

THE JINJA- KAMPALA-MPIGI CORRIDOR

PHYSICAL DEVELOPMENT PLAN

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CHAPTER 5 HOUSING AND REGIONAL INFRASTRUCTURES STRATEGY



Government of Uganda
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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 Bank¹ (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;

¹ <https://www.worldbank.org/en/country/uganda/brief/infrastructure-finance-deficit-can-public-private-partnerships-fill-the-gap#:~:text=Uganda%20has%20an%20estimated%20infrastructure,within%20cost%20and%20on%20schedule.>

- > 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.²

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,

² “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 (2017/18³), 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.⁴ 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

³ https://www.mwe.go.ug/sites/default/files/library/SPR_percent202018_percent20_percent20FINAL_0.pdf

⁴ <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 2020.⁵ 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.

⁵ <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,⁶ 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.

⁶ 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 2014.⁷ 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;

⁷ <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.⁸ 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.⁹

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
TOTAL		3,866,941	7,612,087	12,584,522	3,745,146	913,450	4,972,435	1,212,789

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.¹⁰ The implementation of the GKMA Economic Development Strategy will also impact population movements and demand for housing. In any district-

⁸ 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.

⁹ 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.

¹⁰ 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.¹¹ 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”.¹² 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.

¹¹ 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.

¹² 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.¹³ 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.¹⁴ Much of this rental is provided by single-room dwellings of less than 10m², at average monthly rents of Ush150 000 (US\$40) and below.¹⁵

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;¹⁶ 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.¹⁷ Even at the high end of the market, many households end up asking for loans from family members.

¹³ CAHF annual report (2020)

¹⁴ 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.

¹⁵ CAHF, *ibid.*

¹⁶ 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.

¹⁷ 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.¹⁸ 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.

¹⁸ 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 2020¹⁹ 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

¹⁹ 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 Strategy²⁰;
- > 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

²⁰ 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 2016,²¹ 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

²¹ 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).²²

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

²² 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.²³ 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.

²³ 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;
- > Strength 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 Fund²⁴ and Africa Nationally Determined Contributions (NDCs) Hub²⁵.

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)²⁶, 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;

²⁴ <https://www.greenclimate.fund/>

²⁵ <https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/africa-ndc-hub>

²⁶ 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.²⁷ 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 UNHP²⁸ 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.

²⁷ 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".

²⁸ 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.²⁹

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.³⁰ 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.³¹

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

²⁹ [Press Release - Kenya Mortgage Refinance Company \(kmrc.co.ke\)](https://www.kmrc.co.ke/press-releases)

³⁰ The effective housing need is higher if the gradual reduction of household size and the current unmet housing need are considered.

³¹ 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 chain³²;
- > 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.

³² 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.³³ 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,³⁴ 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.

³³ 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.

³⁴ 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).³⁵

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.

³⁵ 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 Fund³⁷

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.³⁶ 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.

³⁶ 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

Ref	Subsector	Project Title	Estimated Cost US\$ (Millions)	Comments	Responsible Actor	Potential Funding Sources
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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