 2 Using the concept of “sites and services”, in agreement with the local government, but with higher standards, which would allow access to serviced land and improved infrastructure services.

Using the Housing Support Centre and the Community Upgrade Fund to achieve greater access to infrastructure / utility services. This will be complementary to better access roads which should be provided with support from the JKE project.

## 5.7 Recommended projects and investments

### 5.7.1 Recommended infrastructure projects

The assessments of infrastructure state, conditions and adequacy and coupled with the interactions with the stakeholders within the JKM corridor provided deeper insight into the practical challenges and infrastructure gaps. Overall, the need for infrastructure as an enabler to support economic development and drive industrial activity, a key pillar in NDP III clearly comes out as one of the key needs. Within the corridor and specifically at the local levels, opportunities can be harnessed and supported to strengthen the industrialisation agenda.

#### **Investments and activities to be supported within the NDP III mandate**

The NDP III has stated the key infrastructure objectives and highlighted sub-programmes intended to deliver the overall strategic outcomes. The four infrastructure programmes along with the key expected outcomes are summarized below.

- > **Integrated Transport Infrastructure and Services Programme:** the key expected results include reducing the average travel time; reducing freight transportation costs; increasing the stock

of transport infrastructure; increasing the average infrastructure life span and reducing fatality and casualties from transport accidents.

- > **Energy development Programme:** The key expected results include an increase in primary energy consumption; an increase in the proportion of the population accessing electricity; a reduction in the share of biomass energy used for cooking; an increase in transmission capacity; and enhanced grid reliability.
- > **Digital Transformation Programme:** The key expected results relate to increasing ICT penetration; reducing the cost of ICT devices and services; creating more direct jobs in the sector; and increasing government services online.
- > **Sustainable Urbanisation and Housing Programme:** The key expected results include decreasing urban unemployment; reducing the housing deficit; enhancing economic infrastructure in urban areas; increasing efficiency in the solid waste collection; and more coverage of urban green spaces.

Within the JKM corridor, some of the key projects identified to fit into the above strategies and importantly align with the industrialization agenda include:

#### Water Supply

Ref	Subsector	Project Title	Estimated Cost US\$ (Millions)	Comments	Responsible Actor	Potential Funding Sources
1	Water Supply	Increasing the climate resilience and infrastructure resilience of reservoirs and associated supply and distribution infrastructure at specific urban areas within JKM	25	The project will target localized improvements to water supply and distribution infrastructure in identified growth centres within the JKM Corridor with a focus on climate resilience	NWSC JKM Urban Authorities	Green Climate Fund GGGI Bilateral Development Partners
		Piloting public-private partnerships in the water supply space to supplement the plans and programmes of the National Water and Sewerage	50	The project will target private sector partnerships in the provision of water supply and distribution infrastructure in identified growth centers within the JKM Corridor	NWSC MOFPED JKM Urban Authorities	PPP

		Services Corporation.				
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### Sanitation and Drainage

Ref	Subsector	Project Title	Estimated Cost US\$ (Millions)	Comments	Responsible Actor	Potential Funding Sources
1	Sanitation	Development of Mini Sanitation Treatment Solutions within the JKM corridor	100	The project will target the provision of mini sanitation solutions to supplement wide sanitation coverage in identified growth centers within the JKM Corridor	NWSC JKM Urban Authorities	Bilateral Development Partners
		Piloting public-private partnerships in the sanitation space to supplement the plans and programmes of the National Water and Sewerage Services Corporation	25	The project will target private-sector partnerships in the provision of sanitation services in identified growth centres within the JKM Corridor	NWSC MOFPED JKM Urban Authorities	PPP
2	Drainage	Centralized Urban Drainage Infrastructure linking JKM catchments to centralized facilities.	100	The project will target the provision of drainage infrastructure to address current challenges with drainage in GKMA and Urban Centers in JKM. The project will tie in with the GKMA Drainage Masterplan	NWSC JKM Urban Authorities	Green Climate Fund Bilateral Development Partners Multilateral Development Partners

*Solid Waste Management*

Ref	Subsector	Project Title	Estimated Cost US\$ (Millions)	Comments	Responsible Actor	Potential Funding Sources
1	Solid Waste	Piloting e-waste management for industrial areas	10	The project will target the provision of specialised facilities and infrastructure for the management, handling and processing of e-waste in industrial zones/areas in JKM Corridor.	JKM Urban Authorities	Green Climate Fund  Bilateral Development Partners  Multilateral Development Partners
		Piloting public-private partnerships in the solid waste management space to supplement the plans and programmes of the municipal authorities	25	The role of the private sector in the provision of solid waste management services is still low. The project will target private sector partnerships in the provision of solid waste management infrastructure in identified growth centers within the JKM Corridor and municipalities	JKM Urban Authorities	PPP  Multilateral Development Partners

*Energy*

Ref	Subsector	Project Title	Estimated Cost US\$ (Millions)	Comments	Responsible Actor	Potential Funding Sources
1	Energy	Sustainable Energy Provision at Fish Landing Sites in Jinja, Njeru	05	The project will cover detailed mapping out the immediate energy gaps for fish landing sites to attempt	MEMD  UEDCL  JKM Urban Authorities	PPP  Multilateral Development Partners



				to improve fish harvest handling and support processing at designated landing sites.		
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### **Mid and Long-Term recommended investments and activities**

#### *Economic Infrastructure*

<b>Ref</b>	<b>Subsector</b>	<b>Project Title</b>	<b>Estimated Cost US\$ (Millions)</b>	<b>Comments</b>	<b>Responsible Actor</b>	<b>Potential Funding Sources</b>
1	Community Markets	Mapping out the infrastructure gaps for markets and improving the design and siting of local and community markets	10	The project will cover detailed mapping out the infrastructure gaps for markets and improving the design and siting of local and community markets in JKM Corridor.	MAIF JKM Urban Authorities	Bilateral Development Partners Multilateral Development Partners
		Piloting Urban Agriculture as a means to support the greening of urban areas and support food production for a range of products	15	The project will target Urban Agriculture as a means to support the greening of urban areas and support food production for a range of products within the JKM Corridor and municipalities. Will require the development of pilot solutions and associated infrastructure to support urban supply chain development in Agriculture.	MAIF JKM Urban Authorities	Bilateral Development Partners Multilateral Development Partners

	Industrial Parks	Infrastructure for Industrial Zones/ Parks	100	The project will target private Infrastructure for Industrial Zones/ Parks in identified areas within the JKM Corridor. A number of mini-industrial parks/zones are present within the JKM corridor but many of these are not spatially aligned to the growth nodes and do not link well to demand and supply centres. Further adequate infrastructure in these parks to support SME business activities is lacking.	JKM Urban Authorities UIA PSFU	Bilateral Development Partners  Multilateral Development Partners
	Green Urban Infrastructure	Design and implementation of Eco-friendly urban infrastructure as part of the greening of JKM physical development plans	50	The project will target the design and implementation of Eco-friendly urban infrastructure as part of the greening of JKM physical development plans in the JKM Corridor.	JKM Urban Authorities	Green Climate Fund GGGI Bilateral Development Partners Multilateral Development Partners

### Solid Waste Management

Ref	Subsector	Project Title	Estimated Cost US\$ (Millions)	Comments	Responsible Actor	Potential Funding Sources
1	Solid Waste	Develop a centralised	100	The project will target the	JKM Urban Authorities	Green Climate Fund

		primary waste management facility for the JKM corridor area with satellite secondary collection centres.		development of a centralised primary waste management facility for the JKM corridor area with satellite secondary collection centres in the JKM Corridor. This will align with and support current initiatives to develop facilities in GKMA considering that the current landfill in Kiteezi is nearing the end of design and operational life.		GGGI  Bilateral Development Partners  Multilateral Development Partners
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### 5.7.2 Recommended housing projects

Below, investments and activities in the housing sector are proposed to be supported both in the short-term – with the NDP III mandate – and in the mid-to long-term – that is, within the mandate of the Uganda Vision2040.

#### **Investments and activities to be supported within the NDP III mandate**

The JKM Corridor Plan would propose the following projects to be carried out during the NDP III implementation period:

Ref	Subsector	Project Title	Estimated Cost US\$ (Millions)	Comments	Responsible Actor	Potential Funding Sources
1	Housing	Establish the JKM Corridor "Housing Task Force"	2	"Housing Task Force" led by MLHUD and convening highly committed stakeholders, to draw high policy, legislative and		

				planning focus, and resources.		
2	Housing	Land banking by local authorities, including through negotiations with large landowners such as the Buganda Kingdom and the church.	10	When possible, land should be serviced to attract investors and housing developers. Land banking should especially target the two main metropolitan areas, including the newly planned towns.		
3	Housing	Establish the Uganda Mortgage Refinance Company (UMRC)	5	Recapitalize housing finance mechanisms such as the Housing Finance Bank and support SACCOs and cooperatives. Investigate the possibility of debt financing such as what was done in Kenya.		
4	Housing	Support to housing developers' schemes investing in low-cost housing	10	This is particularly the case within the JKMA area – there are currently concrete schemes being developed by NHCC and NSSF.		
5	Housing	Scale-up existing housing unit models for low-income housing delivery	20	Existing models to be adopted are those developed by UHOCU. MLHUD could have a role to promote the adoption of these models by housing developers and projects currently seeking to provide large-scale affordable housing units.		

6	Housing	Develop skills of informal builders to strengthen low-income housing quality and delivery	7	This supports continued incremental building by individual households and will allow for an overall increase in housing quality.		
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### **Mid- and Long-Term recommended investments and activities**

The JKM Corridor Plan would propose the following projects to be carried out in the mid-long term towards 2040:

Ref	Subsector	Project Title	Estimated Cost US\$ (Millions)	Comments	Responsible Actor	Potential Funding Sources
1	Housing	Integrate housing in Industrial Park planning	20	Support housing access for current industrial parks and those currently being planned		
2	Housing	Promote housing access scheme for civil servants	8	When possible, land should be serviced to attract investors and housing developers. Land banking should especially target the two main metropolitan areas, including the newly planned towns.		
3	Housing	Design and implement a realistic slum upgrading action plan	12	During the NDP III period, lessons should be drawn from the slum upgrading process being carried out in Kinawataka and Kasokoso and the selection of areas for slum upgrading		

				affected. Priority should be given to settlements in the two large metropolitan areas.		
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# THE JINJA- KAMPALA-MPIGI CORRIDOR

## PHYSICAL DEVELOPMENT PLAN

JUNE 2023

### CHAPTER 6 TRANSPORT: MOBILITY AND CONNECTIVITY STRATEGY



**Government of Uganda**  
Ministry of Lands, Housing and Urban Development

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## 6 Transport: Mobility and Connectivity Strategy

### 6.1 Introduction

#### 6.1.1 Background

The Jinja –Kampala – Mpigi (JKM) corridor has its origins as a major transport corridor linking Uganda with Rwanda and the Democratic Republic of Congo (DRC) in the West, South Sudan in the North and with Kenya and the Indian Ocean Port of Mombasa to the East. The efficient functioning of the JKM corridor requires removing constraints leading to an expansion of trade and economic activity from lower operating costs and faster travel times.

With regard to transport and mobility, the JKM plan will take into account both the supply of transport and the demand for transport services. For most transport modes the supply needs to be improved in terms of capacity improvements for the road network, upgrading of railway lines and rolling stock, greater port cargo handling capacity and additional facilities for air transport.

With supply-side improvements, there must be a parallel effort with demand management. Demand for transport will continue to increase. However, not all the demand needs to use motorized transport. Non-motorized transport is essential in order to achieve sustainability goals. Demand for motorized transport need not imply the use of private cars. Commuter trips can be undertaken with some form of public transport from stage bus services, and BRT to MRT options such as light rail transit (LRT), heavy commuter rail (HRT) etc.

Sustainable urban mobility implies reducing the need for a trip through better urban design, as well as encouraging the use of walking and cycling by providing the appropriate infrastructure. Demand should be diverted to public transport wherever possible.

JKM corridor has a large population that will grow further. The current configuration of public transport is inefficient and partly contributes to the severe congestion at peak hours. If the JKM area is to function in a unified and connected manner it will need substantial investments in public transport.

Transport improvements in the JKM region will need to consider commuter rail that will link up all areas from Jinja, Buikwe, Mukono, Mpigi and Kampala city. The plan must provide transport links along a central axis as well as in terms of feeder routes. Reducing congestion and lost working hours would add millions of dollars per year to the economy as well as improve the quality of life.

It is well observed that foreign companies and investment are often a function of the life-style preferences of the senior management in terms of transport, accessibility, schooling etc.

Domestic aviation will grow further, and this will mean that Entebbe International Airport will reach capacity far too soon. Some airstrips such as Kimeka in Jinja and Kajjansi in Wakiso will have to be upgraded to serve domestic and regional demand (i.e., Kenya, Rwanda, Tanzania, South Sudan and DRC) and thus alleviate the pressure on Entebbe.

### 6.1.2 Transport Sector Vision, Policies and Objectives

Vision 2040 is Uganda's long-term strategic plan for spatial and non-spatial development as devised by the National Planning Authority (NPA) issued in 2010. Its stated objectives are to Achieve 'A Transformed Ugandan Society from a Peasant to a Modern and Prosperous Country within 30 years'.

Vision 2040 also outlines quantified development targets that will act as indicators of the achievement of middle-income status. One such target is increasing the share of standardised paved roads from 4% of the total network of roads to 80% by 2040.

## 6.2 Research Methodology

The research underpinning this strategy applied a mixed-method research design. That is, both qualitative and quantitative research methods were used to gather and analyse the data. Existing literature in form of official documents such as Vision 2040, National Development Plans, National Transport Master Plan (2009-2023), Greater Kampala Metropolitan Area Strategic Development Framework, Draft National Physical Development Plan, Draft National Transport and Logistics Policy, National Non-Motorised Transport Policy, Multimodal Transport Master Plan for Greater Kampala, Kampala Physical Development Plan, District Development Plans (Mpigi, Wakiso, Buikwe, Mpigi, Mukono and Jinja Districts) was also reviewed.

Face-to-face interviews with key informants and officials from various government agencies and organisations were carried out. These key informants include the Ministry of Works and Transport (MoWT), the Transport Licensing Board, Districts, municipalities, town councils, Kampala Capital City Authority (KCCA), new cities such as Jinja, Uganda Road Fund, Uganda National Road Authority (UNRA) and Uganda Railways Corporation (URC). Interviews were also carried out with private transport operators such as Pioneer Easy Bus (PEB), Awakula Ennume Bus Company, minibus taxi associations as well as association of commercial cycle taxi operators (Boda Boda Associations)

## 6.3 Road Subsector

Within the Jinja –Kampala- Mpigi (JKM) Corridor that covers Kampala Capital City Authority (KCCA), Wakiso, Mpigi, Mukono, Buikwe and Jinja, the construction and maintenance of roads also follows the same national transport governance structure that has been described before. Statistics indicate that KCCA has a total road network of 1,030km compared to 1,564km in Wakiso, 937.8km in Mpigi, 1,470.2 in Mukono and 1632.1km in Buikwe.

JKM accommodates over 50 percent of Uganda's total urban population and generates over 60 percent of the country's gross domestic product (GDP). Currently, four (4) of the largest urban centres in Uganda are located in the JKM region. That is Kampala city with a population of approx. 1,500,000, Nansana Municipal Council with 366,000, Kira Municipal Council with 317,000 and Makindye Ssabagabo Municipal Council with 283,000.

As the most urbanised and most productive region in the country, JKM should have the best and most efficient infrastructure including modern roads and railway systems to improve its competitiveness and foster economic growth. However, the current transport system in the region is characterized by low and insufficient paved road density, increased road accidents as well as incessant traffic jams, especially on the arterial roads leading to Kampala city centre.



KCCA which is the most urbanized area in the KJM region has about 57 percent of its road network paved. This is followed by Jinja district with 24 percent of paved roads, Wakiso with 15 percent, and Mpigi with 13 percent, see Table 1 below.

Table 1: Road Network in JKM Districts

Districts	Total Area by Sq Km	Population	Total road network	% of paved roads
KCCA	195	1.5Million	1,030	57
Wakiso	2,807.75	2,007,700	1,564	15
Mpigi	1,041.13	251,512	937.8	13
Mukono	2,986.47	599,817	1,470.2	NA
Jinja	767.8	499,941	1,238	24
Buikwe	1,209	422,771	1,632.1	NA

Source: Five-Year Development Plans for Districts in the JKM region

Most of the urban roads in the Jinja-Kampala-Mpigi (JKM) corridor as well as Greater Kampala are not paved. For example, Nansana, which is the second largest urban centre in Uganda and in the region after Kampala city has only 6 percent of its entire road network of 1,041km paved. Further still, the percentage share of paved roads in Kira town is 16 percent, 9 percent in Makindye Ssabagabo, 11 percent in Mukono, 32 percent in Entebbe and 30 percent in Jinja town, see Table 2 ).

Several roads in Kampala are also not paved and this has adversely affected the city's ability to foster economic growth, create wealth and alleviate poverty. Also, in Kampala, which is the core urban region of the Jinja – Kampala – Mpigi (JKM) conurbation/corridor, most roads were constructed in the 1960s for only 100,000 vehicles per day. Today, over 400,000 vehicles use the same roads, causing unnecessary travel delays, especially during the morning and evening peak hour periods.<sup>1</sup>

Table 2: Road Network in Municipal and Town Councils in JKM Region

Urban Centre/Town	District	Area Coverage Square Kilometre (Sq Km)	Population	Total Road Network KM	% of paved road
KCCA	KCCA	195	1.5 million	1,030	57
Nansana MC	Wakiso	293.63	366,000	1041.46	6
Kira MC	Wakiso	98.83	317,000	293.24	16
Makindye Ssabagabo MC	Wakiso	84.734	283,000	390.2	9
Jinja MC	Jinja	29	76,000	300	30
Mukono MC	Mokono	210	163,000	80.8	11
Entebbe MC	Wakiso	56.2	69,000	135	32
Njeru MC	Buikwe	NA	69,000	790	4.2
Buikwe TC	Buikwe	NA	NA	NA	NA

<sup>1</sup> World Bank, 2017

Lugazi MC	Buikwe	NA	114,000	251	8.4
Mpigi TC	Mpigi	151	35,663	232	6

Source: *Five-Year Development Plans for Districts in the JKM region*

According to a recent KCCA Survey Report, commuters and travellers in Greater Kampala lose over 24,000 man hours each day due to traffic jams caused mainly by the increased use of private cars and continued dependence on low-capacity systems, such as the 14-seater minibus taxis (Matatus) and commercial motorcycles (Boda Bodas).

A recent enterprise survey conducted by the World Bank revealed that 15 percent of business firms in the Greater Kampala/GKMA considered high transportation costs and traffic jams as a severe constraint to their operations (World Bank, 2017). The survey further revealed that 'traffic congestion is particularly troublesome for medium and large firms in the tradeable sector, which rely on the transportation of goods around and outside of the city'.

Deficiencies in the existing road network in the JKM region including greater Kampala have resulted in the relocation of some key economic activities including industries to areas such as Wakiso, Mukono, Jinja and Mpigi. Decentralisation is a good way to mitigate congestion. However, it must be done in a planned and organized manner based on JKM planning objectives. The JKM plan will try to capture these changes and provide a planning framework that is less ad-hoc. This relocation is visible as one travels along key national roads linking Kampala with several regional towns. Most industries have also been established along arterial road sections such as Kampala-Jinja, Kampala-Mityana, Kampala-Bombo and Kampala-Mpigi. Linear development is a market-driven response. However, a more efficient spatial outcome is possible.

Over 2.2 million people use the poorly maintained road network and inefficient transport system each day in the GKMA region and beyond. Also, over 50 percent of the people working in Kampala live in Wakiso (World Bank, 2017). Today, Wakiso district has the largest concentration of people in Uganda but with one of the lowest paved road densities in the country.

Paved road densities are a critical indicator of the level of access to paved roads among citizens in the country. Due to the high concentration of people as well as the emergence of respiratory diseases as a result of dust and other sources of air pollution in cities and towns, these urban paved road densities must be increased.

Between 2002 and 2011, firm concentration in Kampala's Central Business District (CBD) declined from 65 percent of firms and enterprises to 55 percent, due in part to an increase in production costs caused by poor road infrastructure as well as incessant traffic jams (World Bank, 2017).

The dispersal of economic activities in the JKM region has increased the cost of providing physical infrastructure such as roads and prevented firms from enjoying benefits associated with agglomeration such as economies of scale.

## 6.4 Non-Motorised Transport (NMT)

### 6.4.1 Key NMT Modes

Non-Motorised Transport (NMT) comprises key transport modes such as walking, cycling, animal-drawn carts, pack animals and carts, wheelbarrows, wheelchairs, human-powered tricycles, canoes and non-motorised boats. In Uganda, NMT involves mostly walking and cycling. NMT is also popular in both rural and urban areas.

Increasing motorization combined with some inadequately maintained infrastructure has made NMT unsafe in many parts of the country. Most accident victims are often pedestrians and cyclists. In 2016, 40 percent of the people killed in road accidents were pedestrians and 10 percent were cyclists (United Nations, 2018).

Realising the benefits of NMT, more and more cities in Uganda are now designing programmes and projects to accommodate the needs of pedestrians and cyclists. Cases in point are Kampala and USMID municipalities such as Jinja, Entebbe, Masaka, Mbarara, Fort Portal, Gulu and Mbale.

Also, in 2012 Uganda introduced its new NMT policy. Among the stated objectives of this policy are a) An increase in the recognition of walking and cycling in transport, planning, design and infrastructure provision; b) Provision of safe infrastructure for pedestrians and cyclists; c) Resources for walking and cycling is being mainstreamed in agencies, and improvement in regulation and enforcement to enhance safety for pedestrians and cyclists.

Very few roads have so far been constructed with pedestrian and cycling facilities. Most urban and national roads also lack safe pedestrian walkways, crossings and footbridges.

#### **Demand and supply of non-motorized transport facilities**

In Kampala, over 50 percent of the trips are made by walking. Even among the high-income Ugandans, over 45 percent of all trips are still made by walking (MoWT, 2012). According to UBOS (2016), about 65% of urban dwellers walk to work every day. It is further stated that walking trips in Kampala are as high as 70% of the total trips made (UNHS, 2010).

Findings from a traffic survey conducted in 2019 in selected towns including a few towns in the JKM corridor such as Entebbe, Jinja and Mpigi also revealed that walking constitutes the majority of trips made in urban centres with about 50% to 63% modal share. This is followed by commercial motorcycle Boda Boda with about 20% and minibus taxis with about 11%, (see Table 3). Although most trips are made by walking, there is a lack of pedestrian and cycling facilities on most roads in the surveyed towns.

Table 3: Modal Share in Towns outside Kampala, %

	Private Car	Minibus Taxi	Boda Boda	Bus	Walk	Other
Yumbe	3	10	20	4	51	12
Mbarara	8	20	21	0	50	1
Gulu	8	12	20	0	55	5
Hoima	10	10	25	0	51	4

Mbale	3	18	30	2	46	1
Entebbe	5	10	20	1	60	4
Jinja	10	15	20	2	50	3
Arua	10	10	25	5	50	0
Tororo	13	30	40	1	8	8
Kotido	3	10	12	10	60	5
Fort Portal	7	5	30	3	45	10
Mpigi	4	10	20	0	62	4
Zigoti	3	8	26	0	54	9
Buyende	3	15	20	0	60	2
Kyamuhungo	3	3	30	1	60	3
Uganda	6	12	24	2	51	5

Source: COWI Transport Survey 2019

Responding to new mobility demands, the government reviewed and updated the road design manuals to conform to international standards as well as address road safety challenges in 2010. Best practices in implementing NMT were also identified for implementation in Uganda.

Numerous changes introduced by the government in transport planning and policy formulation have also resulted in great improvement in pedestrian facilities, especially along the national roads and in some urban areas including Kampala. Virtually all roads that have been rehabilitated or upgraded under the USMID programme in towns such as Jinja, Mbale, Arua, Lira, Soroti, Masaka, Entebbe, Mbarara, Fort Portal, Hoima and Gulu have pedestrian facilities including walkways and well-designed pedestrian crossings.

### **Challenges faced by NMT**

NMT users are faced with the challenge of poor road maintenance, which leads to erratic and dangerous behaviour of drivers as they search for the smoothest ride and avoid potholes, gullies and runoff deposits. When the carriageways are particularly uncomfortable vehicles move onto the shoulders on either side of the road. This affects pedestrian movement. Most urban and national roads have also been constructed without consideration for pedestrian and cyclist facilities.

Rising number of road accidents. In 2016, over 40 percent of the people killed in road accidents in Uganda were pedestrians (United Nations, 2018). Most pedestrian facilities were also constructed without consideration for universal design standards. For example, some footbridges do not have ramps that can be used by wheelchair users.

To note also is the lack of safe parking facilities for bicycles in most towns and cities. Experience from developed country cities such as Maastricht, Stockholm, London and Rome shows that more people will use bicycles for various journeys if safe parking facilities are provided especially at the train stations and bus stations.

Uganda's paved road density is also one of the lowest in the world. Most urban, rural and national roads are not paved, and this serves as a major obstacle to providing pedestrian and cyclists lanes. Also, without approved NMT guidelines, it is difficult for most local governments and road agencies such as the

Uganda Road Fund (URF) and Uganda National Road Authority (UNRA) to implement the already existing national NMT policy.

Undulating landscape or hilly topography is also a key challenge faced by the NMT users and promoters in the JKM corridor. Cities such as Kampala are located in valleys and hilly areas which discourages people from walking and cycling.

### **Opportunities available or fostering NMT**

Kampala is now a pioneer and role model city for other towns in promoting NMT. Over 1.95 kilometres of pedestrian walkways have been constructed under a pilot project covering Namirembe road and Luwum Street in Kampala city centre. Also, under the KIIDP road rehabilitation programme, several Kilometers of pedestrian walkways have been constructed in various parts of Kampala. KIIDP is being financed by the World Bank.

*Figure 1: Kampala Non-Motorised Transport (NMT) pilot project*



Source: COWI/AS

KCCA is also in the process of constructing 128 kilometres of walkways under the Kampala city roads rehabilitation project (KCRRP). KCRRP is a five-year US\$288 million project that will be funded by the African Development Bank as part of the city's programme to rehabilitate and upgrade various roads.

Some key towns in the JKM corridor such as Jinja and Entebbe have benefited from the USMID project, which is funded by the World Bank in the 14 secondary cities. Besides, the creation of new cities by the government in 2020 (such as Jinja and Entebbe as well as Wakiso) provides numerous opportunities for promoting NMT in the JKM corridor.

It is further expected that government will come up with new guidelines on the operationalization of these newly created cities. These new guidelines are likely to improve service delivery as well as set new standards for providing key infrastructures such as roads and pedestrian facilities.

## 6.5 Railway Subsector

### 6.5.1 Current Railway Network

When the Uganda railway was developed in 1896 from Mombasa to Kampala and later to Kasese, Pakwach, Gulu and other towns, it offered both freight and passenger services (URC,2019). Passenger railway services were offered in areas such as Port Bell-Luzira, Nalukolongo, Nakawa, Namanve and Katwe. However, railway transport including passenger railway services declined in terms of freight volume and passenger ridership since the late 1980s. The performance of the passenger railway system was also affected by the introduction of Structural Adjustment Policies (SAPs) in Uganda.

Under the SAPs, government funding to the railway sector was reduced substantially. Besides, a large part of the Ugandan railway network became disused and abandoned. In some areas, the railway infrastructure was vandalised. Even when the railway sector was privatised, under the Rift Valley Railway concession, both freight traffic and passenger railway services did not improve.

In 2017, after numerous years of under-performance, the Rift Valley Railways (RVR) concession, was cancelled. In January 2018, Uganda Railways Corporation (URC) took over the operations of the freight and passenger railways services.

Given that the Meter Gauge Rail line in Uganda is old, the largest proportion of the network is largely dilapidated and out of use. Of the 1280km route length overall, only approximately 267km (21%) is operational i.e.

- > Malaba-Tororo-Kampala, 252km (Part is Jinja-Kampala through the JKM corridor) and
- > Kampala-Portbell, 9km
- > Kampala-Nalukolongo, 6km

The other non-operational lines include:

- > Kampala (Nalukolongo)-Kasese, 328km (Part of which falls in Wakiso)
- > Jinja-Mbulamuti-Busembatia, Mbulamuti-Namasagali, 171km (Part of Jinja rail Network)
- > Industrial branches to Jinja Port and Tororo Cement Factory, 10km

Figure 2 and Figure 3 show the key events in Uganda's railway industry including changes in management and the conception of the SGR Railway project.



Figure 2: Key events in the development of Uganda Railway Network – 1

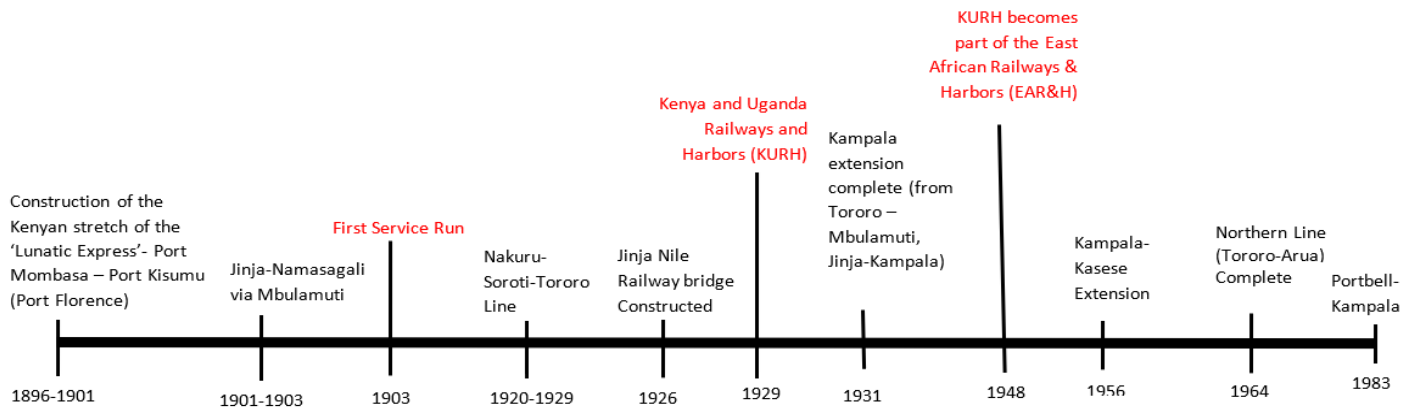


Figure 3: Key events in the development of Uganda Railway Network - 2

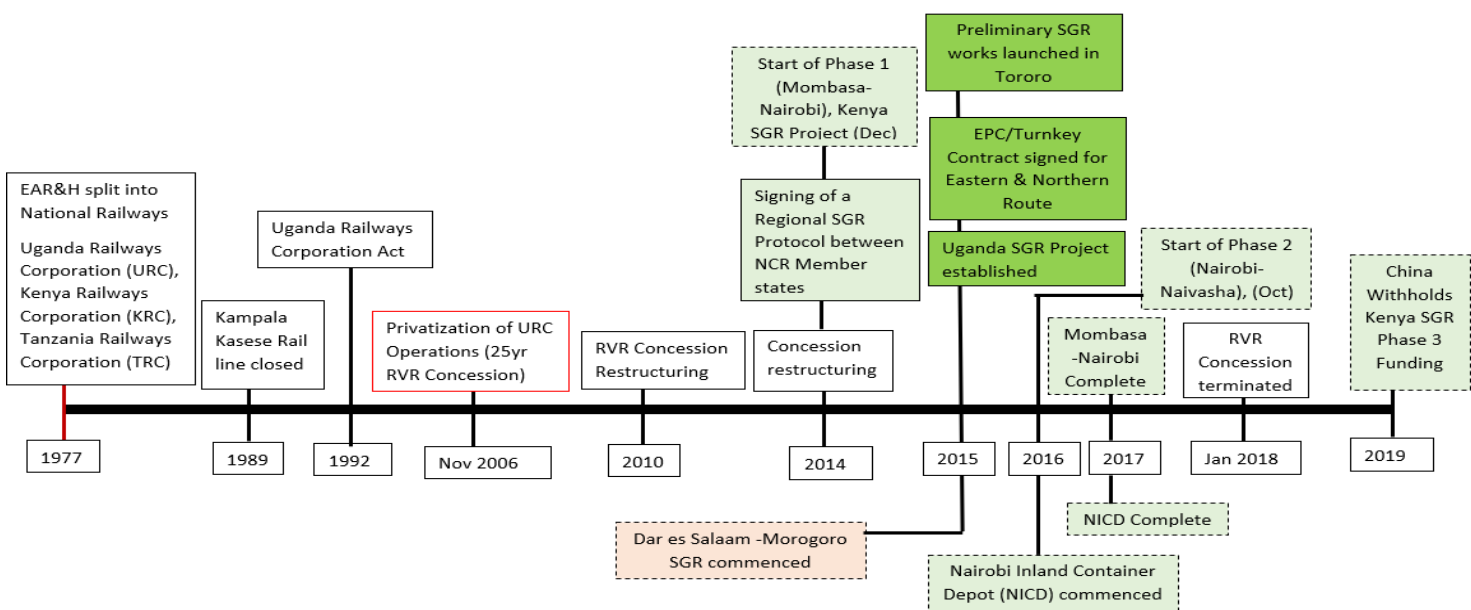
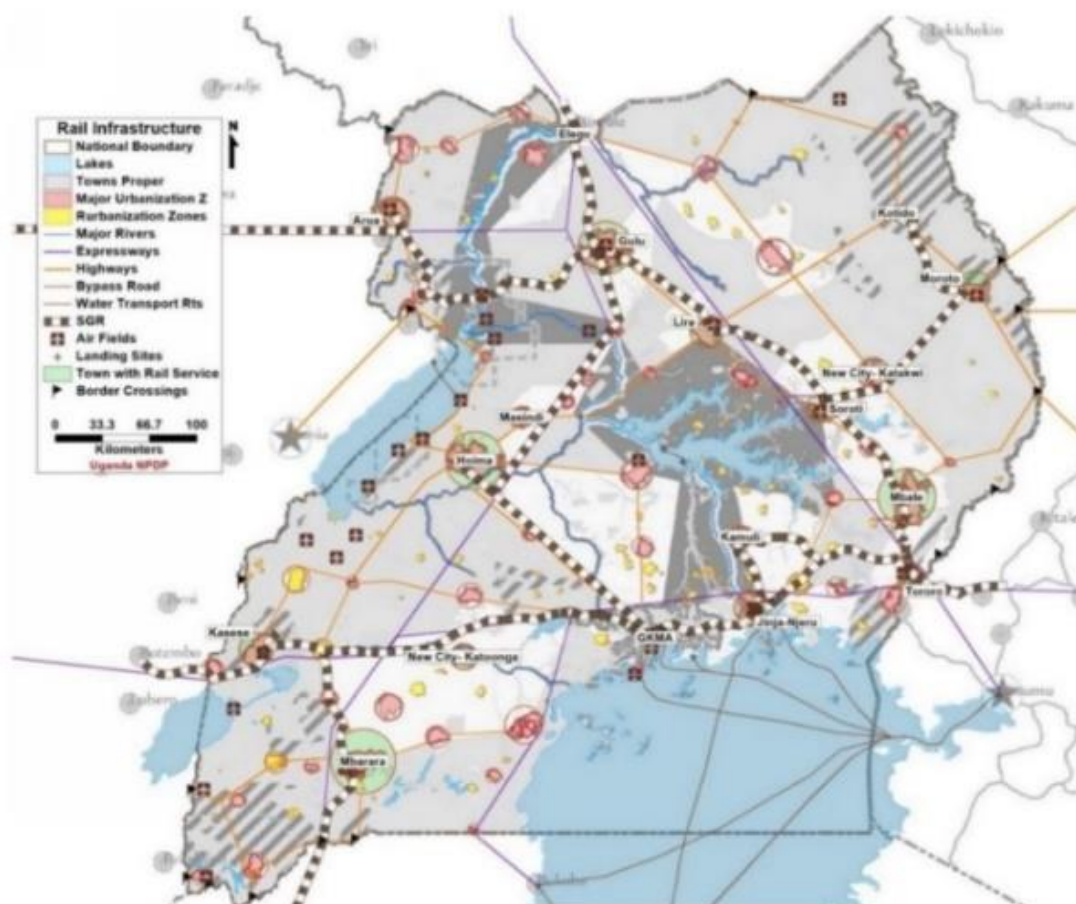


Figure 4: Railway Operations and Traffic



### **Railway operations and traffic**

Under the SAPs, government funding to the railway sector was reduced substantially. Besides, a large part of the Ugandan railway network became disused and abandoned. In some areas, the railway infrastructure was vandalised. Even when the railway sector was privatised, under the Rift Valley Railway concession, both freight traffic and passenger railway services did not improve.

Traffic in recent years never reached the baseline target foreseen in the RVR concession of 217.3 million ton\*Km. The highest in recent years was 166.17 million ton\*km in 2015. The situation quickly degraded in 2017 when the concession was clearly at risk and traffic in 2018 was 14% of the 2015 level and production (ton\*km) just 23%.

Table 4: Uganda Railways Traffic evolution

	2018	2017	2016	2015	2014	FY 2012/13	FY 2010/11	FY 2009/10	FY 2008/09
Number of trains	2.631	3.043	5.102	3.792	4.474	NA	NA	NA	NA
Tons (,000)	112,8	355,3	368, 9	818, 5	682, 8	686,6	675,5	542,1	588,1
Ton*Km (million)	38,05	70,05	125,6	166,17	136,42	154,2	153,5	124,6	134,4

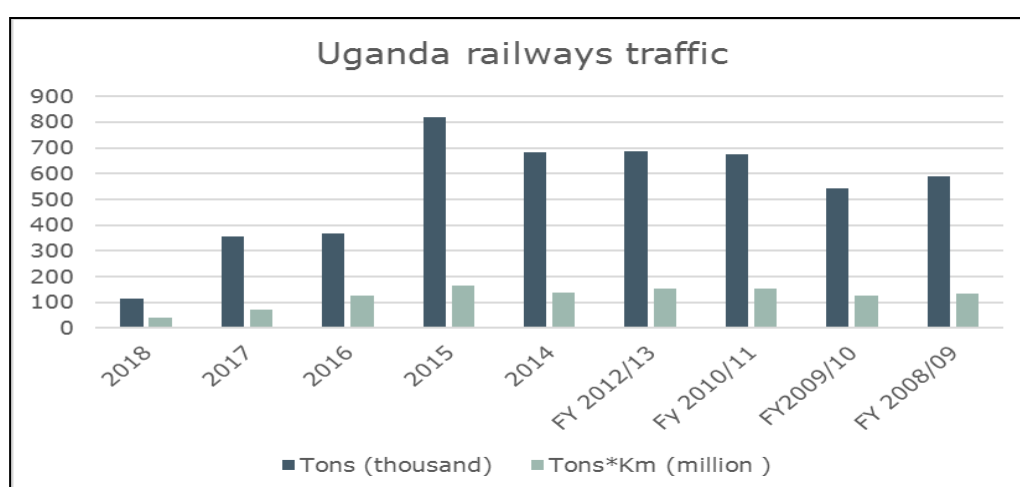
Source: URC and RVR

The Consultant has estimated<sup>2</sup> that 8.684 million tonnes of cargo (import + export + through traffic) circulated along the corridor Malaba-Kampala in 2017.

From the statistics above (assuming that all was import or export traffic), rail share in the corridor was just 4% in 2017. At its peak in 2015, when we estimate 7.577 million tons, rail share was 10.8%. (Rail share is calculated here only on import/export traffic. Considering domestic traffic, it would be much lower).

Since the takeover URC has struggled unsuccessfully so far to maintain and recover the railways custom base, see Figure 5.

Figure 5: Uganda Railways Traffic, latest years trend



Source: URC and RVR

Some of the reasons for this are:

- > Uncertainties have negatively affected the perception of some customers;
- > The aftermath of the takeover has coincided with the introduction of SGR in Kenya which has added more uncertainty to shippers;
- > After the takeover shippers have to deal with two railway companies (KRC and URC) instead of just one (RVR) which adds complexity and more paperwork;
- > From the last months of concession up to now there has been an acute shortage of cash available to invest in maintenance which has reduced the overall capacity;
- > Litigation between RVR and the GoU has stranded some equipment that remains non-operational;
- > URC relies on KRC for key operational aspects such as telecommunications and the availability of mainline locomotives.

On the positive side, after the concession takeover, URC has been able to reopen the route to Port Bell and ferry traffic to Mwanza which is experiencing encouraging results (Table 5).

Table 5: Southern Route/Ferry (tonnes)

	2019(Jan-May)	2018
Imports	15.989,44	24.151,84
Exports	9.088,48	12.617,50

Source: Uganda Railways Corporation (URC)

Table 6: Breakdown per commodity NTK

	2017		2016		2015		2014	
	NTK (,000)	%	NTK (,000)	%	NTK (,000)	%	NTK (,000)	%
Conventional	9.581,3	13,6%	22.512,5	17,9%	37.055,2	22,3%	40.402,2	29,6%
Container	60.055, 2	85,5%	95.007,3	75,7%	110.457,9	66,5%	79.614,6	58,4%
Oils and liquids	570,8	0,8%	8.058,7	6,4%	18.648,7	11,2%	16.401,9	12,0%
Total	70.207, 3	100,0%	125.578,5	100,0%	166.161,8	100,0%	136.418,8	100,0%

Source: Uganda Railways Corporation (URC)

As shown in Table 6, the type of cargo that has reduced most is oils and liquids, with throughput in 2017 being just 3% of what was transported two years before. Conventional cargo throughput in 2017 was 25% of 2015 and container reduction was more moderate in comparison, with throughput in 2017 being 54% of that of 2015. It is key to note that in 2014 less than 60% of throughput was containers while the share in 2017 was 85%.

Table 7 below shows URC's main customers for the period after the concession takeover. Grain importers dominate e.g. customers like Bakheresa and Grain Bulk handlers.

Table 7: Uganda Railways Corporation's Main Customers

	Feb.17-June.18		July.18-Feb.19	
	Tons delivered	%	Tons delivered	%
Akhom Ltd		0,0%	3.188,0	2,6%
Ati freight (Bidco)	892,9	2,0%	5.614,4	4,6%
Bakheresa Grain Milling Co. Limited	25.463,1	57,4%	7.644,1	6,3%
Fol Logistics		0,0%	3.382,7	2,8%
Gain Company Limited		0,0%	1.257,8	1,0%
Grain Bulk Handlers (Maganjo)		0,0%	1.737,7	1,4%
Grain bulk Handlers -Engano Millers		0,0%	6.308,9	5,2%
Grain bulk handlers Limited	4.940,0	11,1%	43.473,5	35,8%

	Feb.17-June.18		July.18-Feb.19	
	Tons delivered	%	Tons delivered	%
Grain Bulk- Kengrow Industries Limited		0,0%	2.321,6	1,9%
Gsm Tanzania Limited		0,0%	5.000,7	4,1%
Kapeshwar	1.536,9	3,5%	1.302,1	1,1%
Multiple	1.760,9	4,0%	1.390,2	1,1%
Prime fuels (Bidco)	896,0	2,0%	5.466,8	4,5%
Roofings	328,0	0,7%	1.586,5	1,3%
Samuel Othieno		0,0%	2.016,0	1,7%
Seroma Cement Limited		0,0%	3.545,0	2,9%
Spedag Inerfreight	3.204,0	7,2%	2.685,4	2,2%
Tanzania Railway Limited-WFP		0,0%	20.480,0	16,9%
Ugacof		0,0%	1.056,9	0,9%
Umoja Hardware Limited		0,0%	1.935,5	1,6%
JD International	1.928,9	4,4%		0,0%
Mukwano Group	1.663,7	3,8%		0,0%
Enterprises Ltd	659,0	1,5%		0,0%
Planet foods	497,1	1,1%		0,0%
Embassy forwarders	416,0	0,9%		0,0%
Royal Mabati	145,0	0,3%		0,0%
TOTAL	44.331,4	100,0%	121.393,9	100,0%

Source: URC

### **Operational performance**

Commercial speed has been kept between 20 and 21 Km/h during the studied period. However, travel time between Malaba and Kampala has increased from 18.5 hours in 2014 or 2016 to almost 24 hours in 2017, remaining above 20 hours in 2018 and 2019 (Table 8).

Table 8: Commercial Speed and travel time between main stations

Commercial speed (Km/h)	2019 (Jan-May)	2018	2017	2016	2015	2014
	21,02	21,47	20,80	21,00	20,20	21,22
Average travel time between main stations(hrs)						
MLB-TOR	0:55	1:00	1:35	1:03	1:17	1:15
TOR-JJS	9:10	10:12	11:38	10:17	11:52	10:42
JJS-KLA	11:39	9:08	10:28	7:19	7:38	6:50
KLA-PBL	0:23	0:24	-	-	-	-

MMLB = Malaba; TOR= Tororo; JJS= Jinja; KLA = Kampala; PBL= Port Bell (Source: URC)

Productivity performance has on average been radically impacted by the substantial reduction in traffic since 2017 as can be seen in Table 9.

Table 9: Other performance ratios

Productivity per loco (Kms /Tons*Km)	2019 (Jan-May)	2018	2017	2016	2015	2014
MTR(NTK)	56,35	6.556,32	12.949,17	0,44	265,35	433,90
36(NTK)	5.967,20	4.025,60	-	15.947,20	45.356,00	-
62(NTK)	49.551,29	227.312,41	1.320.847,75	1.536.687,33	1.782.771,50	1.479.965,57
73(NTK)	1.184.599,04	2.934.629,10	1.828.635,46	2.635.881,66	3.231.419,31	2.735.229,48
82(NTK)	-	-	-	-	-	164.235,01
Turnaround time wagons (days)	23,05	29,58	19,17	15,54	13,55	13,90

Source: URC

Wagon turnaround had been more than one month (32-24 days) on the route Mombasa/Kampala from 2010 to 2013, to be reduced to about half in 2014/15. The improved turnaround has been kept up to 2016 when time has increased again to almost one month.

### **Passenger traffic**

A commuter passenger service was started in December 2015 between Namanve and Kampala station (12km) with four stops at Makerere University Business School, Nakawa Interfreight, Kireka and Bweyorere at Namboole stadium. The service is operated by one locomotive and five coaches with a sitting and standing capacity of 120-150 persons per coach.

The service started as a pilot project funded by the Government of Uganda as a Public Service Obligation through Kampala Capital City Authority. Over the period from December 2015 to December 2018, the ridership is estimated to have mounted to 942,982 passengers. The train schedule is represented below:

Trip	From	To	Departure	Arrival
1	Namanve	Kampala	7:00am	7:45am
2	Kampala	Namanve	5:30pm	6:15pm
3	Namanve	Kampala	6:40pm	7:25pm
4	Kampala	Namanve	7:50pm	8:35pm

Operational and ridership statistics from 2018 and 2019 (partial) are shown in Table 10 below.

Table 10: Commuter train traffic

	2019(Jan-May)	2018
Daily scheduled trains (times)	4,00	4,00
Number of coaches in scheduled trains	5,00	5,00
Capacity per train (number of passengers)	750,00	750,00



Origin / destination scheduled trains	4,00	4,00
Total services (annual) including non-scheduled or special trains	NA	821,00
Total passenger (annual)	180.485,00	438.783,00

Source: Uganda Railways Corporation (URC)

Commuter service is proving to be a major success and is welcomed by passengers. Site inspection made by the Consultant’s team showed that the service operated timely and that standards of service and tidiness on board were quite good. On the downside, however, infrastructure at most stops was minimal to non-existent and depending on the season and time, there is excessive crowding.

At the time of writing this report (May 2019), URC was tendering a feasibility study for the expansion of passenger services in the Greater Kampala Metropolitan Area with EU funding.

**Revival of passenger railway transport**

Passenger train services were reintroduced under a pilot project in December 2015. Eighteen months of operation resulted in a monthly ridership of 34,575 commuters. UCR is operating at over 80% of the capacity of 120-150 persons per coach. The project is funded by the Government under a Public Services Obligation through Kampala Capital City Authority (KCCA).

Figure 6: Passenger Railway Services in the JKM region



On the Kampala-Namanve route, several halt points (train stations) exist, but they are not properly connected to other modes of transport such as minibus taxis and stage buses.

Figure 7: Dilapidated Namanve passenger railway station in Mukono district



Source: COWI A/S

Table 11: Train Timetable for Kampala-Namanve Route

Trip	From	To	Departure	Arrival
1.	Namanve	Kampala	7.00am	7.45am
2.	Kampala	Namanve	5.30pm	6.15pm
3.	Namanve	Kampala	6.40pm	7.25pm
4.	Kampala	Namanve	7.50pm	8.35pm

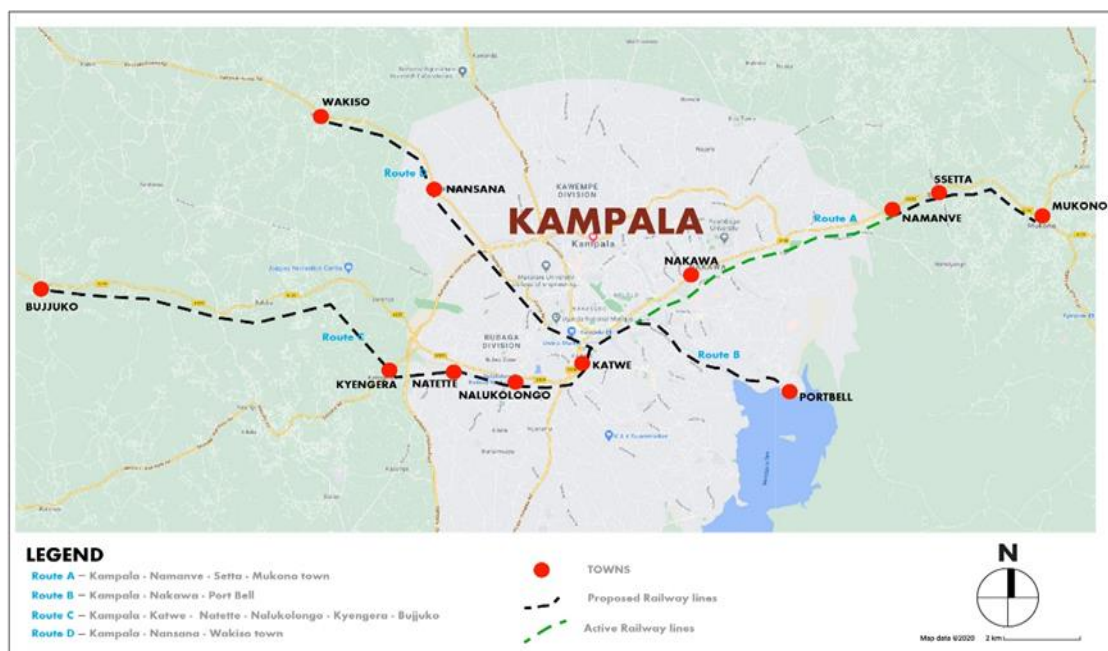
Source:URC, 2015.

Over the period from December 2015 to 2018, ridership was estimated at 942,982 passengers. During the same period, total revenue collection was Shs978.49 Million, which represents 15% of the total operational cost of the service, at a fee of Shs1,000 between the stations and the halts and Shs1,500 between Kampala and Namanve.

URC also has the plan to extend passenger railway services in various parts of the JKM region including areas such as Mukono town (Mukono district), Bujukko (Wakiso District), Nsangi (Mpigi district), Wakiso town, Port Bell and Nalukolongo.

Figure 8: Proposed extension of Passenger Railway services in the JKM region

### EXTENSION OF PASSENGER RAILWAY SERVICES IN THE GKMA



### Major railway transport problems and issues

Since the collapse of the state-owned bus companies in the late 1990s, the transit sector has continued to be dominated by informal transport operators such as minibuses and motorcycle Boda Bodas.

Such systems do not require professional knowledge and skills, and this has undermined efforts to train more transport experts and managers. In short, the managerial skill gaps faced by the public transport sector are a result of several factors and this has adversely affected the sustainability and development of the public transport industry in the country.

Capacity building within government agencies and systems is also important in meeting the professional expertise required at institutional and individual levels within government authorities. This should involve reskilling city officials and those of key agencies, such as the Police and Transport Licensing Board through executive programs and developing university-educated professionals. The focus of training for existing city officials should be to develop awareness, skills and a deeper understanding of the requisite issues in urban transport, management and planning of cities. For the training and skill-building program to be beneficial, Municipal Governments should be mandated to establish a dedicated agency for urban transport and identify officials to be recruited and send them for further training.

Therefore, the need to recapture the market for railways, address its cost structure, focus on remunerative business and Identification of alternative sources of revenue (e.g. from propriety) remain a challenge

## **Railway transport governance and regulations**

Currently, all existing and planned Railway networks in Uganda fall under the management of the Uganda Railways Corporation. This complies with Uganda's Railways Corporation Act (1992).

The Act establishes Uganda's Railways Corporation whose objectives are: "*the construction, operation and maintenance of railway, marine and road services both in and outside Uganda for the carriage of passengers and goods*" (section 3).

In addition, URC may provide, among others, logistics services: "*Functions of the corporation: (...) to store goods whether or not the goods have been or are to be carried by the corporation; to consign goods on behalf of persons other than the corporation from any place within or outside Uganda to any other place whether within or outside Uganda; to provide clearing and forwarding services*".

URC has strict control from the Ministry. The Minister's stamp is required for the determination of charges, fares or tariffs, budget approval, sale or rent land or URC engagement in new undertakings, and borrowing. The Minister also nominates URC board members and the Managing Director.

*"The corporation shall operate and conduct its undertaking in accordance with sound commercial principles". However (...) "cheap transport shall be provided by the corporation to assist agricultural, mining and industrial development of Uganda". (Section 29). However, the Act envisages that the Corporation should not be required by Government to provide services at a loss (Section 38).*

This act gives the mandate of construction, operation and maintenance of railways solely to the Uganda Railways Corporation. Specifically, the same stipulates that 'no rail transport services shall be provided; and no rail shall be constructed for the carriage on it of passengers or goods for reward, within Uganda, by any person other than the corporation, except on industrial estates for industrial purposes only' (Section 37).

Issues arising:

- > In spite of its name, URC's domains of activity are not only railways, but marine and, at least theoretically, road transport services as well. However, it has exclusive rights to operate rail transport within Uganda, but its services may be provided in concurrence with marine and road services;
- > The act enshrines URC as the owner of railway property and operator though under tight control from the Ministry in many business decisions;
- > The Act does not properly set a framework for any PPP arrangement for the provision of services. Thus, no regulatory functions are stated. In fact, the RVR concession contract was not sustained by URC Act but by other Uganda laws and it was the Concession agreement that gave URC the powers to monitor the Concessionaire;
- > The Act does not on give URC capacities in planning railways. It is understood that this is restricted to the Government (Ministry of Transport). This is reflected by the fact that the planning and project preparation of the SGR network has been assigned to a specialized unit outside the URC organogram under the direct authority of the Minister of Works and Transport.

### **Standard Gauge Railway (SGR) Project and other investment opportunities in the railway sector**

In June 2013, the first infrastructure Summit of the Presidents of Kenya, Rwanda and Uganda held in Uganda put in place mechanisms for fast-tracking the development of the Standard Gauge Railway (SGR) system linking Rwanda and Uganda to the port of Mombasa to enable the faster socio-economic transformation of the East and Central Africa Economies.

These led to the signing of the Tripartite Agreement for the development and operation of a Standard Gauge Railway between Mombasa-Kampala-Kigali with branch lines to Kisumu (Kenya) and Pakwach/Gulu-Nimule (Uganda) between the Republics of Kenya, Rwanda and Uganda in August 2013. The Republic of South Sudan acceded to the agreement in May 2014 extending the line to Juba.

To enable the development and operationalization of a Seamless Railway network from Mombasa to Kigali and Juba, the Summit of the Northern Corridor Integration Projects vide the 3rd Joint Communiqué directed the Partner States to develop a Standard Gauge Railway Protocol for the development and operations of the Standard Gauge Railways. The Protocol was signed by Kenya, Uganda, South Sudan and Rwanda in May 2014.

The overall objective is to jointly develop and operate a modern, fast, reliable, efficient and high-capacity railway transport system as a seamless single railway operation among the nations of East Africa.

The SGR follows the route of the old rail line which apparently traverses through the Districts along the corridor.

In 2013, a Tripartite Agreement was signed between the Republics of Kenya, Rwanda and Uganda for the joint development and operation of a Standard Gauge Railway between Mombasa-Kampala-Kigali with branch lines to Kisumu (Kenya) and Pakwach/Gulu-Nimule (Uganda). The regional SGR was conceived as one of the 14 Northern Corridor Integration Projects with specific objectives of:

- 1 Expediting economic growth and development of the Parties by reducing the cost of doing business and increasing the region's competitiveness (in so doing attracting Foreign Direct Investment);
- 2 Enhancing spatial development along the SGR corridor;
- 3 Enhancing efficient and cost-effective movement of freight and passengers in the region to accelerate trade and services;
- 4 Sustaining the development of other transport infrastructure and adopting new technologies to enhance economic development.

In June 2013, the first infrastructure Summit of the Presidents of Kenya, Rwanda and Uganda held in Uganda put in place mechanisms for fast-tracking the development of the Standard Gauge Railway (SGR) system linking Rwanda and Uganda to the port of Mombasa to enable the faster socio-economic transformation of the East and Central Africa Economies.

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The Planned **Standard Gauge Railway** Network is subdivided into two; the mainline SGR; a mixed service for main freight and limited passengers, and the **Light Rail Transit** mainly for urban passenger transit. The total SGR cost is estimated at USD 12.8 billion while LRT is estimated at one billion.

Figure 10: The SGR Light Rail Transit (Overlay of the existing MGR and planned SGR lines)

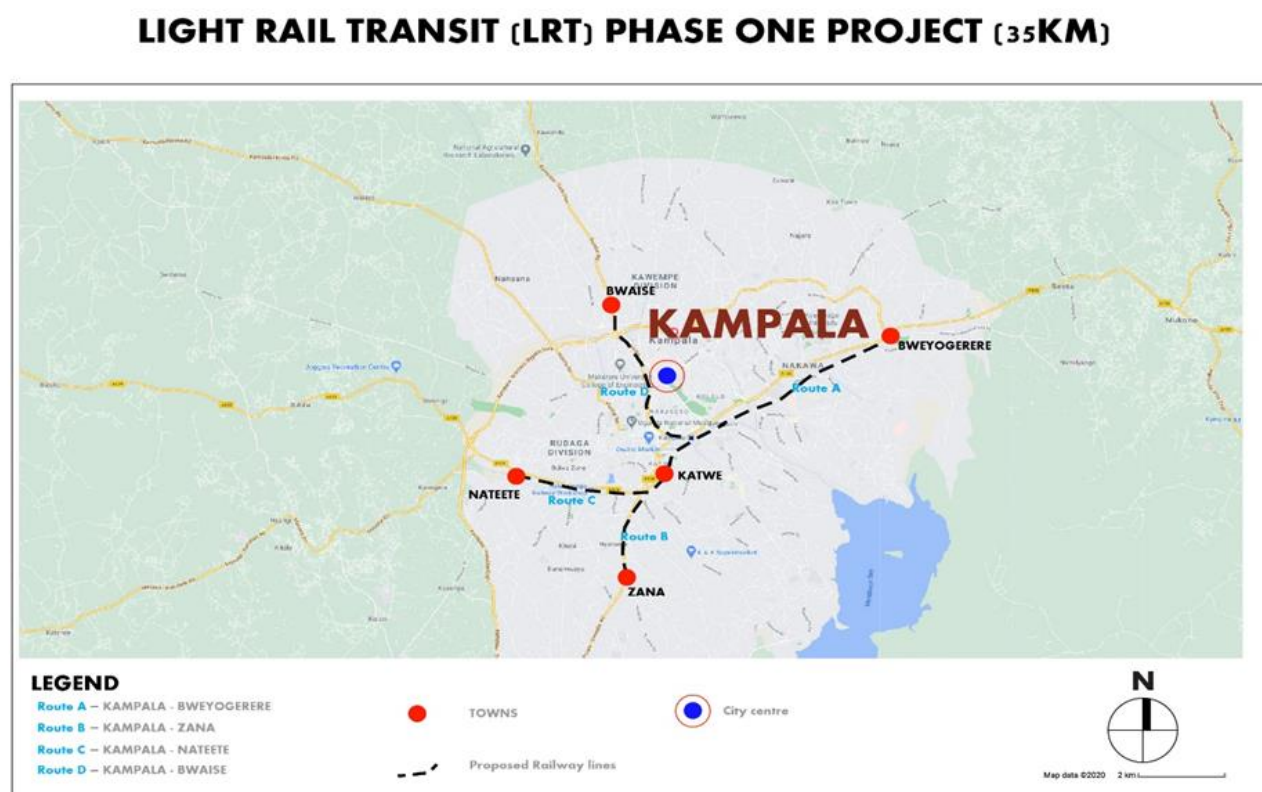


In 2015, a Memorandum of Understanding was signed between the GoU and a Chinese Contractor to carry out a pre-feasibility study for Light Rail Transit covering the Greater Kampala Metropolitan Area.

Figure 10 &

Table 12 show the proposed conceptual routes for the first phase of the project covering a total route length of approximately 40km. A combination of Two-way same side layout, middle road arrangement and elevated alignment are proposed for the different lines i.e. for Line WE & Line NS from the railway station to the terminal; Line NS (Sections between Manblue and Mulago); Line NS (Sections between Wandegeya to the Kampala Railway Station) respectively.

Figure 11 Proposed Light Rail Transit (LRT) Project Routes



Source: SGR, 2016

Table 12: Conceptual routes for Phase I of the SGR-GKMPA LRT

Route	Start Station	End Station	Route Length	via
Line WE - East Section	Kampala	Namanve	12	Nakawa, Banda, Kireka, Bweyogerere
Line WE - West Section	Kibuye	Kyengera	7	Katwe, Kibuye, Ndeeba, Nalukolongo and Natete
Line NS - North Section	Kampala	Kawempe (Ttula)	9	Nakivubo, Bat Valley, Wandegeya, Mulago, Kubiri and Kalerwe
Line NS - South Section	Kampala	Kajjansi	12	Kibuye, Najjanankumbi, Zana, Seguku, Lubowa and Lweza

The project was estimated to cost approximately USD 1bn6, of which the cost for the purchase of rolling stock is USD 0.114bn. The fundraising plan is yet to be agreed upon by the GoU. Traffic forecasts assumed that LRT would come into operation in 2024.

## 6.6 Aviation Subsector

### 6.6.1 Key Airports and Air Strips

In the entire corridor, we have the Entebbe International Airport, Entebbe, Wakiso District, Kajjansi Airstrip, Kololo Airstrip, Namulonge, Kakira Airstrip and Jinja Airstrip. There are several helipads at various installations such as Hospitals, and security agencies.

*Figure 12: Entebbe International Airport*



*Source: COWI A/S*

Entebbe International Airport (EIA) is by far the largest and most important airport in Uganda. Traffic at Entebbe airport is mainly international (99%) and has since 2008 until 2018 developed by an average of 6.5% annually. In general, air traffic in East Africa is growing and Entebbe airport is following this development as shown in the below Table 13.

Table 13: Annual Passengers (Million) in Selected East African Airports

Passengers	2015	2014	2008	2014 - 2015	2008 - 2015
Airport	MPPA	MPPA	MPPA	Growth in %	ACGR %
Addis Abeba	7,74	6,93	3,33	11,7	12,8
Nairobi	6,48	6,39	4,75	1,4	4,5
Dar es Salaam	2,49	2,48	1,54	0,4	7,1
Entebbe	1,52	1,45	1,00	4,8	6,2
Mombasa	1,23	1,37	0,89	-10,2	4,7
Kilimanjaro	0,78	0,77	0,52	1,3	6,0
Kigali	0,64	0,57	0,28	12,3	12,5
Total	20,88	19,96	12,31	4,6	7,8

Source: Flightglobal

The civil Aviation Authority (CAA) was established in 1991 with the main objective of promoting the safe, regular, secure and efficient use and development of civil aviation inside and outside Uganda. CAA acts as a rather independent organisation and carries out the following functions:

- > Advisory role to Government in relation to civil aviation policy matters and international conventions and other functions as deemed necessary by the Minister responsible for aviation;
- > Regulation of safety, security and doing business in air transport;
- > Management and development of major airports within the country;
- > Provision of air traffic and navigation centres.

International air transport is increasing in terms of passengers, whereas domestic air traffic has been decreasing until 2015. The latest data on domestic air traffic shows an increase, however, it is still a very limited in number of passengers. In 2018 the total number of passengers between Entebbe airport and the up-country domestic and regional airports were 27,000 in total – all departing and arriving passengers. Total traffic numbers registered on the CAA owned domestic and regional airports were in total 31,600 in 2018, meaning that there are a few flights between the upcountry airports.

Cargo traffic is at a rather constant level. Please refer to the below tables covering the traffic at Entebbe International Airport (EIA).

Kajjansi Airfield is an airfield serving Kajjansi, a town in the Central Region of Uganda. The airfield is approximately 20 kilometres (12 mi) northeast of Entebbe International Airport, Uganda's largest airport, and 16 kilometres (9.9 mi) south of central Kampala.

Kajjansi is in the southern portion of the Kampala conurbation. The runway is east of the Kampala-Entebbe road, bordering marshland near the shore of Lake Victoria.



Figure 13: Kajjansi Airstrip



Source: COWI A/S

The airfield is owned and operated by Mission Aviation Fellowship (MAF), an international Christian humanitarian relief and development organisation. In the mid-2010s, the Christian engineering charity Engineering Ministries International (EMI) redeveloped the office building of the airfield. The new office building became the headquarters of both MAF Uganda and EMI East Africa.

Jinja Airfield is located in the eastern Uganda district of Jinja and is approximately 90 kilometres east of Entebbe International Airport. It is a small civilian and military airport in Uganda. It serves the town of Jinja in Jinja District, Busoga, Eastern Region.

Kololo/Kampala Airport was a small civilian and military, city airport, that served the city of Kampala. The airport now serves as Independence Park and has no scheduled airline service. The airport is not administered by the Uganda Civil Aviation Authority. It was constructed in 1936 with possibly the last use of the airstrip by fixed-wing aircraft being in the mid-1970s, any aviation use would be restricted to rotary-wing aircraft

### **Airport operations, traffic and governance**

The Uganda Civil Aviation Authority (UCAA) is the government agency responsible for licensing, monitoring, and regulating civil aviation matters with its head offices at Entebbe International Airport. It is administered by the Uganda Ministry of Works and Transport. In July 2019, the President of Uganda signed The CAA Amendment Act 2019. The Parliamentary Act changed the name of the agency to Uganda Civil Aviation Authority.

The agency was created by an Act of Parliament in 1994 as a state agency of the Ministry of Transport, Housing and Communication. As of October 2016, it was under the Ministry of Works and Transport.

The mandate of the UCAA is to coordinate and oversee Uganda's aviation industry, including licensing, regulation, air search and rescue, air traffic control, ownership of airports and aerodromes, and Ugandan and international aviation law. It also represents Uganda in an international capacity within the aviation

community and all other aviation matters. As of October 2016, the UCAA managed Entebbe International Airport and 13 other airports.

As of October 2016, the CAA works with an administrative and operational structure of six directorates: (1) Directorate of Airports and Aviation Security (2) Directorate of Air Navigation Services (3) Directorate of Safety, Security & Economic Regulation (4) Directorate of Finance (5) Directorate of Human Resources & Administration (6) Directorate of Corporate Affairs.

In September 2019, UCAA was awarded an international aviation award in air safety following an outstanding performance in the *Universal Security Audit Programme*, conducted in 2017, by the International Civil Aviation Organization (ICAO). Uganda scored 81.8 percent in the audit, compared with the global average of 73 percent and the African and Indian Ocean (APII) states average of 58 percent, according to ICAO.

In October 2019, the International Trade Council recognised the Uganda Civil Aviation Authority with the Government Agency of the Year Going Global Award 2019, in the Aviation Category. The award is in recognition of infrastructure improvement, staff training, customer care, support of tourism and facilitation of agricultural exports through Entebbe International Airport.

### **Air Transport regulatory framework**

In order to achieve the potential contribution of air transport to the economy, it is crucial to have in place an enabling regulatory framework for the air industry to respond to demand and at the same time to ensure safe, secure, regular and efficient air transport services to and from and within Uganda.

The principal, air transport sector legislation in Uganda is the Civil Aviation Authority Act (Cap.354). The Act was made in 1991 to provide for the establishment of the Civil Aviation Authority (CAA) its duties, powers and management and other related matters. Accordingly, the CAA is an autonomous body established under the Act for the regulation of air transport in Uganda. CAA reports to the Ministry of Works and Transport (MoWT) and its principal objective under the Act is to promote the safe, regular, secure and efficient use and development of civil aviation inside and outside Uganda.

The main functions of CAA under the Act include advising the GoU on policy matters concerning civil aviation generally. The Act gives CAA specific responsibilities such as licensing air transport; establishment, maintenance, development, operation and ownership of aerodromes; registration of aircraft; safety regulation of civil aviation; air traffic control (ATC); certification of operators of aircraft, licensing of private aerodromes among others. CAA is also responsible for regulation and standards management of air safety and security. Therefore, the broad mandate of CAA under the Act is, sufficient to allow CAA effectively regulate air transport to achieve the GoU objectives.

GoU recognises the need for the separation of airport management from regulatory and safety activities in line with international obligations. This separation has according to NITMP been accepted in principle by GoU, but separate accounts have to be prepared well in advance as the quality of regulatory and safety services performed mustn't be impaired by financial constraints.

Within the CAA management structure, the separation has already been provided for, without the need to amend the air transport sector legislation. The NITMP also envisages the involvement of the private sector in airport operations. Within the current air transport legal framework, GoU can allow specialised activities to be carried out by the private sector, and this is already done. This includes, e.g., duty-free shops in EIA, provision and distribution of fuel for aircraft, some cargo activities etc. The highest form of



private involvement can be done by way of long-term concession under the existing legal framework since CAA is categorized under Class 1 of the Schedule to the PERD Act. In other words, it is an enterprise to be wholly owned by the GoU without divesting any of its shares to any other person apart from the state. Therefore, there is currently sufficient regulatory framework to allow private sector participation in the air transport sector and for CAA to retain its regulatory mandate given also that there is in place the PPP legislation and adequate PPDA legislation following the amendment of the PPDA Act in 2011.

While it is the case that the existing air transport regulatory framework is deemed sufficient, the CAA has recognised that in order for the air industry to respond to demands, and at the same time ensure safe, secure, regular and efficient air transport services, it is necessary to have regulations in place to implement the provisions of the CAA Act. Accordingly, the Minister of Transport upon recommendation of CAA has in the duration of this TA so far put in place a number of Regulations mainly focusing on safety, security and overall regulation of the sector. These Regulations include the Civil Aviation (Aerodromes) Regulations, 2014; the Civil Aviation (Personnel Licensing) Regulations 2014; the Civil Aviation (Approved Training Organisations) Regulations, 2014; the Civil Aviation (Safety Management) Regulations, 2014; the Civil Aviation (Approved Training Organisations) Regulations, 2014; the Civil Aviation (Air Navigation Services) Regulations, 2014; and the Civil Aviation (Security) Regulations, 2017.

### **Major air transport problems and issues**

Funding and management capacity besides sustainability are among the major challenges for the aviation industry. With more acceptable funding levels, institutional capacity, training and upgrades are possible to be done.

Safety measures to enhance security at the airport infrastructure are relatively well managed but more sophistication is required at all airports and airfields. This goes hand in hand with securing international certifications for standard operation.

Ugandan airspace has not suffered that many accidents may be partly because of low carriers and aeroplanes in place. But a few have been registered to turn fatal indeed, both of jet and rotary planes. The navigation systems need upgrades together with capacity building and training.

The other are environmental concerns or noise and air pollution. The airspace carbon emissions ought to be maintained at acceptable levels to curb air pollution. This could be done by allowing efficiently propelled aircraft into the airspace. Since there are few planes this is not much of a problem but as with increased traffic, this must be managed well.

Environmental ecosystem protection is required as most are located on the shores of Lake Victoria and wetlands, hence proper waste management is required to protect the ecological system.

Domestic infrastructure development and improvements to acceptable standards are required to warrant commercial flights internally.

Licensing of domestic operators, and their capacity to adhere to acceptable standards has been a challenge. The cancellation of the operating licence of some domestic air operators in the past on their ability to meet required standards is still a challenge.

The lack of airports or airstrips in the towns along the corridor coupled with access to the existing airports poses a challenge. The recent Entebbe expressway development has eased traffic flow to

Entebbe airport but connectivity to it from the city remains a challenge. Probably this would ease with the Kampala flyover projects in the offing and completion of the KNBP project.

### **Revival of Uganda Airlines and its impacts**

Uganda Airlines was first formed in 1975 as the first national carrier of Uganda. It had a fleet made up of 15 aircraft that had operations in Africa, Europe and the Middle East. In 2001, it suffered from financial challenges leading to its collapse and liquidation. Air Uganda started to operate again with regional operations in 2007, however, it was closed by shareholders in 2014.

In 2018, the Uganda government had taken steps in the direction to revive the country's national carrier, aiming:

- > to reduce the cost of air transport;
- > to increase connectivity to/from Uganda;
- > to support opportunities for the economy in the areas of tourism, agriculture, energy;
- > to meet the demand for air transport.

As of October 2019, Uganda Airlines flew to seven destinations (Nairobi, Mombasa, Dar-es-Salaam, Mogadishu, Kilimanjaro, Bujumbura and Juba). Uganda Airlines is planning to include 9 more routes (Kinshasa, Zanzibar, Asmara, Hargeisa, Lusaka, Harare, Johannesburg, Djibouti and Addis Ababa) in its destinations.

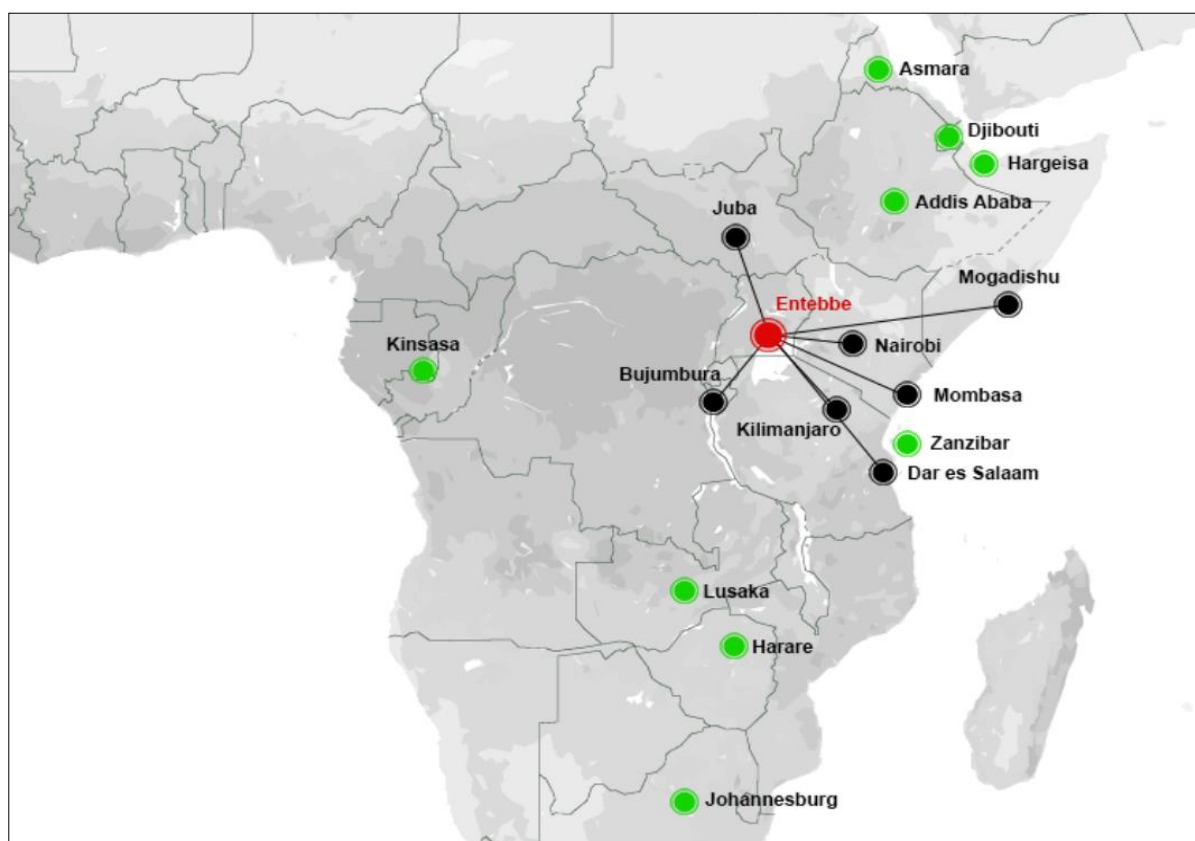
Table 14: Entebbe Airport Weekly Schedule Details (November 2019)

Origin	Destination	Country	Weekly Frequency	Distance (km)	Duration (min)
Entebbe	Nairobi	Kenya	14	524	75
Entebbe	Juba	South Sudan	10	548	85
Entebbe	Dar-es-Salaam	Tanzania	6	1080	110
Entebbe	Mogadishu	Somalia	4	1455	143
Entebbe	Mombasa	Kenya	3	919	110
Entebbe	Kilimanjaro	Tanzania	3	647	75
Entebbe	Bujumbura	Burundi	2	512	75

Source: CAA

Currently, Uganda Airlines services 4 CRJ900-type aircraft in total, each configured with 76 seats in a 2-class configuration after two more CRJ900s were added to the airline's fleet in October 2019. In 2020 and 2021, the airline expanded its fleet by introducing 2 Airbus A330-type aircraft which have 220 to 260 seats each.

Figure 14: Uganda Airlines Destinations (Flights to green-coloured destinations to start in the near future)



### **Future investments and opportunities for air transport sector development**

In January 2015, then Minister of Works and Transport Abraham Byandala unveiled a 20-year plan to increase international airports from one to five and regional airports from two to three; and improve six existing local airports. The plan also calls for the improvement of Entebbe International Airport at a cost of US\$200 million.<sup>[3][11]</sup> Another \$200 million will be needed to complete the upgrades to the other airports.<sup>[12]</sup>

### **Modernisation plans: 2015-2033**

In February 2015, the Government of South Korea, through the Korea International Cooperation Agency, gave the Government of Uganda (GOU) a grant of UGX:27 billion towards the modernisation of the airport. In the same month, the GOU began a three-phase upgrade and expansion of the airport to last from 2015 until 2035. The entire renovation budget is approximately US\$586 million.

#### *Phase I - 2015 to 2018*

- > The estimated cost of US\$200 million, borrowed from the Exim Bank of China;
- > Relocation and expansion of the cargo terminal;
- > Construction of new passenger terminal building;
- > Modernizing and improving existing passenger terminal building;
- > Renovation and rehabilitation of "Runway 12/30" (the old runway), was expected to conclude in February 2019 but is ongoing.

*Phase II - 2019 to 2023*

- > The estimated cost of US\$125 million, not yet sourced;
- > Relocation and expansion of fuel storage facilities;

*Phase III - 2024 to 2033*

- > The estimated cost of US\$160.5 million, not yet sourced;
- > Building a new multi-story car park;
- > Construction of a new control tower
- > Strengthen and reseal current runways.

**Expansion of departure and arrival lounges**

In April 2016, a UGX:42.6 billion project to expand the departure and arrival lounges was launched. The work were carried out by Seyani Brothers Limited and funded by the Civil Aviation Authority of Uganda. This work was separate from the large expansion partially funded by the government of South Korea and People's Republic of China.

Entebbe International Airport is located in southern Uganda, 35 km south of the capital, Kampala. Currently, 17 airlines operate out of the airport. In 2015, a three-phase major development project to accommodate the increasing passenger numbers was announced for this airport.

On-going Phase 1 expansion works at Entebbe International Airport are part of the Civil Aviation Authority's implementation of a 20-year master plan which covers the period from 2014 to 2033. 200 Million USD expansion works include a new cargo centre with a capacity of 100,000 tonnes per year, an expansion of the passenger terminal with 20,000 m<sup>2</sup>, a new apron, runway and taxiway upgrades which are being undertaken by China Communication Construction Company (CCCC).

This expansion and development programme is financed by a loan from Chinese EXIM bank and the project was contracted back in October 2014, the project will increase the total capacity of EIA from today 1.9 to 3.0 million annual passengers.

As of October 2019, the overall expansion and upgrade works of the airport stand at 56%. 75% of the work for the new Cargo Centre complex has been completed. 72% rehabilitation works of Apron 1 have been completed whereas 84% of the Cargo Apron is completed.

Some 85% of rehabilitation works for the runway have been completed. Phase 1 expansion works are expected to be completed in 2021.

Figure 15: Location of Entebbe International Airport



Figure 16: New Cargo Facility Construction (March 2019)



Figure 17: Apron 1 – Expansion Works (February 2018)



## 6.7 Inland Waterways Subsector

### 6.7.1 Key Ports and Landing Sites

There are two main Ports in Uganda on Lake Victoria, Jinja and Port Bell, plus several Landing Sites. Sites, requiring almost no infrastructure, can be established and disappear in a matter of months. With little or no weather forecasts or rescue facilities available to the vessels on the lake, there is now a move to instigate and set up a centralised communication system with rescue vessels. This is dependent on external financing from African Development Bank which is in place and has been drawn down and is still in the development phase.

Marine legalisation is slow in moving, a 2014 bill is in parliament covering vessel HSE requirements and registration, the latter of which is underway.

Generally little or no investment has been made in recent times to the extent that when systems fail due to lack of maintenance they are simply abandoned, left to the local population to muddle along or await private investment to step in.

The two corresponding landing sites have a basic level of infrastructure including a pier, bollards, mooring and in some cases lighting and some nav aids but not all.



However, the majority of the 'landing sites' have minimal or zero infrastructure but do facilitate the transport of merchandise and personnel by small boats, canoes etc and in many cases are nothing more than fishing landing sites.

**Port Bell**; is a small industrial centre in the greater metropolitan Kampala area, in Uganda. Port Bell has a rail link and a railroad ferry wharf used for International traffic across Lake Victoria to Tanzania and Kenya.

**Bukasa Inland Port** is a planned inland port and is located along the northern shores of Lake Victoria, on approximately 500 acres (202 ha) in the neighbourhood of Bukasa, Kira Town in Wakiso District. When fully functional, the port is expected to occupy a bigger land area. Efforts to secure more land are underway. It's a Natural/artificial harbour at the moment.

When completed the inland port is designed to handle up to 5.2 million tonnes of freight annually. The port will facilitate the movement of goods from the Tanzanian ports of Dar es Salaam and Tanga, via rail to the port of Mwanza on Lake Victoria. Barges would then bring the cargo over the lake to Bukasa. This would reduce Uganda's near-total dependence on the port of Mombasa, Kenya.

Two German financial institutions agreed to lend US\$48 million towards the construction of this port. The Uganda government will contribute US\$8.5 million to this project.

As of February 2018, *GAUFF Engineering Company*, a German firm that is performing the consultancy work for the construction of the port, is finalising the master design of the development. In July 2018, dredging of the swamps commenced. The physical construction of the administration unit and the shipping facilities called Roll-on/Roll-off (RoRo) commenced in June 2019, and is to last until April 2022. More development and expansion will continue until 2030. Construction of the initial phase is expected to last three years.

In February 2019, the National Environment Management Authority of Uganda (NEMA), approved the construction of this inland port. Construction will be phased.

#### *Phase I*

The first phase will involve the construction of the port, administration jetty, free trade zone, shunting yard, a two-berth multipurpose terminal and a two-berth Roro terminal.

#### *Phase II*

The second phase, expected to be complete by 2030, will extend the multipurpose terminal by additional two berths to a total quay length of 540 metres (1,772 ft).

#### *Phase III*

The third phase, to be completed by 2040, will extend the quay length of the multipurpose terminal to 960 metres (3,150 ft). All three phases will require the dredging of Lake Victoria.

Most activities of the fish trade take place at landing sites which act as both collection and trading centres for fish. Lake Victoria has several landing sites which act as centres for fishing activities. Lake Victoria has Kasenyi and Kigungu in Wakiso District, Katosi and Ssenyi in Mukono District, Masese and Wairaka in Jinja District, and Gaba in Kampala district.

Table 15: List of Other Ports, Road Bridges and Landing Sites

	landing site / Port	Lake / river	District
1	Katebo	Lake Victoria	Mpigi
2	Nakiwogo	Lake Victoria	Wakiso
3	Jinja Port	Lake Victoria	Jinja
4	Masese	Lake Victoria	Jinja
5	Veron Shipyard	Lake Victoria	Jinja
6	Bidco pier	Lake Victoria	Jinja
7	FDC Waterman	Lake Victoria	Jinja
8	Kiyindi	Lake Victoria	Buikwe

Figure 18: Kisenyi Landing Site



Source: COWI A/S

Figure 19: Veron Shipyard during construction of the 350 ton UNRA ferry



Source: COWI A/S

**Veron Shipyard;** This site is within 8km of the Jinja Port. JGH Marine, a Danish company with offices in Nairobi is building a 350T RoRo vessel which will be launched on airbags. It is the sole shipbuilding company of any consequence in Uganda. Supported by Trademark E Africa and RVO of the Netherlands, if confidence grows a 1000 T boat is planned.

*Figure 20: Bidco Palm Oil jetty*



*Source: COWI A/S*

**Bidco Oil of Uganda.** Bidco operates a privately owned 200 m long jetty which is used to receive crude palm oil from the Kalangala Island Plantation. It receives 2 tanker vessels per week each of 450 T tank capacity, one of which also carries 500 tons of fertilizer above deck.

**FDC/Waterman/Fish Landing Site Jinja;** This is a large fish landing Site and market, demarcated into two main operators separated by a fence: FDC which Is a quasi-Association of fishermen and Waterman which is a private company. Nearby within a 1 km radius are 3 fish fillet export processing plants including Lake Bounty and the now defunct Gomba Fishing Industries Ltd. Fish handling facilities such as landing shade and washing slabs are in place and hygiene is better observed here than at the Masese landing site and based on the proximity of the fish processing factories; this is a major fish landing site and bulking centre.

Figure 21: Fish landing sites



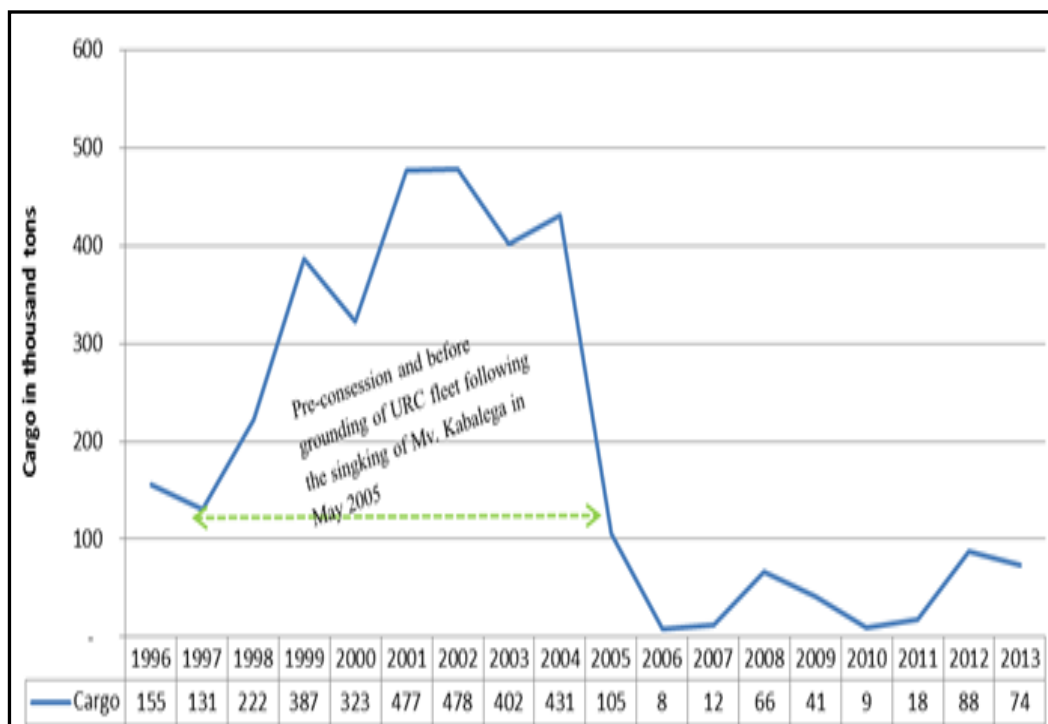
Source: COWI A/S

**Inland Waterways Operations and Traffic**

*Historical Traffic data for Port Bell*

Below freight tonnage statistics (Source URC) show a historical trend of cargo movement on Lake Victoria over two decades from the mid-1990’s to 2013. Note the sharp drop in 2004–05 when URC services were concessioned to Rift Valley Railways which neglected the multimodal service and in the same period followed a series of vessel accidents leading to the collapsed traffic.

Figure 22: Historical Data URC Port Bell



Source: UBOS.

### Traffic data for Port Bell Mwanza 2018 -19

In the year June 2018 – June 2019 since Lake Victoria Wagon ferries resumed inter-modal rail/water operations on 26th June 2018 with MV Umoja making a maiden voyage. Since then, the MV Umoja made 23 voyages while the MV Kaawa made 41 voyages, in total handling imports of 42,333 T received into the country while exports were 23,921 T through Mwanza to Tanzania, making a total of 66,255 T during the financial year 2018/19.

Table 16: Lake Victoria Freight Statistics June 2018/June 2019

Month	Imports (Ton)	Exports (Ton)	Grand Total (Ton)
18-Jul	4,858.00	1,345.80	6,203.55
18-Aug	3,996.00	2,131.00	6,127.00
18-Sep	3,000.00	3,238.00	6,238.00
18-Oct	4,833.96	1,771.00	6,605.02
18-Nov	2,355.26	2,419.20	4,774.46
18-Dec	4,908.62	1,712.50	6,621.12
19-Jan	5,110.52	2,438.00	7,548.52
19-Feb	2,885.00	710.68	3,595.68
19-Mar	1,614.00	1,765.80	3,379.94
19-Apr	4,686.60	2,420.00	7,106.60
19-May	1,693.32	1,754.00	3,447.32
19-Jun	2,392	2,216	4,608.12
<b>Total</b>	<b>42,333.28</b>	<b>23,921.98</b>	<b>66,255.33</b>

Source: URC.

The other traffic is generally for transportation between the ports, landing sites and islands along the lake. Mainly residences, tourists and fishermen. The other is crude palm oil transported by Bidco.

### **Inland Water Transport Governance and Regulation**

The framework for the proposed maritime law is a long time in coming but is documented in a final draft of a bill before parliament dated 2014. The Act based on 'The Inland Waterways Transport' bill will cover the following:

- > To register and license ships, the proprietary interest in the ships and the terms of engagement of seafarers and other matters;
- > To provide for the prevention of collisions on in the inland waterways, the safety of life and navigation of inland waters, the regulation of load lines, the carriage of bulk and dangerous cargoes, unsafe ships and to regulate in the waterways and passenger ships;
- > To define the liability of ship owners in respect of wrecks and salvage. The liability of ship owners and others in the inquiries and investigations into maritime casualties;

- > In respect of the environment to prevent pollution from ships, protection of marine ecosystems and marine security;
- > Consolidate the law relating to shipping and other maritime matters.

The concept of vessel registration dates back over a century but it is questionable if in the 21st century it is up to date and thus the need for a new bill.

There is a process of registration by MoWT of all boats on inland waters in the country currently ongoing.

A researcher at the School of Law at Makerere University published a paper relating to Maritime Law and Accidents in Uganda and the conclusions are as follows:

It is clear from the above research study on Legal Protection Against Marine Accidents in Uganda that the law governing water transport is obsolete and that there is a need for the formulation of a strong water transport policy in order to deal with the many accidents occurring on Uganda's water bodies. The revision of the Safety regulations in maritime administration and harmonisation of the water transport laws is also wanting. Also, issues of funding for transport intervention are woefully inadequate and require substantial growth, especially in the water transport sector.

The major laws relating to water transport in Uganda are the Lake Victoria Transport Act, 2007, the Inland Water Transport (Control) Act, Cap 348, the Vessels Registration Act, Cap 349, the Uganda Railways Corporation Act, cap 331, the Ferries Act, Cap 355, the Fish Act, Cap 197, the Rivers Act Cap 357. The laws are described as disjointed and under the responsibility of numerous institutions, not harmonised and contradictory as well as archaic. However, the government, through the Ministry of Works and Transport has procured consultancy services for improving Water Transport Legislation in Uganda. The Contract was signed on 22nd February 2014. It is hoped that after the completion of the project, the government will implement the recommendations in order to boost the water transport industry.

The institutions monitoring water transport in Uganda face several challenges. They include:

- > Prevailing perceptions particularly that water transport is slow;
- > Old fashioned and is a transport mode for the poor;
- > The institutional bias of the sector creates the illusion of water transport as an unviable mode of transport;
- > The lack of safety standards to be followed by institutions;
- > Environmental concerns like oil spills;
- > Noise pollution and import of invasive species;
- > Lack of integrated planning and poor infrastructure;
- > The poor navigational aids and inadequately trained or unqualified crew.



These challenges are all a result of obsolete laws which are not respected by the institutions. It is hoped that modernisation of the water transport sector, improved laws and regulations and improved funding for the sector will revive this industry.

Similarly, the management of maritime transport is disjointed, haphazard, rudimentary and based on the individual preferences of owners. The forms of management are determined by vessel owners themselves. This attitude has exacerbated the number of marine accidents in the country. Also, causes of marine accidents are attributed to outdated laws that do not provide for safety standards and regulations for vessel manning, overloading, incompetent and unqualified crew, use of old boats, outdated navigational charts and absence of navigation aids, backward sailing practices, untrained boat builders among others.

It has been noted from this research study that most marine accidents in Uganda involve small vessels. Over the last fifteen years, only one accident has occurred involving MV Kabalega and MV Kaawa in 2005. Therefore, it is pertinent that the government gives priority to small vessels by providing safety standards, boat building standards, adopting policies to incorporate these standards and passing legislation to enforce the standards.”

### **Inland Water Transport Problems and Issues**

- > Poor access infrastructure to the lake ports - Pont Bell and the port of Jinja are connected to the Mombasa — Kampala main railway line (meter gauge railway). The port of Kisumu is also connected to this line, albeit through a branch line. However, all three of the rail connections are currently not functioning, as the rail and lake services were deemed uneconomic by the private concessionaire RVR and were thus halted. Subsequently, encroachment issues arose as people started building houses on the derelict rail line. On the southern side of the lake, the port of Mwanza South is connected to the central corridor meter gauge rail network. Musoma port has no railway connection, but there is a railway track within the yard area to load/offload and shunt rail wagons. The other ports are only accessible by roads, which are typically in a poor condition.
- > Competition from improved accessibility of the towns around the lake is undermining the transport services on the lake - The road network around Lake Victoria has gradually developed, through capacity and quality improvements of the highways and the introduction of more efficient One Stop Border Posts (OSBPs). The continuous improvement of the roads has reduced the competitive position of the transport services on the Lake on some routes. Additionally, the SGR projects in Kenya may further undermine the competitiveness of lake transport in the long term, as the SGR will provide a direct rail connection between the port of Mombasa and Kampala.
- > Regular services are required at all ports to ensure accessibility - Sedimentation in the lake results in a periodic need for regular dredging at nearly all ports on the lake. Additionally, water hyacinth and “floating islands” periodically clog up the ports, hampering the movement of vessels in and out of the ports.
- > Adequate infrastructure and equipment are not available or dilapidated - Generally, the existing port infrastructure is outdated and in poor condition, as the breakup of the EARHC in 1977 resulted in a decline in investments in infrastructure. Additionally, adequate cargo handling equipment is lacking in the ports, as the primary role of the port — acting as an extension of the EAC rail network — resulted in port designs focused on RoRo operations for the wagon ferry operations. Hence, all handling operations are carried out through manual labour, for which day labourers are hired.

- > Lake navigability and maritime safety are not yet sufficiently addressed - While all registered ships on Lake Victoria are provided with radio communication systems, none of the lake ports is provided with formally structured maritime assistance services of any kind. This implies that no general weather synopsis, storm or other navigational warnings are given to ships departing from any of the lake ports. The Lake Victoria Basin Commission Secretariat, in partnership with the EAC Partner states, is planning a Maritime Rescue Coordination Centre in Mwanza North, funded by the African Development Bank. The plots have been already acquired. Navigation aids were installed and surveys have been made at the ports of Mwanza, Kisumu and Port Bell, though updated and reliable navigational charts are not available. Besides the lack of marine assistance services, the lake lacks landfall lights, beacons, buoys, leading lines or other facilities that delineate headlands, ship routes, known dangers (including wrecks) or the fairways and approaches to ports.
- > Global best practice systems are not perfectly imitable on Lake Victoria - Similar areas include the coastal waters of the Baltic, Adriatic, and Aegean seas. These areas all envelop a multitude of islands, thus resulting in the need for short to medium-range passenger and cargo ferry systems, like the Lake Victoria case. However, as Lake Victoria is not directly accessible from the Sea, importing vessels poses an issue. Additionally, the lake ports lack large shipbuilding facilities, thus limiting the size of vessels that can be constructed at the ports; it is noted that the Chinese firm Mango Tree Group has developed a large shipbuilding facility at a site in Kawuku (Wakiso district), therewith counteracting the construction limitations on Lake Victoria. However, due to a lack of specialised shipbuilding capabilities, high-end vessels still need to be constructed abroad. Vessels can subsequently be disassembled and transported to Lake Victoria, where they can be reassembled; this elaborate process results in increased costs of introducing new vessels, thus negatively impacting the viability of projects. These challenges limit the imitability of implemented network solutions of otherwise similar cases.
- > Need for an integrated and harmonious lake transport development plan - Development plans must be carried out at the lake level. As the lake presents a closed transport system, developments in one port will need to be implemented in parallel to similar developments in the other lake ports to become successful. Additionally, there should be a focus on key projects; the introduction of new competing large-scale port projects, such as Bukasa port, may reduce the viability of the development of the current ports. Hence, such projects may substantially reduce the private sector's appetite for becoming involved in developing the current ports.
- > Domestic passenger traffic - The passenger and vehicle transport between the islands and the mainland requires a proper solution. There are many landing sites, which are mainly used for fishing and market activities. These sites require a safe and healthy setup. In order to serve the passenger flows between the islands and the mainland, RoRo facilities and ferry services should be introduced and maintained on several strategic high-volume routes.

### **Bukasa Port Project and Other Investment Opportunities**

In order to counteract these key issues, several developments are ongoing and planned. The following main Lake Victoria infrastructure, cargo transport, and passenger transport developments have been identified.

Lake Victoria Transport Program — Under the Lake Victoria Transport Program, which is to be (partially) funded by the World Bank and the European Union, rehabilitation and improvement works are scheduled on all the major lake ports and their connecting infrastructure. Additionally, technical assistance towards the implementation of lake safety and navigability measures is included in the program.

Bukasa Port (Uganda) — The Bukasa port project comprises the development of a new port in Kampala, near the existing Port Bell. The port project is partially funded by the Government of Germany and is currently in the preliminary design phase, for which a consultant has been procured. Additionally, a high-level financial and economic assessment has been completed. The port development is aimed at enabling the accommodation of the expected future cargo volumes on Lake Victoria. The port is to be developed in two phases; the first phase will provide an annual cargo capacity of 2.3 million tons, whereas the second phase will add an annual capacity of 5.2 million tons. While it seems that a draft preliminary design has been completed, such a design has not been made available to MTBS for the purpose of this study.

### **Termination of RVR concession contract**

Due to RVR's failure to meet contractual obligations, Kenya and Uganda have recently started the process of terminating RVR's contract. In Kenya, the Nairobi High Court finalised the process by granting the order to terminate on the 31<sup>st</sup> of July 2017. Uganda expects to finalise the termination process by September 2017. The termination of the RVR contracts entails that the rail and rail-wagon ferries revert to the URC and KRC in Uganda and Kenya, respectively.

Revival and expansion of the rail-wagon ferry system — Following stakeholder consultations, MTBS understands that the URC aims to revive the rail-wagon ferry system. Thereto, design works have been completed for a replacement vessel for the MV Kabalega; the GoU is currently looking for financiers to proceed with construction works. Additionally, the URC stated that the Government of Tanzania (GoT), through the TPA and TRL, is willing to cooperate in the revival of the Lake Victoria link between Port Bell and Mwanza, as this may benefit the competitiveness of the Central Corridor route to Kampala.

Potential for PPP in Ugandan Lake Victoria cargo transport activities — Following a meeting with the URC, MTBS has come to the understanding that the URC currently envisions carrying out Port Bell operations and rail-wagon ferry operations itself. However, the URC is open to PPP structures being implemented.

### **Development Sites**

The (UNRA) administration identified a list of future sites for development and equipment resourcing for projects as below.

*Table 17: Future sites for development*

Site	Development
Kiyindi Ferry Landing Sites	Facilities improvement.
Katosi Ferry	Improved road access will impact on and require upgrading of local facilities on the islands of Koome and Mamba etc.

*Source: UNRA*

Supply of additional ferry equipment to some of the above sites is envisaged.

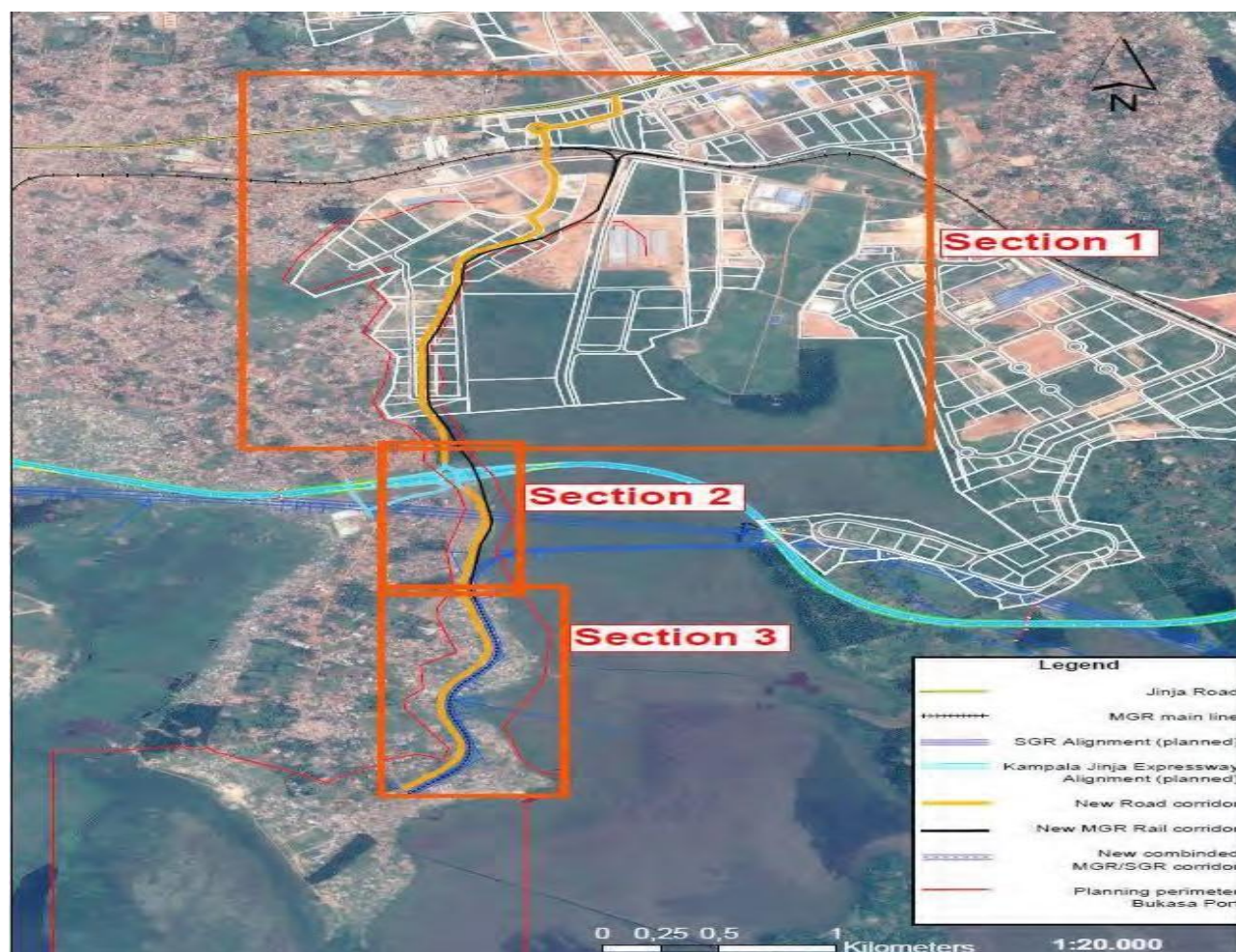
Southern Engineering is rehabilitating the MV Bukakata at the Port Bell Dry dock and JGH Marine at the Veron shipyard at Jinja is currently completing the construction of a 350T RoRo ferry for Sigulu Islands/Namayingo.

Generally, these are upgrades to facilitate the movement of the population and often with the backing of the President.

### *Bukasa Port and wider Consequential Action.*

This port project dates from over a decade ago and was regenerated in 2014. It is located due east of Entebbe in close proximity to an expanding industrial park at Namanve (see location below). It would ultimately be linked to the Kampala Jinja Expressway and a new Standard Gauge Railway (SGR). The port zone is approx. 1.5 Km sq. a large part of which is inhabited swamp land.

Figure 23: Bukasa Port Proposed Site Location



Source: Section 1 Kampala Industrial Business Park | Section 2 Proposed Kampala Jinja Expressway and Standard Gauge Railway (SGR) Crossings | Section 3 Port Entry Corridor. Source Gauff Engineering (GAUFF)

The raison d'être of the project is to reestablish marine transportation across Lake Victoria to the ports of Kismayo in Kenya and Mwanza in Tanzania.

The throughputs of the port start at 2.4 MM T pa rising to over 9.5 MM T pa and peaking at 11.2 MM T pa by 2040.

There is slippage on the initial programme which shows freight moving through the port in 2020. A reasonable estimate would be a two-year delay.

Project phasing is as follows:

#### *Phase I.*

The first phase will involve the construction of the port, administration jetty, free trade zone, shunting yard, a two-berth multipurpose terminal and a two-berth RoRo terminal.

#### *Phase II.*

The second phase, expected to be complete by 2030, will extend the multipurpose terminal by additional two berths to a total quay length of 540 metres (1,772 ft). This phase will include the completion of the Port for a capacity of 3.0 million metric tons and the construction of a floating dock facility;

#### *Phase III.*

The third phase, to be completed by 2040, will extend the quay length of the multipurpose terminal to 960 metres (3,150 ft). All three phases will require the dredging of Lake Victoria. This phase will conclude the future extension of the port with further port basins and cargo handling capacity of up to 9.5 million metric tons (peak 11.2 million metric tons).

The estimated cost is Euro 350 MM.

For the port to receive these tonnages of freight very considerable infrastructure work is required in neighbouring Kenya and Tanzania

To achieve these objectives expansion of the ports at Kismayo (Kenya) and Mwanza (Tanzania) is required and the merchandise (part container part rail trucks) will be transported across the lake by purpose-built vessels, fabricated overseas and assembled on the lake.

#### **In conclusion, the overriding needs are:**

- > To pass and full implement the proposed bill on Maritime Legislation;
- > To finance its implications;
- > To forcibly implement the Law.

Above all, the need is to educate and urge those in the marine sector to become responsible.

## 6.7.2 Passenger Road Transport

### **Key modes of passenger road transport**

The passenger transport sector in the JKM conurbation is dominated by the para-transit systems (informal transport systems) such as the 14-seater minibuses and commercial motorcycles (Boda Bodas). Transit services in the JKM region are also provided by private operators, using their own financial resources.



The pervasive use of the 14-seater minibus taxis and Boda Boda taxis by commuters and travellers in the JKM region including major towns like Kampala, Jinja, Entebbe, Nansana, Kira, Mukono, Mpigi, Njeru and Lugazi is largely a result of Structural Adjustment Policies (SAPs) that were introduced in the late 1980s and 1990s by the World Bank and International Monetary Finance (IMF) in the developing countries including Uganda.

Under SAPs, the private sector was seen as the solution to the problems associated with state capitalism as well as the direct government involvement in economic activities including public transport in the major towns. In many towns such as Kampala, Jinja, Mpigi, Mukono and Entebbe the 14-seater minibus taxis (Matatus) were promoted as an important mode of transport. Minibus taxi terminals were also established in various towns including Kampala. Kampala for example has two large minibus taxi terminals: the old and new minibus taxi parks.

Minibus taxi operators also formed associations to regulate their operations. Uganda Taxi Operators and Drivers Association (UTODA) is one of the major para-transit associations that were established in the 1990s and remained dominant until 2015 when its contract to manage minibus taxi terminals in Kampala was cancelled by Kampala Capital City Authority (KCCA). In Jinja, Minibus taxi operators also established

The collapse of UTODA in 2015 left the minibus taxi industry without a dominant para-transit association with a national character and the ability to effectively regulate the activities of the operators. A few less influential and unrecognised minibus taxi drivers' associations, however, have been established to replace UTODA such as Kampala Taxi Stages Association (KOTSA) and Uganda Transport Development Agency (UTRADA).

In the recent past, many Boda Boda associations and business organisations have also been established in the JKM conurbation and corridor to protect the interests of the operators, improve the services provided and help government regulate the industry. Examples of the Boda Boda associations include Safeboda, Uberboda and Taxify. Some of these organisations such as Uberboda and Safeboda have introduced new business ideas such as e-transport services.

Under the e-transport model, commercial motorcycle operators and passengers are required to have smartphones that are used to download apps. Through SafeBoda apps, for example, both the rider and potential passenger are able to communicate and when an order is made, the rider rushes to provide a service. Payments can be made electronically or by cash.

To reduce traffic jams and modernise the passenger transport sector, the city authorities in Kampala signed new contracts with the Pioneer Easy Bus (PEB) and Awakula Ennume to provide bus services in various parts of the city. PEB started its operation on March 12th, 2012. It operates on the Western and Eastern route zones in Kampala. Awakula Ennume also signed a five-year contract in 2011 with the city authority to operate on the Northern Corridor that covers areas like Gayaza, Kasangati, Mpererwe, Kawempe, Maganjo, Namugoona, Matugga and Nabweru.

### **Demand and operations of passenger transport**

Between 2003 and 2019, the number of minibus taxis operating in Greater Kampala increased from 7,000 to about 20,000. The minibus taxi sector remains highly unregulated in the region with no designated routes, no designated minibus taxi stops on most city roads, no clear fare controls and no market entry restrictions.



According to the United Nations (2018), Boda Bodas operating in the GKMA region increased by 58.7 percent per year since 2007. By 2014, there were about 405,124 Boda Bodas from 15,979 motorcycles in 2007.

While Boda Boda taxis dominated the roads in the JKM corridor including areas within greater Kampala, with a 42% share of vehicle movements made in the region, they accounted for only 9% of the passenger demand. In contrast, minibus taxis, with 21% of vehicle movements, serviced 82% of passenger demand (See Table 18 below). Estimates of the modal shares in towns outside Kampala are shown below

Table 18: Modal Shares in Kampala

Type of Vehicles	% Trips	% Passengers transported
Motorcycle Taxis (Boda Bodas)	42	9
Private Cars	37	9
Minibus Taxis (Matatus)	21	82

Source: World Bank (2017).

Demand for minibuses has risen from approximately 14.5 billion passenger-km in 2005 to 151 billion passenger-km in 2019. The demand for buses has risen from 900 million to 2.8 billion passenger-km per year over the same period. The growth in demand has been estimated to be 23.3% pa. The estimated passenger distance per capita was found to have increased from 1.5 km per day to just under 10 km per day.

Most towns in the JKM corridor lack organised public transport. It is only in Kampala that some form of organised transit exists. This includes bus services and to some extent passenger railway services which were reintroduced in 2015 under public service obligation (PSO).

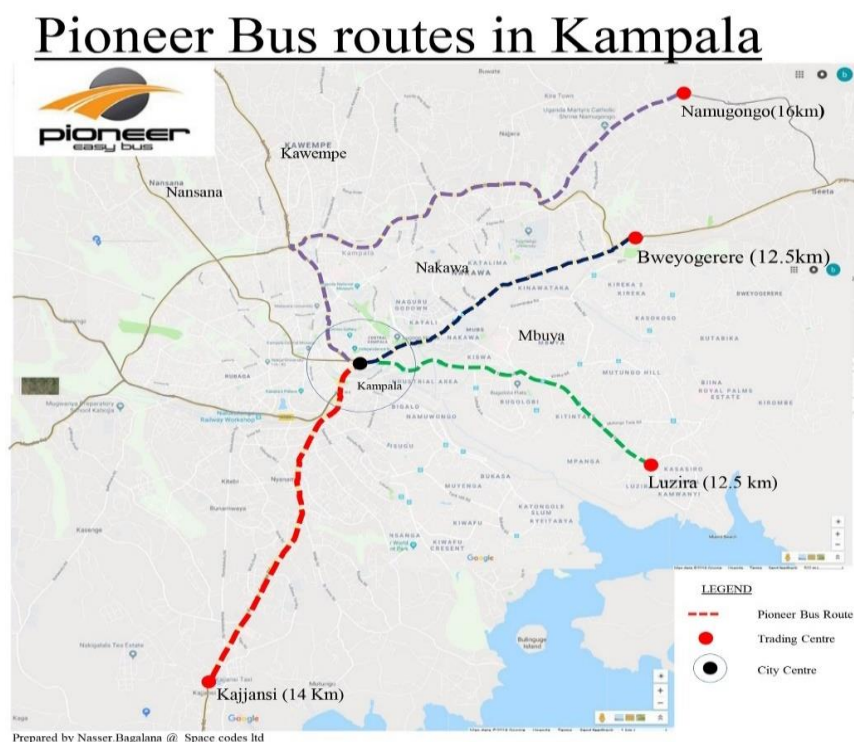
In 2010, the city authorities signed an agreement with Pioneer Easy Bus (PEB), a private bus firm, to provide bus services in Kampala. PEB started its operation on March 12th, 2012. It operates on the Western and Eastern route zones in Kampala. PEB buses operate on four routes, covering a distance of 55km: Kampala-Bweyogerere (12.5km); Kampala - Kajjansi (14km); Kampala - Luzira (12.5km); and Kampala - Namugongo (16km).

Figure 24: Pioneer Easy Bus (PEB) buses in Kampala



Source: URN

Figure 25: Pioneer Easy Bus Routes in Kampala



Source: Pioneer

PEB was required under the signed agreement with the city authority to purchase 100 buses in the first 4 months of the contract and later increase its fleet to 522 buses within 9 months of the agreement. PEB has 100 buses. Each bus carries 60 passengers, 30 sitting and 30 standing.

PEB has been unable to buy new buses and expand its operations because of the mounting debt and the failure of the city authority to provide bus lanes and other support facilities including bus stops and terminals. 81.3% (US\$ 61.5 million) of the PEB’s project funding comprised commercial bank loans that

are often associated with high-interest rates. This partly explains the financial turmoil faced by the company.

Average traffic speeds and frequency of buses have been adversely affected by the traffic jam that is experienced during the morning and evening peak hour periods. Each day, 24,000 person-hours are lost by commuters in Kampala due to traffic jams (World Bank, 2017). PEB buses operate on four routes, covering a distance of 54km. PEB buses transport 20,000 passengers each day. Bus fares range from Shs500 to Shs1000 depending on the travel distance.

Awakula Ennume, another private bus company signed a five-year contract in 2011 with the city authority in Kampala to operate in the Northern Corridor. The northern corridor covers areas and routes such as Kampala-Gayaza, Kampala-Kawempe, Kampala-Nansana, Bwaise-Nabweru, Kampala-Namugooona and Kampala-Matugga.

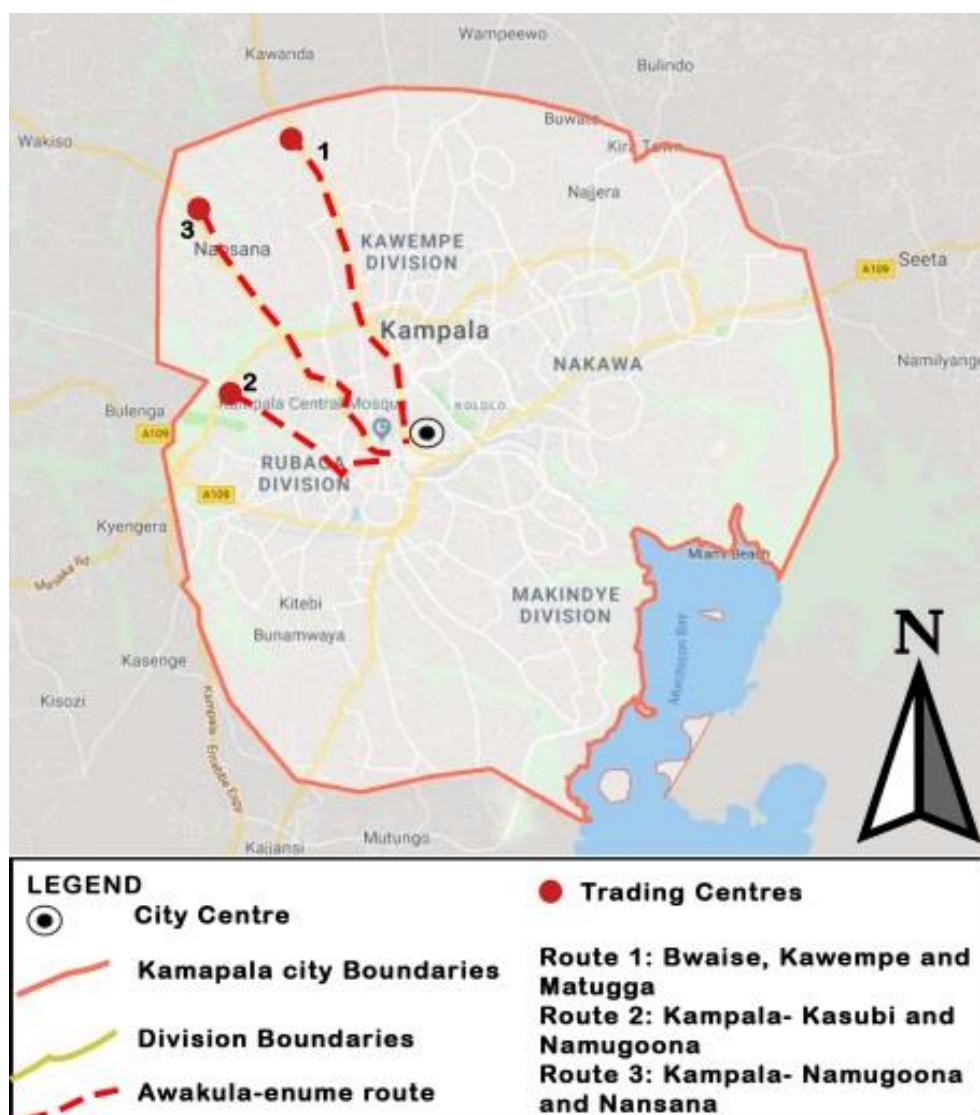
Awakula Ennume was required under the signed agreement with the city authority to import 180 buses. Today the firm has only 22 buses of different capacities. Like Pioneer Easy Bus (PEB), Awakula Ennume is also faced with several challenges including the inability to mobilise enough investible funds, lack of enough qualified bus drivers, traffic jams and competition from para-transit systems especially minibus taxis and Boda Bodas.

*Figure 26: Awakula Ennume buses operating in Kampala*



*Source: COWI A/S*

Figure 27: Awakula Ennume Bus Routes in Kampala



Source: Awakula Ennume

**Governance and regulation of passenger transport**

Currently, the power to regulate road passenger transport in the JKM region/conurbation is scattered and located in various state agencies such as the Transport Licensing Board (TLB), Traffic Police, city authorities such as KCCA and municipal councils, Uganda Revenue Authority (URA) and Face Technologies. These agencies are also affiliated with different ministries and coordination among them is poor and lacking in many areas (Ministry of Works and Transport, 2009; United Nations, 2018).

Uganda Revenue Authority (URA) is, for example, responsible for registering all vehicles and collecting vehicles-related tax revenue, Uganda police are mandated to enforce road traffic laws and regulations and the Transport Licensing Board (TLB) is responsible for licensing public service vehicles (PSVs) such as buses, minibuses and Boda Boda. Face Technologies is contracted under a public-private partnership (PPP) programme by the Ministry of Works and Transport (MoWT) to issue driving permits on behalf of the Ministry of Works and Transport (MoWT).

Due to institutional fragility as well as insufficient coordination among the various regulatory agencies, the public transport sector remains one of the most poorly regulated sectors in Uganda. Overwhelmed by the large number of operators especially para-transit systems, the Government was forced to allow informal transport operators to regulate their own business activities.

Transport agencies such as the Transport Licensing Board (TLB) and Uganda Police often enforce a few road safety aspects, such as the possession of a valid driving permit, vehicles being in good mechanical condition and the load capacity of vehicles. Daily operations of public passenger transport are also largely determined by the forces of demand and supply as determined by market forces, and not by any timetable or licensing system.

While TLB is mandated under the Traffic and Road Safety Act 1998 to provide route charts (licensing and timetables) for all operators, the practice is that only the operation of long-distance (inter-state) buses is subjected to route regulation. Fares are not regulated and are generally determined by market conditions and are especially sensitive to increases in fuel prices.

Transit operators in Kampala are also required to have a permit that is provided by the city authority. Only one bus firm is for example allowed to operate on each route or in a particular zone but para-transit systems enjoy unrestricted freedom to operate on any route in the region.

Due to the lack of support infrastructure such as bus stops, bus terminals and passenger interchanges stage buses continue to operate like para-transit systems. Bus operations are also affected by the failure of the municipal authorities to provide bus lanes that would help address the challenge of mixed traffic.

Most minibus taxis and Boda Bodas are old, and their maintenance is still a big challenge because the spare parts have to be imported from where they are manufactured. Passenger transport operators are unable to renew their fleets because of the failure to mobilise enough investable funds. Transit operators have also been affected by the huge debt that was accumulated as a result of commercial bank loans secured with high-interest rates.

Transit operations are also affected by the lack of institutional leadership in the JKM conurbation including areas in greater Kampala as well as the continued existence of transport regulatory powers in various agencies and local governments including districts, Kampala Capital City Authority (KCCA), municipalities and town councils that make up the corridor.

When Pioneer Easy Bus (PEB) was introduced in 2012, some local government leaders in areas such as Mukono, Wakiso and Mpigi prevented its operations because it had only signed a contract with KCCA, which lacked powers to regulate transport activities beyond the city's administrative boundaries.

So the operations of public transit systems such as stage buses in the region may require coordination as well as a single regulatory agency, which is currently lacking (World Bank, 2017). Successful cities such as Greater Manchester, Greater London, Curitiba (Brazil), Singapore and Bogota for example have one agency coordinating metropolitan-wide transport activities.

### **Challenges faced by passenger road transport operators**

The passenger transport sector in the JKM conurbation/corridor is faced with many challenges. One such challenge is the lack of modern bus stops and terminals that have all the facilities and services required by travellers and passengers. Local governments including municipal councils also lack clear standard



design guidelines for bus stops and bus terminals. This is important for protecting the aesthetic character of cities as well as for operational purposes.

Incessant traffic jams that are also another challenge experienced in the JKM region by the transport operators. Traffic jam in the region has caused unnecessary journey delays and affected urban productivity. KCCA estimates that about 24,000 man-hours are lost by commuters each day due to traffic jams caused by the reliance on private cars and para-transit systems such as minibuses and Boda Bodas.

Lack of an effective transport regulatory and enforcement regime. Transport regulatory agencies such as the Transport Licensing Board (TLB), the police, municipal councils and Face Technologies have been overwhelmed by the rising number of public transport vehicles especially commercial motorcycles (Boda Bodas) and Minibus taxis. Most of these agencies are not visible in many areas outside Kampala. What is also clear is that the old, centralised model that is used to regulate transport in the country is no longer viable and effective.

Noise and air pollution are all serious problems in major towns, especially Kampala. This is, in part due to the number of old and poorly maintained vehicles, especially motorcycles. Public transport systems also continue to use fossil fuels, especially diesel and gasoline. Diesel buses and minibus taxis are the biggest sources of particulate pollution.

Due to the huge initial capital investment, public transport operators in various towns of the JKM conurbation/corridor have been unable to buy new vehicles and expand their services. Also, transit operators continue to invest in transport systems that require less capital such as minibuses and Boda Bodas. Most public transport vehicles including minibus taxis and Boda Bodas are in poor mechanical condition. No legislation makes it possible for the government or municipal councils to offer financial support/subsidies to transit operators. Capital investment is clearly one issue but if services are to be operated to a high standard at affordable fares some form of public sector subsidy will likely be required, supported by a strong operating contract that is similar to those observed in role model cities such as Curitiba (Brazil) and Bogota.

Also important is the failure of the government to integrate land use and transport planning in the JKM corridor. Due to the lack of an approved physical development plan for the region, investments in the transport sector continue to be undertaken as a separate activity, leaving many areas rapidly developing areas without an efficient transport system.

### **Future investments and opportunities for passenger transport improvement**

Several transport projects have been proposed to revitalize and modernize passenger transport in the JKM corridor and its core urban region of GKMA. Notable among them is the Bus Rapid Transit (BRT) project. A feasibility study for the project is also ready and the final report submitted in 2010. Nine (9) BRT corridors were also proposed in the GKMA, that is, Masaka road, Bombo road, Hoima road, Entebbe road, Ggaba road, Jinja road, Port Bell road, Kira road and Gayaza road.

It is also recommended that a BRT pilot covering 25km with major stations in Zana (Entebbe road), Bwaise (Bombo road) and Kirea (Jinja road) be implemented as phase 1 at the cost US\$ 490 million. Based on the investment strategy to be adopted, US\$ 394million is to be spent on infrastructure, US\$ 30million on land acquisition and US\$ 66million on vehicle fleet. Most potential funders of the BRT project including the World Bank, European Union and African Development Bank have, however, stressed the need for a regional-wide transport regulatory agency which is stated as MATA (Metropolitan Area Transport Authority) in the National Transport Master Plan (2008-2023) before funding could be provided.

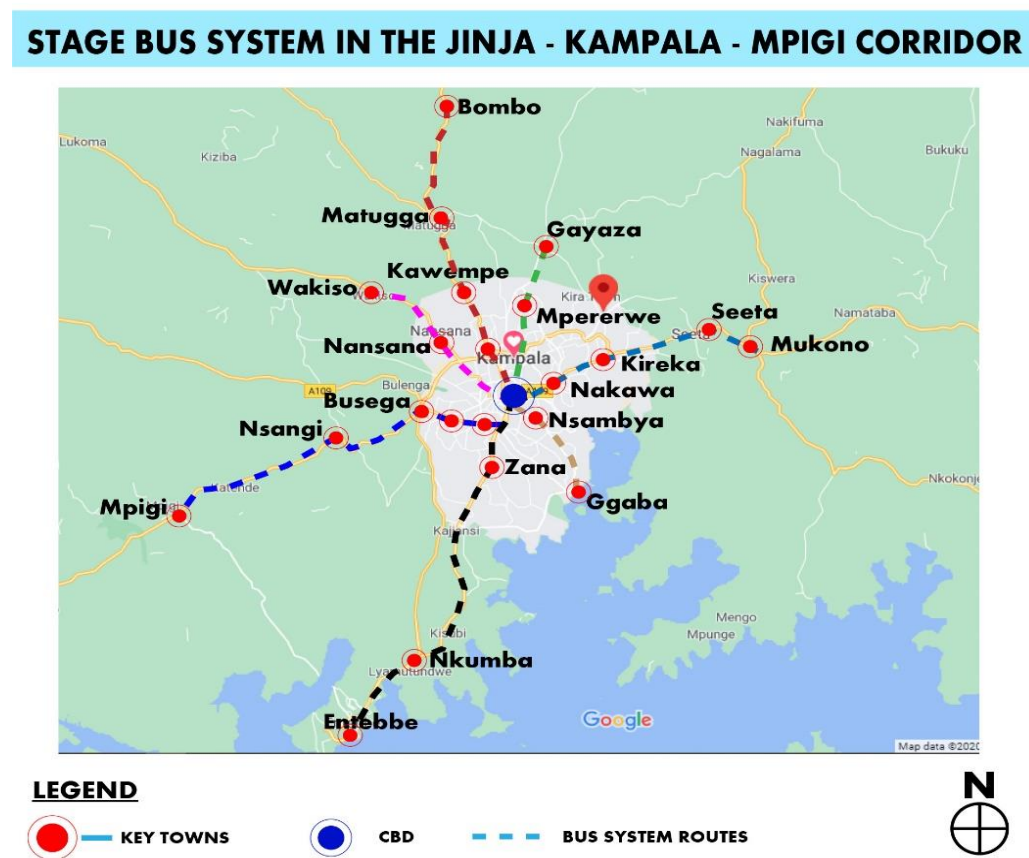


The Tondeka Metro bus is another flagship transit project that is being promoted by some local and foreign investors in the JKM region. Bus services will be provided in areas such as Mukono, Nsangi in Mpigi, Wakiso town in Wakiso, Matugga, Entebbe and Ggaba. It is expected that US\$ 200 million (Shs737 Billion) will be mobilised to buy 980 buses. Tondeka's fare structure is as follows: Shs1, 200 (US\$.32) unlimited daily travel; weekly card travel Shs3,500 (US\$1); and Shs 55,000 (US\$15) monthly card travel. Bus fares will be collected using radio frequency identification cards to swipe with no cash payment allowed on the bus. Bus operations are expected to start in September 2020 after the arrival of 400 buses as part of phase 1 of the project. However, the source of funding for the project is still not clear.

*Table 19: Key Routes to be plied by Tondeka Metro Bus in JKM Corridor*

No.	Routes	Distance
1.	Kampala -Mukono	25 Km
2.	Kampala - Nsangi	18 Km
3.	Kampala – Buloba Kiweesa	22 Km
4.	Kampala - Wakiso	21 Km
5.	Kampala - Matugga	19 Km
6.	Kampala – Entebbe International Airport	51 Km
7.	Kampala - Ggaba	12 Km

Figure 28: Proposed Tondeka Metro Bus Service in the JKM Corridor



Source: Tondeka

Table 20: Future Public Transit/Mass Transport Projects in the JKM Corridor, including GKMA Areas

Project	Areas traversed	Total Length in KM	Total Cost	Status/Progress
Bus Rapid Transit (BRT) Pilot	Kampala and Wakiso	25	US\$490Million	Mobilizing funding
Tondeka Metro Bus	Kampala, Wakiso, Mpigi and Mukono	NA	US\$200Million	Mobilizing Funding
KCCA Eco- Bus Project	Kampala	NA	US\$12Million	Securing a loan from African Development Bank

Also under a new programme to improve passenger transport in the city, KCCA intends to introduce bus services in areas that cover the Central Business District (CBD). Kampala Eco/green bus service as it is being promoted is part of a US\$228 million five-year (2020-2024) roads rehabilitation programme

(KCRRP) to be funded by the African Development Bank (AfDB). Also, under the project, US\$ 12 million will be used to purchase 80-100 seater capacity buses.

Green buses will operate on two critical routes: Route 1: covers areas such as city square, Centenary Park, Lugogo cricket ground, Kololo high secondary school, Kira road police station, Kamwokya market, Mulago hospital, Wandegeya and Watoto Church; and Route 2: will cover areas such as City Square, Watoto Church, Wandegeya, Mulago Hospital, Kamwokya Market, Ntinda, Spear Motors and Nakawa Market.

Like many other flagship projects to be implemented in the JKM corridor, the Green Bus intervention is intended to reduce the average travel time in the GKMA from 4.1 minutes per kilometre to 3.5 minutes per kilometre as recommended by the Draft Third National Development Plan (2020-2025) and Vision 2040.

## 6.8 Urban Passenger Road Transport

### 6.8.1 Public Passenger Transport Operations

Since the late 1980s and early 1990s, when Uganda embraced the Structural Adjustment Policies (SAPs), the operation and management of public passenger transport have been fully in the hands of the private sector. Passenger transport services such as the inter-city bus, minibus taxi services, long-distance bus services and commercial motorcycles (Boda Bodas) are all provided by the private operators.

Regulatory and enforcement bodies such as the Transport Licensing Board (TLB) and Uganda Police often enforce a few road safety issues, such as possession of a valid driving permit, vehicles being in good mechanical condition, speeding and the load capacity of vehicles. Daily operations of public passenger transport are also largely determined by the forces of demand and supply as determined by market forces, and not by any timetable or licencing system.

There are also no market entry controls and regulations with regard to the operation of public passenger transport in Uganda. While the Transport Licensing Board (TLB) is mandated under the Traffic and Road Safety Act 1998 to provide route charts (licensing and timetables) for all operators, the practice is that only the operation of inter-urban buses is subjected to any kind of route regulation. Fares are not regulated and are generally determined by market conditions and are especially sensitive to increases in fuel prices.

### 6.8.2 Transport Governance and Regulation

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So, the operations of public transit systems such as stage buses in the region may require coordination as well as a single regulatory agency, which is currently lacking (World Bank, 2017). Successful cities such as Greater Manchester, Greater London, Curitiba (Brazil), Singapore and Bogota for example have one agency coordinating metropolitan-wide transport activities.

### 6.8.3 Challenges faced by passenger Road Transport Operators

The passenger transport sector in the JKM conurbation/corridor is faced with many challenges. One of such challenges is the lack of modern bus stops and terminals that have all the facilities and services required by travellers and passengers. Local governments including municipal councils also lack clear standard design guidelines for bus stops and bus terminals. This is important for protecting the aesthetic character of cities as well as in the orderly provision of transport services.

Incessant traffic jams that are also another challenge experienced in the JKM region by the transport operators. Traffic jam in the region has caused unnecessary journey delays and affected urban productivity. KCCA estimates that about 24,000 man hours are lost by commuters each day due to traffic jams caused by the reliance on private cars and para-transit systems such as minibuses and Boda Bodas.

Lack of an effective transport regulatory and enforcement regime. Transport regulatory agencies such as the Transport Licensing Board (TLB), the police, municipal councils and Face Technologies have been overwhelmed by the rising number of public transport vehicles especially commercial motorcycles (Boda Bodas) and Minibus taxis. Most of these agencies are not visible in many areas outside Kampala. What is also again clear is that the centralised model that is used to regulate transport in the country is no longer viable and effective.

Noise and air pollution are all serious problems in major towns, especially Kampala. This is, in part due to the number of old and poorly maintained vehicles, especially motorcycles. Public transport systems also continue to use fossil fuels, especially diesel and gasoline. Diesel buses and minibus taxis are the biggest sources of particulate pollution.

Due to the huge initial capital investment, public transport operators in various towns of the JKM conurbation/corridor have been unable to buy new vehicles and expand their services. Also, transit operators continue to invest in transport systems that require less capital such as minibuses and Boda Bodas. Most public transport vehicles including minibus taxis and Boda Bodas are in poor mechanical condition.

No legislation makes it possible for the government or municipal councils to offer financial support/subsidies to transit operators. Capital investment is clearly one issue but if services are to be operated to a high standard at affordable fares some form of public sector subsidy will likely be required, supported by a strong operating contract that is similar to those observed in role model cities such as Curitiba (Brazil) and Bogota.

Also important is the failure of the government to integrate land use and transport planning in the JKM corridor. Due to the lack of an approved physical development plan for the region, investments in the transport sector continue to be undertaken as a separate activity, leaving many areas rapidly developing areas without an efficient transport system

### 6.8.4 Conclusions and Recommendations

#### **Main Conclusions**

A summary of the main conclusions of our analysis is:

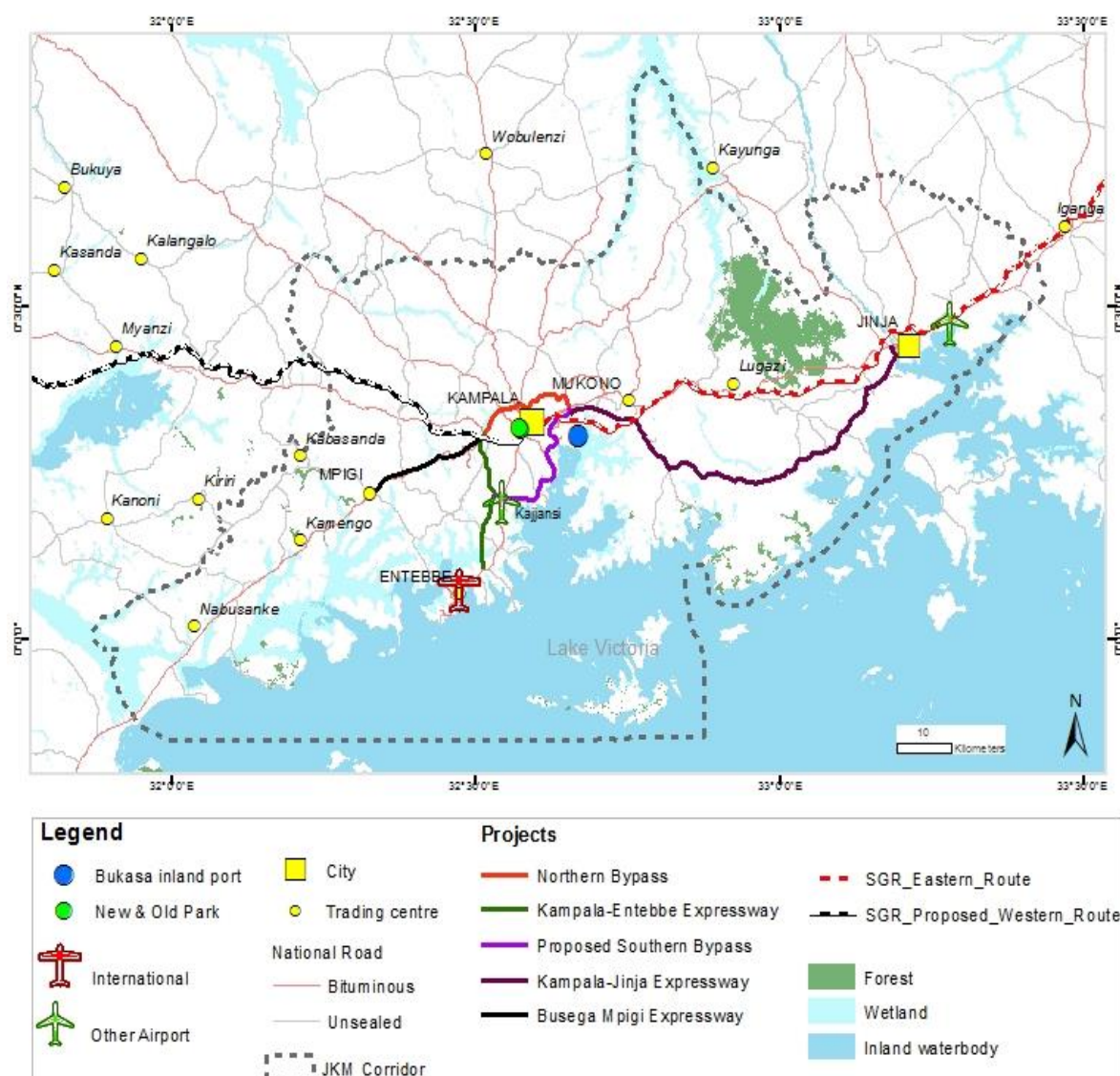
- > There is no comprehensive national statistical database on public transport. Without a comprehensive database, it is virtually impossible to plan and formulate feasible policies to improve the public transport industry throughout the country.
- > Traffic Congestion is probably the most visible, most pervasive and most immediate transport problem affecting Ugandan towns, especially in Kampala. It clearly affects the ability to provide effective public transport, especially stage buses. Increased use and ownership of private vehicles. Currently, Kampala's road infrastructure cannot keep pace with the very rapid rise in vehicle numbers on the roads.
- > Road accidents and fatalities. Due to the rapid growth of motor vehicles, especially motorcycles, as well as the lack of effective traffic regulatory systems, accident and mortality rates on the roads are very high.
- > Inadequate funding for public transport. Due to the huge initial investment required, public transport operators in the major towns have been unable to buy new vehicles and expand their services. Transit operators continue to invest in transport systems that require less capital such as minibuses and Boda Bodas.
- > Most public transport vehicles including minibus taxis and Boda Bodas are in poor mechanical condition. There is also no legislation that makes it possible for the government or Municipal councils to pay support for the operation of public transport services. Capital investment is clearly one issue but if services are to be operated to a high standard at affordable fares some form of public sector subsidy will likely be required, supported by a strong operating contract.
- > Lack of an effective transport regulatory and enforcement regime. Transport regulatory agencies such as the Transport Licensing Board (TLB) and Face Technologies have been overwhelmed by the rising number of public transport vehicles especially commercial motorcycles (Bod Bodas) and Minibus taxis. Most of these agencies are not visible in areas outside Kampala. What is also clear is that the old model for regulating transport in the country is no longer viable and effective.
- > Weak modal integration. The current public transport system is not integrated. Bus stops and terminals are critical in improving the attractiveness of public transport and integrating various modes of transport. Modal integration can only be effectively achieved by centralised network planning for all modes and strong regulation.
- > Low-cost recovery. The poor operating environment with bad road infrastructure, traffic congestion, low average speeds and unregulated entry to the industry has resulted in a low-cost recovery for operators.
- > Shortage of transport and logistics professionals. The public transport sector in Uganda is faced with a serious shortage of experienced and skilled managers and planners. Capacity building within government agencies and systems is also important in meeting the professional expertise required at institutional and individual levels within government authorities.
- > Environmental Air Pollution and Dependence on fossil fuels. Noise and air pollution are all serious problems in major Ugandan towns, especially Kampala. This is, in part due to the number of old and poorly maintained vehicles, especially motorcycles. Public transport systems in Uganda continue to use fossil fuels, especially diesel and gasoline. Diesel buses and minibus taxis are the biggest



sources of particulate pollution. There have been no initiatives to promote the movement to cleaner fuels.

- > Equitable transport systems. With the majority of the urban residents living in poverty, the mobility problems of the poor continue to be a major concern and a challenge faced by urban managers and decision-makers in Uganda. A well-planned reliable and regulated transport system would facilitate sustainable movement for all sectors of the community.
- > Inefficient land use patterns. Most towns and cities in Uganda are poorly planned and dominated by low-density informal settlements. Proper land use planning is critical, and it influences the operation and performance of transport systems in cities. High urban densities are also seen as critical in creating transport demand and increasing public transport ridership.
- > Need for an integrated and harmonious lake transport development plan. Development plans must be carried out at the lake level. As the lake presents a closed transport system, developments in one port will need to be implemented in parallel to similar developments in the other lake ports to become successful. Additionally, there should be a focus on key projects; the introduction of new competing large-scale port projects, such as Bukasa port, may reduce the viability of the development of the current ports. Hence, such projects may substantially reduce the private sector's appetite for becoming involved in developing the current ports. Poor access infrastructure to the lake ports - Pont Bell and the port of Jinja are connected to the Mombasa — Kampala main railway line (meter gauge railway). The port of Kisumu is also connected to this line, albeit through a branch line. However, all three of the rail connections are currently not functioning, as the rail and lake services were deemed uneconomic by the private concessionaire RVR and were thus halted. Subsequently, encroachment issues arose as people started building houses on the derelict rail line. On the southern side of the lake, the port of Mwanza South is connected to the central corridor meter gauge rail network. Musoma port has no railway connection, but there is a railway track within the yard area to load/offload and shunt rail wagons. The other ports are only accessible by roads, which are typically in a poor condition.

Figure 29: Proposed Flagship infrastructure projects in the JKM corridor



## Recommendations

Based on the stated key conclusions as well as the key findings, it is recommended that:

- > New investments are made to improve the public transport infrastructure. Gradual steps must be taken to correct the current imbalance in funding and investments between road expansion projects and the improvement of the public transport network.
- > Investment in high-capacity transit systems. As urban areas develop and continue to expand both in terms of population and land coverage, a new strategy must be evaluated to invest in high-capacity systems such as stage buses, passenger railway systems, Bus Rapid Transit (BRT) systems and Light Rail Transit.
- > Consider and evaluate Public Private Partnerships (PPPs) and other funding strategies to renew and establish a new integrated public transport network in the JKM region.

- > Introduce Network Planning for Towns and Cities and Operational Support. In order to take the step toward an integrated effective public transport network, it is necessary to introduce centralised network planning for each urban area. An appropriate regulatory framework would need to be introduced and enforced to ensure the network is operating as planned. It is clear that such a system is likely to require ongoing revenue support to ensure continued effective operation. One possible source of this funding could be to reserve the revenue raised from taxing private vehicles for ongoing revenue support for the public transport network.
- > Introduce car restraint measures in cities and towns affected by traffic congestion such as Kampala. This can be in form of road tolls, congestion charges, high fuel taxes and high parking charges.
- > Adoption of a Transit-Oriented Development (TOD) strategy for the corridor. The National Transport Master Plan (NTMP) 2008-2023 outlined a plan to promote a Transit-Oriented Development (TOD) strategy in Kampala. Under the same plan, areas of more intensive land use were to be clustered in the inner metropolitan area, major mixed-use corridors and along some circumferential corridors, all in a development pattern that is movement efficient. However, little progress has thus far been made in terms of introducing TOD as a strategy to integrate land use with transport planning. Adopting a TOD strategy would help increase urban population densities, create travel demand and foster public transport use in the major urban areas.
- > Consider introducing a plan to phase out low-capacity minibuses and Boda Bodas, especially in Kampala where traffic congestion is a serious urban mobility problem. Future opportunities for the informal transport systems and low-capacity systems such as motorcycle Boda Bodas and minibuses (Matutus) in developing cities are constrained. These need to be replaced by sustainable and efficient urban transport systems. Also, under Vision2040 and the Second National Development Plan (2015-2020), there are plans to introduce mass transport systems such as BRT, Light Rail Transit (LRT) systems and stage buses in Greater Kampala. There may, however, be a residual role for minibuses to feed, in a planned and regulated manner, fixed route transit systems such as stage buses, passenger railways and the proposed Kampala Bus Rapid Transit system at the designated bus stops and stations.
- > Improve traffic management, especially in Greater Kampala. Improved traffic management is crucially needed in the major towns, as well as in Kampala, to mitigate the current traffic congestion and safety issues. Improved enforcement is also a major issue.
- > Design new roads to accommodate the needs of buses and pedestrians. Wherever feasible, new roadways should provide bus lanes to speed up public transport as well as walkways to improve safety for non-motorists. It is also important that guidelines are developed to facilitate the implementation of the national non-motorised transport policy, which was introduced in 2012.
- > Foster stakeholder participation in public transport planning and decision-making. Such an approach will enhance legitimacy, build stakeholder participation and improve the quality of decisions, making them reflect the interest of the public as a whole.
- > Poor access infrastructure to the lake ports - Pont Bell and the port of Jinja are connected to the Mombasa — Kampala main railway line (meter gauge). The port of Kisumu is also connected to this line, albeit through a branch line. However, all three of the rail connections are currently not functioning, as the rail and lake services were deemed uneconomic by the private concessionaire RVR and were thus halted. Subsequently, encroachment issues arose as people started building houses on the derelict rail line. On the southern side of the lake, the port of Mwanza South is

connected to the central corridor meter gauge rail network. Musoma port has no railway connection, but there is a railway track within the yard area to load/offload and shunt rail wagons. The other ports are only accessible by roads, which are typically in a poor condition.

- > Consider the decentralisation of some of the powers to regulate and govern public transport to local governments. Due to the rapid growth and expansion of towns and cities, as well as the increase of motor vehicle ownership and use in the country, some of the regulatory powers and functions must be transferred to districts and municipal councils where most of the transport activities are being carried out. Activities across the country, which is critical for better planning and policy formulation.
- > Establishment of modern bus terminals, interchange points and facilities in towns across the country. The establishment of modern bus terminals needs to be prioritised especially in the nine proposed cities.
- > Reduce the dependence on fossil fuels among public transport operators. Addressing the air quality and environmental challenges would require a clear strategy to promote cleaner fuels such as Compressed Natural Gas (CNG), Liquefied Petroleum Gas (LPG), ethanol and electricity.
- > Interurban Public Transport. Existing bus services operate between the towns, but operation and any potential expansion of these routes are hampered by poor infrastructure and a lack of funding. A network of routes needs to be planned and facilitated across the country. However, in order for this to happen proper integrated terminal facilities need to be provided in the urban centres, as well as the provision of better road infrastructure and a proper funding and regulatory regime. The potential role of rail services in the provision of interurban public transport also needs to be investigated.

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# THE JINJA- KAMPALA-MPIGI CORRIDOR

## PHYSICAL DEVELOPMENT PLAN

JUNE 2023

### CHAPTER 7

## ENVIRONMENTAL ASSETS, MANAGEMENT AND CLIMATE CHANGE STRATEGY: BUILDING RESILIENCE



**Government of Uganda**  
Ministry of Lands, Housing and Urban Development



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## 7 ENVIRONMENTAL MANAGEMENT AND CLIMATE CHANGE STRATEGY: BUILDING RESILIENCE

### 7.1 Risk, Resilience, Environmental Management And Assets, and Climate Change

In this chapter, we assess the resilience of the JKM Corridor and propose conceptual approaches and specific interventions that can mitigate climate and disaster risks to the region's human settlements and natural assets and improve its overall environmental management through building resilience.

Environmental management is an emerging and dynamic concept. It refers to the practice of protecting and conserving the natural environment in order to maintain the health and well-being of both humans and the natural world. This can involve a wide range of activities, including protecting natural habitats, managing natural resources, and reducing pollution. As climate change is a significant environmental issue that has significant impacts on the natural world and human communities, environmental management is crucial in building resilience. Effective environmental management can help mitigate the impacts of climate change and adapt to the changes that are already occurring or expected in the future.

In the JKM, as well as in the rest of Uganda and the world, climate change shows its face in the recorded changes in both the frequency and severity of extreme climate events, such as droughts, floods and storms. These events pose risks to city residents and the urban sectors and threaten to destroy local livelihoods, property, and lives. These risks arise from both 'normal' day-to-day, seasonal, and year-to-year variability in climate as well as regional climate differences.

In the JKM the impacts of climate change are explicitly manifested in the following forms:

- > **Floods:** Frequent floods during the rainy season in the JKM region, particularly in flood plains and reclaimed wetlands, disproportionately impacts the poor and lead to loss of lives and property. Poor city planning, including the lack of drainage systems in vulnerable neighbourhoods, exacerbates the impacts of floods. It is anticipated that the frequency and intensity of floods will increase with climate change.
- > **Decreased Water Availability:** The lack of access to running water among slum dwellers in Kampala often results in reliance on natural springs as a main source of water. However, flooding can contaminate these water sources due to poor sanitary conditions, posing a risk to the health and well-being of these vulnerable communities.
- > **Sanitation:** The use of pit latrines by slum dwellers in the JKM Corridor is problematic due to the shallow depth of these facilities in flood plains. During the rainy season, these latrines can become flooded and inaccessible, leading to contamination of water sources as well as posing health risks to the communities.
- > **Health and hygiene:** Floods cause frequent outbreaks of waterborne diseases like cholera. The urban poor is affected most by these waterborne diseases and the frequency of the outbreaks is expected to increase with climate change.

The above exemplifies and showcases the importance of addressing urban poverty, especially by improving and strengthening Water, Sanitation, and Hygiene (WASH) infrastructures, as it will enhance the (urban) resilience of communities by mitigating and adapting to the risks and disasters brought on by climate change.

The concept of resilience has been useful in addressing and adapting to climate risk and disaster events, and in improving efforts to survive and thrive in the context of climate change. Resilience is broadly defined as the quality and capability of being able to recover quickly or easily from, or resist being affected by, a misfortune, [or a] shock, with this definition including the notion of robustness and adaptability.

The approach adopted in the present initiative to building resilience is informed by the Urban Africa Risk Knowledge (Urban ARK) project, a three-year (2015-2018) research and capacity-building programme funded by the British government. The critical insight of Urban ARK is that resilience must be viewed holistically and addressed with an integrative approach.<sup>1</sup>

Applying this focus to the JKM Corridor development means exploring three questions:

- > What are the risks faced in the JKM Corridor?
- > What opportunities exist to build resilience, and specifically urban resilience, in the face of the JKM Corridor's profile of risks?
- > What specific interventions can be undertaken to integrate risk mitigation and adaptation, and to integrate resilience-building into development strategies?

It is proposed here that due to the serious risks climate change and extreme events pose to human health and the environment, integrating risk reduction into the JKM Corridor's development requires:

- > Comprehensive and interdisciplinary investigations to increase understanding of what shapes vulnerability, resilience and adaptation;
- > Action at the levels of corridor risk planning and decisionmaking for risk policy and practice.

This chapter draws on existing qualitative and quantitative studies of urban risk and resilience in the JKM Corridor, alongside consultations with key actors, as the basis for identifying links and synergies between the conceptualisation and operationalisation of vulnerability, resilience, and adaptation.

### 7.1.1 Urban ARK and risk

The Urban ARK project defines risk as:

*“all the potential and likely causes of events resulting in premature death, illness or injury and impoverishment.”<sup>2</sup>*

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<sup>1</sup> See: [Urban Africa Risk Knowledge \(Urban ARK\) | Breaking cycles of risk accumulation in sub-Saharan Africa](#)

<sup>2</sup> Applying Multiple Methods to Understand and Address Risk; UN-Habitat (2020). Breaking Cycles of Accumulated risks in African Cities.

Given this broad definition, Urban ARK acknowledges that the risks experienced by most people are not large disasters, but rather common risks that involve small, 'everyday' experiences such as fires, violent crime, traffic accidents, illness, and so forth. Two types of risks are therefore outlined:

- > **Extensive risks:** Small, 'everyday' risks experienced by individuals and households;
- > **Intensive Risks:** Large-scale disaster events that affect many people simultaneously such as floods, earthquakes, and bushfires.

At the same time, it is argued that **risks are interconnected and cumulative**, as opposed to one-off events – indeed, the accumulation of risks determines the preparedness for and the impacts of disaster events. For example, the experience of violent crime might reduce a household's resources, which in turn will reduce their capacity to prepare for flooding, in turn again meaning that a flood will more severely impact the household, and so forth.

In other words, JKM region residents experience risk in different ways, depending on their location, income, gender, age and (dis)ability. It is critical to address the full spectrum of the JKM Corridor risks, encompassing 'extensive risk' as well as 'intensive risk.'<sup>3</sup> <sup>4</sup> Given that risks are cumulative, and include both extensive and intensive risks, risk should therefore not be analysed exclusively with quantitative studies, but also with qualitative understandings of how households and individuals perceive and experience risks in their lives.

In this light, the concept of resilience is useful in addressing climate risk and unexpected events, and in enhancing efforts to survive and thrive in the context of climate change. However, many of the concepts used to discuss resilience are contested. We refer specifically here to **"the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow, no matter what kinds of chronic stresses and acute shocks they experience."** <sup>5</sup>

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<sup>3</sup> H. Leck et al. (2018). 'Towards Risk-Sensitive and Transformative Urban Development in Sub Saharan Africa', in Sustainability 10.

<sup>4</sup> Urban ARK (2017); Bull-Kamanga et al. (2003). 'From everyday hazards to disasters: The accumulation of risk in urban areas.' Environment and Urbanisation 15 pp.193–204

<sup>5</sup> Definition utilised by a range of institutions and organisations, including UN-HABITAT, the Rockefeller Foundation, and C40 Cities. See e.g. 100 Resilient Cities Press Release (21st Nov. 2016): 100 Resilient Cities & C40 Cities Announce Partnership To Jointly Advance Climate Change And Resilience Efforts In Member Cities. Available online at: [https://c40-production-images.s3.amazonaws.com/press\\_releases/images/134\\_100RC\\_-\\_C40\\_Press\\_Release.original.pdf?1479736949](https://c40-production-images.s3.amazonaws.com/press_releases/images/134_100RC_-_C40_Press_Release.original.pdf?1479736949)



In common with many regions of sub-Saharan Africa, there is presently limited data providing a clear picture of risks faced in the JKM Corridor. While there have been recent efforts aimed at enhancing risk knowledge, decision-makers face the following gaps in baseline information: <sup>6 7</sup>

- > Detailed assessment of risks posed on the corridor;
- > Comprehensive risk profiles with organised information on each hazard;
- > Vulnerability and coping capacity, as well as other related information.

The data that is available tends to be inaccessible to all relevant stakeholders, including at-risk communities. This in turn hinders the relevant authorities within the JKM Corridor from undertaking informed adaptation measures. and disaster preparedness, response, and recovery.

Despite this limitation, every effort has been made here to draw on a wide variety of secondary data, bringing together studies that have utilised both quantitative data assessing intensive risks and qualitative studies identifying extensive risks.

## 7.2 Environmental assets at risk

Before a consideration and assessment of risks, it is necessary to sketch out the environmental assets that are at risk.

**Lithosphere;** The JKM Corridor area is the most strongly urbanised region in Uganda. However, despite the growing urbanisation taking place across the Corridor, **agricultural land** still provides by far the most common land use. It constitutes 62 percent of the total area while the built-up area is approximately 600 sq. km corresponding to 8.5 percent.

a) soils which support agriculture; the soils are left bare as a result of increasing urbanization and over-cultivation and clearing of vegetation, thus increasing soil erosion; the soil getting contaminated/ polluted by poorly managed chemicals from farmlands as well as oils from the increasing number of gasoline locomotives; in addition, the soils are getting choked by polyethene bags (Kaveera) and other plastics being disposed of everywhere along the corridor; hence the soil has become increasingly unproductive for agriculture.

b) The corridor was well endowed with hills, and they play a significant role in moderating the local climate; however, this landscape is over-exploited by increasing settlements and bush clearing.

**Hydrosphere;** the sphere that encompasses all the water both open (lakes and rivers) and underground (largely, wetlands). The sphere being the habitat for aquatic assets to include fish contributes greatly to the livelihoods of many communities along the corridor, but also contains other resources like water which is used for many purposes; sand is yet another important resource/ asset associated with this sphere very import for the construction industry, among others. The quality of water on the Lake (L. Victoria) and rivers and wetlands along the JKM corridor have been greatly compromised due to poor

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<sup>6</sup> See e.g. E.N. Sabiiti et al.(2014). Building Urban Resilience: Assessing Urban and Peri-urban Agriculture in Kampala, Uganda. United Nations Environment Programme (UNEP), Nairobi, Kenya

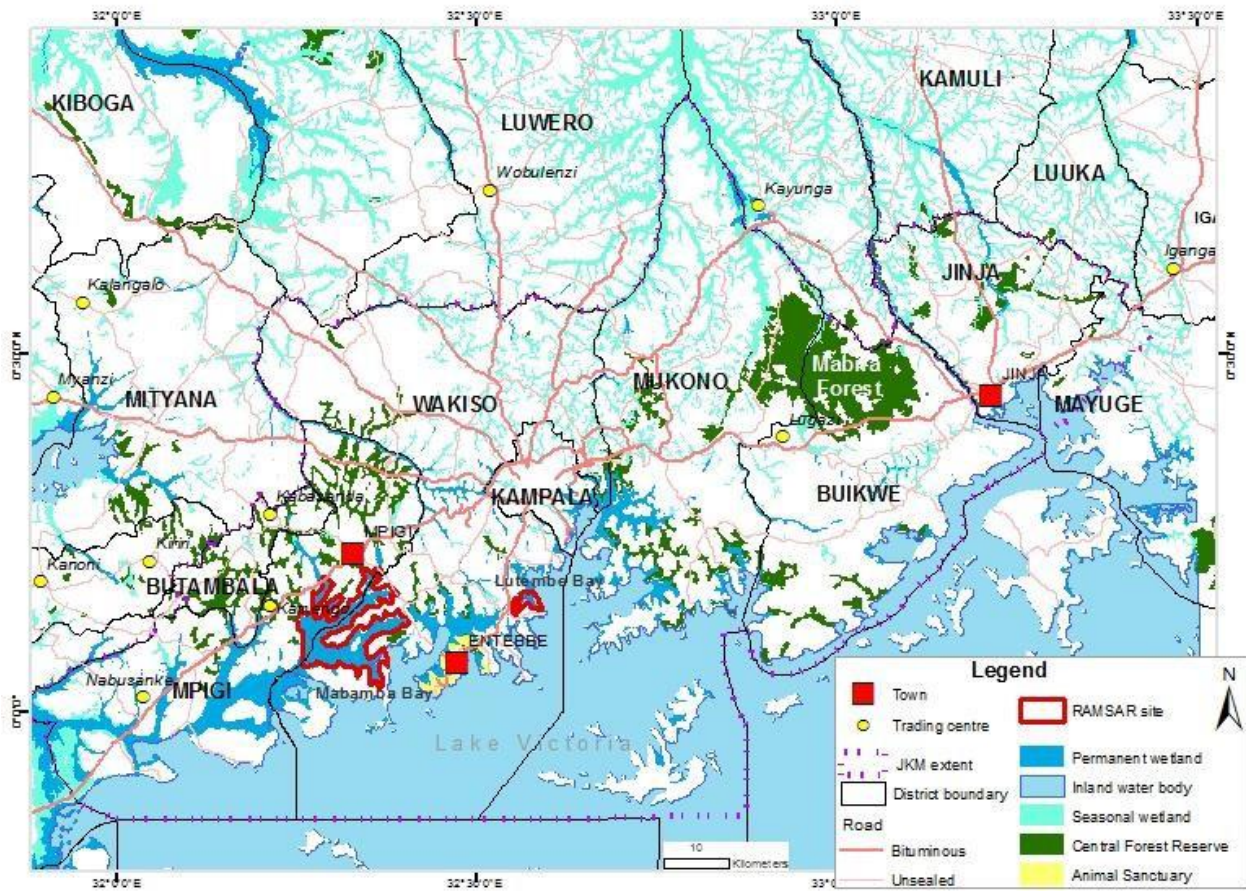
<sup>7</sup> This is not to say that there is no understanding of some categories of risks for Uganda as a whole. A profile of the national picture for natural disasters, for example, can be found in World Bank, 2019, Disaster Risk Profile: Uganda. World Bank, Washington DC.

waste management practices of the urban dwellers where the asset has been turned into waste disposal sites.

Biosphere; the sphere of animals and plants along the JKM corridor is also at risk. A variety of species whose habitat is forested are disappearing due to deforestation, urbanisation/settlements (built-up), industrialisation, and infrastructural establishment.

The JKM Corridor is thus also particularly rich in *aquatic environmental assets*. These aquatic ecosystems provide floodwater attenuation, sewage treatment, water purification, and food and building materials, while areas such as Mabamba and Lutembe Bay as RAMSAR sites are designated an “important bird area” by Birdlife International, and provide critical habitats for biodiversity. Aquatic habitats present include wetlands, small streams and larger rivers that cross the alignment such as the River Nile in Jinja, Ssezibwa River in Buikwe and River Mubeya in Mukono and several other streams such as Lumbuye, Kyakazi, Kiko and Walumbe found in Jinja. Figure 1 shows a map of environmentally valued assets within the JKM Corridor.

Figure 1: Environmentally valued assets within the JKM Corridor



Source: COWI A/S

Most of the JKM land uses that contribute to environmental quality provide much smaller areas of land to be mobilised. Expansion of the built-up area is likely to come from land that is currently under agricultural use. Agriculture represents livelihoods and food supply and is a pillar of Ugandan national development. Other land uses can therefore also be a partial source of additional built-up land so that the necessary trade-offs can be made between different future land use combinations in order to arrive at an optimum that can work in the long term.

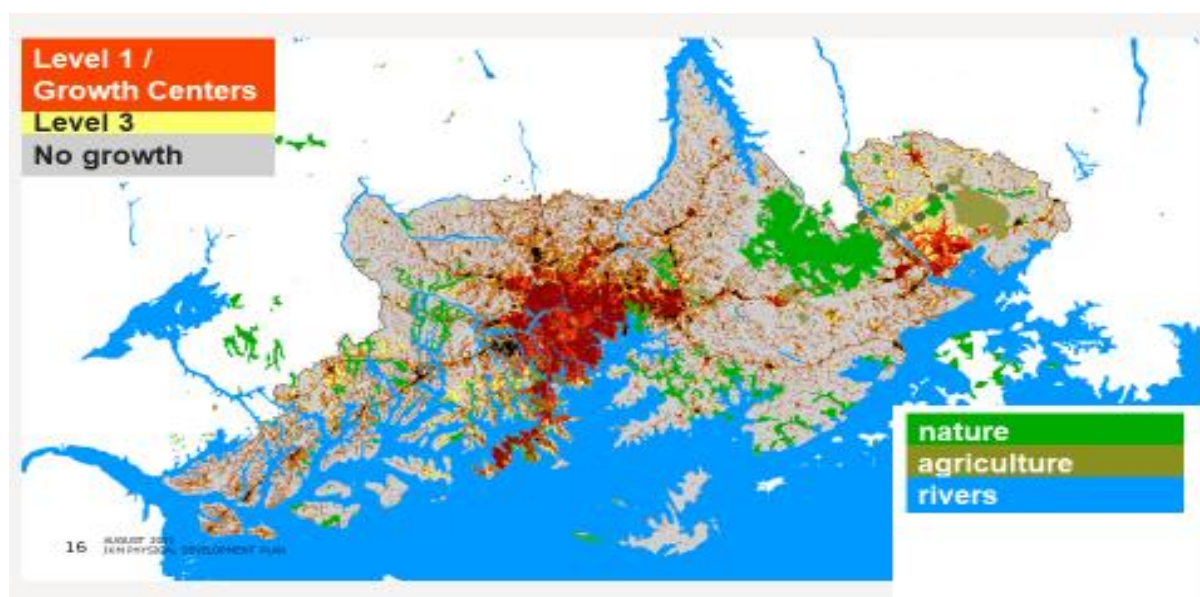
Lake Victoria is the JKM region's largest inland fishing sanctuary; an inland water transport link; a source of water for domestic, industrial, and commercial purposes; a major reservoir for hydroelectric power generation; a major climate modulator; and a rich biodiversity sanctuary. The basin has also been declared a Regional Economic Growth Zone and an Area of Common Economic Interest to optimise its economic and social benefits while addressing any environmental concerns and issues. Climate change has been identified as a serious threat to the basin's economic prosperity and livelihoods.

In recent years, the Lake Victoria Basin (LVB) has been characterised by frequent episodes of either excessive or deficient rainfall, which has harmed the economy. In general, results indicate average annual rainfall variability of between 6 percent and 50 percent across the LVB countries for the 1981–2010 period. Annual precipitation trends for 1981–2016 for the basin show significant areas with declining rainfall. Drier periods are getting longer and more pronounced during the March–June (MAMJ) rains.

Lake Victoria serves as the lynchpin of the JKM Corridor's ecosystem and has a rich but at the same time fragile ecosystem, including hilly and mountainous areas, riverbanks, lake shores and rangelands that are facing encroachment and degradation. The impacts of combined anthropogenic drivers, such as human population growth and land use changes, may have more far-reaching impacts on terrestrial ecosystems than climate change.

All the corridor districts share a borderline with Lake Victoria. The urban fabric has been shaped by the wetlands and the waters that flow into Murchison Bay on Lake Victoria. Together with natural precipitation, the lake provides an unlimited source of water to urban centres, its inhabitants, its industry and its agricultural hinterland. Its role extends into assorted fields (fishing, recreation, agriculture and much more). However, the nature of Lake Victoria's shorefront (mostly wetlands without natural beaches), the lake's pollution and the prevalence of malaria and bilharzia severely restrict its effective utilisation for direct shorefront water-related recreation and tourism.

Figure 2: Environmental Natural Assets



Source: COWI A/S

The wetlands along the JKM Corridor and more especially in the built-up areas have been encroached upon and have been turned into various land uses such as agriculture, residential, industrial and infrastructure services. In addition, around the lake basin, there is a lot of sand and quarrying for the booming construction industry which has had negative environmental impacts on the landscape, hills, forests, wetlands and the lake itself. Sand mines are more pronounced as an economic activity on the Kampala-Entebbe and Kampala-Masaka corridors.

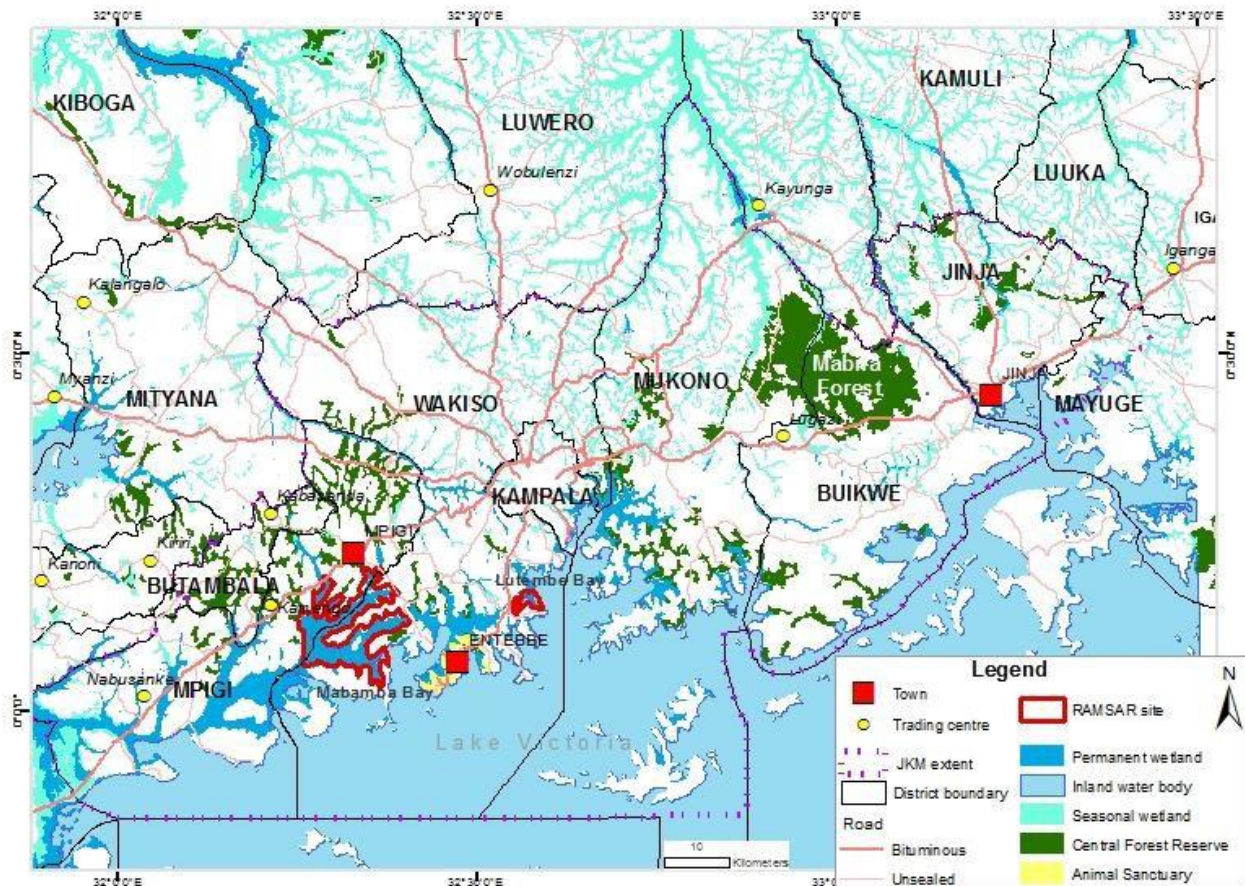
The JKM Corridor also has abundant and diverse flora and fauna. Although no National Parks, Wildlife Reserves or Wildlife Sanctuaries occur within the Corridor, several Central Forest Reserves (CFRs) occur within the corridor such as Mabira (Buikwe District) and Mpanga (Mpigi District) forests which give refuge to a wide variety of wildlife.

However, habitat quality and species diversity in the corridor and surrounding environment has been significantly impacted by human activity, such as clearance of natural habitats for the development of agricultural land, bush burning, over-exploitation of non-timber products, the development of large industrial projects (Namaave industry park, Mbalala, around Matugga areas along Bombo Road), and the accidental or intentional introduction of alien invasive species (e.g. *Mimosa pigra*, *Imperata cylindrical*, *Bidens pilosa*, *Eichhornia crassipes*) and population increase. Mpanga is one of the few forests in the Mpigi District that is still intact and less encroached.

The wetlands “enjoy” legislative protection (see Figure 3) and are of significant environmental awareness and concern, but in practice, they are not well protected. There is weak and uncoordinated law enforcement and a “lack of political will.” The destruction of these wetlands would bring about severe social and economic damage.



Figure 3: Protected areas in the JKM Conservation Areas



### 7.3 The JKM Corridor's risk profile

In order to construct a risk profile for the corridor, the following question needs to be answered:

***What are the risks faced on the regional, community and household levels in the Jinja Kampala Mpigi (JKM) Corridor?***

The risk profile captures intensive and extensive risks in the Corridor, demonstrating their interconnectivity by attaching them to underpinning drivers of these risks. This section proceeds by first outlining the key intensive risks faced in the Corridor, most notably flooding. It then considers intensive risks. Finally, it looks at three drivers of risk that underpin or exacerbate these conditions.

#### 7.3.1 Intensive Risks

##### *Flooding*

The convective rain pattern and the topographic and hydrological characteristics of the JKM Corridor induce flooding, which is very common in the urban areas of Kampala city (Bwaise, Kampala fire police /Clock tower, Kinawataka/Kyambogo along Kampala Jinja area).<sup>8</sup> The shallowness and low topographic

<sup>8</sup> F.W.N. Nsubuga (et al.) (2014). 'The nature of rainfall in the main drainage sub-basins of Uganda.', in *Hydrological Sciences Journal*, 59 (2), pp. 278–299

gradients of Lake Victoria make the lake particularly sensitive to changes in water levels, and temperatures favour vectorborne diseases.<sup>9</sup> Current impacts are driven not only by these threats but also by exposure and vulnerability. Impacts from flooding are exacerbated by the location of human settlements in low-lying valleys and wetlands. This is due to the lack of appropriate policies and their inadequate implementation and enforcement. These stem from critical institutional and administrative deficits and, some argue, the political economy of the city.

The development of hilltops (Bunga, Entebbe Road, Masaka Mpigi road etc) and low-lying areas has also increased vulnerability.<sup>10</sup> While the clearing of vegetation in the hills has increased water runoff and the encroachment of human settlements onto wetlands has also reduced the capacity of these ecosystems to capture, store and dissipate surface water runoff. Insufficient, poorly designed and poorly maintained urban infrastructure, and wastewater and solid waste management deficits are also crucial.

*Figure 4: A Business Owner Contends with Flood Waters in Kampala.*



*Source: Xinhua News*

The impacts of the floods are exacerbated by poor city planning as these neighbourhoods have no drainage systems. The frequency and intensity of floods are expected to increase with climate change. The increase in water levels which started in October 2019 has consistently continued to rise from 12.00 meters to the current 13.32 meters, the second-highest increase recorded since 1964, when the water level rose to 13.46 meters.

<sup>9</sup> Lake Victoria Basin Commission and GRID-Arendal (2017). *Lake Victoria Basin: Atlas of Our Changing Environment*. Lake Victoria Basin Commission and GRID-Arendal, Kisumu and Arendal.

<sup>10</sup> J. B. Nyakaana, H. Sengendo, and S. Lwasa (2007). *Population, Urban Development and the Environment in Uganda: The Case of Kampala City and its Environs*. IHSN Working Paper.





Kampala are reported to the fire brigade station. Though few lives are lost, Kampala fires have become rampant. But most Kampala fire outbreaks are common in institutions of higher learning, restaurants, hotels, warehouses, stores, factories, workshops, automobiles, wooden and grass-thatched houses, bushes and farms. Other affected places are markets, rubbish heaps and electrical installations. Between 2015 and 2019, there were 3, 214 fire incidents in various places in Kampala. There are also fire outbreaks within other parts of the JKM region which raise worries about the safety of the people, especially in institutions, and commercial and residential areas which are not planned.<sup>13</sup>

Firefighting services, like the army and the police, form an integral part of the national security system. The causes of fire are that few places of business are situated near open water sources like ponds and rivers; the majority have a limited water supply. There is a need for public institutions, business premises and offices to provide fire hydrants to be used in cases of emergency.

### *Epidemic Diseases*

The COVID-19 pandemic starkly illustrated the risk that epidemic outbreaks pose to Uganda, with the JKM Corridor being particularly vulnerable owing to its high population density relative to the rest of the country. Relative to much of the world, the country has weathered the pandemic well, at least in terms of mortality. While it is still too early to conclude what factors and actions contributed to a relatively low loss of life, early analyses suggest the government's rapid imposition of a national lockdown may have been decisive.<sup>14</sup>

That said, the broader picture of risks posed to the JKM Corridor by epidemic outbreaks is murkier. Indeed, without decisive intervention, the conditions exist for widespread loss of life owing to the country's strained public health service; dense and poorly serviced informal settlements; and high rates of poverty. Further, Uganda's geography exposes it to diseases with an exceptionally high risk for epidemic spread, including Ebola, cholera, and malaria – indeed, settlements such as Jinja that are prone to flooding are at particularly acute risk.

COVID-19 has further illustrated the destructive capacity of epidemics beyond their immediate threat to life. Uganda's lockdown in conjunction with the closure of the economies of key trading partners, led to a 2.9 percent fall in GDP in FY20, compared to a 6.8 percent growth in FY19.<sup>15</sup> Uganda's population, particularly the urban poor many of whom rely on informal work and hence have limited labour rights, have experienced major falls in household revenues. As such, if rates of poverty climb rapidly, escalating government expenditure and falling tax revenues limit the medium- to long-term capacity of the government to assist. Ugandans that rely on the government's public healthcare system also report reduced access to primary healthcare, leading to increased rates of preventable deaths including from malaria and childbirth.<sup>16</sup>

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<sup>13</sup> I. Mbiggo and K. Ssemwogerere (2018). "An Investigation into Fire Safety Measures in Kampala Slums." A Case of Katanga-Wandegeya', in *Civil and Environmental Research* 10(3)

<sup>14</sup> Reuters (2021).

<sup>15</sup> World Bank (2021). *Uganda Covid-19 Crisis Response and Recovery Budget Support to Mitigate COVID-19 Pandemic*.

<sup>16</sup> Development Initiatives (2021). *Socioeconomic impact of Covid-19 in Uganda: How has the government allocated public expenditure for FY 2020/21?*

### 7.3.2 Extensive Risks

#### *Food Insecurity*

Food insecurity is a prevalent issue for many households in the JKM Corridor. Subsistence farming is commonplace in Uganda, and while households engaged in subsistence farming are vulnerable to poor harvests and economic poverty, the immediacy of their food supply affords them a degree of protection from shocks to the food supply.<sup>17</sup> Subsistence farming is, however, less common in peri-urban areas, and almost non-existent in urban areas. Consequently, residents of urban centres in Kampala, Jinja, and Entebbe are at acute risk of shocks to the food supply, particularly the urban poor. A sharp increase, for example, in the price of *matake* and a drop in its availability led to thousands of families reducing their diet to a single meal a day.<sup>18</sup> The risks posed by food insecurity were seen most recently during the COVID-19 pandemic, which has caused dramatic reductions in household incomes; shuttered urban food suppliers such as markets and street vendors; and caused sharp increases in household staples.<sup>19</sup>

#### *Violent Crime*

Muggings, assault, theft, and sexual crimes are more commonplace in the JKM Corridor relative to the rest of Uganda. The pattern of Uganda's urbanisation means that the JKM Corridor features extremely high youth unemployment, with the urban poor often clustered in dense neighbourhoods far from sources of either formal or informal employment. A study of 500 young people living in Kampala's informal settlements showed some 36 percent had experienced violent crime involving a weapon.<sup>20</sup>

#### *Economic Shocks*

High levels of unemployment limit the ability of individuals and communities to cope with the impacts of climate change. It should therefore be noted that if urban poverty is reduced, the disasters brought on by climate change will be greatly offset. Studies and assessments done by the KCCA and other key stakeholders reveal that the stresses have had various impacts on economic growth which have reduced the resilience of unemployed communities, families and households to cope, thus increasing vulnerability risk much higher.

#### *Vehicular Accidents*

Uganda has one of the highest rates of road traffic incidents of all low and middle-income countries and is one of the top-ten causes of death in the country.<sup>21</sup> People living in the JKM Corridor, containing the majority of urbanised areas in the country, are particularly at risk. As discussed in Chapter 6, the JKM Corridor's urbanisation over the past 20 years has far outpaced the capacity of its road and transit systems. This, in conjunction with a dramatic uptake in private vehicle ownership, as well as the pattern

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<sup>17</sup> This should not, however, be overstated – an overestimation of the capacity of rural households to produce their own food has left thousands of rural Ugandans in poverty, excluded from aid distribution which has favoured urban households.

<sup>18</sup> J. Pottier (2015). 'Coping with urban food insecurity: findings from Kampala, Uganda', in *Modern African Studies* 53(2): 217-241.

<sup>19</sup> IIED (2021). *To address food insecurity in Uganda, the government must act now* Available online: <https://www.iied.org/address-food-insecurity-uganda-post-Covid-19-government-must-act-now>

<sup>20</sup> Monica H. Swahn et al (2012). 'Serious Violence Victimization and Perpetration among Youth living in the Slums of Kampala, Uganda', in *West J. Emergency Medicine*. 13(3).

<sup>21</sup> J. Balikuddembe et al. (2017). 'Road Traffic Incidents in Uganda: A Systematic Review of a Five-Year Trend', in *Injury and Violence* 9(1): 17-25

of the region's urban development which tends towards unplanned, informal road networks, has created an environment where vehicular accidents are commonplace, at 28.9 deaths per 100,000 population.<sup>22</sup>

### *Contaminated Waters*

Most of the slum dwellers use pit latrines which are shallow due to the height of the water table in the flood plains where they live. These sanitary facilities get flooded and become inaccessible during the rainy season, leading to contamination of water sources. Floods, to emphasise again, cause frequent outbreaks of waterborne diseases like cholera. The urban poor are affected most by these water-borne diseases and the frequency of the outbreaks is expected to increase with climate change.<sup>23</sup>

## 7.4 Contextual factors underlying intensive and extensive risks

Understanding intensive and extensive risks in the JKM Corridor requires a robust understanding of the connecting drivers of said risks. We can identify three main drivers of risk as follows: the drivers of urbanisation and urban change; the weaknesses and incapacities of governments; and the development and expansion of cities and urban centres in high-risk sites.

### 7.4.1 Rapid, uncontrolled urbanisation and risk

Global evidence demonstrates that a national urban transition can support better urban growth through compact urban growth, connected urban infrastructure and coordinated urban governance.<sup>24</sup> The concepts and discussions about the direction and dynamics of urbanisation, such as growth or shrinkage, have one issue in common: They deal with the relationship between built-up areas in urban areas and the population concentrated in them. Or, in other words: about urban population density.

There is also literature that indicates that density usually not associated with compactness can compound certain risks such as flood, contagion (disease), fire etc.<sup>25</sup> Urbanisation in the JKM Corridor, as discussed in detail in Chapter 3, is characterised by rapidly expanding, sprawling spatial expansion, much of which is informal. The effects of this form of urbanisation on the JKM Corridor's risk profile are well understood.

This pattern of urbanisation is destructive of ecological resources including forests, waterbodies, floodplains, and riverbanks. As well as causing environmental degradation through habitat loss and subsequent reduction in biodiversity, it further increases the risks of flooding. This is driven by increased impervious surfaces for roads and parking; improper land use in respect of buildings in hilltops and

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<sup>22</sup> Ibid.

<sup>23</sup> J, Kwiringira et al. (2016). 'Seasonal Variations and Shared Latrine Cleaning Practices in the Slums of Kampala City, Uganda', in *BMC Public Health* 16(361).

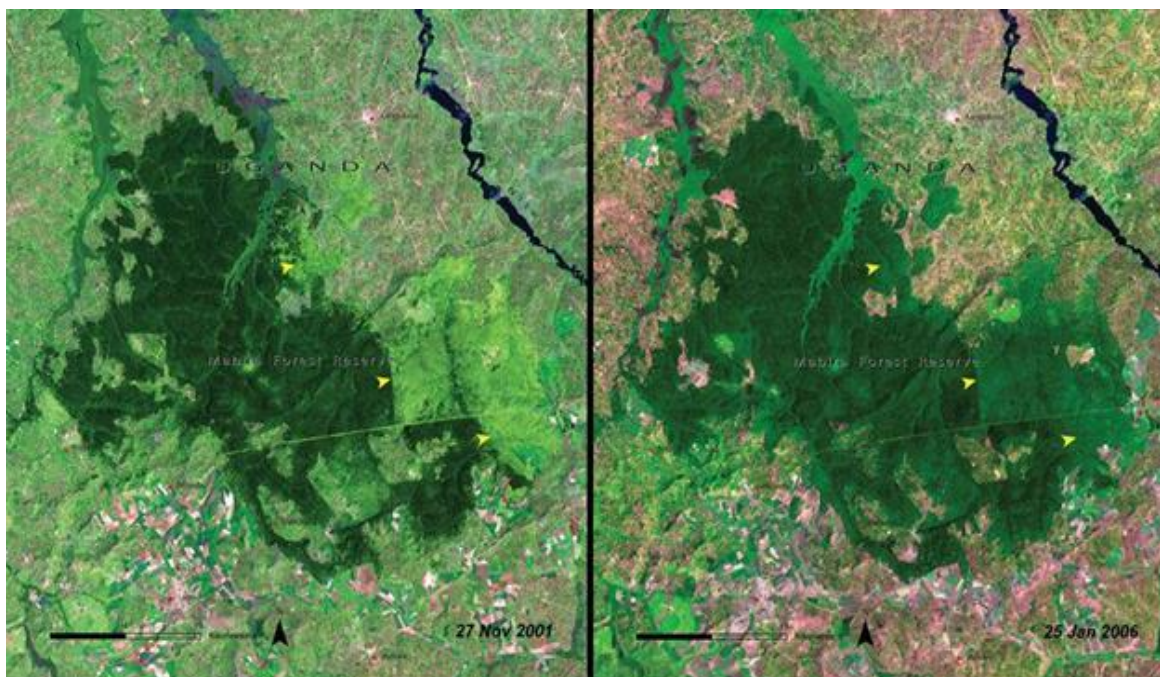
<sup>24</sup> This is part of the basis for Uganda's development priorities. See e.g., Uganda Ministry of Finance (2016). *Better Growth, Better Cities: Achieving Uganda's Development Ambition*. Ministry of Finance, Uganda. See also, DFID (2017). *Coalition for Urban Transitions: A New Climate Economy Special Initiative*

<sup>25</sup> See for example, G. Atukundu (2018). 'Dynamics of Urban and Rural Linkages in Uganda: Exploring the Effects, Challenges, and Opportunities for Sustainable Rural Development', in *Journal of African Interdisciplinary Studies* 2:9 pp. 4-19.

wetlands leaving no room for water to drain; insufficient drains; poor maintenance of drainage channels; and ineffective solid waste management systems.<sup>26</sup>

The JKM corridor is, as a result, experiencing rapid deforestation for various pressures ranging from settlements and agricultural development, see **Error! Reference source not found.**. The forest land uses, especially within the Buyikwe and Mukono districts including forest reserves, are under high pressure for unsustainable harvesting for commercial activities such as timber and also for settlements.<sup>27</sup>

Figure 6: Five years of deforestation in Mabira Forest, Uganda



Source: <https://www.businessinsider.com/why-paris-agreement-photos-human-activity-earth-trump-withdraw-2017-6?r=US&IR=T>

Within the JKM Corridor, urban development in peri-urban areas is exerting significant development pressures on agricultural land. The recent emergence of an informal land market in the face of an inefficient formal one has resulted in the exclusion of some social groups, particularly the poor, and has increased competition for land between agricultural and non-agricultural users.<sup>28</sup>

Of particular pertinence to the JKM Corridor is the increase in road vehicle usage, directly resulting from both urban sprawl (particularly in Kampala) and a lack of viable mass-transportation options such as rail and high-capacity busses. This leads to vehicle emissions that contribute to air pollution and its attendant negative impacts on human health.<sup>29</sup>

<sup>26</sup> A. Richmond et al. (2018). 'Urban Informality and Vulnerability: A Case Study in Kampala, Uganda', in *Urban Science* 2(1):22

<sup>27</sup> M. Josephat (2018). 'Deforestation in Uganda: population increase, forests loss and climate change.', in *Environ Risk Assess Remediat* 2018 2(2)

<sup>28</sup> E.N. Sabiiti et al.(2014).

<sup>29</sup> Ibid.

#### 7.4.2 Climate Change and Greenhouse Emissions

The JKM Corridor is experiencing climate changes mostly with increased temperatures and more intense rainy seasons which are less predictable and more erratic leading to flooding and food insecurity. The IPCC's fourth assessment report climate change models project an increase in average temperatures in Uganda of up to 1.5°C in the next 20 years and up to 4.30 by 2080.<sup>30 31</sup>

In the business-as-usual scenario emissions at the GKMA level are projected from 6.9 million tons in 2014 to 9.1 million tonnes in 2020 and 14.6 million in 2030. The overall emissions will increase by 55 percent from 2020-030. The main contributing sectors include transport, household, freight, waste, and tertiary and industrial sectors. The other source of pollution is from the industries within the JKM Corridor.<sup>32</sup>

The major sources of pollution are industries, vehicles (transport) and cooking using firewood and charcoal. Industries generate volumetric wastes which are discharged without treatment into nearby water bodies, potentially degrading their water quality. Most industries in Uganda use outdated manufacturing technologies and do not have functional effluent treatment plants. Therefore, raw and harmful wastes are discharged into the surrounding water bodies.<sup>33</sup>

Changes in rainfall patterns and annual totals are also expected. Prediction models indicate an increase in rainfall of 10-20 percent. From the predictions, it is estimated that runoff will increase in the magnitude of 10-20 percent<sup>34</sup>. The recorded temperature has increased by 1.5 centigrade over the last 50 years. Although the precipitation levels have not changed significantly, the patterns have become more erratic.<sup>35</sup>

The major economic sectors that are subjected to the first-order impact of climatic change are water resources, ecosystems and fishery, agriculture, energy, transportation, infrastructure and communications, and public health and labour productivity.<sup>36</sup> The second-order economic impact of climatic change is lingering food shortages, energy poverty, malnutrition and impaired learning ability, and gradual loss of ecosystems that previously supported the economic and social life of inhabitants. The 1997/1998 El Niño floods caused damage to buildings, roads, communications systems, crops, and in addition to the costs of treating diseases.<sup>37</sup> This type of damage has immediate and lingering future costs. Taking the costs of replacement of infrastructure, we can assess immediate costs for all damaged

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<sup>30</sup> N. Hepworth and M. Goulden (2008). *Climate Change in Uganda: Understanding The Implications And Appraising The Response*. DFID Uganda, Kampala.

<sup>31</sup>McSweeney, C. et al. (2010). 'The UNDP Climate Change Country Profiles: Improving the accessibility of observed and projected climate information for studies of climate change in developing countries.', in *Bulletin of the American Meteorological Society*, 91(2), 157-166.

<sup>32</sup> UCSD (2017). *Promoting the Implementation of the Paris Agreement in Africa: Uganda National Baseline Study*. UCSD, Kampala.

<sup>33</sup> C. Angrio, P. Abila, T. Omara (2020). 'Effects of Industrial Effluents on the Quality of Water in Namanve Stream, Kampala Industrial and Business Park, Uganda', in *BMC Research Notes* 13(220).

<sup>34</sup>UN-Habitat (2009). *Climate change assessment for Kampala, Uganda: a summary*. United Nations Human Settlements Programme.

<sup>35</sup> Ibid.

<sup>36</sup> Republic of Uganda (2015) (a). *Economic Assessment of the Impacts of Climate Change in Uganda*. Ministry of Water and Environment, Uganda.

<sup>37</sup> Mogaka, H. et al. (2005), *Climate variability and water resources degradation in Kenya: Improving water resources development and management*, World Bank Working Pap. 69, World Bank Group, Washington, D. C



structures, in addition to lost value due to impaired infrastructure, cost of treating diseases, and lost productivity due to diseases and inability to move and communicate freely.

The risk profile outlined above is therefore exacerbated on all accounts by climate change – yet the JKM Corridor is the main source of emissions that contribute to climate change. For example, a qualitative study examining narratives of climate and livelihood changes in Jinja city emphasized how Jinja’s residents make sense of climate change through their own narrative framework rather than through the lens of global climate change discourses.<sup>38</sup> They demonstrated how the onset of climate change in Jinja is widely attributed to perceived moral and environmental failings on the part of present generations being unable to preserve land, trees and other resources for the future. This form of analysis situates changing climates and environments within the context of everyday urban struggles and emphasises the need for civic participation in developing climate change strategies.<sup>39</sup>

#### 7.4.3 Limited household and institutional capacities for managing and mitigating risk in the JKM Corridor

The literature reviewed and discussions with stakeholders show that there is limited public understanding of the impacts of climate change at the national level and within the JKM Corridor. Uncertainty about the extent of climate change impacts, as data are insufficient to drive a detailed specification of adequate adaptation measures. Known costs of adaptation raise more objections than the unquantifiable costs of inaction. Climate change is reducing the capacity of district and urban institutions and associated security and governance systems to deal with climatic extremes and variability.<sup>40</sup> Generally and specifically there is an absence of research on the adaptation capacities of citizens - individuals and households.

Smaller municipalities and towns, in contrast to institutions at the national level, are primarily dealing with day-to-day issues or extensive risks of providing basic services and do not have the capacity to get ahead of new challenges like climate change adaptation, which requires long-term planning as climate change adaptation. The climate change function is often placed within a municipality’s environmental department, which can be a barrier to broader integration and acceptance of climate change action within municipal/town council planning and implementation. Climate change is often seen as an “unfunded mandate” in Uganda; all levels of government are mandated through national policy to act on climate change, yet funding allocations thus far do not seem to reflect this imperative.<sup>41</sup>

#### 7.4.4 The risk profile for the JKM Corridor.

The overall picture of risk in the JKM Corridor suggests acute vulnerability to intensive and extensive risks. Uncontrolled urbanisation, climate change, and limited institutional and household capacities exacerbate these risks. In particular:

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<sup>38</sup> McQuaid, K et al. (2018). ‘Urban climate change, livelihood vulnerability and narratives of generational responsibility in Jinja, Uganda’, in *Africa* (88).

<sup>39</sup> Ibid

<sup>40</sup> D. Satterthwaite et al. (2007). *Adapting to Climate Change in Urban Areas: The Possibilities and Constraints of low- and middle-income nations*. IIED.

<sup>41</sup> G. Tumushabe et al. (2013). *Uganda National Climate Change Finance Analysis*. ODI, London.

- > The region experiences regular flooding yet has extremely limited infrastructure to mitigate the damage inflicted by floods. Uncontrolled urban expansion has seen encroachment on floodplains, while climate change is driving the severity of floods upwards;
- > The region is at acute risk of wildfires, with climate change and unregulated construction, deforestation, and agriculture increasing these risks. Further, as most urban expansion has been unplanned, fires spread more easily and with greater destructive potency;
- > Informal settlements are dense, sprawling, and in many cases at risk of disease outbreaks – this is

Driver of Risk	Resultant Extensive Risks	Resultant Intensive Risks
Urbanisation patterns: dispersed, informal, and uncontrolled	<ul style="list-style-type: none"> <li>• Poor access to clean/piped water.</li> <li>• Worsened health outcomes.</li> <li>• Use of environmentally damaging fuel sources (e.g., charcoal, produces emissions, encourages deforestation).</li> <li>• High frequency of negative life outcomes, e.g., violent crime, food insecurity, vehicular accidents.</li> </ul>	<ul style="list-style-type: none"> <li>• Major fire outbreaks.</li> <li>• Epidemics and disease outbreaks.</li> <li>• Environmental Degradation.</li> </ul>
Climactic and Environmental Change	<ul style="list-style-type: none"> <li>• Loss of businesses, and homes (flooding, fire).</li> <li>• Heatwaves posing a significant risk to life, especially for the urban poor.</li> </ul>	<ul style="list-style-type: none"> <li>• Flooding, esp. Jinja and settlements along the Nile.</li> <li>• Heatwaves causing fire outbreaks.</li> <li>• Soil degradation.</li> </ul>
Household and Institutional Preparedness	<ul style="list-style-type: none"> <li>• Unemployment, poverty.</li> <li>• Inadequate service provision.</li> <li>• Heavy reliance on resources susceptible to supply-side shocks, e.g., oil.</li> </ul>	<ul style="list-style-type: none"> <li>• Weak general preparedness for major disasters.</li> </ul>

Figure 7: Risk Profile for the JKM Corridor

exacerbated by regular flooding, which increases the spread of malaria and cholera among other waterborne diseases;

- > Poor service provision for the urban poor means that many people in the JKM Corridor are at high risk of life-altering events including the experience of violent crime, traffic accidents, and ill health. Most households lack the resources to absorb the shock of intensive risks, particularly flooding;
- > Households in the corridor are dependent on sources of fuel that both contribute to climate change (i.e., charcoal), and leave them susceptible to economic and supply-side shocks (i.e., oil).

A summary of risks is provided above in Figure 7, which further illustrates the overlapping nature of risks in the Corridor.

## 7.5 From risk to resilience: governance of and approaches to building resilience in the JKM Corridor

This section reviews the structures of governance, legislation, and spatial planning that can facilitate the mitigation of risk and the building of resilience. It answers the following research question outlined in the introduction:

### **What opportunities exist to build resilience in the face of the JKM Corridor’s profile of risks?**

There have been various studies and research conducted on climate change-related issues in Uganda as well as globally that provide information mitigation and adaptation measures to climate change, which

the JKM Corridor can utilise. However, as previously stated, there has not yet been a comprehensive study specifically focused on the impacts of climate change on the JKM Corridor.

Good governance is fundamental for building urban resilience in the face of risks. No single aspect of governance dictates the level of resilience of a given spatial or territorial urban area – a well-financed and effective government might be highly functional in many respects, but this does not necessarily imply that it oversees effective resilience planning. Governance factors that feed into resilience include accountability; sufficient disaster risk planning and preparedness; clear and well-communicated directives and responsibilities; and an integrative understanding of risk and resilience.<sup>42</sup>

In the case of the JKM Corridor, the most obvious shortcoming exists in that the corridor is not a unified governed entity, rather it is multiple regional and municipal governance units with varying priorities and capacities. In Uganda more broadly, there is no single department responsible for risk management, nor is there a single over-arching strategy for integrating risk management into development strategies.

That said, Uganda has a wide array of instruments and departments that are tangentially or indirectly responsible for areas of risk management as outlined in the risk profile, particularly in terms of environmental protection and management. It further looks at existing programmes and projects intended to mitigate risk and environmental destruction.

It should be noted that this section considers these governance frameworks and practices in terms of their *de jure* principles and functions – there is frequently a discrepancy between how land, buildings, ecological zones, and so forth *should* be managed, and how those areas *are* managed. This is most commonly due to a lack of institutional capacity, which must be addressed in any recommendations for integrating risk mitigation and resilience building into development priorities.

#### 7.5.1 Institutional Management of Risk and Urban Resilience

Two main ministries – the Ministry of Lands, Housing & Urban Development, and the Ministry of Water & Environment - and their respective departments play a critical role in the environmental management of the JKM regional corridor. Their institutional structure, relevant mandates and capacity are briefly described here.

##### *Office of the Prime Minister (OPM)*

The Ministry of Disaster Preparedness and Refugees is a cabinet-level government ministry of Uganda. The ministry is responsible for the coordination of all refugee matters in the country. It is also responsible for national preparedness for disasters, including floods, landslides, earthquakes, droughts, and famine.

The programme “Strengthening Community resilience to climate change and disaster risks project in Uganda” is implemented by the Office of the Prime Minister (OPM) in conjunction with seven other Ministries, Departments, Agencies and civil society organizations participating as Responsible Parties (RPs). The RPs include the Ministry of Water and Environment (MWE), Ministry of Lands, Housing and Urban Development (MLHUD), Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), Ministry of Finance, Planning and Economic Development (MFPED), Uganda National Meteorological Authority (UNMA) and National Planning Authority (NPA).

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<sup>42</sup> Betolli et al. (2016).

*The National Physical Planning Board (NPPB)*

Mandated to provide guidance and recommendations to government and local government on matters relating to physical planning, but also ensure integration of physical planning with social and economic planning at the national and local government.

*Ministry of Lands, Housing & Urban Development (MoLHUD)*

MoLHUD is responsible for providing policy direction, national standards and coordination of all matters concerning lands, housing and urban development for the country. It guides and directs policy, and legal aspects and sets the regulatory agenda on land, housing, and urban development to ensure sustainable land management, promotion of sustainable housing for all, and the fostering of orderly urban development in the country. Politically, the ministry structure has one Minister who gives the overall political guidance and direction with the support of three Ministers of State for Lands, Housing and Urban Development respectively. Within the ministry, there are three directorates and multiple departments.

Departments within MoLHUD that are relevant and related to the environmental issues of JKM Corridor include:

- > **Department of Land Administration:** responsible for the supervision of land administration institutions and valuation of land and other properties.
- > **Department of Land Use regulation and compliance:** responsible for formulation of land use-related policies, plans and regulations. It also provides technical support and guidance to Local Governments in the field of land use regulation, monitoring and evaluation, and systematization of the land use compliance monitoring function and practice.
- > **Department of Land Registration:** responsible for issuance of certificates of title, general conveyance, keeping custody of the national land register, coordination, and inspection, monitoring and backup technical support relating to land registration and acquisition processes to local governments.

*Ministry of Water & Environment (MWE)*

MWE is responsible for setting national policies and standards, managing and regulating water resources and determining priorities for water development and management. It also monitors and evaluates sector development programs to keep track of their performance, efficiency, and effectiveness in service delivery. The Ministry of Water and Environment (MWE) is the national focal climate change institution through the Climate Change Department (CCD). The MWE is also the National Implementing Entity (NIE) for the Adaptation Fund.

Relevant departments within MWE include:

- > **National Environmental Management Authority (NEMA):** A semi-autonomous parastatal agency (officially under the Ministry of Water and Environment) established in 1995 under the National Environment Act. It is responsible for coordinating, monitoring, regulating and supervising environmental management in the country. Its regulatory functions and activities focus on compliance and enforcement of the existing legal and institutional frameworks, covering both green and brown issues of environmental management. It oversees the implementation of all environment conservation programs and activities of the relevant agencies both at the national and local Government levels.

One key regulatory function of NEMA is the review and approval of Environmental Impact Assessments and Environmental Impact Statements as well as Environmental Audits. Further on the management of wetlands, NEMA is empowered as the authority, in consultation with the lead agencies, District Environment Committees and local environment committees, to establish guidelines for the sustainable management of wetlands, to identify wetlands of local, national, and international importance and to declare wetlands to be protected wetlands.

The draft National Environment Management Policy 2014 identifies some of the ecosystem services that could have a financial value, including forests (carbon storage and sequestration), wetlands conservation, watershed protection and species, habitat and biodiversity conservation. NEMA is the principal agency for environmental management which includes climate change. The draft policy provides for some of the strategies for building a system for payment for ecosystem services, including:

- › Establishing policy, legislative and regulatory frameworks responsive to the needs of the communities;
  - › Establishing guidelines and enterprise support centres for advisory and capacity-building services;
  - › Engaging and training prospective sellers, as well as financial institutions up to the community level for efficient delivery of payments;
  - › Providing a conducive environment for a public-private partnership for the system to flourish
  - › Establishing effective governance and securing tenure to local ecosystem managers to ensure the right and authority to manage ecosystems and benefit from the payments; and
  - › Creating mechanisms for valuing or measuring services that are not currently valued in the market.
  
- › **Directorate of Wetlands Management:** Directly in charge of monitoring, supervision, enforcement and compliance of wetlands and ensures the conservation of wetland resources for sustained utilization. Within the department, there are two divisions: (i) Policy, planning and enforcement – for M&E (e.g., encroachment), EIA report review, auditing and standards; and (ii) awareness-raising, information and management – for R&D, assessment and inventory (coverage and info), district supervision (training and technical support).

The following table summarises key legislative provisions.

Table 1: JKM Legal Provision Frameworks

Legislation Provision	Relevance to JKM
1 The Constitution of the Republic of Uganda, 1995	The 1995 Uganda Constitution is the supreme law and has provisions for environmental protection and natural resource conservation such as Article XIII regarding: “the protection of important natural resources on behalf of the people of Uganda” and Article XXVII regarding: “the need for sustainable management of land, air and water resources.
2 The National Environment Management Policy (NEMP) (1994).	Aims to promote sustainable economic and social development. Among the provisions of the policy is a requirement for an Environmental Impact Assessment (EIA) to be conducted for any policy or project that is likely to have adverse impacts on the environment
3 The National Policy for the Conservation and	This policy establishes the principles by which wetland resources can be optimally used now and in future. It calls for the application of EIA to all activities to be carried out in a wetland and aims at ensuring that the

Management of Wetland Resources (1995).	environmental goods and services provided by wetlands are safeguarded and integrated into development considerations
4 The National Water Policy (1999).	This policy's objective is the management and development of the water resources of Uganda in an integrated and sustainable manner. The policy requires EIA for all water-related projects and integration of water and hydrological cycle concerns in all development programs. It covers water quality, water use, discharge of effluents and international cooperation on transboundary water resources
5 Disaster Management and Preparedness Policy.	This policy aims to promote the implementation of prevention, preparedness, and mitigation and response measures for disasters, in a manner that integrates disaster management with development planning.
6 The National Land Policy, 2013	The land policy addresses the contemporary land issues and conflicts facing the Country. The vision of the policy is: "Sustainable and optimal use of land and land-based resources for transformation of Ugandan society and the economy" while the goal of the policy is: "to ensure efficient, equitable and sustainable utilization and management of Uganda's land and land-based resources for poverty reduction, wealth creation and overall socio-economic development.
7 National Climate Change Act 2021	The Climate Change Act governs Uganda's national response to climate change. The Act mandates the creation of a Framework Strategy on Climate Change, as well as a National Climate Action Plan and District Climate Action Plans.

#### 7.5.2 A Green Uganda – National commitments to environmental protection

Uganda is an exceptionally forward-thinking country in terms of its climate change mitigation ambitions, recognising both the ecological and economic opportunities presented by a green growth strategy. The national strategy and local tactics used to implement this approach follow.

Uganda was the first country in Africa to develop and endorse its Nationally Determined Contribution Partnership Plan (NDC-PP) in June 2018. It made key commitments in this regard, including, reducing national greenhouse gas emissions by 22 percent by 2030, reducing climate vulnerability of climate-sensitive sectors since the economy is natural resource-based, and building the climate resilience of key sectors and managing disaster risks (UNDP, 2018).

At the national level, the government is committed to addressing climate change as outlined in the NDP III, the national climate change policy and strategy, second national communication and INDC. Uganda also signed the Paris Agreement joining other countries to commit to fighting climate change. Uganda is also a signatory to the East Africa community climate change policy and East Africa climate change strategy and master plan.

Uganda has a low greenhouse gas emissions profile. This allows the country to pursue a clean, green-growth, development pathway as opposed to the conventional approach of "develop first and clean up later". Uganda has recently developed the Green Growth Development Strategy (2017/18 – 2030/31) that identifies key interventions for achieving green growth in the five high green impact sectors of agriculture, energy, forestry, transport and planned green cities.<sup>43</sup> The Government of Uganda is currently preparing the Climate Change Bill (expected to be approved by Cabinet). The Bill and eventual

<sup>43</sup> *Greening Uganda's Economy as the Sustainable Pathway to Middle Income Status*, Kampala. Kaggwa, R, Namanya, B (2018). ACODE Policy Research Series, No. 85, March 2018.



Law aim to provide a legal framework for strengthening the implementation and coordination of climate change actions, and support monitoring and implementation enforcement by various actors.

Major changes in environmental policy and the water sector took place around the 1990s with the adoption of a National Environment Management Policy and the National Environment Statute in 1994 and 1995 respectively, and the adoption of the Water Action Plan (WAP), a water policy and two new laws: the Water Statute 1995 and the National Water and Sewerage Corporation Statute 1996. However, the national-level guidance on urban development and land management evolved only in recent years (e.g., the National Land Policy was approved in 2013).

### 7.5.3 Specific interventions under the Green Growth Strategy

The Lake Victoria Management Project (LVEP), implemented by the Ministry of Water and Environment, has improved the management of transboundary natural resources of the Lake Victoria basin for shared benefits of the East African Community through the reduction of pollution and enhanced climate resilience in selected hotspot areas. The project is funded by a \$90 million International Development Association credit.

To support the Government of Uganda in implementing the National Climate Policy (NCCP), Climate and Development Knowledge Network (CDKN) supported a study on the Economic Assessment of the Impacts of Climate Change, which provides information about the current adaptation deficit present in Uganda and the extent of the negative consequences that climate variability has on the Ugandan economy.

Climate change damage estimates in the agriculture, water, infrastructure and energy sectors collectively amount to 2-4 percent of the GDP between 2010 and 2050. The national-level studies show that if no adaptive action is taken, annual costs could be in the range of US\$3.2 - 5.9 billion within a decade, with the biggest impacts being on the water, followed by energy, agriculture, and infrastructure. Over the 40 years from 2010-2050, the costs of inaction are estimated at between US\$273 - 437 billion. Even if there were no further increases in climate impacts, the cost of inaction would rise over time because of an increase in population

The Strategic Program for Climate Resilience (SPCR) has been aligned with Uganda's long-term development Vision (Vision 2040) which aims to move the country from its current low-income status that relies highly on agriculture to a competitive upper middle-income country with a per capita income of US\$ 9,500 by 2040. The Vision recognizes that climate change affects all sectors of Uganda's economy. It underscores the need to develop and implement appropriate strategies, policy, institutional and legal frameworks to build climate resilience in all sectors.

The SPCR is a plan of action for addressing the effects of climate change and variability. The Government of Uganda has prepared the SPCR as a strategic framework for addressing the challenges of climate change that impact the national economy including the development of resilience by vulnerable communities. The overall objective of the SPCR is to ensure that all stakeholders address climate change impacts and their causes in a coordinated manner through appropriate measures while promoting sustainable development and a green economy.

Kampala Capital City Authority has had a Kampala Climate Change Action strategy for 5 years 2014-2019 (Climate Change Action Plan Strategy, 2016), in terms of natural hazards (e.g., energy efficiency, renewable energy waste and wastewater, mobility, buildings and land use, biodiversity green procurement and investments, research and communications, financing and project support. The

Kampala Climate Change Action strategy is a plan aimed at mainstreaming climate change response in all the city services in order to put the city on a low-carbon development path. The strategy addresses three issues: the short- and long-term adaptation of the city to climate change impacts, charting a low emissions development path for the city and transforming the threat of climate change into an opportunity for residents.

The local government and urban councils within the JKM Corridor do not have specific action programmes but are guided by the nation's climate change strategy, district development plans and physical development plans. However, in 2018, the World Bank and the Uganda Country Office supported local government officials in a training workshop, in collaboration with the Climate Change Department in the Ministry of Water and Environment, Ministry of Finance and National Planning Authority (NPA). The workshop brought together more than 30 planners, policymakers and key stakeholders for hands-on training that introduced them to the climate change and disaster risk screening tool.

There have been various initiatives on valuing natural resources such as forest and wetland resources. However, Uganda is set to develop an elaborate system for evaluating or attaching financial value to ecosystem services. The National Environment Management Policy, 2014 identifies some ecosystem services that could have a financial value, including forest (carbon storage and sequestration) wetland conservation, watershed protection and species, habitat and biodiversity conservation. The policy provides for some of the strategies for building a system for payment for ecosystem services, including the creation of mechanisms for valuing or measuring services that are not currently valued in the market.

Carbon markets, which are an important instrument of green growth, and one of the mechanisms for payment for ecosystem services, have registered remarkable growth in Uganda over recent years. A number of projects - both stand-alone CDM projects and programmatic CDM projects - have been registered by the UNFCCC CDM Executive Board. Although there is uncertainty regarding the continued operation of the CDM as currently constituted due to the possible failure of the Doha Amendment to the Kyoto Protocol to enter into force. There is hope that similar emissions trading mechanisms will be established under the Paris Agreement, 2015, thus enabling the continued operation of carbon markets.

Payments for ecosystem services are provided for in the National Environment Act, 2019. Section 65 of the Act stipulates that a provider of a well-defined ecosystem service may enter into a voluntary transaction with a person who wishes to buy that environmental service or a form of land use likely to secure the environmental service, for the purpose of securing a continuous supply or availability of the environmental service. For Kampala, it is estimated that the cost of adaptation to climate change will increase significantly from about US 7.3 million in 2013 to between Us 33-102 million by 2050.

There are a number of ongoing climate change response initiatives that are related to green growth including the creation of an updated inventory of greenhouse gas emissions by sector; preparation of various Nationally Appropriate Mitigation Actions (NAMAs); the community tree planting project which entails distribution of free tree seedlings; development of a national REDD+ strategy; environmental tax on the high green-gas emitting old vehicles; addressing the fiduciary requirements to make Uganda qualify for climate finance from the various international climate finance windows; distribution of efficient charcoal saving cookstoves; and undertaking studies that quantify the economic cost of climate change responses coupled with the cost of inaction.

However, most of these green growth initiatives are small in scope, donor-driven, use inefficient technologies, have limited potential for replication and project approval processes are lengthy. Other equally important research and knowledge management strategies have not been adequately attempted. For instance, little is known about the cost of congestion in and around Kampala in terms of the number

of man hours wasted per day in traffic; amounts of greenhouse gas emitted by motor vehicles stuck in traffic per day/week/month/annum; fuel costs incurred by motorists who keep engines running for hours in traffic jams; wear and tear of/on roads due to traffic jams; health costs of sitting for long hours in jam or breathing in of emitted motor vehicle fumes; and the psychological and coefficient of efficiency costs at individual and collective levels.

#### 7.5.4 Summary of institutional arrangements

Institutional analysis and assessment of policy and implementation mechanisms within the JKM Corridor reveal ineffective functioning in terms of addressing climate change, building resilience and overall environmental management. The following are the major challenges:

- > Institutional fragmentation – overlapping mandates, weak integration and coordination. As described earlier, both national-level (MoLHUD, MWE, NEMA, Wetlands Department) and city-level agencies (KCCA, JCC local and Urban local authorities are directly involved in different aspects of land and urban environment management and their regulatory scope and responsibilities overlap. Current coordination and integration vertically between the national and city-level agencies are weak, especially with regard to the issuance and enforcement of related permits and approvals for development (EIA certification, land title, user permit, planning permit); this is exemplified by developments in wetland areas;
- > Weak development guidance at the national and local/city/municipal town/town council level and overall weak regulatory environment around wetlands conservation and management;
- > Constraints in current capacity and resources; and competing priorities for resource allocation;
- > The lack of both financial and staff capacity and resources is a common challenge highlighted by all institutions as is loose adherence to the development approval process.

## 7.6 Policy recommendations for building resilience

Based on the preceding analysis, this section outlines strategic policy recommendations to address resilience in the JKM Corridor. Specifically, it answers the following question as outlined in the introduction:

### ***What specific interventions can be undertaken to integrate risk mitigation and resilience building into urban development strategies?***

At the national level, there is a need for legislation that specifically guides regional-level planning such as the JKM Corridor. These legislations should support interventions or initiatives in the climate change and resilience areas of awareness-raising, in-depth analysis for dynamics and impacts, monitoring, as well as prioritising and mainstreaming climate change adaptation and mitigation into national and local level plans. Such legislation would enable the JKM Corridor to respond to climate change in a holistic, systemic and sustainable manner, and build the resilience of communities and households.

#### 7.6.1 Analysis: Addressing the Drivers of Risk in the JKM Corridor

Developing a holistic understanding of risks and vulnerabilities is an important first step towards building resilience in any city. This means addressing the most significant shocks and stresses and those

anticipated in the future, with stakeholders engaged through focus group discussions, interviews, and surveys to identify and prioritise actions based on likelihood and impact.

### *Urbanisation Patterns*

Given that the bulk of urbanisation within the JKM Corridor is occurring in both smaller and larger settlements where urban governance capacities are typically weak, these towns will need to become the priority areas for risk-reduction interventions. Adaptation to climate change requires local knowledge, local competence and local capacity within local governments. It needs households and community organisations with the knowledge and capacity to act. It also requires a willingness among local governments to work with lower-income groups.

### *Environmental Protection and Urban Growth*

Much of the degradation of the environmental asset base is coming from the lack of adequate sanitation and drainage infrastructure. However, from a fiscal perspective, the JKM Corridor communities will have limited resources to invest in the grey infrastructure that is required to offset the degradation of the environmental asset base. There is an opportunity to integrate green infrastructure within the JKM Corridor to mitigate some of the impacts, particularly within the urban landscape to capture and attenuate stormwater runoff. However, even green infrastructure approaches will require a balance of grey infrastructure to address the magnitude of the drainage issues in the JKM Corridor.

### *Institutional and Household Capacities*

Development in Kampala, Jinja, Wakiso, and Entebbe towns and its environmental impacts needs to be considered at the metropolitan scale and within the JKM Corridor. KCCA's strategic planning framework should look beyond its boundaries to the broader metropolitan region and evaluate the impacts of urban development on regional environmental assets. The JKM corridor still has critical natural assets, such as the large area of wetlands east of Murchison Bay, that should be protected and conserved as the city continues to expand. The strategic framework will assist the city in giving proper consideration of proposals for development in the context of the remaining assets. A broader view of environmental assets can allow the city to avoid making the same types of mistakes that have been made in the past.

There is an urgent need to improve the availability and accessibility of climate information tailored to the specific and priority needs of the JKM Corridor (Cities municipalities/town councils) and assist these urban areas and lower local governments to use climate information to undertake risk and vulnerability assessments that produce an actionable strategy and planning documents. Of critical importance to work in this area is framing climate information in ways that resonate with elected political leaders in municipalities, making those leaders advocates for long-term adaptation planning and action.

The JKM Corridor managers should work with the informal sector to improve safety in relation to climate extremes. Informal economic activities are often highly vulnerable to climate impacts, yet they are crucial to economies in low- and middle-income cities. Therefore, costs to the urban poor and their communities—both direct and indirect—should be included in loss and damage assessments to accurately reflect the full range of impacts on the most vulnerable urban residents and the city as a whole. Widespread implementation of flood and property insurance in informal settlements can help reduce their high reliance on third-party subsidies and, hence, enhance their climate change resilience. This requires efforts to overcome the lack of insurance organisation and limited demand for insurance within these communities.

### 7.6.2 Financing an Integrative Approach to Urban Resilience

Support should also be given to JKM corridor development to identify and access finance that can be used for climate action. Entry points for assisting the JKM corridor to access finance will differ depending on the level of local government hierarchy's (City, Municipality, Town Council, Sub County and Parish) size, in-house technical capacity, and financial readiness. In all cases, the long-term challenge of improving the evidence base of climate risk and vulnerability and linking identified risks and vulnerabilities to budgeting (and ultimately, integration into the normal planning and budgeting process), must be a core objective to make adaptation sustainable. In addition, among larger, better-capacitated urban areas, assistance might take the form of supporting a bond issuance or developing proposals aimed at accessing international climate financing.

Mid-size urban areas might not have enough capacity to put together a proposal for debt or grant funding from international sources but could aim for funding from the proposed Uganda National Climate Fund or support from bilateral donors. Smaller urban centres have fewer options for accessing external funding, but with support from external stakeholders with greater capacity, they can build their own capacity incrementally. One possibility is twinning smaller municipalities located in the JKM Corridor to create a mentoring relationship that includes the provision of technical expertise, taking the form of formal and informal training and occasional advisory services.

## 7.7 Measures for addressing risk and building resilience in the JKM Corridor

### 7.7.1 Towards an integrated approach to risk and resilience

As discussed above, an integrated approach to risk and resilience is fundamental for ensuring that the full spectrum of intensive and extensive risks is addressed in strategic planning priorities. Yet, as the analysis in this report has indicated, the JKM Corridor at present lacks a cohesive, integrated, approach to mitigating risk and building resilience.

Authorities in the corridor and stakeholders lack the capacity for the appropriate data collection on risk and resilience matters and do not have a strategy from which such data can be used to make coherent, integrative proposals to address these shortcomings. This must be the starting point for any recommendations made, as without a robust approach to data collection and resilience planning proposals run the risk of being implemented piecemeal at best, and in an ineffective 'siloed' manner at worst.

As resilience rises in international and national development priorities, several toolkits have emerged to help bridge the gap between data collection and strategic planning. Box 1 below provides a detailed overview of the Urban Resilience and Fragility Assessment and Response (URFA) Matrix and Toolkit, one such tool that has been designed specifically with low-income countries in mind, particularly those that presently lack a full range of data that might support such planning.

Regional and municipal governments of the JKM Corridor should adopt data collection and analytical tools such as the URFA Matrix and Toolkit, so as to provide a means of better understanding the needs, capacities, and way forward for integrative resilience planning.

A secondary key element of mainstreaming adaptation into infrastructure is the integration of climate risks into the decision-support tools used in standard policy and project appraisals. A Strategic

Environmental Assessment (SEA) designed to account for climate risk can serve as a tool for mainstreaming adaptation into infrastructure-related policies, plans and programmes

Risk reduction policy is required to: a) inform on risks and their reduction; b) provide for inclusive decision-making processes; and c) mediate between hazard outcomes, dynamic risk governance processes and planning procedures to assure, among others, access to safe water and sanitation, and solid waste collection, as well as safe and secure land for housing as key mechanisms for building resilience and reducing risk.

To this end, the JKM Corridor should follow a long-term systems approach to ecosystem-based climate adaptation. Such an approach explicitly recognises the role of critical urban and peri-urban ecosystem assets and services and manages them in order to provide a sustained supply over time horizons of twenty, fifty, and one hundred years. Ecosystem-based planning strengthens the linkages between urban, peri-urban, and rural ecosystems through planning and management at both urban and regional scales. The economic benefits of urban biodiversity and ecosystem services should be quantified so that they can be integrated into climate-related urban planning and decision-making. These benefits should incorporate both monetary and non-monetary values of biodiversity and ecosystem services, such as improvements to public health and social equity.



### **Box 1: Urban Resilience and Fragility Assessment & Response Tool (URFA)**

The URFA fills a significant gap in the arsenal available to municipalities for understanding and expanding resilience in urban contexts. As indicated by literature reviews on the subject, most notably by Bosetti, Ivanovic, and Munshey (2016), frameworks for assessing risk, resilience, and fragility tend to be 'siloed': few offer a means of, for example, assessing both risk *and* resilience, despite their clear connectivity. The issue is not so much a lack of frameworks, but for a lack of *integrative* frameworks and tools. This in turn reflects a broader failure to connect risk, resilience, and fragility assessments into broader international development agendas.

This gap becomes more pronounced when one considers that most existing integrative tools are devised based upon the experience of middle-to-high-income countries which assume strong capacities for data collection and implementation at the national and municipal levels. Indeed, these toolkits are also often intended for *national* risk and resilience assessment, which are further not designed with an urban-specific context in mind.

URFA has therefore been devised by the African Development Bank to:

- Provide a clearly structured framework for undertaking fragility, risk (or, as is referred to by the framework, 'vulnerability'), and resilience analysis in an integrative manner at the city scale.
- Facilitate analysis in low-income and fragile country contexts, with inbuilt flexibility to account for significant data collection capacity shortages.
- Offer a means of constructing context-sensitive recommendations and solutions to risk and resilience needs.

URFA consists of two components:

- The URFA Matrix, a Microsoft Excel based statistical tool covering 87 indicators of urban resilience.
- The supplementary URFA Toolkit, a framework through which the Matrix can be understood, including clear conceptual and explanatory notes of the indices; guidelines for data collection; and a step-by-step process through which assessment should be undertaken (with adjustments for the given context).

#### 7.7.2 Thematic Areas of Intervention

The following figure details specific interventions to be undertaken.

*Figure 8: Thematic Recommendations for an Integrated Approach to Building Urban Resilience in the JKM Corridor*

Driver of Risk	Institutional/Strategic Area	Interventions for Development Strategy
<b>Urbanisation Patterns</b>	Management of agricultural and ecological lands/protection areas	<ul style="list-style-type: none"> <li>• Enhanced protections for forests and other ecologically important areas.</li> <li>• Integrated and Sustainable Management of Landscapes and Catchments for Improved Livelihoods, Ecosystems and Community Resilience in the JKM Corridor area of influence.</li> <li>• Enhanced resilience of ecosystem services and status of biodiversity in the JKM project landscapes. Enhanced livelihoods of the households in the JKM Corridor.</li> <li>• Reduced GHG emissions from deforestation and forest degradation in the corridor and undertaken greening and preservation of the natural green spaces.</li> <li>• Conserve and manage urban natural resources for biodiversity and undertake urban greening and preservation of the hilltops.</li> </ul>
	Urban Planning and Regulatory Enforcement	<ul style="list-style-type: none"> <li>• Support climate change responsive planning and development approval as well as planning policy.</li> <li>• Integration of resilience/climate change considerations into</li> </ul>

		<p>structure plans/masterplans.</p> <ul style="list-style-type: none"> <li>• The preparation of structure plans at various levels developed and implemented for enhancing integrated with resilience and mitigation to climate change.</li> <li>• Support climate change responsive planning and development approval as well as planning policy</li> <li>• Adapt urban land use planning and housing for energy efficiency.</li> <li>• Climate-proof key infrastructure.</li> <li>• Improve urban transport through compact city development for energy efficiency and reduction of emissions.</li> <li>• Improve the existing housing stock towards low-carbon designs and urban development.</li> </ul>
<p><b>Climactic and Environmental Change</b></p>	<p>Business and industrial strategy</p>	<ul style="list-style-type: none"> <li>• Plan for an equitable change to a low-carbon economy including spatial planning that takes into account 'green' technology and buildings.</li> <li>• Increased adoption of alternative energy-efficient technologies (e.g., LPG and solar).</li> <li>• Climate Resilient Landscapes, Integrated Catchment Management</li> </ul>

		<p>and Nature-Based Tourism in the JKM development corridor.</p> <ul style="list-style-type: none"> <li>• Integrate the informal sector into the urban economy as a way of coupling poverty and climate change effects through innovative solutions to local problems such as waste recycling.</li> </ul>
	<p>Agricultural practices and protection of biodiversity</p>	<ul style="list-style-type: none"> <li>• Scaled-up adoption of climate-smart agricultural practices in key agricultural value chains and the corridor.</li> <li>• Improved rangeland management and livestock productivity.</li> </ul>
<p><b>Institutional/Household Preparedness</b></p>	<p>Institutional Capacities</p>	<ul style="list-style-type: none"> <li>• Enhanced coordination and networking on climate action among state and non-state actors, including women, NGOs &amp; CSOs, youth organizations, the private sector and academia.</li> <li>• Initiate and stimulate local Urban Knowledge Arenas (IUKas) through the development of a toolkit.</li> <li>• Develop tools for awareness raising and capacity building in the city and at the national level for secondary towns.</li> <li>• Strengthened capacity to collect and analyse data,</li> </ul>

	<p>and provide quality and timely climate/weather services Effective mainstreaming of climate variability and climate change into development programs.</p>
<p>Human Security</p>	<ul style="list-style-type: none"> <li>• Promote urban and peri-urban local production and distribution networks for food and fuel.</li> <li>• Invest in community projects that help build community resilience to climate change risks and impacts such as tree planting and alternative energy sources.</li> </ul>

## 7.8 Conclusion

The JKM Corridor’s growth is expected to continue, so planning is necessary to accommodate this growth; however, planning must address the drivers of vulnerability and reduce risk. Protection for the JKM regional corridor’s environmental assets has to be realized and an essential first step in environmental protection is the enforcement of existing environmental regulations.

Ecosystem services provide considerable development opportunities, including the incorporation of land use planning and enhancing climate change resilience in peri-urban communities. Succinctly put, the potential for climate change of well-managed peri-urban ecosystem services includes reducing the physical exposure of peri-urban areas to floods and droughts and minimizing climate change risks through increased socio-economic resilience to hazard impacts and provision of the carbon sequestration function. However, specific peri-urban studies describing ecosystem service types and how they can be synchronized into mainstream urban planning and climate change resilience strategies are lacking in Uganda and specifically in relation to the JKM Corridor’s urban/regional landscapes.

The following has to be undertaken urgently: The development of a profile of natural assets at the JKM scale and a broad strategy to address pressures on these assets; The identification of specific opportunities for Green Urban Development interventions supported by well-analysed actions to progress these opportunities; Institutional actions taken to regulate, enforce and protect consistent with what is already in current policy and law; and the development of more sophisticated measures to address ecosystem loss. Appendix A below contains further proposals to these ends.

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## Appendix A Strategies, objectives, and actions

### Sustainable use of biodiversity

Strategic objective: to reduce and manage negative impacts while enhancing positive impacts on biodiversity

Strategy	Actions	Activity
Existing major towns in the JKM Corridor (Kampala, Jinja, Entebbe, Mukono, Wakiso, Nansana, Kiira)	<p>The actors of various entities within the JKM should develop and utilize improve green spaces and habitat</p> <p>Protect trees and enhance tree canopy cover</p> <p>Encourage the development of community gardens and public recreation spaces</p>	<p>Promote the use of native, drought-tolerant plants in city/town/urban landscaping, public streets and outdoor open spaces</p> <p>Promote the creation of community gardens</p> <p>Encourage retention of trees outside of the development footprint immediately prior to and during development and redevelopment</p> <p>Ensure redevelopment includes riparian area enhancement and native species planting to enhance previously impacted watercourses within or immediately adjacent to property boundaries (i.e., streams, creeks, wetlands or lakes which form part of the property boundary of a given property)</p>

Strategic Objective: Integrating biodiversity economy into the plans

Strategy	Actions	Activity
Mainstreaming biodiversity issues in the NDP 111, Sectoral and District Development Plans.	<p>The actors of various entities within the JKM should develop and utilize biodiversity and ecosystem services valuation tools to quantify and monitor the environmental, economic and social value of biodiversity</p>	<p>Promote protected areas within the JKM (Mabira forests, Mpanga Mambaba, Lutembe etc) as core drivers for nature-based ecological tourism development in the local economy.</p> <p>Strengthen partnerships with adjacent communities to PAs for mutual benefits (Supporting REDD+)</p> <p>Establish/maintain viable wildlife/biodiversity corridors with respect to community safeguards</p>

		Establish/maintain viable wildlife/biodiversity corridors with respect to community safeguards
		Strengthen partnerships with adjacent communities to PAs for mutual benefits (Supporting REDD+)

### Introducing incentives for conservation and sustainable use of biodiversity

Strategic objective: By 2040, JKM appropriate incentives for biodiversity conservation and sustainable use are in place and applied.

Strategy	Actions	Activity
Enabling incentives for JKM actors to improve economic incomes through biodiversity for tourism	Action: Phase out incentives harmful to biodiversity	<p>Develop economic instruments to encourage activities that enhance biodiversity conservation and discourage activities that impact negatively biodiversity</p> <p>Promote and support Green Procurement through purchasing of environmentally preferable products or services, taking into consideration the necessity, not only for quality and price but also for biodiversity conservation conscious business</p> <p>Undertake Strategic Environmental Assessments (SEA) of all policies, programmes or projects which have the potential for negative—or positive—impacts on biodiversity</p> <p>Encourage public/private green space creation during redevelopments.</p>

### JKM Corridor Plan Awareness on Ecosystem services

*Strategic Objective:* Promote awareness of the JKM Corridor plan among key stakeholders, policymakers, professionals, the private sector, general public and develop stakeholder/public awareness programmes on biodiversity and its values

Strategy	Actions	Activity
Promote awareness of the JKM corridor plan among key stakeholders Policy makers,	Action: Conduct continuous public	1. Undertake intensive awareness raising on the

professionals, the private sector, general public and Develop stakeholder /public awareness programmes on biodiversity and its values	awareness on biodiversity within the JKM	content of the JKM plan at all levels  2. Develop and disseminate user-friendly and gender-responsive Information Education and Communication materials (IECs) for popular campaigns targeting women as agents of change for conservation  3. Develop and disseminate gender-responsive biodiversity public awareness materials
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### **Institute and implement measures to stop further loss of natural habitats**

*Strategic Objective:* By 2040, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero to reduce degradation.

Strategy	Actions	Activity
Institute and implement measures to stop further loss of natural habitats	<p>Identify, map and prioritize degraded habitats including forests and wetlands</p> <p>Assess the rate of conversion of the degraded/ threatened habitats by human activities</p> <p>Promote awareness of regulations that protect fragile ecosystems</p> <p>Restore and safeguard ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and wellbeing</p> <p>Develop mechanisms for fair and equitable sharing of costs and benefits of using wetlands</p>	<p>1. Undertake restoration of the degraded ecosystems within JKM</p> <p>2. Develop District Ordinances and by-laws in each of the various JKM entities.</p> <p>3. Intergation of implementation instruments to ensure zero degradation.</p>

### **Monitor and support management of pollution levels and waste in vulnerable ecosystems**

*Strategic Objective:* to ensure that pollution levels in the JKM critical urban ecosystems have been brought to levels that are not detrimental to ecosystem function and biodiversity

Strategy	Actions	Activity
Improve environmental management systems on pollution (air, noise and water)	Reduce pollution levels that are detrimental to biodiversity	<p>1. Monitor and enforce compliance to effluent standards requirements</p> <p>2. Monitor the impact of</p>

		<p>agrochemicals on selected pollinators</p> <p>3. Manage all forms of waste in an effective and efficient manner to reduce its negative impact on the environment, including through local-level waste management and recycling initiatives.</p>
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**Blue-green network planning in the JKM entities**

*Strategic Objective:* planning strategies based on blue water-based elements, green vegetation-based elements, green technologies and low carbon and climate-resilient infrastructure

Strategy	Actions	Activity
<p>The overall aim of the strategy is to develop an inclusive and integrated network of blue and green infrastructure across the JKM</p>	<p>Ensure that blue-green elements contribute to the JKM economy.</p> <p>Combine infrastructure, ecological restoration and urban design to connect people and nature across the JKM corridor.</p> <p>Managing trees sustainably, planting trees appropriately, protecting trees strongly and involving communities</p>	<ol style="list-style-type: none"> <li>1. Technological improvement streams, storm water drains, irrigation channels, wetlands, freshwater, sanitation and public spaces that can temporarily accommodate water overflow and are reused as part of viable economic activity.</li> <li>2. Encourage green elements by planting trees along streets, recreation zones, playgrounds, parks, forests, greenways and riparian strips.</li> <li>3. Utilize forests, RAMSAR Sites, waterfalls, hills, scenic, renewable resources, outdoor recreation, wetlands, rivers, green spaces/ parks, open spaces, routes and attractions for tourism activities</li> </ol>

**Implement climate change mitigation and adaptation for disaster risk reduction from climate change impacts**

*Strategic Objective:* The main objective of this would be to be able to attain the nation's target of ecosystem resilience and the contribution of biodiversity to carbon stocks to be enhanced, through conservation and restoration, including restoration of at least 15 percent of degraded ecosystems within the JKM region.



Strategy	Actions	Activity
JKM corridor to implement climate change mitigation and adaptation for biodiversity conservation including disaster risk reduction from climate change impacts	1. Enhance ecosystem resilience, including community resilience, to climate change	<p>Enhance carbon stocks and storage by mainstreaming climate change into the REDD+Strategy as well as in-sector policies, plans and projects.</p> <ol style="list-style-type: none"> <li>1. Support afforestation, tree planting and reforestation activities at all levels within the JKM</li> <li>2. Promote and support the restoration of degraded wetlands</li> <li>3. Enhance biodiversity and ecosystems' resilience to climate change, especially in biodiversity hotspots</li> <li>4. Establish buffer zones for the protection of critical conservation areas with high biodiversity within JKM</li> </ol>

### Urban Resilience in the JKM Corridor

*Strategic Objective:* Provide climate change benefits for little additional cost or risk, Win-win or Co benefit Strategies

Strategy	Actions	Activity
JKM corridor to implement climate change mitigation disaster risk reduction from climate change impacts	<ol style="list-style-type: none"> <li>1. Disaster profiling</li> <li>2. Integration of disaster resilience mechanism in the various JKM entities</li> </ol>	<ol style="list-style-type: none"> <li>1. Develop a disaster response mechanism</li> <li>2. Prepare a disaster risk management plan to establish joint coordinating and working protocols with the MDAs and at lower local levels</li> </ol>

### Green tourism

*Strategic objective:* Conserve rare, threatened or endangered ecosystems and species and connect them with green and blue ways in the JKM Corridor.

Strategy	Actions	Activity
Develop the designated Tourism Development Areas (TDA) within the JKM	<p>Have tourism sites incorporated into the JKM entities</p> <p>Encourage public-private partnerships to promote tourism</p>	<p>1. The Central TDA, (the 'Cultural Heartland'), comprised of Kampala, Kalangala, Mpigi, Wakiso, Mukono, Buikwe, and the South-Eastern TDA, (the 'Nile and Adventure'), Jinja</p> <p>2. The TDA focuses on Kampala as the capital city and main tourism service hub as well as Entebbe as the air gateway to Uganda. In addition, this TDA incorporates the Ssesse Islands and the Mabira Forest.</p>

### Development of Meetings, Incentives, Conferences and Exhibitions (MICE)

*Strategic Objective:* Development of the MICE industry in order to improve the performance of the MICE sector, the Master Plan recommendation into the JKM corridor plan

Strategy	Actions	Activity
Develop the designated Tourism Development Areas (TDA) within the JKM	1. Attract funding for the development and operationalisation of the strategy	<p>1. JKM Corridor puts in place a MICE Development Plan, which would include establishing Convention Visitor Bureaus or Destination Marketing Organisations at the city, municipal and regional levels, supported by tourist information centres.</p> <p>2. Creating a MICE development fund in partnership with the private sector.</p> <p>3. Recognised trade associations and lobby groups for MICE should be set up and strengthened to promote the interests of the sector and to create a forum for discussion, incubation and sharing of creative ideas.</p>

# THE JINJA- KAMPALA-MPIGI CORRIDOR

## PHYSICAL DEVELOPMENT PLAN

JUNE 2023

### CHAPTER 8 AGRICULTURE SECTOR STRATEGY



**Government of Uganda**  
Ministry of Lands, Housing and Urban Development

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## 8 Agriculture Sector Development Strategies

### 8.1 Overview of the Existing Situation

#### 8.1.1 Introduction

The Jinja-Kampala-Mpigi (JKM) corridor in Central Uganda is strategically located in the Lake Victoria Crescent agro-ecological zone, with coffee, fish and poultry being the priority commodities. More so, the corridor has a diversity of economic activities including crop farming, livestock production, fishing, trade and tourism. In a nutshell, each unit in JKM has a unique social, economic, and natural resource endowment, giving varying competitive advantages across the corridor. Illustrating this uniqueness is underscored by analysing the outstanding characteristics of each district in the corridor.

Additionally, from the perspective of current land-use patterns, JKM Corridor constitutes the most strongly urbanised region in Uganda. However, despite the growing urbanisation taking place across the JKM corridor, agricultural land still provides by far the strongest land use. Land use distribution and differences in agricultural production volumes reflect the variations across the JKM region. In this regard, analysis of land use in Wakiso and Mukono districts indicates that agriculture occupies 40.6 percent and 41.59 percent respectively. In Buikwe and Jinja districts, despite agriculture occupying 54.6 percent and 83.2 percent respectively, large-scale commercial agriculture occupies substantial portions of land. Precisely, Kakira Nucleus Estate, for example, has almost 10,000 hectares under sugarcane cultivation.

Furthermore, excluding open water, agricultural land use in JKM constitutes 62 percent of the total area. The built-up area is approximately 600 sqkm (8.5 percent). As most land uses that contribute to environmental quality provide much smaller areas of land to be mobilised, expansion of the built-up area is likely to come from land that is currently under agricultural use. Therefore, improving the agricultural productivity of the remaining land is critical to sustaining the growing population in JKM.

JKM is characterized as a very large-scale urban configuration and spatial economy which takes the specific form of a polycentric and multi-nodal regional corridor. It constitutes districts, cities, towns, villages, peri-urban and rural areas operating together as a regional economy at the heart of Uganda and collectively encompass varying specialisations and competitive advantages. In this respect, economic activities vary across the JKM corridor.

Precisely, myriad smallholder farming (crop and livestock), fishing and forestry activities surround the cities, towns and villages in the corridor, and provide farmers, fishers, foresters and resident population with sustenance – while also

making up a large part of Uganda's exports. The centre of Kampala City features one of East Africa's largest concentrations of producer services, serving both private and public sectors.

Overall, agriculture in the JKM Corridor competes with expanding urbanisation. Thus, subsistence farmers have been deprived of land, which is their most valuable resource. Consequently, the livelihood survival mechanisms are changing from agriculture-based to other alternatives. Generally, the main sources of income in the JKM region have become wage employment and non-agricultural enterprises.

According to a study by Mugisa *et al.*, (2017), cropping activities contribute on average 40% to the income of farming households in Central Uganda, complementing other livelihood sources such as transport business, livestock production, formal employment and other trade. As Agriculture continues to compete for land with increasing urban settlement and industrial establishment in the JKM corridor, its role as a main source of income in the household diminishes. Thus, putting pressure on the capacity of the regional economy to generate enough jobs to absorb the workforce that is leaving agriculture. Notwithstanding, the JKM corridor is a prime location for industrial investment due to the relatively developed infrastructure and market availability. Therefore, this presents an opportunity to strengthen agro-industrialisation, adding value to farm produce and employing especially the youth.

### 8.1.2 Crop sub-sector

Generally, people in most parts of the JKM region are farmers, mainly smallholder producers of bananas, coffee, tea, Irish potatoes, sweet potatoes, beans, maize, groundnuts, cassava, fruits and vegetables. Notably, agriculture in most districts of JKM is predominantly subsistence and at varying levels. Specifically, in Mpigi district the share of households strongly dependent on subsistence farming almost reached 60 percent in 2014<sup>1</sup>. Moreover, smallholder farmers in Mpigi grow fruits and vegetables, as well as coffee, maize, cassava and groundnuts. Likewise, agriculture is the main source of employment in Buikwe at 80 percent and this includes both commercial and subsistence farming<sup>2</sup>. According to the District Development Plan for Buikwe<sup>3</sup>, 46.7 percent of households in the district are subsistence farmers and particularly, 63.9 percent engage in crop production. Similarly, despite the presence of industries, Mukono district still has its economic base in agriculture and much of this is smallholder production for subsistence (42.8 percent)<sup>4</sup> and market sales, primarily in fruits, vegetables, grains, coffee production and horticulture. Additionally, Mukono is famous for growing high-value crops like vanilla, flowers,

<sup>1</sup> UBOS, (2017). National Population and Housing Census 2014. Area Specific Profile. Mpigi District.

<sup>2</sup> Buikwe District Development Pan, (2015/16 – 2019/20)

<sup>3</sup> UBOS, (2017). National Population and Housing Census 2014. Area Specific Profile. Buikwe district.

<sup>4</sup> UBOS, (2017). National Population and Housing Census 2014. Area Specific Profile. Mukono District.

aloe vera and hot pepper, which are steadily replacing coffee growing.<sup>5</sup> Furthermore, the Uganda Bureau of Statistics<sup>6</sup>, in the Area Specific Profile, indicates that 38.2 percent of the population in Jinja is in subsistence agriculture. What's more is that 56,737 households representing 53.9 percent in Jinja, engage in growing crops with maize and beans leading and growing by 48.9 percent and 42.1 percent of households respectively. Moreover, despite coffee's economic value, it was produced by only 2.5 percent of households in Jinja. A study by Mwavu *et al.*, (2016)<sup>7</sup>, indicates that in some sections of Jinja, especially in Budondo and Butagaya sub-counties, sugarcane cultivation has been highly preferred relative to other more traditional crops, as it is perceived to be more profitable and economically valuable. Increased cultivation of sugarcane and other non-food crops in rural households, resulted in the decline in productive land available for food production.

Considering the dominant urban settlement in Wakiso and Kampala, farming and particularly, subsistence is the lowest in the region. Kampala city's economic prowess is diversified across all sectors, but primacy translates into a large-scale concentration of personal and business (producer) service activities. Notably, the informal sector in Kampala city is estimated to account for 57 percent of employment.<sup>8</sup> Like any other African city, Kampala City's informal sector includes individuals, micro-businesses and a limited number of small businesses in a wide variety of activities that range from urban agriculture to fruit and vegetable sales among others. Classically, Kampala City is a predominantly built up area with commercial agriculture land use occupying 1 percent and subsistence equally 1 percent.

Wakiso surrounds Kampala city and therefore, this proximity has a greater influence on economic activities, more especially the extent of agriculture in the district. UBOS, (2017)<sup>9</sup>, in the Area Specific Profile, estimates 3.9 percent of households are engaged in subsistence farming in the Wakiso district.

Large-scale commercial crop farming is visible, especially in Jinja and Buikwe districts. Typically, specialised enterprises in these districts characterise commercial farming, while inter-cropping is dominant in subsistence farming with diverse enterprises. Important commercial farming enterprises are, for instance, Kakira Sugar Works Limited in Jinja, Sugar Corporation of Uganda Limited (SCOUL) and Kasaku tea estate in Buikwe. Kakira Sugar Works Limited,

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<sup>5</sup> Second Five Year Mpigi District Development Plan (FY 2015/2016 to FY 2019/2020, Mukono District Local Government, February 2015.

<sup>6</sup> UBOS (2017). The National Population and Housing Census 2014 – Area Specific Profile Series, Kampala, Uganda.

<sup>7</sup> Mwavu, E.N.; Ariongo, E.; Ssegawa, P.; Kalema, V.N.; Bategonya, F.; Waiswa, D.; Byakagaba, P. (2016). Agrobiodiversity of home gardens in a commercial sugarcane cultivation land matrix in Uganda. *Int. J. Biodivers. Sci. Ecosyst. Serv. Manag.* 12, 191-201 [CrossRef]

<sup>8</sup> Greater Kampala Economic Development Strategy, *op. cit.*, p. 7. Under-employment is estimated to at 10%.

<sup>9</sup> UBOS, (2017). National Population and Housing Census 2014. Area Specific Profile. Wakiso District.

often referred to as Kakira Sugar Works (KSW), is a leading sugar manufacturer in Uganda. Additionally, Kasaku Tea Estate in the Buikwe district is leading in national tea production. Its significant output gives Uganda the third position in tea production in Africa. Uganda produces about 10,000 metric tonnes (MT) of tea per annum and about 90 percent of this tea is exported.

Understanding variation in productivity for the most common crops in the JKM Corridor is important, as it informs the strategic direction to develop the agriculture sector in the region. UBOS, (2020)<sup>10</sup>, in the 2018 annual agriculture survey, presents an update of statistics including acreage, production and yield of the most common crops. An extract of these statistics for South and North Buganda Uganda is presented in Tables 1 to 3. Note that, the JKM Corridor is largely located in South Buganda.

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<sup>10</sup> Uganda Bureau of Statistics (UBOS), 2020. Uganda Annual Agricultural Survey 2018. Kampala, Uganda; UBOS

Table 1: Total area and total production by crop cultivated in 2018 in South Buganda

Crop	First season 2018		Second season 2018				Total 2018	
	Area Planted (Ha)	Production (MT)	Area Planted (Ha)	Area Harvested* (Ha)	Production (MT)	Yield***	Area Planted**	Production (MT)
Maize	118,026	150,590	65,790	57,062	144,894	2.5	183,817	295,484
Millet	50	35	940	940	988	1.1	990	1,023
Sorghum	91	225	143	143	79	0.6	234	304
Beans	53,574	35,046	66,753	60,918	38,430	0.6	120,327	73,476
Banana food	62,526	237,172	76,617	72,595	418,846	9.0	76,617	656,018
Cassava	19,801	59,187	28,912	19,044	107,695	8.8	28,912	166,882
Sweet potato	18,632	31,640	21,188	19,006	61,275	3.2	39,819	92,915
Groundnuts	8,835	4,690	11,901	11,808	6,350	0.5	20,736	11,040
Irish potato	7,005	19,886	12,572	6,739	16,557	2.5	19,576	36,443
Rice	1,608	1,746	484	484	2,314	4.8	2,093	4,059
Soya beans	32	18	401	242	311	1.3	433	329
Simsim	328	0	1,336	1,336	140	0.1	1,664	140
Coffee Robusta (all types)	51,846	11,008	92,914	74,976	23,392	0.5	92,914	34,400
Coffee Arabica	306	195	359	359	579	2.2	359	774

(\*) The total area harvested is the area planted calculated on those observations whose production is available (not missing) and higher than zero

(\*\*) The annual area planted in 2018 is equal to the area planted in the second season (ie., reference date for area planted is equal to the end of the reference period)

(\*\*\*) Ratio between production (MT) and area harvested (Ha) in the second season.

**Source:** Uganda Annual Agricultural Survey 2018.

Table 2: Total area and total production by crop cultivated in 2018 in North Buganda

Crop	First season 2018		Second season 2018				Total 2018	
	Area Planted (Ha)	Production (MT)	Area Planted (Ha)	Area Harvested* (Ha)	Production (MT)	Yield***	Area Planted**	Production (MT)
Maize	364,012	525,077	205,357	150,464	312,612	2.1	569,368	837,689
Millet	2,723	1,496	1,813	1,141	553	0.5	4,536	2,048
Sorghum	323	320	288	288	126	0.4	611	447
Beans	110,838	87,177	103,868	94,309	55,256	0.6	214,705	142,433
Banana food	99,902	410,444	112,416	97,552	568,371	10.0	112,416	978,815
Cassava	113,381	361,450	74,630	41,074	252,236	14.9	74,630	613,688
Sweet potato	89,611	183,411	72,809	58,657	242,257	4.1	162,420	425,668
Groundnuts	23,115	13,482	19,478	15,928	8,792	0.6	42,593	22,274
Irish potato	2,586	11,968	6,366	5,709	21,863	3.8	8,951	33,831
Rice	3,881	3,566	6,421	5,896	4,010	0.7	10,301	7,576
Soya beans	1,243	667	1,901	1,523	684	0.4	3,144	1,351
Simsim	-	209	474	198	94	0.5	-	303
Coffee Robusta (all types)	121,605	28,426	139,757	109,521	36,402	0.6	139,757	64,828
Coffee Arabica	595	312	1,456	523	116	0.8	1,456	428

(\*) The total area harvested is the area planted calculated on those observations whose production is available (not missing) and higher than zero

(\*\*) The annual area planted in 2018 is equal to the area planted in the second season (ie., reference date for area planted is equal to the end of the reference period)

(\*\*\*) Ratio between production (MT) and area harvested (Ha) in the second season.

**Source:** Uganda Annual Agricultural Survey 2018.



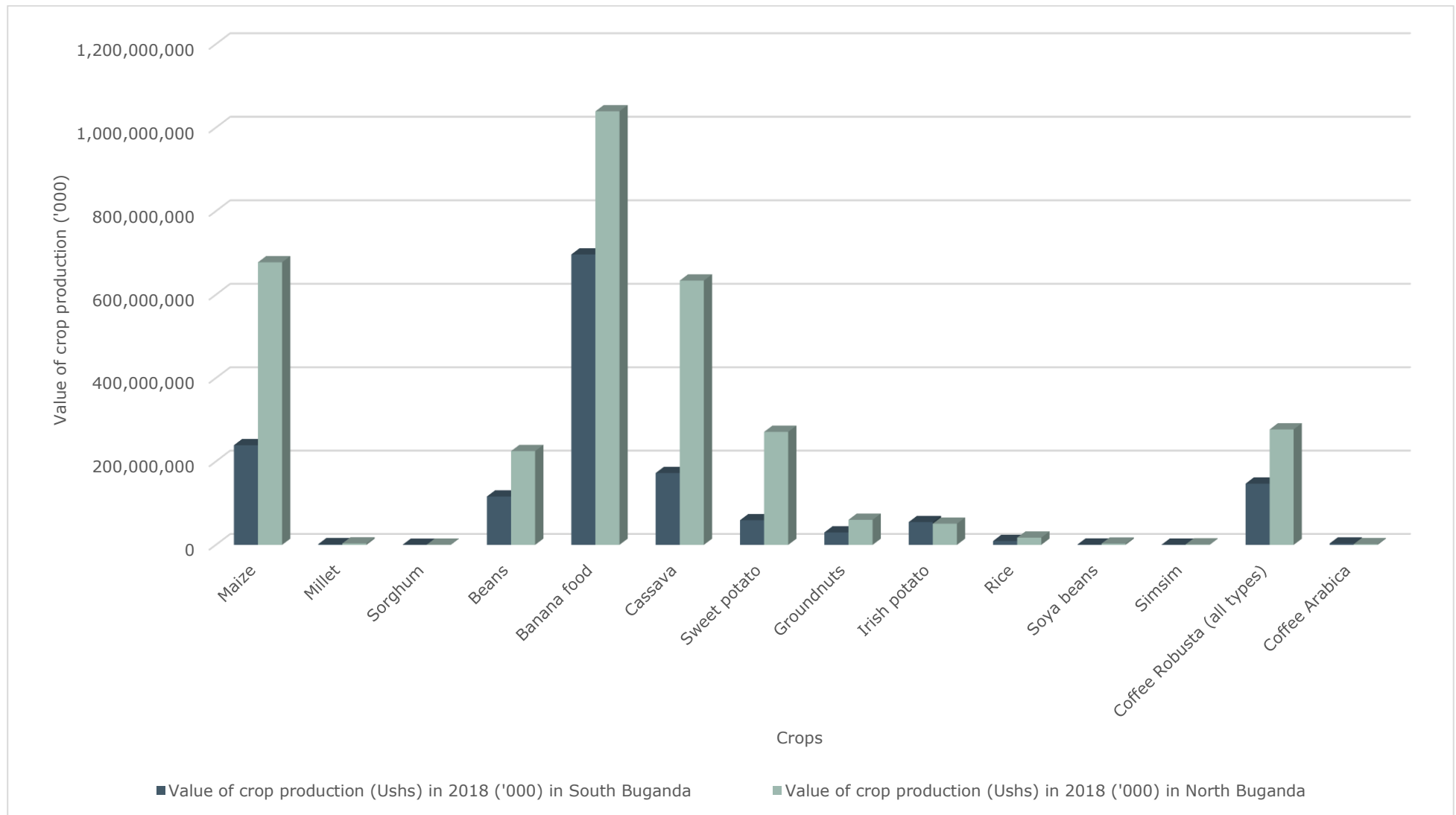
Table 3: Annual value of crop production in South and North Buganda for the year 2018

Crop	South Buganda			North Buganda		
	Production (MT)	Farm gate price (Ushs)/MT '000	Value of crop production (Ushs) in 2018 '000	Production (MT)	Farm gate price (Ushs)/MT '000	Value of crop production (Ushs) in 2018 '000
Maize	295,484	809	<b>239,046,556</b>	837,689	809	<b>677,690,401</b>
Millet	1,023	1,700	<b>1,739,100</b>	2,048	1,700	<b>3,481,600</b>
Sorghum	304	1,000	<b>304,000</b>	447	1,000	<b>447,000</b>
Beans	73,476	1,579	<b>116,018,604</b>	142,433	1,579	<b>224,901,707</b>
Banana food	656,018	1,061.7	<b>696,494,310.6</b>	978,815	1,061.7	<b>1,039,207,885.5</b>
Cassava	166,882	1,033	<b>172,389,106</b>	613,688	1,033	<b>633939704</b>
Sweet potato	92,915	636.88	<b>59,175,705.2</b>	425,668	636.88	<b>271,099,435.84</b>
Groundnuts	11,040	2,700	<b>29,808,000</b>	22,274	2,700	<b>60,139,800</b>
Irish potato	36,443	1,500	<b>54,664,500</b>	33,831	1,500	<b>50,746,500</b>
Rice	4,059	2,293	<b>9,307,287</b>	7,576	2,293	<b>17,371,768</b>
Soya beans	329	2,286	<b>752,094</b>	1,351	2,286	<b>3,088,386</b>
Simsim	140	3,500	<b>490,000</b>	303	3,500	<b>1,060,500</b>
Coffee Robusta (all types)	34,400	4,272	<b>146,956,800</b>	64,828	4,272	<b>276,945,216</b>
Coffee Arabica	774	4,272	<b>3,306,528</b>	428	4,272	<b>1,828,416</b>

**Source: Farm gate prices** – Ocung Samuel, (2021). Livelihood Restoration Plan for Kalagala and Itanda Falls Special Conservation Area.

It is evident from tables 1,2,3 and figure 1, that banana, maize, cassava, coffee, beans and sweet potatoes are strategic crops to be targeted for nutrition and economic development in central Uganda, particularly JKM corridor. As much as the price of coffee is high, its production volume is relatively low. Therefore, it's recommended strategies designed aim at increasing yield of coffee per hectare. However, this analysis indicates that, banana, maize and cassava have higher production value than coffee, which is target crop in the Lake Victoria crescent agro-ecological zone.

Figure 1: Value of crop production in the South and North Buganda in 2018



In light of increasing urbanisation, strengthening urban agriculture in the JKM Corridor, is a viable strategy to address the issue of diminishing land for farming. Urban and peri-urban farming has the potential to address challenges related to food insecurity among city and town dwellers. It provides the urban population with food, nutrition and a source of income and employment, thus reducing poverty and increasing food security. It has the advantage of proximity to urban markets which saves on transportation costs, thereby increasing farmers' profitability.

Mugisa *et al.*, (2017)<sup>11</sup>, in a study to establish the current characteristics and trends of urban and peri-urban crop farming in Central Uganda, revealed that cropping activities contribute on average 40 percent to the income of farming households. The major crops grown include vegetables, maize, beans, bananas and avocado. A number of home gardening techniques were identified among farmers, for instance, growing crops in food towers, in buckets and bags (sacks). Irrigation and fertilizer application were practised by 60 percent of households, mainly on vegetables. More so, 64% of the households recycled waste and of these, 75 percent converted kitchen waste into manure for crop production.

### 8.1.3 Livestock sub-sector

Traditionally, the JKM sub-region largely practices zero grazing of livestock, while the northern part of the central region is characterised by pastoralism. The animals kept in JKM include cattle, goats, sheep, pigs and poultry. Largely, there is a variation of livestock across the JKM corridor. For instance, according to UBOS (2017) Area Specific Profile, 39,932 households (37.9 percent) in Jinja were in livestock production. More so, 46.6 percent of subsistence farmers in the Buikwe district engaged in livestock production. On the other hand, commercial farming in Wakiso is limited in the main to dairy and poultry. Particularly, JESA dairy is a large-scale commercial farm in the Wakiso district. Moreover, JESA Dairy farm is the premier provider of value-added dairy products for consumers in Eastern Africa. JESA has become a home-grown, commercial success story and a flagship East African consumer brand. Table 4 presents the proportional of livestock in Buganda compared to other regions across Uganda.

Table 4: Percentage of livestock type in Mukono ZARDI from national estimates

Livestock Type						
Cattle	Goats	Sheep	Pigs	Chicken	Turkeys	Rabbits
11.0%	9.9%	3.2%	27.3%	18.5%	13.9%	28.1%

<sup>11</sup> Mugisa, I. O., Fungo, B., Adur, S. O., Ssemalulu, O., Molly, A., Atim, J., Nakyagaba, W., Kizza, T., Kabanyoro, R., Sseruwu, G. and Akello, B. O. (2017). Urban and peri-urban farming in Central Uganda: Characteristics, constraints and opportunities for household food security and income. African Journal of Plant Science. Vol 11(7), pp. 264-275.

**Source:** *Uganda Annual Agricultural Survey 2018*

The Mukono Zonal Agricultural Research and Development Institute (ZARDI) has among other responsibilities, the mandate to oversee all livestock development in Buganda. The geographical scope of Mukono ZARDI includes Mukono, Wakiso, Mpigi and Buikwe districts among others in Buganda.

Furthermore, central Uganda has the highest number of pigs dominated by the landrace and large white breeds. More so, the southwestern and central regions together produced almost 50 percent of the 1.8 billion litres of milk in 2012<sup>12</sup>. However, cross-breeding of local breeds have increased, especially the Friesian which has led to increased productivity, particularly in the Southwestern, Midwest and Central regions.

Undoubtedly, the livestock sector development is fundamental to supporting the transformation of the JKM Corridor. However, the critical questions to ponder are: in the next couple of decades, how will technology uptake affect livestock productivity? How will the feed-food competition unfold? How will livestock value chains transform to satisfy the demand of an increasingly affluent and urbanised population?

According to FAO, (2019)<sup>13</sup>, the growth and transformation of the livestock sector will bring about major developmental opportunities and challenges for society in the future decades. Certainly, the expected growth in demand for beef, milk and poultry products will provide major business opportunities for cattle and poultry farmers. More so, there will be business opportunities also for value chain actors, such as input and service suppliers, traders, processors, wholesalers and retailers of animal feed.

However, these development opportunities come with some major challenges that, if not properly addressed, risk jeopardizing the development of the livestock sector itself, with broader negative impacts on public health, the environment and livelihoods.

First and foremost, due to growth in the animal and human population, there will be an increased risk of outbreaks and the spread of zoonotic diseases, including infectious emerging and re-emerging diseases.

Secondly, antimicrobial resistance has devastating consequences. Already today, specific infectious diseases cannot be or are difficult to treat with commonly available first and second-line antimicrobials as the pathogens have developed resistance to antibiotics, such as Bovine Tuberculosis. In 2018 the Uganda Government launched the Antimicrobial Resistance Action Plan.

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<sup>12</sup> Agrittera, (2012). Identification of livestock investment opportunities in Uganda. Kingdom of the Netherlands.

<sup>13</sup> FAO, (2019). The future of livestock in Uganda. Opportunities and challenges in the face of uncertainty. Rome.

The third challenge concerns natural resource depletion and climate change. In all scenarios, the competition for land, feed and water is fierce. Moreover, in the favourable scenarios, a high level of livestock production poses an immense environmental challenge, while in less appealing scenarios bad management and lack of regulations can result in land degradation, soil and water pollution, high levels of greenhouse emissions and biodiversity loss.

Furthermore, a high level of urbanization, especially in the JKM corridor, is expected to lead to the emergence and concentration of middle-scale commercial farms in and around urban centres. This is anticipated to pose major public health and environmental threats.

On one hand, the high density of and frequent interaction between humans and animals – as well as wildlife such as urban rodents – are major determinants of outbreaks and the spread of emerging and re-emerging infectious diseases. On the other hand, the concentration of animals and the processing of livestock products in urban and peri-urban areas, especially slaughtering, can result in water and soil contamination, contributing further to health threats.

Therefore, it is recommended that stakeholders in JKM ensure policies and programmes effectively deal with zoonoses, emerging infectious diseases and natural resource use along the livestock value chains serving urban areas. This is essential for sustainable livestock in the future.

#### 8.1.4 Agricultural extension service

Agricultural services play an important role in helping farmers to make the most of the resources they have. Apart from the physical resources such as land and seeds, farmers need knowledge in order to produce the quality and quantity of produce that meets demand. These services are designed to guide and advise farmers right from the period before planting to the post-harvest period. Statistics from the UBOS, (2021) annual agricultural survey 2018, indicate that 121,841 (12.7 percent) agricultural households in Mukono ZARDI, received extension service during the 12 months prior to this data collection.

Certainly, there are emerging challenges affecting agricultural extension in JKM. In particular, the key issues affecting the performance of agricultural extension include lack of coordination and collaboration that leads to duplication of services, low coverage of extension beneficiaries and inadequate provision of services – largely due to limited transportation means for agricultural extension workers, poor adoption of agricultural technologies and best practices, ineffective extension approaches, and late release of funds that delays implementation.

#### 8.1.5 Agro-industrialisation and value addition in JKM

During the 1960s and early 1970s, Jinja town in the eastern section of JKM was the main industrial hub of Uganda. However, this has since changed with Kampala emerging as a major industrial town. More so, there is a high concentration of firms and the manufacturing sector in the central region and more specifically Kampala

(UBOS 2007)<sup>14</sup>. The central region accounts for 61 per cent of manufacturing firms with 42 per cent located in Kampala, as illustrated in Table 5. Further disaggregation of the distribution of firms by region shows that Kampala has the highest proportion of firms in all manufacturing sub-sectors except for coffee processing, grain milling, and tea processing. In addition, the central region has the most coffee processing firms (51 percent).

Table 5: Proportion of manufacturing firms in the Central region and Kampala

Industry	Kampala	Central
Processing of meat, fish, and dairy products	25%	21%
Coffee processing	11.4%	51%
Grain milling	32%	16.4%
Tea processing	5.3%	21.1%
Bakery and manufacture of other food products	46%	22.2%
Manufacture of beverages and tobacco	62%	15%
Manufacture of textiles and leather products	36.4%	15%

Source: UBOS (2007)

Similarly, other reports indicate Kampala City as the largest manufacturing centre in the country, housing 32% of national plants in food and non-food manufacturing.<sup>15</sup> Moreover, the district is witnessing the growth of manufacturing, including agro-processing industries. Precisely, the Kampala Industrial Business Park currently contains 33 factories.

Furthermore, the Mpigi district forms the western peri-urban and rural fringe of the JKM Corridor and about 80% of households derive their livelihoods from agriculture, forestry and fishing.<sup>16</sup> These clusters are at lower levels of their value chains and with limited value-adding processing occurring in the district – specifically coffee processing, maize milling, fruit packing and floriculture.

### 8.1.6 Market for farm produce

The JKM region is endowed with many trade opportunities, providing market to agricultural commodities and other tradable goods. Moreover, Kampala, the capital city, is the centre of trade. The large population in Kampala, Wakiso and Mukono provide a market for agricultural commodities produced in JKM and from other regions across the country. In addition to providing a market for farm commodities produced within JKM, the region also engages in trade with other parts of Uganda and neighbouring countries. In other words, some of the farm produce from JKM is

<sup>14</sup> Uganda Bureau of Statistics (UBOS), 2007. Report on the Uganda Business Register 2006/7. Kampala: UBOS.

<sup>15</sup> See Manwaring, Priya. Location, location and information: Firm clustering in Kampala, blog post, IGC, 2020: <https://www.theigc.org/blog/location-location-information-firm-clustering-in-kampala> w Consumer services,

<sup>16</sup> Second Five Year Mpigi District Development Plan (FY 2015/2016 to FY 2019/2020, Mpigi District Local Government, February 2015.

exported to neighbouring countries through connections in Mutukula (Rakai) border post to Tanzania, across Lake Victoria to Kenya and Tanzania through Port Bell (Kampala), and by air to other countries through Entebbe International Airport.

### 8.1.7 Fisheries sub-sector

Importantly, the proximity of JKM to Lake Victoria makes fishing one of the priority economic activities. Fishing is also done in small lakes like Wamala and in fishponds established by fish farmers. Generally, there is potential in fisheries to develop the economy of the JKM Corridor.

The JKM area encompasses considerable open water – primarily Lake Victoria – whose combined area represents 25 percent of the total jurisdiction area. This water resource contributes to economic development in the corridor and Uganda at large. Fishing, transport, recreation, and water for domestic use and production are some of the economic benefits of the water bodies in JKM. Uganda's main source of fish supply for both the domestic and export markets are the districts on Lake Victoria, particularly Mukono, Mpigi, Kalangala, Masaka and Luwero<sup>17</sup>. The major urban centres within the Lake Victoria belt, namely Kampala, Masaka, Jinja and Entebbe constitute the main domestic market centres for fresh fish. Although considerable fish supplies reach these market nuclei and most of the other district headquarters' markets, inadequate supplies reach most of the rural markets.

Specifically, the long-shared boundary between the Buikwe district, Lake Victoria and the Nile, greatly influences economic activities. In other words, the district borders Lake Victoria with a shoreline estimated at about 160 km<sup>18</sup>. In this case, fishing is the main source of employment in the 52 fishing communities. Precisely, it is estimated that about 70,000 people in Buikwe directly depend on fishing in L. Victoria and the Nile as a source of livelihood. Furthermore, 94% of landing sites are involved in fishing as the main activity. Moreover, among second-level activities in the communities bordering the lake are agriculture (67 percent), trade (57 percent) and transport (16 percent). It's worth noting that there is an overlap of above activities as each household engages in several economic enterprises.

Without a doubt, the fisheries sector in the JKM Corridor is important in terms of employment, poverty reduction and foreign exchange revenues. Moreover, fisheries activities are mainly carried out in open water sources and provide a livelihood to many people in Uganda. In this regard, there are an estimated 136,000 artisan fishermen on Lake Victoria, while nearly 700,000 people around Lake Victoria benefit from fishery-related activities like local fish-processing, fish trade, boat-building, industrial fish processing, net making, trade of fishing equipment, fisheries research, extension service and administration<sup>19</sup>. Lake Victoria is Africa's most important source of inland fishery production, exhibiting an annual catch of about 500,000

<sup>17</sup> UNUFTP, (2014). Towards an Appropriate Management Regime for the Fisheries Resources of Uganda

<sup>18</sup> Iceida, (2013). The status of fishing communities in Buikwe district, Uganda. Ref. No.: UGA13050013

<sup>19</sup> "The political economy of fisheries sector in Uganda: ruling elites, implementation costs and industry interests" subweb.diiis.dk, 2014



metric tonnes<sup>20</sup>. More so, Lake Victoria is shared by the Republic of Kenya (6 percent), the United Republic of Tanzania (51 percent) and the Republic of Uganda (43 percent), most of which are located in the JKM Corridor.

Aquaculture is practised around the JKM corridor. According to FAO, (2020)<sup>21</sup>, there are an estimated 20,000 ponds throughout the country and with a significant proportion in the JKM Corridor. Production ranges between 1,500kg per hectare per year for subsistence farmers and 15,000 per hectare per year for emerging commercial fish farmers. Precisely, Namatovu *et al.*, (2018)<sup>22</sup> in their analysis of the profitability and viability of aquaculture production in central Uganda, revealed positive gross margins, especially for tilapia and catfish. However, fish farmers are constrained by expensive fish feeds, predators and water quality problems due to increasing urbanisation.

However, the following challenges affect fisheries in JKM:

- > Increased costs of fishing and loss of livelihoods resulting from flooding and infestation of water bodies by invasive aquatic weeds especially Kariba weed and water hyacinth. These have led to the loss of fishing gear and the destruction of fish handling and processing infrastructure.
- > Limited capacity for regulation and enforcement of laws and guidelines on all water bodies hence continued use of illegal destructive gears that catch immature fish.
- > Aquaculture is constrained by limited investment in fish farming; high cost; limited access to high-quality fish seed and feed; and inadequate extension services.
- > Both capture and aquaculture production systems face challenges of high post-harvest losses; inadequate human, technological and infrastructural capacity at all stages of the value chain leading to low production and productivity.
- > Limited response and financing for the control of the spread of Kariba invasive weeds in ponds riparian to Lake Victoria.
- > Lack of financing for infrastructure development in fish landing sites
- > Overwhelming demand beyond budgetary allocation for inputs by farmers and fishing communities.

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<sup>20</sup> M. Njiru, J. Kazungu, C. C. Ngugi, J. Gichuki and L. Muhoozi. (2008). An overview of the current status of Lake Victoria fishery: Opportunities, challenges and management strategies.

<sup>21</sup> FAO, (2020). Uganda National Aquaculture Sector Overview.

<sup>22</sup> Namatovu Safina., Atukunda Gertrude., Obeti Lawrance., Walozi Ronald., Candia Alphonse., Onep Samuel., Bwambale Mbilingi., and Andrew A. Izaara (2018). Profitability and Viability Analysis of Aquaculture Production in Central Uganda: A case of Urban and Peri-Urban Areas. AJAEES, 22(4): 1-11; Article no. 37721.

- > Loss of livelihoods in fishing communities as a result of strong enforcement operations.

Furthermore, like many other freshwater systems around the world, Lake Victoria faces numerous threats, including environmental degradation, the introduction of exotic species, eutrophication and over-fishing. More so, stock assessments indicate that unsustainable fishing practices have caused a serious decline in fish populations (Mkumbo *et al.*, 2007)<sup>23</sup>. Exacerbating these stresses is a high human migration rate into many of the Lake Victoria basin's cities, ~ 3 percent per year (Njiru *et al.*, 2006)<sup>24</sup> as a result of erratic rains, poor soils, crop failures and high unemployment outside of the basin.

This migration threatens the integrity of Lake Victoria and the population is beginning to lose access to clean, fresh water. The migration of fishermen to the Lake Victoria basin, promulgated by the promise of a share in the riches of the Nile perch fishery, is an indicator of the economic success of the fishery. This migration has, unfortunately, created exploitative extraction practices that have greatly stressed the fish stocks, and the introduction of the Nile perch has caused a major ecological shift in the native ecology of Lake Victoria (Aquatic Ecosystem Health and Management Society, 2007)<sup>25</sup>.

### 8.1.8 Forestry in JKM

Forests are part of the visible land use in Central Uganda. Central Forest Reserves (CFRs) in the JKM Corridor include Mabira (300 km<sup>2</sup>) in the Buikwe district and Mpagala (4.53 km<sup>2</sup>) in the Mpigi district. These reserves are part of the protected areas of Uganda. They compose of the natural forests like moist semi-deciduous forests and forest plantations mainly pine and eucalyptus species. However, these forests are at risk of destruction as urban development and large-scale farming expand. Notably, a couple of years ago, environmental activists in Uganda campaigned to save the Mabira forest, as its land was at that time being proposed to be allocated to growing sugarcane.

It is the mandate of the National Forest Authority (NFA) to manage CFRs and more so handle legal activities such as harvesting timber, re-planting and tourism. Nevertheless, forest management in the JKM region is characterised by several challenges. Specifically, while there have been many attempts at collaborative forest management among users, local governments, Non-government Organisations (NGOs), community-based organizations (CBOs) and the central government, results have been consistently disappointing. Moreover, although partnerships enhance local

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<sup>23</sup> Mkumbo OC, Nsinda P, Ezekiel CE, Cowx IG, Aeron M. (2007). Towards sustainable exploitation of Nile perch consequential to regulated fisheries in Lake Victoria. *Aquat Ecosyst Health Manage.* 10(4):449-457.

<sup>24</sup> Njiru M, Ngungi P, Getabu A, Wakwabi E, Othina A, Jembe T, Wekesa S (2006). Are fisheries management measures in Lake Victoria successful? The case of Nile perch and Nile tilapia fishery. *Afr J Ecol.* 45(3):315-323

<sup>25</sup> Aquatic Ecosystem Health and Management Society. (2007). Special issue: great Lake Victoria fisheries: changes, sustainability, and building blocks for management. *Aquat Ecosyst Health Manage.* 10(4):368-483.

management potential, financial and legal means to implement local resource extraction policies are lacking (Turyahabwe *et al.*, 2006)<sup>26</sup>. In addition, there are weak relationships between local institutions and centrally devised policy (Hartter and Ryan 2010)<sup>27</sup> and between people's perceptions and actual uses of forest resources (Watkins 2009a)<sup>28</sup>. According to findings by Watkins (2009b)<sup>29</sup> regarding perceptions and uses, people, particularly women, do not know the full extent of their user rights: not only do many wrongly believe firewood collection is illegal, they allegedly endured harassment by forest officials for collecting it. These findings support Ribot *et al.*, (2006)<sup>30</sup> conclusion that central governments in multiple LDCs 'erect imaginative obstacles' in front of decentralised institutions, such that downward accountability and local-level discretionary power are lacking.

## 8.2 Policy Response

This section reviews policy responses to key issues in the current situation of agriculture in the JKM Corridor. Primarily, the focus of this review is to highlight policy responses to key issues in agriculture, specific to the JKM Corridor. However, from the review of secondary sources, it's clear that most of the policies address issues at a national level. Nonetheless, there has been an emphasis to identify policies addressing agriculture issues in the JKM Corridor. Particularly, policy responses to issues in agriculture are presented at different levels. Initially, this section presents a review of relevant international protocols focusing on agriculture and where Uganda has obligations. In addition, the long-term national policies, strategies and sector policies are then summarised. An overview of policies impacting agriculture in the JKM region and their aspiration is presented in Table 6.

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<sup>26</sup> Turyahabwe N, Banana A. (2008). An overview of history and development of forest policy and legislation in Uganda. *Int For Rev.* 10(4): 641-656.

<sup>27</sup> Hartter J, Ryan S. (2010). Top-down or bottom-up? Decentralization, natural resource management, and usufruct rights in the forests and wetlands western Uganda. *Land Use Policy* 27: 815-826.

<sup>28</sup> Watkins C (2009a). Natural resource use strategies in forest-adjacent Ugandan village. *Hum Ecol.* 37(6): 723-731.

<sup>29</sup> Watkins C (2009b). Natural resource use in Uganda: attitudes, behavior and the links in between [doctoral dissertation]. [Ann Arbor (MI)]: University of Michigan.

<sup>30</sup> Ribot J, Agrawal A, Larson A (2006). Recentralizing while decentralizing: how national government reappropriate forest resources. *World Dev.* 34(11):1864-1886.

Table 6: Policies impacting agriculture in JKM

Policy	Aspiration
Agenda 2030 (SDG2, and 9)	End hunger, achieve food security, improve nutrition and promote sustainable agriculture as well as promoting inclusive and sustainable industrialization and foster innovation.
Agenda 2063 (Goal 5)	Have modern agriculture for increased production and productivity.
African Community (EAC) Vision 2050	Seeks to promote value addition through agro-processing.
African Continental Free Trade Area (AfCFTA)	Aims to create a single market for goods and services facilitated by movement of persons in order to deepen the economic integration of the African continent.
Uganda Vision 2040	This puts emphasis on establishment of economic lifeline industries including agro-based industries to drive agriculture productivity. Certainly, agriculture in this case has a cardinal role in employment creation, poverty reduction and production of raw materials.
National Agriculture Policy (2013)	Objective XI (ii) requires that, the state “stimulate agricultural, industrial, technological and scientific development by adopting appropriate policies and enactment of enabling legislation.” This policy is relevant to JKM planning as it sets guiding principles for building synergy among all stakeholders in the agriculture sector in Uganda. More so, its focus in agricultural, industrial and scientific development is in line with core issues being addressed in the JKM corridor plan.
Uganda National Agricultural Extension Strategy 2016/17 – 2020/21	Guide, harmonize and implement agricultural extension services to farmers, farmers’ groups, and other actors in agriculture value chains. It is intended to effectively and efficiently provide agricultural extension services in order to support sustained progression of smallholder farmers from subsistence agriculture to market oriented and commercial farming
National Exports Development Strategy 2015/16 – 2019/20	Aims at: increasing the Ugandan productive sectors with international export markets; and increasing the value of Uganda’s export of the specific products and services to the targeted markets.
National Industrial Policy 2008	Provides for establishment of model Agro-processing industries; development of resource-based, Agro-industries for value added products, and provision of transport, power and other infrastructure facilities; facilitates improved supply chain efficiency and market responsiveness; and creates frameworks for public and private participation to increase integration with Agriculture.
Uganda National Coffee Policy, 2013	Seeks to, among others, increase coffee production and productivity at farm level in a sustainable way that addresses the social, ecological and economic dimensions; and to support and strengthen coffee farmer organizations to participate effectively in all the stages of the coffee value chain. Coffee being a priority crop in the JKM region benefits from this policy.

Policy	Aspiration
The Uganda National Fisheries and Aquaculture Policy, (2017)	Designed to inspire the transformation of the fisheries and aquaculture sub-sector and to make it responsive to the challenges at all levels of the value chain. Therefore, this policy is crucial in the development of JKM corridor, given that, fish is one of the priority commodities in this region.
The National Seed Policy, 2018	To guide, promote, develop and regulate the seed sub-sector in order to ensure availability, accessibility and affordability of safe and high-quality seed to all stakeholders. Good quality seed is core component for increasing crop yields. Therefore, it's critical that, services of seed suppliers in JKM corridor are regulated.
The Uganda National Land Policy, 2013	To ensure efficient, equitable and optimal utilization and management of Uganda's land resources for poverty reduction, wealth creation and overall socio-economic development. Land is central factor in the development of JKM corridor
The National Animal Feeds Policy, 2005	To contribute towards maximisation of the potential of Uganda's livestock sub sector on a sustainable yield basis within the framework of sound environmental management limits. Therefore, efficient feed policy is important given that land for grazing is diminishing in JKM. Moreover, this policy provides answers to some of questions in the feed-food dynamics as livestock production is promoted in an increasingly urbanizing JKM region.
The National Forest Policy, 2001	Aims at conserving Uganda's rich forest biodiversity to meet the needs and aspirations of the present and future generations. The policy emphasises watershed management and soil conservation, all of which contribute to sustainable land management. Mabira central forest reserve (300km <sup>2</sup> ), located in JKM corridor is protected by this policy.

### 8.2.1 The National Development Plan (NDP III) priorities for Agriculture

Overall, agro-industrialisation (AGI) is the foremost agenda-defining agriculture programme in NDP III. However, increasing and sustaining Uganda's market share in the current markets is crucial for the agro-industrialization agenda. Moreover, for Uganda to sustain and increase its market share, challenges of complying with Non-Tariff Measures (NTMs) such as sanitary and phytosanitary measures, international quality certification, reliable supply capacity and inability to adhere to international standards need to be addressed. Other challenges include poor market information systems; poor market infrastructure in rural and urban areas, including logistics facilities for product marketing and distribution; and poor analysis, negotiation and development of international market opportunities. Products from agro-processing in JKM eventually need to access the global market. Therefore, compliance with international standards is important and increases the competitiveness of products from JKM.

Furthermore, for agro-industrialisation to work, there is a need for a mechanism to coordinate the value chain players but also ensure that the services and resources are delivered to facilitate the AGI agenda. AGI cuts across the mandates of several Ministries, Departments and Agencies (MDAs) which are not properly coordinated. Additionally, there are other constraints to AGI like i) a cobweb of policies and Acts (over 25 policies and 20 Acts exist under MAAIF and Ministry of Trade and Industry) directly impacting AGI; ii) the government's response to institutional failures by creating parallel institutions; iii) inadequate and poorly sequenced financing; iv) limited policy evaluation that is manifested in the low levels of monitoring and evaluation that in turn impede learning for improvement; and v) the multiplicity of weakly coordinated and inadequately developed support services, including; patient capital (or finance), business infrastructure, land, insurance, and Research and Development (R&D). Moreover, all the MDAs, and policies deliver service through district local government. Thus, the same poor coordination of MDA services is reflected in the districts. Therefore, the JKM corridor plan is a step in the right direction to coordinating and harmonising the implementation of policies.

Achievement of objectives for AGI will be pursued through prioritized interventions along the agricultural value chain in the major export and income generation commodities as well as the food security commodities. These include the 12 main commodities (bananas, beans, maize, rice, cassava, tea, coffee, fruits and vegetables, dairy, fish, livestock – meat) and four strategic commodities (cocoa, cotton, oil seeds and oil palm). These commodities have been chosen using the area-based agricultural planning approach to ensure all agroecological zones are covered. According to agroecological zones, JKM is in the Lake Victoria Crescent and thus, the Agriculture Sector Development Strategy and Investment Plan prioritized coffee, fish and poultry for this region.

### 8.2.2 Agro-industrialisation programme summary

The Agro-industrialisation programme seeks to address key challenges in agricultural production, agro-processing and value addition which include: i) low agricultural production and productivity; ii) poor storage infrastructure and post-harvest management; iii) low-value addition; iv) poor market access and low competitiveness of agro-based products in domestic, regional, continental and international markets; v) limited access to agricultural financial services and critical inputs; and vi) poor coordination and inefficient institutions for planning and implementation of agro-industrialization.

The goal of this programme is to increase the commercialisation and competitiveness of agricultural production and agro-processing.

The objectives of the programme are to:

- > Increase agricultural production and productivity;

- > Improve post-harvest handling and storage;
- > Improve agro-processing and value addition;
- > Increase market access and competitiveness of agricultural products in domestic and international markets;
- > Increase the mobilisation and equitable access and utilization of agricultural finance;
- > Strengthen institutional coordination for improved service delivery.

Furthermore, the following are the required reforms intended to catalyse the attainment of the desired results of the agro-industrialization programme:

- > Develop and implement service delivery standards for sectors;
- > Streamline Operation Wealth Creation (OWC) coordination role into Government systems and legalize it;
- > Incorporate BTVET institutions (engaged in agroindustry) into the agricultural extension system to ensure that what is taught in these institutions is adopted and utilized by farmers;
- > Increase decision-making autonomy of BTVET institutions to increase the relevance of programmes conducted by these institutions for the geographical areas they operate in;
- > Promote joint planning and implementation of projects and other interventions in agro-industrialisation;
- > Establish the Agro-industrialization program Technical Steering Committees to lead and coordinate the implementation of the programme;
- > Revitalise the warehouse receipt and the commodity exchange system;
- > Operationalise the Parish and nucleus farmer models. The Parish as the grassroots structure of the government will be leveraged to play an active role in the production, processing and marketing of agricultural commodities. Under the nucleus farmer model, lead farmers will be selected and supported to drive the uptake and utilisation of modern technologies, practices and innovations. They will host demonstrations, storage facilities, machinery and support training of other farmers.

### 8.2.3 Implication of Agricultural Policies on Strategy – from the perspective of Public Expenditure

The Government of Uganda has undertaken a series of reforms in sector policies. In particular, agriculture being the mainstay of the economy in Uganda had policy reforms with the ultimate goal of eradicating poverty. More so, recommendations emerging from the past review of public expenditure in agriculture culminated in policy reforms and created investment opportunities. It is notable that, all efforts to transform agriculture and eradicate poverty in Uganda, worked within the constrained public expenditure. This analysis of policy implementation is based on lessons from findings of the World Bank, (2019) review of agriculture public expenditure in Uganda, given strategic priorities for sector investment. Therefore, the gaps in policy design and implementation identified in the 2019 agriculture public expenditure review (AgPER), guide the formulation of sector strategies tailored for the JKM Corridor. In other words, coupled with recommendations from AgPER, input from NDP III objectives and stakeholder consultation sharpen the strategic direction of agriculture in the JKM Corridor.

#### **Highlights of Agriculture Public Expenditure Review, 2019**

Generally, efficient and effective spending on agriculture would help the sector to achieve its potential to contribute to inclusive growth, create employment for the country's growing and predominantly young population, and ultimately reduce poverty. Accordingly, the 2019 AgPER, aimed to identify how public spending can best support agriculture to deliver growth through increased productivity, stronger resilience to climate change and other production risks, and more effective private sector engagement in the provision of public goods in the sector. Specifically, MAAIF had a strong interest to be informed by the outcome of AgPER, on how to tailor its future expenditure to priorities identified under the ASSP, to improve the quality of public service delivery. Key findings from AgPER include:



### **Reforming the policy on public spending for agriculture in Uganda**

The importance of agriculture for inclusive growth is reiterated in various national development strategies but not translated into public expenditure for the sector. It should be a priority of the government to steer public investments in agriculture towards the provision of public goods, such as R&D, extension and advisory services, and rural infrastructure. Input and output marketing should be left in the hands of the private sector. The government should focus on creating the enabling environment for private sector participation (market and policy reforms) and on regulating input quality and standards. In addition, it should fully implement extension reforms by allowing public goods and services for agriculture to be delivered by both public and non-state actors (including agribusiness). Moreover, Government should crowd in the private sector by directly offsetting or defraying the costs to the agribusiness of delivering those services, through public-private partnership (PPP) arrangements.

In a nutshell, critical policy and institutional opportunities need to be given priority for Uganda to transform its agriculture sector. Specifically, reaping the full benefit of the opportunities indicated by sector trends will require an enabling policy environment, efficient institutional processes, and sector stakeholder coordination. Precisely, public spending on agriculture must be directed to the provision of “public goods” rather than “private goods” like subsidized or free inputs. Surely, growth in agricultural productivity cannot be achieved without better access to and adoption of high-quality agricultural inputs by smallholder farmers. Above all, better access to technologies and more widespread technology adoption will require stronger regulatory measures, more secure land tenure, enhanced input quality controls, and full implementation of the ongoing extension reforms to sharpen the focus on knowledge transfer.

### **The resilience of agricultural systems**

Climate variability and pest outbreaks are on the rise; therefore, Uganda’s agricultural systems and rural livelihoods must become more resilient. Farmers should be equipped with climate-smart land, water, and livestock management practices, irrigation infrastructure, and access to information about climate and disaster risks. Producer arrangements and integration into agri-food value chains should be supported to increase farmers’ access to finance and markets, and the competitiveness of the sector more broadly. As diverse agribusinesses develop in a range of value chains, they will link greater numbers of farmers to sources of inputs, markets, and finance and improve rural livelihoods.

### **Budget deficit and implication on Maputo target of 10 percent**

The growing budget deficit means it is unlikely that GoU will increase spending on agriculture to reach the Maputo/Malabo target of 10 percent in the near future. It is, therefore, prudent that MAAIF and other agriculture-related ministries and agencies as well as local governments improve the allocative and technical efficiency to increase the effectiveness (results or impacts) of their current budget allocations. In view of this, although a real GDP growth rate of 6.0 percent or more is projected over the next few years, the competition for scarce resources from other key sectors such as human development (health and education) and infrastructure (energy, roads and water) is also growing.

## **8.3 Input from stakeholder consultation**

Representatives of the JKM team visited the Lugazi town council, Buikwe, Mukono and Mpigi districts to consult stakeholders and get their input into agricultural strategies for the JKM Corridor. The following categories of people participated in the meetings: the District Production and Marketing Officers, District Agricultural Officers, District Planners, and District Physical Planners. Overall, the following summary of

issues was presented by the participants and recommended to be included in the strategic direction of the JKM plan:

- > Just like many of the areas in JKM, Lugazi is now an urban centre. In this case, the land is being developed into housing. Therefore, agriculture should be transformed into intensive farming for both crops and livestock. It's recommended that crop farmers focus on backyard farming in small gardens.
- > In addition, there are many wetlands in the JKM Corridor. Therefore, strengthen fish farming, specifically for tilapia and cut fish.
- > Strengthen the production of bananas (Fhia variety) and add value to produce wine. The Fhia variety of bananas produces good wine.
- > Value chain development: one of the priority projects, in this case, is wine production from Fhia variety of banana. This is expected to integrate a large number of people into the entire value chain. However, it is recommended that value chain development includes all the crops, livestock, poultry and fish.
- > In addition, mushroom value chain development has high potential in the urban centres of JKM. Products from mushroom value addition include pharmaceutical inputs and powder for beverages.
- > The entire Mabira central forest reserve (CFR) is in Lugazi municipality. Leaders of Lugazi municipality recommend strengthening apiary enterprise in Mabira CFR. Value-added products from apiary enterprise include: honey, wax, venom from bees, pollen collected by bees have medicinal value, propolis (the black substance in the bee hive), nectar, and royal jelly.
- > Poultry production, specifically battery cage system is good for urban farming in JKM,
- > Additionally, promote piggery enterprise, especially the Indigenous Micro Organisms (IMO). IMO decomposes the faecal matter and maintains a clean environment in the piggery unit.
- > Promote zero grazing of dairy cattle and goats in the urban centres. More so, promote the production of sheep and goats for purpose of beef. Feed-lots, the technique of keeping livestock in confinement, specifically for purpose of beef is appropriate in the urban setting.
- > Promote bio-gas production alongside the zero-grazed livestock enterprise,
- > Promote horticulture, especially strawberries and vegetables in greenhouses.
- > Establish irrigation systems in JKM taking advantage of plenty of water in Lake Victoria and other water sources.

## 8.4 Conclusion

In light of all the above policies and their implication on strategy, the growth potential for Agriculture Sector in Uganda was identified during AgPER, as outlined below:

The agri-food system in Uganda stands to benefit from enormous opportunities created by population growth and urbanization. Domestic and regional demand for agricultural commodities is rising rapidly as increasing numbers of urban dwellers demand more processed food and protein-rich diets.

What's more is that Uganda already has a strong competitive position in the agri-food trade sector. The country is a net exporter of agri-food products, and in the last decade, it has maintained a positive trade balance for most agri-food products. Agri-food products account for more than half of national exports.

Certainly, in order to capture expanding domestic, regional and international markets for its products in the future, Ugandan agriculture must grow quickly and become more productive. Agriculture has traditionally been an important component of Uganda's economy and a major driver of growth. However, agriculture's share in the overall economy is slowly diminishing because the information and communication services, as well as construction, have been major sources of economic dynamism in recent years.

The good news is that the agriculture sector has tremendous natural potential for additional growth. Land and water resources for agriculture in Uganda are among the best in Africa, due to rich volcanic soils and the occurrence of two wet seasons across most of the country (CCAFS, 2017).

Furthermore, the agri-food system also exhibits strong prospects for value addition. Because Uganda has two wet seasons, it can produce food at a relatively lower cost and in more stable volumes than neighbouring countries. When food processing is considered alongside primary production, the Ugandan agri-food sector has a higher potential to create jobs than the services or industrial sectors.

Nonetheless, continued low growth in agricultural productivity will significantly diminish these prospects. Specifically, agricultural productivity growth is based on increased technical (or financial) efficiency of input use, combined with technological innovation (knowledge), which together allow farmers to produce more with less. Productivity enhancements are measured by total factor productivity (TFP), or the ratio of output produced to the amount of all inputs used. For Uganda, the average TFP has been negative since around 2000 (World Bank, 2018a), primarily because input use and technology adoption in Uganda remain among the lowest in Sub-Saharan Africa.

Moreover, improvements in productivity are critical because food insecurity and malnutrition are still important threats in Uganda. In other words, food insecurity in Uganda is classified as "serious" by the 2018 Global Hunger Index.

The presence of food insecurity and malnutrition reflects the high vulnerability to climate change in Ugandan agriculture and among the rural poor. Uganda is among the countries that are most vulnerable but least adapted to climate change. In this case, crop and livestock pests and diseases, as well as drought spells, are among the top six agricultural risks in Uganda (PARM, 2015), and their occurrence is projected to increase under climate change (CCAFS, 2017). These circumstances indicate that improved inputs alone will not sustainably enhance agricultural productivity if they are not accompanied by knowledge and technology for climate-smart agriculture, as well as sustainable land and water management practices, to build resilience to climate change.

Uganda's agriculture systems are also vulnerable because they depend heavily on rainfall. The government is committed to increasing investments in irrigation and drainage systems to support smallholders who are making the transition from subsistence agriculture to market-oriented commercial production. Since irrigation may be unaffordable for subsistence farmers, the adoption of other measures,

such as rainwater harvesting, water pans, valley tanks, and water conservation technologies, should be encouraged (World Bank, 2018a).

Productive and sustainable agriculture is a proven pathway out of poverty and food insecurity. Uganda is still a predominantly rural country, with over three-quarters of the population residing in rural areas. Moreover, because agriculture employs about 70 percent of the country's labour force, it is critical for household income growth and consumption. The performance of agriculture has been closely linked to household income growth and subsequent poverty reduction (Hill and Mejia, 2016).

Uganda's agri-food system can play a significant role in enhancing employment opportunities for the country's predominantly young and rural population. An analysis of six SSA countries shows that transforming their food system from a focus on primary production to market-oriented agri-food value chains could create more jobs between 2010 and 2025 than the rest of the economy (Townsend et al., 2017).

The Government of Uganda's Vision 2040 and the Third National Development Plan (NDP III), give priority to agriculture because of its capacity to spur the country's socioeconomic transformation into a middle-income country by 2040. In order to achieve the envisaged agricultural transformation, the sector must address the underlying constraints, which will lead to: (1) enhancing agricultural productivity and building resilience to sector-related risks; (2) increasing competitiveness of key agricultural value chains and access to markets by smallholder producers; and (3) strengthening institutional capacity and improving the regulatory environment.

Importantly, to speed the transformation of Uganda's agri-food sector, critical policy weaknesses must be addressed. Primary production cannot become more productive without better access to and adoption of high-quality agricultural inputs. Better access and adoption will require stronger regulatory measures, more secure land tenure, enhanced input quality control, and full implementation of the ongoing extension reforms to sharpen the focus on knowledge transfer.

increase the resilience of agricultural systems and rural livelihoods. To this end, farmers should be equipped with climate-smart land, water and livestock management practices, irrigation infrastructure, and access to climate and disaster-risk information. Productive Alliances and the integration of smallholder producers into agri-food value chains should be supported to increase farmers' access to finance and markets, and the competitiveness of the sector more broadly.

## 8.5 Strategy formulation

### 8.5.1 Summary of priority issues in the JKM agriculture sector requiring strategy formulation

#### **Urbanisation and its impact on agriculture in JKM**

- > The population in JKM is increasingly becoming urban and peri-urban dwellers and yet the majority consider agriculture as their primary source of livelihood.
- > Diminishing land for agriculture due to increasing urbanization. Thus, improving the agricultural productivity of the remaining land is critical to sustaining the growing urban population in the JKM Corridor.
- > As Agriculture continues to compete for land with increasing urban settlement and industrial establishment in the JKM Corridor, its role as a main source of income in the household diminishes. Thus, putting pressure on the capacity of the regional economy to generate enough jobs to absorb the workforce that is leaving agriculture.

#### **Production of food crops and cash crops**

- > Declining production of food crops especially in Budondo and Butagaya sub-counties of Jinja as land is locked up in sugarcane production.
- > Likewise, a large portion of land in the Buikwe and Mukono districts is occupied by tea plantations.
- > The growing of coffee, which is one the prioritised commodities in Lake Victoria Crescent agroecological zone, is declining especially in Mukono and is being replaced by high-value crops like vanilla, flowers, aloe-vera and hot pepper.

#### **Value chain development and agro-industrialization issues**

- > Vertical integration of smallholder farmers in the agricultural commodity value chain is lacking in JKM.
  - > The backward and forward linkages between agriculture and agro-industries will necessitate that agro-value chains are sustainably transformed in the region. Ultimately, this will ensure enough supply for domestic industries to undertake transformative sustainable manufacturing while creating employment.
  - > Need for mechanisms to coordinate the value chain players and also ensure that the services and resources are delivered to facilitate the agro-industrialisation agenda.

- > Fowler and Rauschendorfer's (2019)<sup>31</sup> study of agro-industrialisation, reveal the following critical issues of the current status, future prospects and possible solutions to pressing challenges.
  - > Greater volumes of agricultural production for processing are key to the expansion and development of the agro-industrial sector. At the same time, a significant unused processing capacity in a comprehensive range of value chains remains to be exploited before additional capacity needs to be commissioned.
  - > There is no blueprint or blanket approach that can be followed in establishing agro-industries: investment decisions are location-, value chain- and time-specific.
  - > There is a fundamental lack of understanding of the operations of most of the commodity value chains due to a dearth of agricultural statistics – information on gross margins, prices, production volumes, losses and local consumption is simply not there, or at least not publicly available for interested parties. This significantly hampers the effective planning of the agro-industrial sector.
  - > Many components of an enabling environment for the agricultural sector, more broadly, have been or are being put in place. However, much remains to be done in order for it to be a fully-effective enabling environment, and close monitoring is required in order for policies to be adapted in line with changing circumstances.
- > Furthermore, Fowler and Rauschendorfer recommend the following to address pressing challenges:
  - > There is an urgent need for improved agricultural statistics, for both the public and private sector actors to better plan policies, interventions and investments in the field of agro-industrialization and to be in a position to accurately monitor progress, impact and outcomes. Improved data would also have the potential to improve communication and coordination between public sector agencies with responsibility for the development of agro-industrialisation in the country as well as in the East African region.
  - > The large and persistent agricultural productivity gaps must be addressed as a matter of concern – current yields are only 40% of those currently being realized at agricultural research stations (World Bank, 2012)<sup>32</sup>. Without such a profound and sustained increase in both the productivity of the sector and the quality of farm produce, any moves towards increased agro-industrialization will continue to be undermined.
  - > There is a pressing need to rationalise<sup>33</sup> and prioritise those agricultural commodity value chains that are to form the focus of the agro-industrialization strategy under UNDP III, as well as agree on the investment priorities along each of the value-chains<sup>34</sup>. An exercise should urgently be undertaken to appraise each of them through the 'lenses' of a number of objective criteria, including (i) their employment-creation potential; (ii) their projected foreign exchange earnings;

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<sup>31</sup> Martin Fowler and Jakob Rauschendorfer (2019). Agro-industrialization in Uganda: current status, future prospects and possible solutions to pressing challenges

<sup>32</sup> World Bank, (2012). Uganda: promoting inclusive growth: transforming farms, human capital, and economic geography. Synthesis report. Washington, D. C: The World Bank.

<sup>33</sup> Nine may be too many to start with, for example. A prioritized list would enable national decision-makers to take informed decisions on where efforts and resources should be focused from the outset.

<sup>34</sup> Such as, in the case of the coffee value-chain for example, hulling, or roasting, or transformation into instant coffee.

(iii) past experience (for example, lessons to be learnt from the failure of the cotton manufacturing industry to develop beyond its promising beginnings some 50 years ago); (iv) regional balance/ spatial impact<sup>35 36</sup>. In this way, value chains will be identified that can provide maximum benefits to the economy as a whole (those having the highest economic internal rates of return). This exercise will also enable the public sector more effectively to guide, promote and coordinate the agro-industrial investment efforts of the private sector.

- > The appropriate role for the Government of Uganda (GoU) in fostering the growth of agro-industries must be clearly defined – confusion dominates this discussion at the moment, with contradictory proposals being put forward by key commentators, politicians and think tanks alike. Clearly, the GoU has an important role to play in strengthening the enabling environment to leverage private sector investor investments, and in closely monitoring progress. Much work has already been done in terms of improving the physical infrastructure: expanding the road network and improving the efficiency of border post procedures, for example. However, much work still remains, particularly in terms of (i) expanding the electricity grid and improving the efficiency in the provision of power; (ii) ensuring improved land tenure security; (iii) ensuring effective regulation of the quality of key agricultural inputs such as seed, fertilizers, veterinary drugs and agro-chemicals, and working with the private sector to develop an appropriate and effective regulatory environment for food safety and agricultural marketing; and (iv) increasing the effectiveness and efficiency of the agricultural extension system and in encouraging the creation and development of farmer organizations so that smallholder farmers are in a better position to participate effectively in the supply chains of the priority crop and livestock enterprises and linking with formal sector aggregators.

### **Livestock issues**

- > The livestock sector development is fundamental to support the transformation of Uganda and the JKM Corridor in particular. However, the critical questions to ponder are: in the next couple of decades,
  - > how will technology uptake affect livestock productivity?
  - > how will the feed-food competition unfold?
  - > how will livestock value chains transform to satisfy the demand of an increasingly affluent and urbanized population?

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<sup>35</sup> As a recent study noted "(...) the high concentration (*of agro-industrial enterprises*) in one region and dominance of small scale agro-manufacturing industries raises issues of capacity to foster inclusive agro industry development in the country" (EPRC, 2018). In a similar vein, Gollin (2016) commented that the spatial distribution of much of the growth in the services and manufacturing sectors has been in the Lake Victoria 'crescent', in general, and in the capital city of Kampala, in particular.

Gollin, D. (2016). Agricultural transformation and urbanization: challenges for Uganda. PPT presentation at Bank of Uganda Governor's Lecture Series. 21<sup>st</sup> October. Oxford: Queen Elizabeth House and CSAE.

<sup>36</sup> A simple yet effective methodology along these lines was adopted by the authors of MAAIF's second Agricultural Sector Development Strategy and Investment Plan (MAAIF, 2010; Annex 2) in drawing up a list of priority commodities on which development efforts in the sector were henceforth to be focused.



It's recommended that stakeholders in JKM ensure policies and programmes effectively deal with zoonoses, emerging infectious diseases and natural resource use along the livestock value chains serving urban areas.

### **Key concerns in fisheries**

- > Fisheries especially in Lake Victoria have a lot of opportunities for economic development in the JKM region. Particularly, these investment opportunities include fishing, water transport, recreation, and water for domestic use and production.
  - > In addition, there are an estimated 136,000 artisan fishermen on Lake Victoria, while nearly 700,000 people around Lake Victoria benefit from fishery-related activities like local fish-processing, fish trade, boat-building, industrial fish processing, net making, trade of fishing equipment, fisheries research, extension service and administration.
  - > However, there are increased costs of fishing and loss of livelihoods resulting from flooding and infestation of water bodies by invasive aquatic weeds especially Kariba weed and water hyacinth. These have led to the loss of fishing gear and destruction of fish handling and processing infrastructure.
  - > Furthermore, there is limited capacity for regulation and enforcement of laws and guidelines on all water bodies hence the continued use of illegal destructive gear that catches immature fish.
  - > Aquaculture is constrained by limited investment in fish farming; high cost; limited access to high-quality fish seed and feed; and inadequate extension services.
  - > Both capture and aquaculture production systems face challenges of high post-harvest losses; inadequate human, technological and infrastructural capacity at all stages of the value chain leading to low production and productivity.
  - > Limited response and financing for the control of the spread of Kariba weed on Lake Kyoga, Albert and now in ponds riparian to Lake Victoria.
  - > Lack of financing for infrastructure development in fish landing sites.

### **Forestry issues**

- > Forest management in the JKM region is characterized by several challenges;
  - > Specifically, while there have been many attempts at collaborative forest management among users, local governments, Non-government Organisations (NGOs), community-based organisations (CBOs) and the central government, results have been consistently disappointing.
  - > Moreover, financial and legal means to implement local resource extraction policies are lacking.
  - > There are weak relationships between local institutions and centrally devised policy and between people's perceptions and actual uses of forest resources

**Agricultural extension issues**

- > MFPED, (2019), in its economic policy brief for the performance of agricultural extension services, reveals emerging challenges in the sub-sector. In particular, the key issues affecting the performance of agricultural extension include:
  - > lack of coordination and collaboration that leads to duplication of services,
  - > low coverage of extension beneficiaries and inadequate provision of services – largely due to limited transportation means for agricultural extension workers,
  - > poor adoption of agricultural technologies and best practices,
  - > ineffective extension approaches

**Market development issues**

- > Infrastructure especially the road networks is poorly developed to facilitate connectivity and efficient performance of agricultural input and output markets in the JKM Corridor.
- > Increasing and sustaining the market share of the JKM region in the current markets is crucial for the agro-industrialization agenda. In this respect, for JKM to sustain and increase its market share,
  - > challenges of complying with Non-Tariff Measures (NTMs) such as sanitary and phytosanitary measures, international quality certification, reliable supply capacity and inability to adhere to international standards need to be addressed,
  - > Other challenges include:
    - > Poor market information systems;
    - > Poor market infrastructure in rural and urban areas, including logistics facilities for product marketing and distribution;
    - > Poor analysis, negotiation and development of international market opportunities.

**Coordination issues**

Agro-industrialisation cuts across the mandate of Government Ministries, Departments and Agencies and more so, districts in JKM which are not properly coordinated.

## 8.5.2 Strategic interventions adopted for Agriculture Sector Development in JKM

Formulation of agriculture sector development strategies for the JKM Corridor integrates synthesis from a review of policies and other secondary sources. In addition, consultation of stakeholders, specifically the MAAIF, its agencies, departments and JKM district local government, helped in verifying information and refining the strategies. The agriculture sector has established policies, strategies, programmes and projects targeting JKM and Uganda at large. Therefore, consolidating agricultural aspirations from all these plans and integrating input from stakeholder consultation forms the main logic in formulating sector strategies for the JKM Corridor.

Accordingly, the review of policies and other secondary literature indicates a thematic focus for agricultural sector development. Precisely, Agro-industrialization is recommended to drive the sector transformation. That is, pursue initiatives to promote agro-processing and encourage agro-industry vertical coordination. Likewise, the proposed focus for agriculture sector development in the JKM Corridor seeks to primarily build on the strategic objectives for agro-industrialization, as set out in NDP III. More so, with additional strategies to address unique challenges in the region, the fisheries and forestry subsectors.

### **Thematic area 1: Increase agricultural production and productivity of agro-enterprises:**

- > Strengthen agricultural research and technology development;
- > Strengthen the agricultural extension system;
- > Strengthen the agricultural inputs markets and distribution systems to adhere to quality standards and grades;
- > Increase access and use of water for agricultural production;
- > Increase access to and use of agricultural mechanisation;
- > Increase access and use of digital technologies in the agroindustry;
- > Improve land tenure systems that promote agriculture investments;
- > Strengthen farmer organizations and cooperatives;
- > Strengthen systems for the management of pests, vectors and diseases;
- > Promote sustainable land and environmental management practices;
- > Improve skills and competencies of the agricultural labour force at technical and managerial levels;
- > Strengthen the capacity of Uganda National Metrological Authority with staff and logistics to collect data on the weather for crop weather index insurance up to the sub-county level.

### **Thematic area 2: Improve post-harvest handling and storage of agricultural products**

- > Establish post-harvest handling, storage and processing infrastructure including silos, dryers, warehouses, and cold rooms of various scales and capacities at sub-county, district and zonal levels;
- > Establish regional post-harvest handling, storage and value-addition facilities in key strategic locations; grain in Jinja and fish in Mukono;
- > Improve the transportation and logistics infrastructure for priority commodities like refrigerated trucks and cold rooms.

### **Thematic area 3: Increased agro-processing of the selected products:**

- > Establish fully serviced agro-industrial parks/export processing zones to stimulate and expand agro-processing;
- > Establish a strategic mechanism for the importation of agro-processing technology;
- > Establish new and expand existing agro-industries for processing of key agricultural commodities;
- > Provide affordable, adequate and reliable electricity in the various production zones of the JKM Corridor;
- > Construct and regularly maintain community access and feeder roads for market access;
- > Improve skills and competencies of the agricultural labour force at technical and managerial levels in post-harvest handling, storage and value addition.

### **Thematic area 4: Increase market access and competitiveness of agro-industry products**

- > Strengthen enforcement and adherence to product quality requirements including food safety, social and environmental standards, grades, etc;

- > Digitalize acquisition and distribution of agricultural market information;
- > Improve agricultural market infrastructure in rural and urban areas;
- > Improve transport and logistics facilities for effective product marketing and distribution;
- > Strengthen the capacities of public institutions in analysis, negotiation and development of international market opportunities, particularly for the selected commodities.

#### **Thematic area 5: Increase the mobilization, provision and utilisation of Agricultural Finance:**

- > Finalise and implement the Agricultural Finance Policy;
- > Develop and implement an Agricultural Insurance Policy;
- > Review tax levies and other incentives on agricultural insurance products to encourage uptake by farmers;
- > Increase the pool of funds available for agricultural lending;
- > Revise the Agricultural Credit Facility (ACF) to fund all levels of the agriculture value chains;
- > Provide incentives to financial institutions to increase agricultural lending;
- > Facilitate the formation of farmers' groups and cooperatives for savings mobilization;
- > Establish an agricultural commodity price stabilization fund for commodities that are vulnerable to high price fluctuations;
- > Develop concessional long-term financing for agricultural infrastructure and capital investments.

#### **Thematic area 6: Strengthen institutional coordination for improved service delivery**

- > Strengthen linkages between public and private sectors in agro-industry;
- > Strengthen coordination of public institutions in the design and implementation of policies.

#### **Thematic area 7: Strengthen urban farming in the JKM Corridor**

- > Train farmers on the use of household biodegradable waste in home gardening for improved nutrient use efficiency;
- > Train farmers on economic irrigation water management strategies;
- > Train farmers on other agronomic and marketing aspects of crops that are commercially viable in urban areas, particularly horticultural crops.

#### **Thematic area 8: Transform the fisheries and aquaculture sub-sector and make it responsive to the challenges at all levels of the value chain.**

Generally, the focus is on the following core policy areas

- > Fisheries and aquaculture management and governance;
- > Research and appropriate technology transfer;
- > Human Resource and Capacity Development;
- > Production and productivity;
- > Post-harvest management, value addition and quality assurance;
- > Trade and marketing;
- > Commercialization of aquaculture through aqua parks.

Specifically, the fisheries and aquaculture sub-sector have the potential to accelerate economic transformation in JKM. Therefore, strategic interventions will strive to achieve the following policy objectives:

- > To strengthen coordination organization, management and development of the fisheries and aquaculture sub-sector;
- > To manage and develop fisheries and aquaculture resources guided by the best scientific evidence;
- > To promote and sustain the availability of adequate fish for domestic, regional and international markets;
- > To promote value addition, quality and safety of fish and fishery products on the market as well as improve the value chain system;
- > To increase the value and volume of fish traded internally, regionally and internationally;
- > To support fisheries and aquaculture management practices and technologies that are environmentally friendly and climate resilient;
- > To prevent and control the introduction of pathogens, disease-causing organisms and contaminants as well as invasive species within the fisheries and aquaculture sector;
- > To create a conducive investment environment through aqua parks to increase fish production and productivity;
- > To promote the availability of effective monitoring systems, and adequate and relevant information for planning and decision-making.

### **Thematic area 9: Improve the management and sustainable use of forest resources**

- > Develop commercial forest plantation
  - > Expand and sustainably manage commercial timber and pole plantations;
  - > Establish and sustainably manage energy plantations;
  - > Encourage the development of community-based out-grower forest plantation schemes around large plantations.
- > Promotion and intensification of tree growing on farms
  - > Support establishment and management of woodlots, hedgerows, windbreaks, shelter belts and fruit orchards;
  - > Promote on-farm growing of high conservation value species.
- > Restore and conserve natural forests in protected areas and private lands
  - > Restore/rehabilitate degraded and deforested natural forests in Central Forest Reserves (CFRs);
  - > Promote the restoration/rehabilitation of natural forests on private and communal lands;
  - > Restore/rehabilitate water catchment areas and fragile ecosystems (bare hills, river banks, lakeshores, wetlands);
  - > Build capacity for community-based natural resource/ forest management and collaborative forest management;
  - > Promote the development of natural forest-related enterprises;
  - > Promote the conservation of biodiversity in priority forest reserves and wildlife conservation areas;
  - > Promote the management of important biodiversity corridors on private and communal land.
- > Forest product processing and value addition
  - > Promote small and medium-capacity sawmills with high recovery rates;
  - > Improve harvesting and processing practices for higher revenue returns from natural forests;
  - > Build the capacity for value addition for processing wood and non-wood forest product.
- > Promotion of urban forestry
  - > Mainstream forestry in urban development plans;
  - > Manage urban forest reserves;

- > Increase urban tree growing and protection;
- > Support urban tree nurseries to produce quality planting materials.
- > ICT in Forest Management and Advisory Services
  - > Develop and manage a user-friendly information management system to collect, process and disseminate forest information;
  - > Develop and implement a regional forestry communication strategy;
  - > Establish a regional stakeholder consultative for information sharing and review of forestry sector performance;
  - > Build the capacity of service providers (NGOs, private consulting and contracting companies, etc.) to effectively deliver forest services;
  - > Promote energy-saving technologies in wood-deficient areas and high-population centres;
  - > Build the capacity of local community institutions to demand forestry advisory services.
- > Forestry education and training
  - > Develop and periodically review curricula for professional and technical forestry training to enhance knowledge, attitude and skills;
  - > Conduct tailored apprenticeship and on-job training for staff in forestry institutions to improve their performance;
  - > Promote local community training through farmer field schools and agro-forestry demonstrations;
  - > Build knowledge, attitude and skills of service providers for effective delivery of forestry services;
  - > Promote and strengthen the integration of forestry-related co-curricular activities in primary and secondary education.

### **Thematic area 10: Improved livestock production within the public health and environment protection standards**

- > Notably, there is an increasing relevance of urban, peri-urban middle-scale commercial livestock operations and value chains. This is particularly critical in the JKM corridor due to the high rate of urbanization. Therefore, it is important to increase livestock production in JKM while considering the urban concern, specifically the social, public health and environmental protection standards.
- > Ensure that policies and programmes effectively deal with zoonoses, emerging infectious diseases and natural resource use along the livestock value chains serving urban areas. This is essential for sustainable livestock in the future.

# THE JINJA- KAMPALA-MPIGI CORRIDOR

## PHYSICAL DEVELOPMENT PLAN

JUNE 2023

### CHAPTER 9 IMPLEMENTATION STRATEGY: INSTITUTIONAL ARRANGEMENTS



**Government of Uganda**  
Ministry of Lands, Housing and Urban Development



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## List of Acronyms

Acronym	Meaning
AWPs	Annual Work Plans
BFP	Budget Framework Paper
CNDPF	Comprehensive National Development Planning Framework
GDP	Gross Domestic Product
GKMPA	Greater Kampala Metropolitan Area
GoU	Government of Uganda
ICG	International Growth Centre
JKM	Jinja- Kampala-Mpigi
KCCA	Kampala City Council Authority
LED	Local Economic Development
LGDPs	Local Government Development Plans
LGs	Local Governments
LTEF	Long-Term Expenditure Framework
MDAs	Ministries, Departments and Agencies
MLHUD	Ministry of Lands Housing and Urban Development
MoFPED	Ministry of Finance, Planning and Economic Development
MoKCMSA	Ministry of Kampala City and Metropolitan Areas
MoLG	Ministry of Local Government
MTEF	Medium-Term Expenditure Framework
MTR	Mid Term Review
NBFP	National Budget Framework Paper
NCTTA	Northern Corridor Transit and Transport Agreement
NDA	National Development Authority
NDP	National Development Plan
NHCC	National Housing and Construction Company
NPA	National Planning Authority
NPDP	National Physical Development Plan
NPPB	National Physical Planning Board
NUP	National Urban Policy
OP	Office of the President
OPM	Office of the Prime Minister
PIAPs	Programme Implementation Action Plans
PMU	Project Management Unit
PPDs	Public Private Dialogues
PWGs	Programme Working Groups

SAR	Situation Analysis Report
SDPs	Sector Development Plans
SUH	Sustainable Urbanization and Housing
UBoS	Uganda Bureau of Statistics

## 9 Implementation Strategy: Institutional Arrangements

### 9.1 Introduction

The Jinja-Kampala-Mpigi (JKM) Corridor Physical Development Plan aims at producing a coherent development vision for an area that is at the heart of Uganda's social and economic development. The JKM Corridor covers a region of approximately 2,200 km<sup>2</sup> and constitutes the country's most dynamic region. It includes five districts (Mpigi, Wakiso, Mukono, Buikwe and Jinja), the Uganda capital, Kampala City, Jinja City, and the municipalities of Entebbe and Wakiso that will become gazetted cities in the next few years.

The JKM Corridor is the most urbanised region in Uganda by far, with more than 52% of Uganda's urban population living in that area. The Corridor is also at the heart of Uganda's social, political, and economic life with more than 50% of the country's GDP being produced in the region. So, this region is at the core of Uganda's development ambitions.

As the implementation strategy for the plan, this chapter proposes institutional arrangements that will support the planning, implementation, and management of the JKM Corridor Plan, with roles and responsibilities, defined.

The strategy provides, on the one hand, the policy and institutional basis on which the JKM Corridor institutional arrangements will be built; and on the other, first considerations and reflections towards shaping those institutional arrangements. The policy and institutional basis are formed by: Uganda's spatial and physical planning systems within Uganda's overall national planning framework, drawing partially upon some of the information provided in Working Paper 1, on "Vision, Goals and Guiding Principles;" a review of institutional arrangements proposed in key Ugandan development plans and strategies, in particular NDP III, NPDP and the GKMA Economic Development Strategy; and a description of key institutional actors for the implementation of the JKM Corridor Plan, expanding on what the JKM Corridor Plan team described in the Situation Analysis Report (SAR).

The strategy attempts to provide a model which, while following the Uganda traditions for managing development plans, seeks at the same time to consider key lessons from the implementation of such previous plans in Uganda.

### 9.2 Emerging key issues around the implementation of development and physical planning

For the last 10 to 15 years, the Government of Uganda (GoU) has been strengthening its development planning functions. This has aimed at reinforcing GoU's capacity to produce a development vision for the country and pathways allowing for transforming this vision into goals, objectives, detailed plans, and budgets. As will be described later, the introduction of the Comprehensive National Development Planning Framework (CNDPF) has significantly improved planning efforts and their internal coherence.

However, while the quality of development planning has considerably advanced in Uganda, the implementation of produced plans has been perceived as weak and/or frequently incomplete. The recently produced NDP III has pointed out that the slow implementation of national development plans, and of development plans in general, remains a major development challenge for Uganda. The National

Physical Development Plan also acknowledges that the major weakness of Ugandan physical and spatial planning is not in the formation of plans, but in their implementation.

The JKM Corridor Plan situation analysis and discussions with key stakeholders have pointed to key issues that lie behind the difficulties to implement development and spatial development plans effectively. These issues are briefly discussed below.

### **The multiplicity of institutional actors (Ministries and other MDAs) and the difficulties of effective coordination behind a plan or an agreed vision**

National development plans, regional development plans and even district development plans bring together a multitude of actors since these plans relate to a variety of social and economic sectors and often require the involvement of different levels of government administration. The implementation of such plans demands strong coordination and clarity in terms of leadership and terms of interface and linkages between the different government levels of plan implementation. However, such a level of coordination is not always achieved or possible to put in place. The NDP II mid-term review found no evidence showing a deliberate strengthening of coordination towards enhancing NDP implementation.

Effective systems for coordination for the implementation of development plans and development strategies often involve several levels: political and policy coordination; technical and programmatic coordination (of the implementation of the activities on the ground); coordination in the monitoring and review and the production of an overview of results and progress. The structure, organisation, roles, and responsibilities (in theory and practice) of these different levels are not always clear and the capacity of the MDAs involved in these different levels to perform their role is not always effective. For reasons of their mandates the Office of the President (OP), the Office of the Prime Minister (OPM), the Ministry of Finance, Planning and Economic Development (MoFPED), and the National Planning Authority (NPA) play a key role in the coordination of both planning and implementation. However, their role is not always clear in practice.

Changes in policy or government administration also bring some difficulties. For the last 20 years, Uganda has been going through re-definitions of the structures of local governance, spurred by the implementation of the Local Government Act of 1997. This has in addition been accompanied by spatial redefinitions of the territories behind those governing structures. These changes, which happen while national development plans and other regional strategies are being implemented, redefine the roles and responsibilities of old institutional actors and bring in new or redefined actors within a process that, as indicated above, can already suffer from unclear direction lines and patterns of coordination.

Issues of institutional clarity in the implementation of development plans emerge also in areas where dynamics of social and economic development bring together a diversity of territories governed by different governing entities. This is the case, for example, of metropolitan areas – such as the GMKA around Kampala City and the metropolitan agglomeration that our research shows emerging around Jinja City and Njeru. This issue is particularly relevant for the implementation of the JKM Corridor Plan as the planning area brings together several districts and cities, including the GKMA and the Jinja city area.

### **The "silo culture" and the difficulties to reach overall development coherence**

Development planning and implementation in Uganda have been carried out through each of its social and economic sectors and managed by their respective ministries and sector representatives within local governments. This is what makes NDP III and also many Ugandan officials state that there is still a "silo culture" of planning and implementation of development plans in Uganda. NDP III points out that this silo



culture is so pronounced that different sectors and MDAs often end up competing for resources and policy attention in the implementation space. This way of operating brings about difficulties in the coordination of projects and implementation activities but above all it also creates "misalignment" in terms of vision and leads to difficulties in producing overall development coherence – both in terms of policy but also between what is implemented and the overall planned intent.

Major and transformational development interventions require a multidisciplinary approach and the contribution of several sectors in a concerted effort. These interventions demand strong coordination and alignment but also an integration of the different initiatives to produce the overall required coherence. NDP III advocates strongly for the end of the "silo culture" and puts forward a "programmatic approach" to planning and implementation proposing "development programmes" instead of "sector plans".

NDP III development programmes will be implemented through the Programme Implementation Action Plans (PIAPs). Each PIAP will be led and coordinated by the sector ministries responsible for that programme, while at the same time drawing upon different Ministries and MDAs as relevant. This is an attempt to overcome the "silo culture" and will be described and further discussed in this paper.

### **The disconnect between social and economic development and spatial planning**

As will be further discussed in this paper, in Uganda social and economic development planning and physical planning (including land use planning) are usually carried out separately. National development plans, led by the National Development Authority (NPA), are more strongly focused on social and economic issues and do not effectively take into account spatial conditions, in terms of implementation, that is how many spatial conditions will favour or hinder development aspirations, and in terms of considering spatial strategies and planning land use in advance to "make space" for development visions. One of the key lessons from both NDP I and NDP II, put forward by NDP III, was the need to create physical and development plans that are integrated and holistic in their content and implementation.

### **Weak capacity for implementation planning and monitoring**

Although NDP III states that significant progress has been made in strategic planning, the plan also points out that planning capacity is nevertheless still generally low. This is particularly the case at decentralized levels where the capacity for implementation planning and pushing through the implementation of the plans is weak. While development plans should be implemented in the districts, cities, and territories managed by lower levels of state administration, it is also at these levels where the capacity of government organisations is weaker. The difficulties in terms of capacity (technical, but also management and monitoring capacity) are issues that are now considered in many key strategies in Uganda.

The difficulties with capacity and coordination also have an impact on how development plans are monitored – which in turn impacts the quality of implementation and the achievement of planned results. The strategies for monitoring and evaluation of plans are not clear – in terms of strategies and responsibilities for collection, processing and analysis of information and the path towards the decisions that should be made in relation to the course of plan implementation. Reviews of the implementation of development plans refer to poor data quality, difficulties in coordination and harmonization of administrative data - duplication of efforts, waste of resources due to lack of synergies and timely sharing of information, and weak use of information from monitoring and evaluation processes in decisions regarding implementation. NDPII put in place various mechanisms such as National Development forums, Annual performance reviews, but these seem to have never been operationalised.

The situation analysis carried out by NDP III points also to the difficulty in producing systematic evidence that could sustain development planning monitoring and planning. Despite progress in the information produced by the Uganda National Statistics System, according to NDP III, the system continues to face several institutional and capacity gaps that have not allowed for strong evidence-based planning. Monitoring of development plans and strategies by non-state actors, which would potentially contribute to increased accountability, is also not fully functional.

### **Finance and budgetary issues**

The difficulty in maintaining sustained financing of development plans continues to be an important obstacle to effective implementation - although Uganda has achieved some progress in its capacity to mobilise domestic resources. NDP III indicates that reforms in tax policy and administration have gradually contributed to an increased domestic revenue collection; a Domestic Revenue Mobilization Strategy, which will inform continued reforms in the tax system, has been developed. As a result, at least 75 percent of the national budget is on average domestically financed. This is still insufficient although it does represent a positive evolution. That is why the participation of development partners to support the financing of development plans and strategies is still fundamental.

Poor revenue collection at local levels of government continues to be a crucial concern. In addition, national budget flows are heavily skewed towards MDAs as opposed to local governments - transfers to local governments remain inadequate to support the effective delivery of decentralized functions and local economic development interventions. Insufficient resources at the local level of government are probably one of the key reasons why the implementation of development plans staggers. However, except for large projects managed at the national level, many activities should be carried out at the local level where financial resources are scarce - to carry out those activities and also to mobilise human capacity. The capacity for local governments to mobilise financing is currently being discussed by many specialists, especially financing projects in urban areas and major cities.

NDP III points also to "budget credibility" as a major concern referring to the excessive "volatility between budgeted and actual allocation". As described by NDP III, "Implementation of off-budget initiatives diverts effort of implementing institutions away from focusing on priority interventions and therefore affecting the credibility of the budget. Off-budget reduces realization of national outcomes..."

As a result of the issues described above, NDP III recommends that stronger effort is put into increasing coherence and integration across planning, budgeting, and implementing.

## **9.3 Spatial and physical planning within Uganda's national planning system**

This section presents Uganda's overall planning framework - the Comprehensive National Development Planning Framework (CNDPF). It shows that despite visible improvements brought about by this planning framework, there are still challenges to producing national socio-economic development plans that are strongly informed by strategic spatial objectives. This will have implications in terms of understanding where the JKM Corridor Plan is placed within Uganda's overall planning framework and for the institutional arrangements that will promote effective implementation of that Plan.

### 9.3.1 Uganda's national development planning framework

In 2007, the GoU adopted the Comprehensive National Development Planning Framework (CNDPF) which describes Uganda's approach to development planning and provides an overall framework to that effect. The CNDPF provides a coherent and interlinked planning system that facilitates "mapping out medium to long term strategies that will move individuals, organizations, governments and societies from the current situation to the desired one." (CNDPF, p.8).

The CNDPF supports the production of a national development vision (following classic planning questions such as where we are, where we want to go, etc.) and provides the mechanisms to collectively realise that vision by spelling out how and when to get there – the CNDPF "outlines the principles and guidelines to be followed in developing national and decentralized long- and medium-term development plans in the context of perspective shared national vision" (Ibid.). The National Planning Authority (NPA) is the agency which is responsible for planning under the CNDPF.

The Uganda CNDPF comprises the following key planning processes:

- > In 2010 the 30-year National Vision, which currently is defined by the Uganda Vision 2040, was approved providing a long-term development vision and aspirations for the country.
- > The 10-year plans are framed by the 30-year national vision. The 10-year national plans are linked to a Long-Term Expenditure Framework (LTEF). The 10-year national plans are in practice less used than the 5-year National Development Plans described below.
- > The 5-year National Development Plans (NDPs) are framed by the 30-year national vision and produce medium-term development objectives which cumulatively should support the achievement of that 30-year National Vision. Uganda has recently adopted the National Development Plan III 2020/21 – 2024/25 (NDP III), after two cycles of national development plans (NDP I and NDP II). NDPs are linked to the Medium-Term Expenditure Framework (MTEF).
- > Sector Development Plans (SDPs) are developed by the different ministerial sectors and are guided by the sectoral objectives established in the NDPs. NDP III introduced major changes into sector programming, as this national plan has introduced a programmatic approach seeking to counter the "silo planning and implementation" problem, which previous programmes had confronted, and promotes a multisectoral and collaborative approach to development planning and implementation.
- > Local Government Development Plans (LGDPs) are developed by the different territorial administrative entities. LGDPs are driven by local government entities and across the JKM Corridor Plan area, all districts and cities have local development plans although these are now outdated.
- > Annual Work Plans (AWPs) and budgets, which represent the annual implementation ambitions for each sector – and now NDP III-derived programmes - and the budgets to realise those ambitions.

Plans and Budgets prepared by the different Uganda MDAs are increasingly aligned with NDPs (and MTEFs) so that national development plans are effectively the overarching guide for GoU's action. Budgets are the expression of the realisation of the NDPs. The linkage between the NDP and annual budgets is mediated by the MTEF and operated by annual Budget Framework Papers (BFP).

The emergence of the CNDPF has led to significant improvements in the quality of development planning across the government, particularly in terms of alignment to an overarching vision and national

development plans. According to the NDP III, as of 2018/19, 89 percent (16/18) of Sectors, 82 percent (104/127) of MDAs and 94 percent (153/162) of LGs had plans aligned to the NDPII. However, as indicated above, despite higher quality and alignment in the development of plans, existing weaknesses particularly at the sector level, lead to plans not always being translated into budget interventions.

In addition, planning through the CNDPF has been concerned more with social and economic planning and has been unable to integrate into that exercise a full spatial dimension. Uganda's national development planning system and routines continue to struggle to bring together socio-economic planning and spatial planning. The definition of social and economic development objectives does not always take effectively – and realistically – into account spatial considerations and the spatial conditions and imperatives underlying the attainment of those objectives.<sup>1</sup> As a result, sectoral policies are not always sustained by strategic spatial frameworks or considerations. This will be further discussed below through Uganda's key national policies.

### 9.3.2 Bringing together development and spatial planning in current national development plans

Although a full integration of socio-economic development and spatial planning continues to be a challenge in Uganda, efforts towards coordination or an integrated policy perspective have been attempted in many of the latest key Uganda national policies. These attempts are discussed below.

#### **Vision 2040 and bringing together socio-economic and spatial planning**

Vision 2040 is Uganda's long-term strategic development plan, providing development paths and strategies to operationalize Uganda's Vision statement, which is "A transformed Ugandan society from a peasant to a modern and prosperous country within 30 years".<sup>2</sup>

Uganda Vision 2040 was issued in 2010 through a national planning process led by Uganda's National Planning Authority (NPA) and aims at "transforming Uganda from a predominantly peasant and low-income country to a competitive upper middle-income country."

The Uganda Vision 2040 was sustained by an overall Spatial Framework seeking to sketch the main spatial development elements that would contribute to the attainment of Uganda's long-term socio-economic development goals.<sup>3</sup> However, the Uganda Vision 2040 left for a future National Spatial Plan with the mission of establishing the basis for facilitating "public policy and actions that will influence the geographical location of projects in economically viable areas" (Uganda Vision 2040, p.117). This National Spatial Plan would then ensure "a coordinated and harmonized implementation of development projects" that would bring together social and economic development ambitions with spatial possibilities in an "organized, equitable, sustainable, efficient and cost-effective development" (Ibid.)

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<sup>1</sup> Following typical practice, spatial planning refers here to territorial planning at higher and wider – national, regional, city region, corridor – spatial levels. This occurs at the strategic level providing overall guidance or a framework into which lower-level planning fits. Spatial planning, as so defined, encompasses both land use planning and physical planning – that is, it includes overall policies that will impact on land use and the organisation of the built and un-built physical environment.

<sup>2</sup>National Planning Authority (Henceforth: NPA) (2010) *Vision 2040* p. 2. Available online at: <http://www.npa.go.ug/uganda-vision-2040/>

<sup>3</sup> [Spatial Framework – National Planning Authority \(npa.go.ug\)](http://www.npa.go.ug/spatial-framework/)

### **NPDP and bringing together social, economic and spatial planning**

The National Physical Development Plan 2018-2040 (NPDP) is aimed at providing a basis for integrating physical and spatial conditions with economic and social issues of national development planning. This plan sought "to place the physical aspect of planning development, in a more central role within Government policymaking, definition and execution of national projects in urbanization, infrastructure, transportation, and wealth creation" (p.145). Simultaneously, it sought to offer a strategy to resolve conflicting pressures on the uses of land, as the Uganda population grows and the needs for social and economic development across the country's territory increase as well. The preparation of a National Physical Development Plan was seen as a key dimension in the establishment of an effective Land Use Planning system.

In order to allow for the integration of spatial and physical frameworks with social and economic aspects of development planning, the NPDP was, on the one hand, organized around the "Pillars" of Uganda's Vision 2040 and, on the other, it considered ways of articulating with the sequence of five-year National Development Plans described in the CNDPF as the mechanism for mid-term development planning. The NPDP sought to offer a bridge between physical planning aspirations and instruments, partially provided by the Physical Planning Act of 2010 and the social and economic development aspirations expressed in long-term (Vision 2040) and short-term (NDP) development plans. It sought to conform with the Uganda Vision 2040, and to integrate with the National Development Plans, to provide a framework for the development of land uses.

As the production of NPDP preceded the preparation of the NDP III, it was expected that the different MDAs would consider the NPDP, and Uganda's spatial conditions, in their sector development plans towards the development of NDP III. It was expected that the NPDP would form the spatial groundwork for NDP III social and economic planning. However, as discussed below, although concerns with urbanisation, land management and physical planning are important components of NDP III, full integration between spatial and social and economic planning was not fully achieved.

### **NDP III and bringing together socio-economic and spatial planning**

The NDP III recognises the importance of physical planning, land management and of urbanization to achieve the plan's development objectives and the need to align with NPDP (p.4). To achieve NDP III's overall objective of "Increased household incomes and improved quality of life for Ugandans" through the overall theme of "Sustainable industrialization for inclusive growth, employment and sustainable wealth creation" (p. xxi), the national development plan establishes "Leveraging urbanization as a driver for socio-economic transformation" as one of its key development strategies, saying:

*"Government will pursue planned inclusive green cities that create economic opportunities for all, including the urban poor. Opportunities arising out of urbanization for industrialization and from industrialization for urbanization will be articulated to better leverage urbanization for accelerated industrialization. Industrial policy, spatial plans, and national value chains will factor in ways urban functionality can support productivity of firms. In addition, urban planning will aim to achieve more balanced national urban systems, optimizing the complementary roles of the different cities, both large and small i.e. the national capital, regional cities, and strategic cities as articulated in Vision 2040." (p.42)*

One of the 18 development programmes proposed by NDP III is focused on urbanization issues and urban planning. NDP III's Programme "Sustainable Urbanization and Housing" (SUH) aim "to attain inclusive, productive and liveable urban areas for socio-economic development" (p.159). In that dimension, NDP III is grounded on the Uganda National Urban Policy (NUP) which was finalised in 2017.

NUP is intended to guide and provide a framework for organized urban development in Uganda, seeking to "ensure that the urban sector effectively plays a critical role as the engine of the nation's economic growth, providing a high quality of life through a systematic and planned urbanization process" (p.vi). NUP's Mission Statement is "To promote development of resilient urban areas that are organized, well serviced, liveable, and productive through effective good urban governance". This vision is strongly based on an approach to urban development that is informed by a strategic understanding of space and by visions of spatial frameworks. NUP seeks to encourage "spatially integrated urban development" and its second Policy Statement promotes urban development that is based on "integrated urban strategic spatial development planning approaches".

In addition to the programme of sustainable urban development, other NDP III development programmes also consider the need for alignment with physical planning. Objective 3 of the Programme "Integrated Transport Infrastructure and Services" is to "promote integrated land use and transport planning". However, while NDP III clearly acknowledges the need for full alignment with physical planning, it recognizes how land tenure and land management systems impact the effectiveness of spatial development plans and draws attention to the disparity between formal planning instruments and the pervasive reality of complex, overlapping, and often informal land tenure practices. Similarly, while NDP III's proposed "Agro-Industrialisation Programme" states that it is fundamental to "improve land tenure systems and land security mechanisms that promote inclusive agriculture investments" (p.71), the Plan also acknowledges that land tenure and current land management mechanisms in Uganda present major obstacles to effective socio-economic spatialized development planning. NDP III points to how much Uganda's complex land tenure system makes it difficult to enforce the Physical Planning Act (2010) and how it presents challenges to development planning that is based on certainties regarding spatial development.

### 9.3.3 The JKM Corridor Plan as a Regional Plan

The above sections discuss key national development plans, which provide the vision and guidance for Uganda to achieve the country's long- and mid-term development objectives. The discussion above also serves to assess how socio-economic development planning considers spatial conditions. These considerations are important to devise institutional arrangements that will facilitate the implementation of the JKM Corridor Physical Development Plan, which aims to promote spatial, inclusive economic development.

The Uganda Physical Planning Act (2010) envisages different levels of physical planning, which correspond in general to cascading levels of territorial structure, that is i) National Physical Development Plan, ii) Regional Physical Development Plans; iii) District Physical Development Plans, iv) Urban Physical Development Plans and v) Local Physical Development Plans. According to the Physical Planning Act, all plans should conform to the National Physical Development Plan and the Physical Development Plan made by the higher authority.

Following the definitions provided by the Physical Planning Act, the JKM Corridor Plan is considered a "regional physical development plan" as it covers more than one district. Regional physical development plans should take into account the NPDP and at the same time relate to local physical development plans at the district level of state administration – that is plans at the district and city levels. At the district level, across the JKM Corridor some district (or district level physical) physical plans have been prepared: i) the "Wakiso District Local Government Physical Development Plan (2018-2040)"<sup>4</sup>; ii) the "Jinja City

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<sup>4</sup> This is a "Draft Report" prepared in 2017 by Savimaxx for MLHUD.

Draft Integrated Physical Development Plan (2020-2040)";<sup>5</sup> and the "Updating Kampala Structure Plan and Upgrading the Kampala GIS Unit".<sup>6</sup>

The physical planning structure provided by the Physical Planning Act corresponds in general to levels of Uganda's government administration – national physical plans to the national government; district physical plans to district governments; urban physical plans to the city, municipal and town governments; and local physical plans to sub-county governments and lower levels of administration. However, in its Local Government structure, Uganda does not have "regional governments".<sup>7</sup>

The lack of regional governments for regional physical planning was already pointed out in the NPDP where it is noted that,

*"The lack of regional governments in Uganda makes it difficult to implement regional-level plans, although this level of coordination, which lies between the national and district levels is important. Sub-national growth nodes, significant transport links and services which cover several Districts, but which are too small to be seen at national level need to be prioritized at sub-national level. Most MDAs have their own but differing regional networks. In the case of the Ministry of Lands Housing and Urban Development there are 21 Ministerial Zonal Offices (MZOs) which can be used for Regional Planning, but the geography of each of the other MDAs' regions is different. A common regional organization is needed for coordination."* (p.154)

In addition, the JKM Corridor Physical Development Plan does not really cover a whole "region" as defined by Uganda's four-region structure. The JKM Corridor Plan is formed by part of the Central Region (the districts of Mpigi, Wakiso, Kampala City, the districts of Mukono and Buikwe) and the district of Jinja, which is located in the Eastern Region. It includes the entire Greater Kampala Metropolitan Area (GKMA) and also cuts across two Uganda kingdoms, Buganda and Busoga, with relatively different cultural and historical trajectories.

The definition of the JKM Corridor Plan area has been established as a result of an understanding of the territory that is both impacted by and contributes to the overall social and economic dynamics created around the Northern transport corridor in Uganda. The energy and dynamism of this region are doubtless linked to the transport infrastructure that spans across it, but it is also intimately connected to the historical urbanisation process within this area influenced both by two major urban poles in Uganda – Kampala, the Ugandan capital city, and Jinja, with its history of industrialisation in the country. In effect, it might also have been appropriate to designate the JKM Corridor Plan Area as a "Special planning area" which is provided for in the Physical Planning Act 2010 whose article 24(1) says the following:

*"The Minister may, on the recommendations of the Board, by statutory instrument, declare an area with unique development potential or problems, a special planning area for the purposes of a physical development plan"*.

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<sup>5</sup> This is a "Draft Report" prepared by the Directorate of Physical Planning and Urban Development (MLHUD) in conjunction with Jinja City Council.

<sup>6</sup> This plan, known as the Kampala Physical Development Plan (KPDP) was a Draft Final Report prepared by ROM Transportation Engineering Ltd in 2012 for KCCA, for a 30-year planning horizon (up to 2040). A revision of this structure plan is supported by JICA and is currently underway through the "Integrated Urban Development Masterplan for Kampala Special Planning Area".

<sup>7</sup> See the Local Government Act, 1997.



It is important to point out here, that in 2012 the GOU declared the Kampala Special Planning Area centred in Kampala City and integrating parts of the Districts of Wakiso and Mukono. The characteristics of the JKM Corridor Plan Area could also have provided the rationale for the creation of a "Special Planning Area" – since it is structured around a major regional transport corridor; it is the most densely urbanised area of Uganda, containing Kampala and its metropolitan area, (i.e., the GKMA); it is the most economically dynamic area of the country, providing half of Uganda's GDP.

While this has not been the case for the JKM Corridor Plan area, which is considered a "regional physical development plan," a "Special Planning Area" approach could be useful. This would provide the basis for more flexible and agile institutional implementation arrangements. This could potentially include "special purpose vehicles". These types of arrangements will be discussed in the following section, together with arrangements that have been set up for other Uganda development plans. This will allow returning to discussing the issue of how to integrate the JKM Corridor Plan within the Uganda planning system, that is within the CNDPF.

## 9.4 Institutional Arrangements proposed in key Development Plans and Corridors

The implementation of the JKM Corridor Plan will need to align with major national plans, such as NDP III and NPDP, but it will also need to consider development plans and strategies at local levels of government within the Corridor. The implementation arrangements that will be adopted by the JKM Corridor Plan will therefore need to consider how the implementation of these major plans has been structured. This section will present and briefly discuss the implementation arrangements for the NPDP and NDP III, as well as for the GKMA economic development strategy.<sup>8</sup> The section will also consider the institutional arrangements established for the Northern Transport Corridor as the JKM Corridor is part of the major transportation corridor in East Africa. This will allow for examining modalities of possible synergies, leverage and coordination.

### 9.4.1 Institutional arrangements proposed for NDP III

In a clear shift from the Sector Planning and Budgeting approach that was the basis of the planning and budgeting framework for NDPs I and II, NDP III has adopted a programmatic approach to development planning. This approach is also sustaining the budgeting and implementation of NDP III's 18 programmes. The adoption of a programmatic approach to development planning, budgeting and implementation by GoU is expected to foster cooperation, synergy and leveraging of resources across sectors and MDAs. These different government entities have been perceived to work in silos and even to compete for resources and policy attention leading to a lack of clarity and inefficiencies in the implementation of development plans.

The GoU has already adopted the programme approach to planning, budgeting, and implementation of government development plans for the financial year 2021/22. Each of the 18 programmes proposed by NDP III has been transformed into Programme Implementation Action Plans (PIAP), which form the overarching basis for the preparation of detailed annual programme work plans and budgets for the entirety of NDP III's timeframe. All sector MDAs have been organized into programme groups based on their mandates and are expected to work together for better utilization of resources for improved service delivery.

MLHUD, for example, chairs NDP III's Sustainable Urbanization and Housing Programme (SUH Programme).<sup>9</sup> As a result, this Ministry coordinates all MDAs/Actors that should intervene in the implementation of this programme, which should work in line with the new (programme) planning and budgeting framework to deliver in relation to NDP III programmes' objectives. In a similar fashion to any other NDP III programme, the implementation strategy for the SUH Programme is described in the Programme Implementation Action Plan (PIAP). The SUH PIAP will form the basis for the preparation of detailed annual work plans and budgets of the programme through the NDP III timeframe as of FY2021/22.

The implementation of the JKM Corridor Plan will need to take into account, and relate to, the institutional structure for NDP III's implementation, that is the structure around the implementation of the different PIAPs.

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<sup>8</sup> Similar to the JKM Corridor Plan, the GKMA economic strategy relates to a metropolitan area, that is more than one district and more than one local government entity.

<sup>9</sup> While MLHUD coordinates the SUH Programme, the Ministry is expected to contribute to other programmes led by other Ministries.

As described below, the PIAPs implementation is proposed to be coordinated at a high level within the "Apex Platform"<sup>10</sup> within the office of the president, which takes overall leadership and oversight of the implementation of the national development plan – the various PIAPs represent eventually the operationalization of the NDP III.

The implementation of the PIAPs will involve a wide range of MDAs and from high levels of GoU political leadership, through technical groups within the diverse MDAs to the private sector and civil society, which can be summarized as follows:

- > The Apex Platform (Office of the President) and the Office of the Prime Minister (OPM) will provide overall coordination and NDP III performance monitoring. Recent discussions on the Apex Platform indicated that this platform could be chaired by the President.
- > A PIAP implementing structure within the different implementing MDAs formed by:
  - > a Leadership Committee made up of sector high-level political leaders, will provide political and policy guidance and advocacy, oversight of the implementation of programme-based policies; and advocate for resource allocation to support programme implementation
  - > Programme Working Groups (PWGs) supported by a Programme Secretariat: formulating the PIAPs, Budget Framework Papers, providing inter-ministerial coordination, and reporting
  - > Programme Technical Group: providing monitoring of the implementation of programme sub-components.
- > Other MDAs contributing to PIAP implementation:
  - > Ministry of Finance, Planning and Economic Development (MoFPED): Providing financial resources, mentoring on budgeting and resource monitoring
  - > National Planning Authority (NPA): Providing overall guidance and technical support to the programme development planning process
  - > Uganda Bureau of Statistics (UBOS): Providing reliable data for planning
  - > Other Ministries, Departments and Agencies (MDAs): Developing their specific Strategic Plans, contributing to the development of the PIAP, integrating district programme priorities in their strategic plans
  - > Local Governments: providing inputs into the PIAPs and aligning local plans and implementation to the PIAPs.
- > Other actors outside the Government of Uganda

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<sup>10</sup> The Apex Platform will be established to monitor government performance. It was planned to be established in 2020 and be led by the Office of the President. Some sources indicate that the APEX Platform will include three other government entities – National Planning Authority, Ministry of Finance and the Office of the Prime Minister (OPM). ("New platform created to assess gov't performance", *The Independent*, 14th of November 2019)

- > Development Partners: providing technical and financial support to the PIAPs; aligning their support to the PIAPs
- > Civil society groups: participating in the PWG; contributing to the implementation of the PIAPs; monitoring the PIAPs
- > Private sector: participating in the PWG; contributing to the implementation of the PIAPs, including through PPPs; monitoring the PIAPs.

Greater detail of this structure is provided in Appendix 1 where a table describes the different institutional bodies and stakeholders that will be involved in PIAP implementation – from high-level political leadership, through the different bodies within the MLHUD for the SUH PIAP, to other agencies and actors outside the Ministry. For each of those stakeholders, the table describes in detail the role, and functions of the different levels of responsibility for PIAP implementation.

#### 9.4.2 Institutional arrangements proposed for NPDP implementation

The first objective for the implementation of the NPDP was to integrate this plan with the National Development Planning process. Therefore, the NPDP proposed a path for implementation that would ensure strong alignment between the NPDP and the NDPs, including with NDP III. As the draft NPDP was finalized one year before the finalization of NDP III, it was expected that the NPDP would already influence the NDP III design. However, as discussed above, while NDP III does take the NPDP into account, in particular for some of its programmes, full alignment between both plans was not achieved.

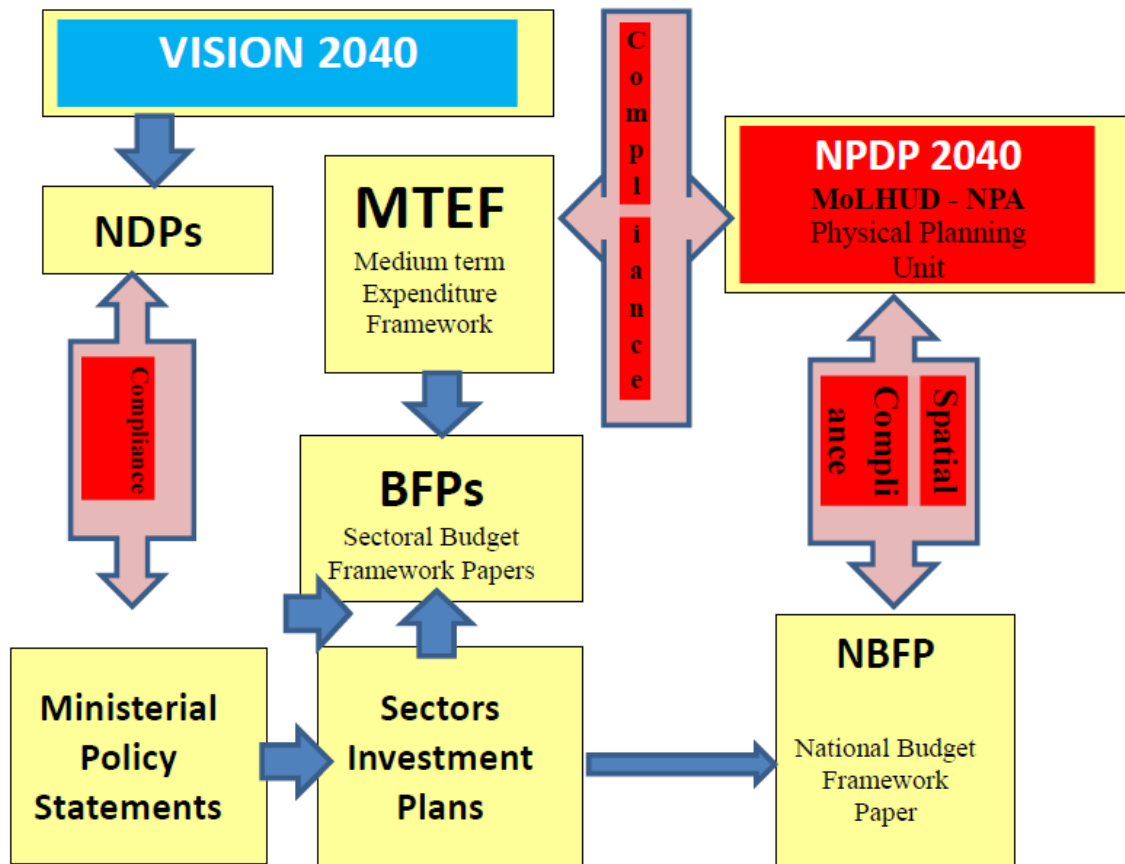
As NPDP sought to foster alignment between spatial and social and economic planning, this plan proposed an implementation structure that would be placed under the joint jurisdiction of the National Planning Authority (NPA) and Ministry of Lands, Housing and Urbanisation (MLHUD). This joint MLHUD-NPA unit would oversee NPDP's implementation to ensure budgetary and strategic harmonization and alignment between the implementation of the two plans.

The NPDP proposed also that the Office of the Prime Minister (OPM) would work with this joint unit to ensure that programmes and projects proposed by the different MDAs would align with the NPDP. However, NDP III adopted a programmatic approach, which has expanded into different PIAPs with a specific structure for implementation as described above. Given the current programmatic basis of NDP III and the proposed implementation structure, the idea of this joint unit will need to be revisited.

To foster stronger integration between the NPDP and the National Development Planning process, the NPDP designers sought to place this plan within the Comprehensive National Development Planning Framework (CNDPF), as this framework provides the overall structure for development planning and implementation in Uganda. As previously described, it is through this tool that the country's strategic development objectives are articulated and priorities are established; it is also this tool that allows for medium- and short-term plans to be defined, for budgets to be decided and for resources to be allocated.

Figure 1 below shows the NPDP proposed model for integrating NPDP within CNDPF. Key alignment and integration would be achieved through the MTEF, which follows NDP processes, allowing for future NDPs to align with the NPDP. The figure below also proposes an alignment through the annual sector Budget Framework Paper (NBFP). This structure would need to be revised given the current stress on programmatic approaches.

Figure 1: NPDP proposed integration within the CNPDF; Source: NPDP



In any case, the figure above has the merit of showing and putting emphasis on the need for bringing development and spatial planning processes closer together and the need for placing spatial planning more clearly within the CNPDF.

### 9.4.3 Institutional arrangements proposed for the Greater Kampala Economic Development Strategy (2017-2025)

#### **The Greater Kampala Metropolitan Area**

The Greater Kampala Metropolitan Area (GKMA) is a de facto metropolitan space that has emerged around the capital city, at the heart of the JKM Corridor. GKMA brings together more than 4.3 million inhabitants and forms a large urban hub, whose social and economic systems are deeply connected to the capital city. It is estimated that about 80 percent of the country’s industrial and services sectors are located within the GKMA and almost 46 percent of all Uganda’s formal employment.<sup>11</sup>

The Kampala Capital City Act, 2010 defines GKMA as ‘the area of jurisdiction of the Authority together with the neighbouring districts of Mpigi, Wakiso and Mukono’. After the approval of the Kampala Capital City Act of 2010, Kampala came under the administration of the then-established Kampala Capital City Authority (KCCA), which is a central government agency led by an executive director. The districts

<sup>11</sup> Nansozi K. Muwanga, Paul I. Mukwaya and Tom Goodfellow, June 2020, "Carrot, stick and statute: Elite strategies and contested dominance in Kampala", ESID Working Paper No. 146

surrounding Kampala City are managed by local governments, under the Local Government Act of 2005, and are coordinated by the Ministry of Local Government.

The differences in governing and management systems bring about some difficulties and challenges and are at the origin of inefficiencies in terms of planning, financing, and coordination of service delivery, particularly in the areas of transport and waste management.<sup>12</sup> For GKMA to function as a metropolitan area, it would need to be governed in a way that would allow for greater coordination across the metropolitan area. This would foster more efficient service delivery and would support tackling common issues such as traffic congestion, pollution and other urban management challenges affecting this vast urban agglomeration.

In addition, in the last decade, the Kampala City administration has gone through several changes in terms of governance structures, which have led to a situation that still requires consolidation. Further to KCCA and its Executive Director, Kampala still has an elected Lord Mayor with a role that has become largely ceremonial,<sup>13</sup> and since 2019 a Ministry for Kampala City and Metropolitan Affairs has been established whose governance responsibilities are still being defined and could include further metropolitan jurisdictions.

The Greater Kampala Economic Development Strategy (2017-2025) was prepared by KCCA and supported by the National Planning Authority, the Ministry for Kampala City and Metropolitan Affairs and the World Bank. This Strategy represents an effort towards the establishment of a metropolitan-scale economic development governance mechanism.

**Overview of the Greater Kampala Economic Strategy's strategic framework**

The Greater Kampala Economic Strategy identified as the key challenge for the region's economy the fact that "Formal job creation and urban planning had not kept pace with population growth". The Strategy proposed the following vision to tackle that challenge: "A Greater Kampala united towards job creation, improved liveability and a sustainable development for all its citizens." The Greater Kampala Economic Development Strategy focuses on three strategic areas and five strategic objectives as shown on the table below.

Table 1: Greater Kampala Economic Development Strategy: Strategic Areas and Strategic Objectives

Strategic Areas	Strategic Objectives
1 Ensuring Greater Kampala’s economy is creating more quality jobs to keep pace with the metropolitan area’s population.	1 World-class economic infrastructure
2 Improving liveability through increasing access and quality of service for citizen wellbeing and city competitiveness.	2 Conserve and protect environmental assets
3 Protecting Greater Kampala’s environmental assets to ensure sustainable economic development in the future.	3 Business support to the informal sector, the youth and economic clusters
	4 A unique centre for tourism
	5 Effective city and local government service delivery

<sup>12</sup> Haas, A. and Slack, E, 2018, "Why metropolitan governance structures matter: Kampala", ICG Uganda, [Why metropolitan governance structures matter: Kampala - IGC \(theigc.org\)](http://theigc.org)

<sup>13</sup> Until the Kampala City Act in 2010, the capital city was managed by the Kampala City Council (KCC) and led by a Mayor. The 2010 bill ended the position of Mayor, replacing it by a Lord Mayor and introduced a separation between political functions (with the Lord Mayor) and technical / executive functions (with KCCA and the Executive Director).

### **Institutional arrangements for the implementation of the Greater Kampala economic development strategy**

As mentioned above, although the concept of the Greater Kampala Metropolitan Area emerged in 2010, the GKMA as a formal metropolitan area has not yet been established. So the Greater Kampala Economic Development Strategy was the result of coordination driven by stakeholders' interests in a united vision for the GKMA. These stakeholders recognised that a lack of comprehensive planning had resulted in a multiplicity of government agencies across the region working with overlapping and competing mandates. This strategy results therefore from KCCA, Local Governments and central Ministries recognising that Greater Kampala will be stronger if the government is united and focused on the same strategic goals. "Informal mechanisms of voluntary cooperation" across different jurisdictions is in effect a relatively common form of metropolitan governance.<sup>14</sup> The GKMA area has already been drawing upon this type of mechanism to deal with issues such as waste management, and water and power supply (Ibid).

The vision for the Greater Kampala Economic Strategy stresses the importance of a "united Greater Kampala" which will come as the result of all subnational governments recognizing that working together across jurisdictions is an essential principle for the future development of Greater Kampala. The Greater Kampala government stakeholders recognise that the implementation of the strategy's vision and strategic objectives "will require open and continual coordination between Greater Kampala's Local Governments, KCCA and key central government ministries" (p.17). The Strategy also expresses the expectation that the declaration and the pursuit of common objectives will support the "production" of Greater Kampala as an effective Metropolitan Area.

With a "united Greater Kampala" in view, the Strategy proposes a series of "Guiding principles for affective coordination", which are described in the text box below.

#### **Guiding Principles for effective coordination across GKMA**

- 1 Recognise that successful strategy implementation requires hard work ongoing dialogue and coordination, accountability, and follow-through.
- 2 Share vision among all subnational governments, civil society and private sector
- 3 Alignment with and support from the central government
- 4 Prioritising and sequencing of program and projects will be agreed upon by all parties.
- 5 Individual subnational strategies and projects should best align with the overall Greater Kampala strategy.
- 6 Recognize that government does not have to do everything and that sometimes allowing and supporting the private sector is the most effective way to have an impact.
- 7 No project should be implemented without broad consultation and transparency. Not everyone will agree but broad consensus should be sought.

The Greater Kampala strategy marks the beginning of an unprecedented level of institutional coordination between KCCA and Greater Kampala's Local Governments. In order to achieve the objectives outlined in the strategy and the level of coordination required, the Greater Kampala Strategy proposes to strengthen

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<sup>14</sup> Haas A., op.cit.



the voluntary coordination arrangements that led to the production of the strategy and whose structure is described in the table below.

Table 2: Greater Kampala Economic Strategy: Institutional Arrangements for Implementation

Political Leadership		
Designation	Composition	Mandate
Greater Kampala High-Level Working Group	Chaired by the Ministry of Kampala City and Metropolitan Affairs <sup>15</sup>  High-level officials from each Local Government, KCCA, Ministry of Local Government, National Planning Authority, Ministry of Works and Transport and the Ministry of Lands, Housing and Urban Development	High-level primary owners of the Greater Kampala strategy.  Responsible for delivering the five strategic objectives.  Guidance and direction on future investments  Regular follow-up on progress
Greater Kampala Economic Planners Committee	TBD – group to service the high-level working group	Responsible for monitoring progress on the implementation of the strategy  Coordinating with the various Local Governments.
Mechanism for institutional multi-disciplinarity of strategy implementation		
The Greater Kampala Metropolitan Inter-Ministerial Working Group	Chaired and Co-chaired by the Ministry of Lands and Urban Development and the Ministry of Kampala and Metropolitan Affairs  Working Group composition TBD.	To coordinate the strategy multidisciplinary implementation

To promote coordinated investments and support from all MDAs and the Greater Kampala area stakeholders (including KCCA and the local governments), a delivery unit, the **Project Management Unit (PMU)**, is being established to ensure efficient implementation. The PMU will:

- > Be situated within the Ministry of Kampala and Metropolitan Affairs, under the direct supervision of the President through the Office of the President
- > Have a distinctive role to deliver metropolitan-level coordination and guide implementation, while the direct implementation of the strategy will be undertaken by the respective mandated agencies and subnational governments.

In order to promote greater coordination in delivery, the Strategy proposes **common financing mechanisms** for the key programs outlined in the strategy. These are expected to be encouraged by the central government. KCCA, Local Governments, and implementing Ministries would then be able to draw on this pooled financing mechanism for agreed capital expenditure in joint projects. This would provide a major incentive for coordination and complementary investments across the GKMA.

The Strategy also recognizes that the mobilization of civil society and the private sector will be fundamental for the successful implementation of the Greater Kampala Strategy. These are promoted through:

<sup>15</sup> Until recently, this high-level group was chaired by the National Planning Authority. However, as the structures of the MKCMA have started to be put in place, this Ministry has taken the chairing role.

- > Municipal Development forums at the subnational level, should encourage active public, private and civil society dialogues and participation in resource mobilization and implementation of the strategy.

Public Private Dialogues (PPDs), which will be used to mobilise the private sector into implementation and as a potential instrument through which Greater Kampala local governments can implement priority investments with greater efficiency and possibly leverage additional resources from the private sector.

#### 9.4.4 Arrangements for management of a Development Corridor

This section will briefly describe and discuss the institutional arrangements for the management of the Northern Corridor. It seemed useful to address this structure here since the JKM Corridor is part of the Northern Corridor, but also because, as it will be briefly shown, these structures have similarities in the way they are sketched.

##### **The Northern Corridor**<sup>16</sup>

The Northern Corridor is a trade route linking the landlocked countries of the Great Lakes Region with the Kenyan seaport of Mombasa and bringing together Burundi, the Democratic Republic of Congo, Kenya, Rwanda, Uganda, and South Sudan. These countries are the member states of the Northern Corridor. Regional cooperation and transit trade within and along the Corridor is facilitated by the Northern Corridor Transit and Transport Agreement (NCTTA), a treaty signed in 1985 by the member states.

The Northern Corridor Transit and Transport Coordination Authority (NCTTCA) was established under the NCTTA Treaty to oversee the implementation of the agreement. NCTTCA's mission is to transform the Northern Corridor into an economic and sustainable development Corridor that offers internationally competitive trade and transport services and promotes regional integration.

Learning from experiences, regional transport and development corridors have shown that effective corridor management is fundamental for the success of these corridors. Most development corridors have institutional and administrative arrangements created for their management. Unless there are clear mechanisms for overall coordination – of planning and implementation – and for decision-making regarding policy and overall direction, but also in terms of budgets and technical matters, the Corridor will be dysfunctional. Corridor management is about getting the various parties to work together to produce plans and policies and to implement interventions that complement efforts to improve overall corridor results.<sup>17</sup>

The Northern Corridor in East Africa is perceived as having a management and coordination structure that works quite well.<sup>18</sup> As the figure below shows, the NCTTCA institutional structure follows the outline of management arrangements, such as those for the NDP III of the GKMA economic strategy, which brings together a multitude of actors and aims at implementing political and policy visions with the ambition of having a concrete impact on the ground: there usually is a level of political coordination and decision making and another level of technical and management execution.

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<sup>16</sup> Information on this section is largely taken from [Northern Corridor Transit and Transport Coordination Authority: Home \(ttcanc.org\)](http://ttcanc.org). The corridor is discussed in both the [Situational Analysis Report and Working Paper 1 of the JKM Corridor Plan project](#).

<sup>17</sup> Kunaka C. and Robin Carruthers, 2014, "Trade and Transport Corridor Management Toolkit", The World Bank.

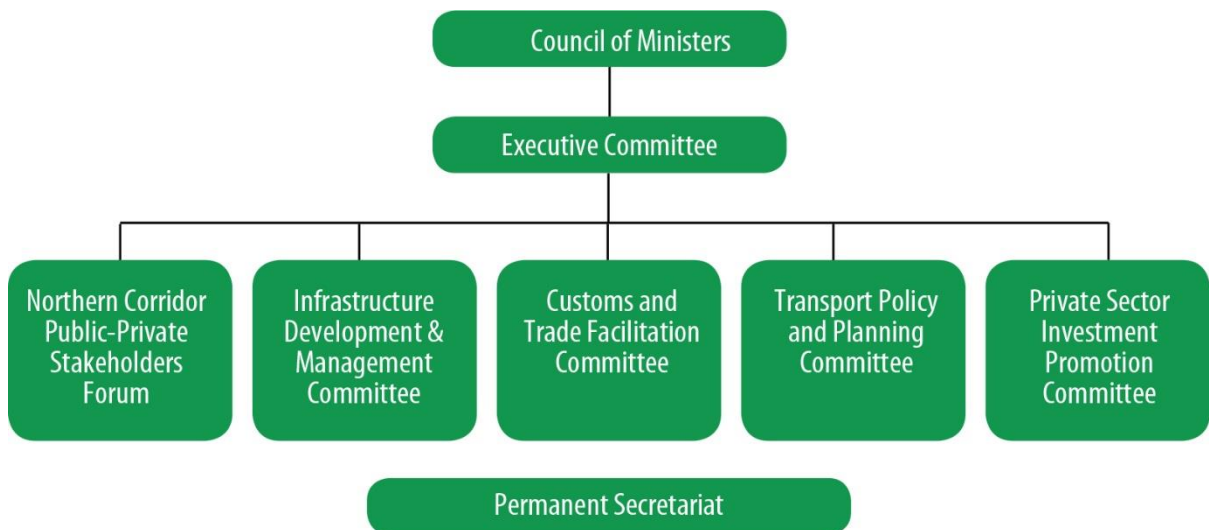
<sup>18</sup> Ibid.

In the case of the NCTTCA, these are:

- > The Council of Ministers comprises the Ministers responsible for transportation in each of the member states. This is the level representing the country's "owners" of the Corridor and providing political leadership
- > The Executive Committee, which is an inter-governmental committee composed of Permanent Secretaries, or their equivalents within the member states, who are also responsible for transport matters in each of the contracting states
- > In addition, and reinforcing the technical dimension of the NCTTCA, several Specialized Committees have been put in place to synthesize and make appropriate recommendations to the Executive Committee.

All these structures are supported by a Permanent Secretariat which follows activities and the execution of projects more closely.

Figure 2: The NCTTCA's Institutional Structure



## 9.5 Key institutional actors for JKM Corridor Plan implementation

The national, regional, and metropolitan strategies described in the previous section indicate institutional arrangements that involve different levels of coordination and monitoring of implementation performance: i) high-level political coordination and performance monitoring; ii) a high policy level of multisectoral coordination; iii) a programme management and technical level purposed for implementation, monitoring and reporting.

The previous institutional arrangements for the implementation of national and regional development plans involved institutional bodies at different levels of government administration, which are likely to also play a key role in the implementation of the JKM Corridor Plan.

### 9.5.1 The Apex Level

As previously indicated, the GoU recently established the Apex Platform, a high political level of performance monitoring for key development plans and strategies. High-level performance monitoring is provided by the Office of the President and the Office of the Prime Minister.

#### **The Office of the President**

The Office of the President (OP) is a Government Ministry through which the President of Uganda provides leadership in public policy management and good governance for National Development.<sup>19</sup> This Ministry is made up of various departments including the Cabinet Secretariat, Directorate of Ethics and Integrity, Directorate of Economic Affairs and Research, and Security Organisations (Internal Security and External Security Organisation), amongst others.

The OP has a multifunction mandate with clear functions related to steering social and economic development. The OP is among other functions mandated to:

- > Support the provision of overall leadership in public policy management and promotion of good governance in public institutions
- > Ensure that Government policies programs and projects are adequately communicated, monitored and evaluated
- > Provide efficient and effective support to Cabinet in the discharge of its constitutional mandate of formulating and implementing government policies
- > Mobilise the population towards achieving social and economic development and promote "Prosperity for All" programmes.

#### **The Office of the Prime Minister**

The Office of the Prime Minister (OPM) is a Government Ministry through which the Prime Minister of Uganda provides leadership of the Ministers under the Executive arm of Government.

The Prime Minister is the Leader of the Government and is therefore responsible for the coordination and implementation of Government Policies across Ministries, Departments, and other Public Institutions.<sup>20</sup>

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<sup>19</sup> [Office of the president | Uganda National Web Portal \(gou.go.ug\)](http://gou.go.ug)

<sup>20</sup> [Office of the Prime Minister | Uganda National Web Portal \(gou.go.ug\)](http://gou.go.ug)

This Ministry commonly called OPM is made up of various directorates including:

- > Strategic Coordination and Implementation, through which coordination of the implementation of Government policies, programmes and projects is provided
- > Monitoring and Evaluation, through which monitoring and evaluation of the implementation of Government policies and programmes is provided
- > Directorate in charge of Disaster Preparedness, Management and Refugees
- > Directorate in Charge of Special Programs of Northern Uganda, Karamoja, Luwero - Rwenzori and Teso Sub regions Affairs
- > Directorate for Administration and Finance.

### 9.5.2 Key actors at the national administration level

The JKM Corridor Plan is being developed under the responsibility and coordination of the Ministry of Lands, Housing and Urban Development (MLHUD).

The development of the JKM Corridor Plan is however produced in close coordination with other key Ugandan Government Ministries and agencies, which will play a key role in the JKM Plan's implementation. The JKM Corridor Plan Technical Steering Committee brings together, in addition to the MLHUD, representatives of the Ministry of Local Government (MoLG), the Ministry of Finance, Planning and Economic Development (MoFPED), the National Planning Authority (NPA) and the Greater Kampala Metropolitan Authority (GKMA). Below we describe the relevant MDAs at the national level.

#### **The Ministry of Lands, Housing and Urban Development**

MLHUD is the government agency responsible for policy direction, national standards and coordination of all matters concerning lands, including spatial and physical planning, housing and urban development. MLHUD's mandate is "to ensure a rational, sustainable and effective use and management of land and orderly development of urban and rural areas as well as safe, planned and adequate housing for socio-economic development".<sup>21</sup>

The MLHUD has an overall regulatory and oversight role and as indicated above, it is also responsible for steering the implementation of the NDP III Sustainable Urbanisation and Housing (SUH). This programme will be implemented through the SUH PIAP under budget interventions clustered in five areas, which correspond to NDP III SUH Programme Areas, such as:

- 1 Enhancing value addition in key growth opportunities
- 2 Strengthening the private program to create jobs
- 3 Increasing the stock of quality & productive infrastructure

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<sup>21</sup> See [Ministry of Lands, Housing & Urban Development | Ministry of Lands, Housing & Urban Development \(mlhud.go.ug\)](http://mlhud.go.ug)

- 4 Productivity & social well-being of the population
- 5 Strengthening the role of the state in guiding and facilitating the development.

These five programmatic areas lead to programme outcomes and subprogrammes that will direct the programme's implementation and whose details can be consulted in the programme document.

From an institutional point of view, the SUH PIAP indicates that key implementation reforms will be required to ensure the full implementation of this programme in the next five years. These include:

- 1 Restructure the Ministry of Kampala Capital City and Metropolitan Affairs and corresponding Ministries to effectively handle metropolitan affairs in the country
- 2 Empower the Ministry of Lands, Housing and Urban Development with staff and resources to lead the urban agenda in the Country since a bigger part of GDP is generated from urban areas
- 3 Streamline duplication of functions amongst MALGs to improve resource utilisation in the country i.e., avoid other programmes doing urbanization and housing chores apart from the programme itself
- 4 Need to review the mandates of NHCC and Housing Finance Bank Ltd and capitalise on these institutions to spur housing development and reduce the housing backlog currently estimated at over 2m houses.

All these reforms are, at different levels, crucial for the implementation of the JKM Corridor Plan.

### **The National Physical Planning Board (NPPB)**

While MLHUD has an overall coordination and oversight role, according to the Uganda Planning Act 2010, amended in 2020, the National Physical Planning Board (NPPB) should play a crucial role in the preparation and implementation of physical development plans.

According to the Physical Planning Act, national and regional physical plans "shall be prepared by the Board". However, when the activities for the preparation of the JKM Physical Development Plan started, the National Physical Planning Board had not yet been established. As a result, the leadership for the JKM Plan has been provided by the MLHUD.

According to the 2010 Act, the National Physical Planning Board should, among other functions, have the responsibility to establish district and urban physical planning committees; to provide for the making and approval of physical development plans and the applications for development permissions.<sup>22</sup> The Physical Planning (Amendment) Act, which was published in January 2020, strengthened the role of NPPB significantly.

While the establishment of the NPPB was provided for in the 2010 Uganda Planning Act, the 2020 Amendment provided for the establishment of that body, which was sworn in in July 2020, and for the nomination of an Executive Director, a secretariat and staff.

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<sup>22</sup> "The Physical Planning Act 2010" GoU p. 5

Although NPPB should report to the Minister of Lands, Housing and Urban Development, NPPB is a "body corporate", composed of 10 members from other government agencies, representatives of the private sector and academia.<sup>23</sup>

#### Composition of the NPPB, 2020

Dr Amanda Ngabirano (Chairperson) from Makerere University,  
 Mr Vincent Byendaimira (member) from the Ministry of Lands, Housing and Urban Development,  
 Ms Jackie Kemigisha Kiiza (member) from the Ministry of Local Government,  
 Mr Arch Edward Ssimbwa (member) from the Ministry of Works and Transport,  
 Dr Jerome Lugumira from National Environment Management Authority (member),  
 Mr Tugume Denis from the National Planning Authority (member),  
 Dr Earnest Kimbugwe (member) from the Private Sector,  
 Ms Achola Amina (member) from the Private Sector,  
 Ms Florence Nambooze (member) from the Institute of Surveyors Uganda,  
 Mrs Josephine Nalubega Byabazaire (member) from the Uganda Society of Architects.

As indicated above, the 2020 Amendment to the 2010 Physical Planning Act strengthened NPPB's role. It clearly established that the NPPB "shall be the highest body responsible for physical planning in Uganda", expanding the functions of the Board to leading roles throughout the physical planning cycle. As a result, the key responsibilities of NPPB are:

- > **Lead and coordinate the production of physical development plans** – that is trigger and coordinate the preparation of national and regional physical development plans; ensure the coordination of the preparation of physical development plans made by local governments; cause to renew urban areas and improve slums and other informal settlements
- > **Ensure the integration of physical planning** with social and economic planning at the national and local government levels; co-ordinate physical planning-related activities in Uganda to ensure the orderly and sustainable development of human settlements in rural and urban areas; sensitise the public on matters of physical planning; to issue guidelines to ensure effective participation and engagement of the public in physical planning
- > **Provide advice to the Government on physical planning issues** – that is to advise the Government on all matters relating to physical planning and urban development; to give guidance and recommendations on issues relating to physical planning which transcend more than one local government for purposes of coordination and integration of physical development planning; to advise the Minister responsible for local governments on the declaration and upgrading of urban authorities and cities and the declaration of special planning areas
- > **Lead approval of physical development plans**, that is approve both urban and district physical development plans; and recommend to the Minister, regional and national physical development plans for approval by the Cabinet
- > **Ensure implementation, monitoring, and supervision** of physical development plans, that is ensure the implementation of local government physical development plans; monitor and evaluate the

<sup>23</sup> Published on the Ministry of Lands, Housing & Urban Development's webpage.



implementation of physical development plans; and exercise general supervisory powers over all physical planning committees.

The National and Regional Physical Development Plan provisions, Section 19 regarding responsibility relating to national and regional physical plans remain unaltered re-affirming NPPB's leading role:

- 1 "The national and regional physical development plan shall be prepared by the Board in respect of any area to improve that area and provide for proper physical development".
- 2 In the preparation of the national and regional physical development plan, "the Board shall take into account the securing of suitable provision for agricultural development, infrastructure, industrial development, environmental protection, natural resource management, urbanisation, human elements conservation, tourism, the matters specified in the Fourth Schedule and other relevant matters."

### **National Planning Authority**

The National Planning Authority (NPA) was established in 2002 (the NPA Act). NPA's mission is "To foster socio-economic transformation through establishing development planning systems and producing comprehensive and integrated development plans."

The NPA constitutes a key element of the Uganda Comprehensive National Development Planning Framework (CNDPF), which, as described in Section 3, provides the framework for Uganda's approach to national development planning.

The NPA is mandated to lead the production of national (comprehensive and integrated) development plans and therefore led the production of Uganda Vision 2040 as well as the different national development plans that have articulated that vision.

Other key functions of NPA include:

- > Coordinate and harmonize development planning in the country
- > Monitor and evaluate Public Projects and Programmes
- > Advise the Presidency on policies and strategies for the development of the country
- > Liaise with the private sector and civil society in the evaluation of Government performance
- > Support local capacity development for national and decentralised development planning.

### **Ministry of Finance, Planning and Economic Development**

The Ministry of Finance, Planning and Economic Development plays a key role in enhancing and ensuring overall economic stability and development. The Ministry ensures the mobilisation of public resources for the whole Government and oversees the use of these resources. MoFPED derives its mandate from the 1995 Constitution of the Republic of Uganda and other key legislation such as the Budget Act (2001) and the Public Finance and Accountability Act (2003).

The Ministry plays a pivotal role in the coordination of development planning, in making sure that public resources are available for the implementation of development plans and that those resources are

efficiently allocated; and in ensuring effective accountability for the use of public resources. Overseeing the use of Uganda's public resources, MoFPED is also responsible for formulating sound economic policies that can lead to Uganda's sustainable economic growth and development. The Ministry is organized with Directorates of Budget, Economic Affairs, the Accountant General's Office and departments of Finance and Administration.

### **The Ministry of Local Government**

The Ministry of Local Government (MoLG) is empowered through the Local Governments Act 1997 (Cap. 243) and is responsible for formulating and supervising national policy and legislation on local governments, supporting all local government functions, and ensuring alignment of those entities in relation to national policy. Although in Uganda, the decentralization process started towards the end of the 1980s, the 1995 Constitution and the Local Governments Act of 1997 provided the legislative basis for the decentralisation of government administration. Decentralisation in Uganda has been described as an ambitious effort.<sup>24</sup> It is based on a principle of devolution and aims at achieving a growing allocation of mandates, powers and responsibilities to local governments – namely the Districts, Cities, Municipal Councils, Municipal Divisions, Town Councils and Sub-counties.

The Ministry of Local Government oversees the decentralisation policy and the local government's administration. MoLG is effectively responsible for making sure that decentralization is effective and that this major process provides the expected results in terms of improvements in the quality of governance and service delivery through the different levels of local governance. As described below, local governments, in particular, District and City Governments, are key to the implementation of the JKM Corridor Plan.

### **9.5.3 Key actors at the Local Government Level**

As previously mentioned, the JKM Corridor Plan is a regional development plan and will be designed at a strategic level, both conforming to national social, economic and physical development plans (such as NDP III and NPDP) and taking into account the social, economic and spatial development plans at the appropriate level of local government – that is, at District and City levels. The JKM Corridor Plan area includes five districts - Mpigi, Wakisu, Mukono, Buikwe and Jinja and two cities – Kampala and Jinja Cities.<sup>25</sup>

### **District Councils**

The Local Government Act 1997 has established the district as the highest level of local state administration. The Act has devolved powers to Local Councils in the areas of their jurisdiction including to District Councils – in reality, governing powers were devolved. Districts were given responsibility for service delivery in a broad range of areas, including healthcare, education, water, and roads, and were also put in charge of their annual expenditure planning and budgeting. Prior to the Local Government Act, planning and expenditures were decided by the line ministries, and their specific departments in local governments, and were carried out on a sectoral basis.

District Councils, which are led politically by an elected District Council Chairperson, have become the planning authorities in any given District, including for spatial planning. The District Council has an Executive Committee composed of standing committees corresponding to the different sectors and areas

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<sup>24</sup> Patricia Jones, Julia Bird, Charles Beck, Astrid Haas (2016) Kampala- A Policy Narrative. World Bank, Washington, DC

<sup>25</sup> Entebbe and Wakiso municipalities are also to become cities in the next years.

of activity - education, finance, health and welfare, public works, sanitation, etc. Councils may delegate a range of powers to the Executive Committee. The Executive Committee can initiate and formulate policies, which are put before the full council for approval. The District Executive Committee is responsible for monitoring the implementation of both council programmes and activities of other development actors.

The Local Government Act makes provisions for the preparation of decentralized District Development Plans (DDPs) and Physical Development Plans (PDPs). The Act gives District Councils the autonomy to prepare their own DDPs and PDPs within the National Planning Framework. Under Section 35(3) of the Local Governments Act 1997 (Cap. 243), District Councils are mandated to prepare comprehensive and integrated development plans incorporating plans of Sub- County and Municipal councils, for submission to the national planning authority.<sup>26</sup>

In terms of DDPs, coordination is undertaken by the District Technical Planning Committee and is based in the planning unit within the MoLG. The plans are submitted to their respective councils for consideration in accordance with Section 37(4) of the Local Governments Act.

Regarding the preparation of PDPs, District, Urban and Local PDPs are prepared by the respective Local Councils, including District Councils, and Physical Planning Committees which are responsible for physical planning activities in their areas of jurisdiction. MLHUD plays a supervisory role over the Lower Local Governments (Districts, Municipal Councils and Town Councils) in the preparation of PDPs.

### **City Councils and City Governing Structures**

Within the Uganda decentralization legislation, cities have been given the same level of authority, functions and responsibilities as districts described above. Within cities, the City Council is led by a City Mayor who is the council's political head and is directly elected by the city's residents for a term of five years.

Similar to District Councils, City Councils include an Executive Committee, which is led by the Mayor and can establish different standing committees corresponding to sectors and areas of activity. The secretaries of these standing committees are members of the Executive Committee.

The City Council, through the Executive Committee, constitutes the city's planning authority, and, as for districts, these governing bodies play a critical role in terms of city social, economic and spatial development planning and implementation. City managers, administrators and planners are key decision-makers in the preparation, implementation, and monitoring of plan city development plans.

As indicated above, the JKM Corridor Plan includes two cities: Kampala City, the Uganda capital, and Jinja City, which was a municipality until June 2020 when it gained city status. The two cities are, however, governed under different institutional arrangements.

As discussed above, until 2009, Kampala was governed by the Kampala City Council, which was a local government entity regulated by the provisions of the decentralisation legislation. However, the Kampala Capital City Authority (KCCA) Act of 2010 created the capital city status and established the KCCA which replaced the Kampala City Council (KCC). While KCC was headed by an elected Mayor, KCCA is headed by an Executive Director, who is an appointed official. The figure of the Mayor in Kampala disappeared

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<sup>26</sup> Within the same logic, Sub-county and Municipal Councils must prepare plans incorporating the plans of parish/ward councils, and village/cell councils in their respective areas of jurisdiction.

and was replaced by a Lord Mayor with no executive powers. A 2019 amendment to the KCCA Act established a central government ministry, the Ministry of Kampala City and Metropolitan Affairs, led by a Minister. Both the Kampala Lord Mayor and KCCA Executive Director report to the Minister.

While Kampala City is governed by KCCA, the new Jinja City continues to be governed by the Local Governments Act 2010 (amended in 2015) and falls under the Ministry of Local Government. Jinja City territory expanded to include, in addition to Jinja Municipality, the Town of Bugembe, and the Sub-Counties of Mafubira and Budondo. Some urbanists suggest that it should be ensured for the new gazetted towns that the new city governments are empowered to take decisions to support their development and that this will require further legal and institutional clarity around the exact structures of city governance.<sup>27</sup> However, for the moment, the new gazetted cities continue to be led by City Councils.

#### 9.5.4 Participation of non-governmental actors

Social, economic, and physical development plans in Uganda aim at the production of a better life for the country's citizens. The overall goal of Uganda's NDP III is to achieve "Increased Household Incomes and Improved Quality of Life of Ugandans". Broader participation of citizens and key social and economic actors in planning and monitoring of development processes ensures that policy directions in terms of social and economic development will correspond to society's needs and expectations and a sustainable approach to development. In sum, development policy serves the country's citizens and reinforces accountability and the social and political legitimacy of those policies. Participatory and inclusive processes have also been perceived as bringing energy and vitality, and additional resources to develop processes as they can mobilise citizens and constructively engage the country's economic actors.

Development planning and implementation in Uganda have generally aimed at guaranteeing participation and inclusive and sustainable development, which is within the spirit of Uganda's 1995 Constitution, and the decentralisation process has reinforced that intention. The Local Government Act of 1997 (now Local Governments Act Cap 243) provided for devolution and for local governments to be the basis for development with planning and funding mechanisms attached. The decentralisation process aims at taking development to the citizens – at involving the people in the way they are governed. This means that mechanisms should be created to allow citizens to participate in identifying their own problems, setting priorities, planning their implementation and monitoring; ensuring better utilization of resources both financial and human; ensuring value for money through participation, transparency and accountability and sensitisation.<sup>28</sup>

For example, NDP III and the PIAPs provide for civil society organisations and private sector actors to join Programme Working Groups (PWG), to contribute to the implementation and to participate in the monitoring of projects. These PWGs will also include development partners, which are expected to contribute with ideas, new concepts and innovation and financing. The modalities for participation will need to be specified in relation to specific PIAPs and sub-projects within those PIAPs.

The GKMA Economic Development Strategy will draw upon Municipal Development Forums to engage civil society organisations and the private sector actors towards dialogue and possible mobilisation of

<sup>27</sup> Haas, A., "Unleashing the power of urbanisation for Uganda's new cities", February 2021

<sup>28</sup> Elijah Dickens Mushemeza, 2019, "Decentralisation in Uganda Trends, Achievements, Challenges and Proposals for Consolidation", ACODE Policy Research Paper Series No.93

resources. The implementation of that strategy will encourage "Public Private Dialogues" to mobilise the private sector, in particular, in terms of financial and technical resources.

The Jinja City Integrated Physical Development Plan 2020-2040 (Draft) has also understood strong civic leadership as "a critical component in managing urban change and directing the new cities like Jinja towards a sustainable urban future". The Plan proposes to draw upon the existing "City Development Forum" to be able to engage and mobilise partnerships with non-governmental actors, and with private companies that can provide technological solutions and capital for investments. The plan is considering the establishment of different committees to bring in representatives of civil society organisations, local communities, and development partners. Jinja is also aiming at exploring the potential of the private sector as an active partner in the city's development as a contributor in terms of direction but also as a funding partner, and a promoter of cost-effectiveness, technological development, and innovation.

## 9.6 Considerations towards institutional arrangements for implementing the JKM Corridor Plan

### 9.6.1 Key learnings from the institutional implementation arrangements of previous development plans and strategies

The previous sections have described and discussed the structures behind the implementation of key development plans and strategies in Uganda and allowed for reaching initial conclusions regarding institutional implementation arrangements. In general, those implementation arrangements are structured according to three levels: i) political leadership; ii) programmatic and technical coordination across sectors; and iii) delivery of results. Using the example of NDP III and the GKMA Economic Development Strategy, these three levels are discussed below.

#### **Political Leadership of Development Plans and Strategies**

In Uganda, the implementation of major – that is national, regional, or metropolitan - development plans and strategies are politically led at a very high level of government. As previously described, the GoU has now established or is about to establish, the Apex Platform for leadership of major development efforts in the country. The Apex Platform is likely to be placed at the level of the Office of the President and the Office of the Prime Minister and will likely be chaired by the President of Uganda. The Apex Platform will provide overall political leadership to the implementation of NDP III.<sup>29</sup>

Within the different ministries responsible for the implementation of PIAPs, a "Leadership Committee", led by the sector-Minister and other high-level officials, will be established to provide political and policy guidance and advocacy to the PIAP implementation and act as "a clearing stage" for programme policies before submission for approval of programme-based policies to the Cabinet and Parliament. The different PIAPs – and therefore the different "Leadership Committees" across sectors will link directly to the Apex Platform – but the details of this link and how the different PIAPs will be coordinated at the APEX level are still being clarified. Some documents indicate that the Prime Minister will be responsible for overall NDP III implementation and will steer policy engagements with all Ministers in charge of the implementation of the different NDP III programmes.

In relation to the Greater Kampala Strategy, the Apex Platform does not play a role. There is instead a "Greater Kampala High-Level Group", which was previously chaired by NPA and is now chaired by the MKCMA, with high-level representatives from Local Governments, KCCA, Ministry of Works and Transport and MLHUD. The degree to which the GKMA strategy will be linked to the Apex Platform is not clear.

#### **Programmatic and cross-sector coordination**

Below and linked to the level of political leadership, cross-sector and multidisciplinary engagement in the implementation of development plans and strategies in Uganda is ensured by an established structure with the capacity to engage and mobilise inter-ministerial cooperation.

In relation to NDP III, in each Ministry leading the PIAPs, the Leadership Committee provides a high level of political leadership and oversight. Below this Committee, the Programme Working Groups (PWG) provide the broad cross-sector engagement and coordination that is required for the programmatic approach. Although this is not fully clear from the description of the PIAPs to which we have had access, we assume that the PWGs will also ensure the consultation and coordination with local governments for

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<sup>29</sup> Some sources indicate that NPA and MoPFED will be part of APEX, but this has not been confirmed.

appropriate coordination with that level of government and contributions to planning, budgeting and implementation.

The PWGs are the groups that effectively manage the implementation process – they design the PIAPs, they ensure appropriate budget and alignment with national budgeting routines and processes (including BFPs), they strive for and achieve broad consultation and ministerial and inter-ministerial buy-in that will be necessary for the success of programme implementation and reporting. In a way, if the Leadership Committee represents the owners of the PIAP (and therefore of that component of the NDP III), the PWGs are the "Managers" of the PIAPs. Those who should push towards implementation. The PWGs are supported by a Programme Secretariat reinforcing their key role in encouraging implementation and by a Programme Technical Working Group overseeing the technical quality of the PIAP implementation.

In the GKMA economic development strategy, cross-sector coordination is provided through the "Greater Kampala Metropolitan Inter Ministerial Working Group" chaired and co-chaired by the MLHUD and Ministry of Kampala and Metropolitan Affairs. This inter-ministerial working group ensures that the implementation strategy mobilises participation from different sectors and levels of government. The implementation of the strategy will be supported by a Delivery Unit (the Project Management Unit), which will be discussed below.

### **Delivery of implementation**

Development plans and strategies are implemented, that is, delivered, by institutional actors at operational and local levels of governance - be it in terms of sector or territorial administration. In the success of any development plan or strategy, the delivery level is fundamental. The success of the implementation will depend on how much those who are responsible for the delivery of the different dimensions composing the strategy will be able to push activities forward, to make it happen.

In the case of NDP III, the delivery is supposed to be carried out by actors working within the different sectors and at the different levels of state administration – some activities will be managed by departments and sections within the different ministries at the national level, other activities will be led by departments and sections within local governments. The detail behind the different PIAPs will provide that level of definition. The PIAPs reviewed by our team seem to indicate that overall management and coordination of specific PIAP implementation will be ensured by the PWGs supported by the Programme Secretariat. The descriptions of annual plans and budgets – at sector and local government levels – that will compose the PIAP will probably provide more detailed information on how the PIAP (which represents a multisector, multilevel programmatic approach) will be unfolded across sectors and levels of government. However, the interfaces between all these levels to ensure effective delivery are still to be fully understood and detailed.

In the case of the GKMA Economic Development Strategy, a PMU has been set up to ensure efficient implementation. This delivery unit is located within the Ministry of Kampala and Metropolitan Affairs, under the direct supervision of the President, through the Office of the President. Through this link to the Ministry of Kampala and Metropolitan Affairs and the Office of the President, the GKMA Strategy PMU is likely to be located quite close to the Apex Platform described above. Details on the operational workings of the PMU will need to be obtained and can provide useful lessons on the implementation of this level of strategy can although narrow in geographical scope has similarities with the JKM Corridor Plan. Details related to operational linkages across sectors and with the local level of government will provide crucial lessons for the arrangements to sustain the JKM Corridor Plan.



### **Interfaces between different levels**

The information that our team has gathered so far has allowed for devising the three levels of structuring institutional arrangements that are described above. What needs to be further investigated relates to the interfaces and articulations between the different levels – how does the political leadership relate to the level where implementation is effectively managed? How does the delivery level push forward towards implementation – what level of political backup does this level effectively have? How are the different sectors effectively mobilised and their contributions monitored? How is the effective and meaningful participation of local levels of government ensured? The detail of these interfaces and mechanism of articulation will allow for understanding possible obstacles and proposing solutions.

We are aware that many of the mechanisms underlying these articulations relate to annual processes of action planning and budgeting across the Ugandan government sectors and levels of local governments. However, we suggest that discussing these mechanisms in detail will allow for making the structure of implementation arrangements clearer and for the consideration of potential challenges and obstacles.

### **9.6.2 Proposals for the institutional arrangements for the implementation of the JKM Corridor Plan**

Below we offer our reflections towards the institutional arrangements for the implementation of the JKM Corridor Plan. These reflections derive from our analysis of institutional arrangements provided by other development plans and strategies and follow the level or structuring indicated above. Further proposals will derive from further discussions around:

- > whether the proposed levels of the organisation and their composition are appropriate to ensure appropriate political buy-in and adequate mobilisation of capacity (management and technical capacity)
- > the interfaces between levels of the organisation to be able to ensure appropriate coordination and also clarity
- > the engagement of different sectors and different levels of government, in particular taking into account the arrangements provided for the implementation of NDP III and the need to align with the national development plan process
- > how to ensure appropriate alignment, buy-in and coordination with key development and physical plans and implementation processes within the JKM Corridor Plan area, in particular the following:
  - > The Greater Kampala Economic Development Strategy
  - > The Jinja City Physical Development Plan
  - > The current Wakiso District Physical Development Plan
  - > The future GKMA structure plan which is planned to be produced soon
  - > The District Development Plans should also be updated soon as they run to 2019/20.

All these articulation and coordination processes will need to be considered within the implementation of NDP III and its programmatic approach.

### **How to ensure political leadership?**

As we also discussed above, although the JKM Corridor Plan area brings together several districts, it is not one of the four Ugandan major regions. So, it is in a certain way, a "special planning area". As a result, special planning arrangements will need to be provided, although these will follow appropriate Uganda policy and be inspired by previous plans which we have discussed above.

In terms of appropriate political – in effect strategic – leadership for the JKM Corridor Plan, we recommend that the following is considered:

- > Social, economic and spatial development will need to be strongly coordinated and aligned
- > The leadership of the different districts and cities within the Corridor will need to be strongly engaged, and buy-in at that level obtained, so that mobilisation at the local government level is effective
- > The need for strong coordination with the implementation of district/cities development and physical plans as mentioned above.

As a result, we propose a **JKM Corridor High-Level Leadership Group** and recommend that this Group is chaired at a high level by either NPA or MLHUD. Oversight from the Office of the President and that of the prime Minister would also be required. The group – which is analogous to an inter-ministerial steering committee – could also be co-chaired. This proposal is similar to that which was made for the implementation of the NPDP. It is also important to ensure appropriate participation by the leadership of the MoLG.

The other members of the **JKM Corridor High-Level Leadership Group would be the high-level representatives** of the Ministry of Kampala Capital City and Metropolitan Affairs **and the different local government units**: KCCA, Jinja City Council, Jinja District Council, Buikwe District Council, Mukono District Council, Wakiso District Council, and Mpigi District Council.

The reason for ensuring political leadership from the local government units derives from the need to ensure coordination with the local development plans and processes referred to above. It is important to emphasise – and this is a distinction from an inter-ministerial committee – that the group should include representatives from the private sector, such as the Uganda Manufacturers' Association and the Uganda Investment Authority, as well as community sector representatives from women's and youth groups, for example.

### **How to ensure cross-sector and cross-local government effective coordination?**

While the JKM Leadership Group would provide coordination and buy-in at the appropriate political level, a structure below the political level would need to provide the appropriate operational management of plan implementation. We suggest an executive body, at the appropriate civil service level, to provide human resources, supervision, and the impetus for implementation under the authority of the Leadership Group. We suggest a body termed the **JKM Corridor Task Force** to play that role.

As previously mentioned, according to the Physical Planning Act of 2010, national and regional physical plans should be approved by the National Physical Planning Board (NPPB). The NPPB should oversee the implementation of physical development plans by the local government and monitor and evaluate the implementation of those physical development plans, and would thus be a key member of the Task Force

The Task Force would include executive representatives of each key sector and each local government. The sector and local government representatives to the Committee would depend on programmes/strategies to be supported by the JKM Corridor Development Plan and would be, as a result, further detailed in the future.

The Task Force would provide operational leadership to the implementation and should be supported by a Secretariat which would function as a delivery unit. The JKM Corridor Task Force, through this Secretariat, would ensure coordination with the appropriate levels of development plans and strategies within the Corridor (GKMA, district, etc). This would ensure sectoral and local government involvement and participation in practice. The Task Force would approve overall proposals, budgets and reports prepared by the Secretariat to submit to the Leadership Group.

### **How to ensure delivery?**

Delivery will be carried out at the local level or within sectors, depending on the projects to be proposed. However, effective stimulus towards delivery and coordination of delivery would be the responsibility of the JKM Task Force through its Secretariat.

Inspired by the NDP III, the Secretariat would be formed by leaders/project managers for the key projects/programmes proposed by the JKM Corridor Plan. These project managers would come from the different appropriate sectoral Ministries in accordance with the key theme of the projects/programmes proposed by the JKM Corridor Plan. The project managers would be the ones pushing for the delivery of each of the supported projects.

## 9.7 Main conclusions and proposed way forward

The proposed institutional arrangements for the implementation of the JKM Corridor Physical Development Plan constitute the first stage in the establishment of these institutional arrangements. This implementation strategy has expanded on information and reflections that started with previous stages of the production of the JKM Corridor Plan – in particular, the Situation Analysis Report and Working Paper 1, on the Corridor's Vision, Objectives and Planning Principles.

Included here is a review of the policy and institutional basis that should lay the ground for defining a sound model for the management of the JKM Corridor Physical Development Plan. The policy and institutional basis were provided by Uganda's national development planning framework (CNDPF) in a discussion of its application within social, economic, and physical planning in Uganda.

To consider appropriate institutional arrangements for the implementation of the JKM Corridor Plan, this strategy has also assessed institutional arrangements proposed for the implementation of key social, economic and physical development plans in Uganda, such as the NDP III, the NPDP and the GKMA Economic Development Strategy. The considerations, reflections and suggestions offered towards the development of a model for the management of the JKM Corridor Plan follow the logic provided by the institutional and policy basis indicated above.

## 9.8 Appendix 1: Structure for NDP III and PIAP Implementation: List of the key stakeholders/institution and their key roles

Institution/stakeholder	Key roles/responsibilities
<b>APEX and high level of development leadership and coordination</b>	
Office of the President	<p>Take overall leadership and oversight of the implementation of the plan to ensure its attainment.</p> <p>Timely communication of cabinet decisions</p> <p>Mobilizing the population towards the achievement of the plan</p>
Office of the Prime Minister (OPM)	<p>Coordination of the programmes</p> <p>Monitoring the implementation of the programmes</p>
<b>Within MLHUD</b>	
Leadership Committee	<p>Provide political and policy guidance and advocacy; review and act as a clearing house for programme policies before the Cabinet, and advocate for approval of programme-based policies before the Cabinet and Parliament</p> <p>Monitor implementation of programme-based policies and support the PWGs as resolution of impediments to the implementation of such policies</p> <p>Monitor programme implementation based on programme outcome targets and support resolution of political or policy constraints during implementation</p> <p>Approve the Half Annual and Annual programme performance reports provided by the PWGs</p> <p>Advocate for mobilisation of resources to support programme implementation where there are financing gaps.</p>
Programme Working Groups <sup>30</sup>	<p>Ensure broad stakeholder consultation in discussing key issues and harmonize Government and stakeholder positions</p> <p>Formulate Programme Implementation Plans in line with the National Development Plan and the Manifesto of the ruling government</p> <p>Joint clearance of projects for inclusion in the Public Investment Plan, a requirement by the Development Committee</p> <p>Ensure Implementation of Program Based Budgeting (PBB) for proper alignment to the NDP III.</p> <p>Coordinating inter-ministerial and agency budget allocations in a consultative way ensuring transparency and accountability</p> <p>Ensuring that consultations are carried out between line ministries, and external and internal stakeholders on matters related to the programme</p> <p>Examine and review programme related policies and plans, reviewing past performance, emerging policy issues and future spending pressures</p> <p>Identifying key outputs and programme performance targets both annually and in the medium term</p> <p>Undertaking monitoring and assessment of programme interventions</p> <p>Preparing semi-annual and annual programme reviews and reports.</p>

<sup>30</sup> Refer to the Programme Working Group Guidelines, 2020 (MoFPED)

Institution/stakeholder	Key roles/responsibilities
Programme Secretariate	<p>Coordinating the preparation of the Programme Implementation Action Plans (including costing and Monitoring Frameworks) and Programme Budget Framework papers and ensuring alignment with NDP III, Manifesto and Presidential Directives</p> <p>Organising and guiding meetings and activities of management structures</p> <p>Preparation and dissemination of quarterly, semi-annual and annual programme implementation reports</p> <p>Facilitating the annual programme performance reviews.</p> <p>Organising programme monitoring, inspection and other activities to enable the collection of physical data to facilitate evidence-based reporting</p> <p>Promoting cooperation, learning and synergies within and outside the programmes</p> <p>Ensuring timely sharing and dissemination of key information to PWGs and programme institutions to facilitate the implementation of programme activities</p> <p>Facilitating dialogue with partners (DPs, CSOs, etc.) around each programme on emerging policy and technical issues aimed at increasing impact on programme outcomes.</p>
Programme Technical Working Group	<p>Monitoring the implementation of the sub-component programme areas of the PIAP and raising issues for PWGs consideration</p> <p>Reviewing and clearing sub-component programme areas of the Annual and semi-annual programme performance reports before consideration by the PWGs</p> <p>Developing positions papers on policy and strategic issues in the thematic area for consideration by PWG</p> <p>Reviewing new project concept notes and making recommendations to PWG for clearance.</p>
<b>Agencies and actors outside MLHUD</b>	
Ministry of Finance, Planning and Economic Development (MoFPED)	<p>Providing financial resources</p> <p>Providing technical guidance and mentoring on budgeting for the implementation of PIAPs</p> <p>Monitoring utilization of resources disbursed for PIAP implementation.</p>
National Planning Authority (NPA)	<p>Providing overall guidance and technical support to the programme development planning process.</p> <p>Offering capacity building to MDAs, and LGs where necessary</p> <p>Monitoring effectiveness of PAIPs through the issuance of Certificate of Compliance.</p>
Uganda Bureau of Statistics (UBOS)	<p>Providing reliable data for planning,</p> <p>Giving technical advice and capacity building in data collection and management</p>
Other Ministries, Departments and Agencies	<p>Developing their specific MDA Strategic Plans</p> <p>Contributing to the development of the PIAPs</p> <p>Receiving and integrating district programme priorities in their strategic plans</p> <p>Mobilising resources for the implementation of the PIAPs.</p>
Development Partners	<p>Provide technical support to programmes in the planning and implementation of PIAP interventions</p> <p>Supporting PWGs secretariats both through TA and Financial</p> <p>Providing Financial resource</p> <p>Integrating some aspects of PIAPs into their programming.</p>
Local governments	<p>Providing input into the PIAPs</p>

Institution/stakeholder	Key roles/responsibilities
	<p>Aligning their LG plans to the PIAPs</p> <p>Implementing relevant aspects of the PIAPs.</p>
<p>Civil society and private sector organizations</p>	<p>Participating in PWG activities as co-opted members</p> <p>Providing information about their ongoing and planned development activities to the programme for input into the PIAPs</p> <p>Contributing to the implementation of the PIAPs</p> <p>Participating in M&amp;E of PIAPs.</p>