

THE JINJA- KAMPALA-MPIGI CORRIDOR

PHYSICAL DEVELOPMENT PLAN

JUNE 2023

CHAPTER 4 INDUSTRIALISATION AND ECONOMIC DEVELOPMENT STRATEGY



Government of Uganda
Ministry of Lands, Housing and Urban Development

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4 INDUSTRIALISATION AND ECONOMIC DEVELOPMENT STRATEGY

4.1 Introduction

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

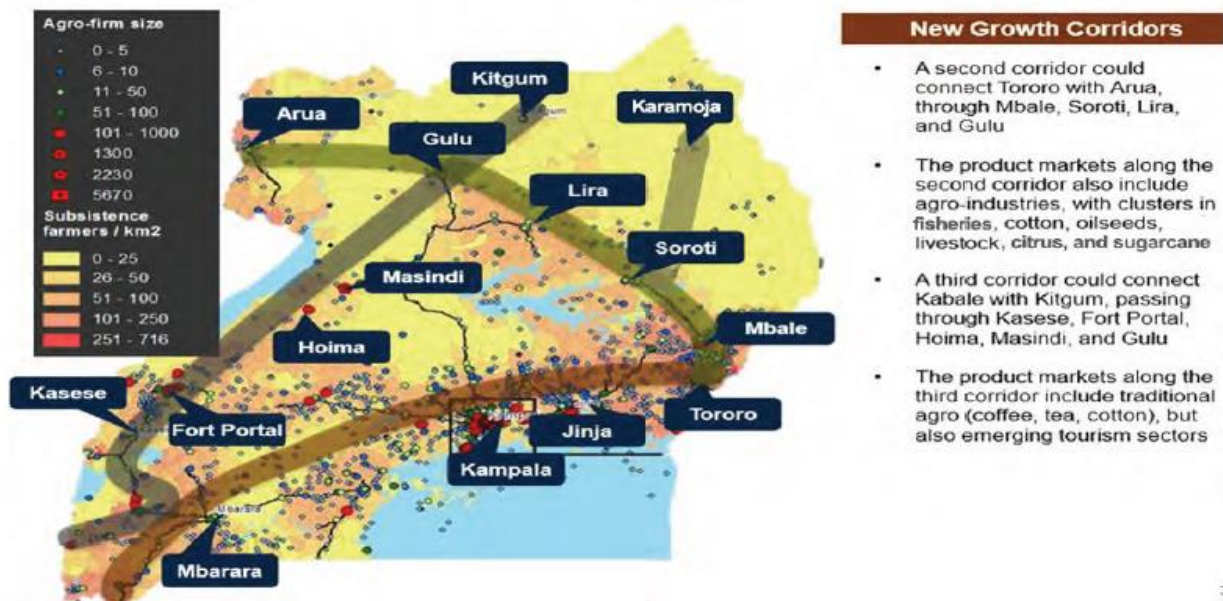
4.1.1 Uganda's industrialisation and economic development policy and strategic objectives

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

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

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

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



Source: NDP III

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

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

Three categories of manufacturing value chains are prioritized for development:

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

4.2 Historical Evolution of the JKM Corridor Spatial Economy

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

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

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

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

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

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

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

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

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

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

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

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

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

⁴ *Ibid*, p. 377.

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

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

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

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

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

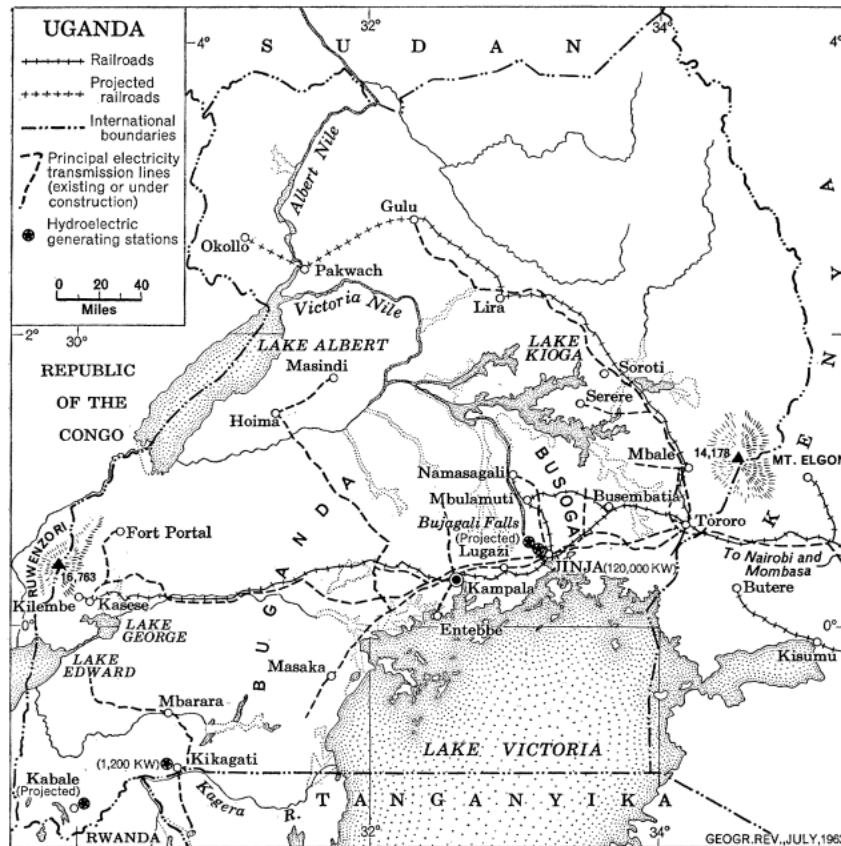
The Worthington Plan (1947-56) increased public expenditure on productive public investments, notably economic and transportation infrastructure, and agricultural extension.⁸ The facilities of the international airport at Entebbe were improved, and the runway extended, with a formal reopening in late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

The most significant single project, however, was the construction of the Owens Fall Dam and hydroelectric power station (later Nalubaale Dam and Power Station) at Jinja in 1954, which was completed in 1954.⁹ Between the late 1950s and the early 1970s, the power station provided a capacity of between 120 and 150 megawatts to underpin – along with potable water and a well-functioning drainage system – industrial development in Uganda, and specifically in Jinja, which had been granted municipal status in 1956. Figure 2 below illustrates this infrastructural development.

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

⁹ The Kiira Dam was completed one mile away in 1999.

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

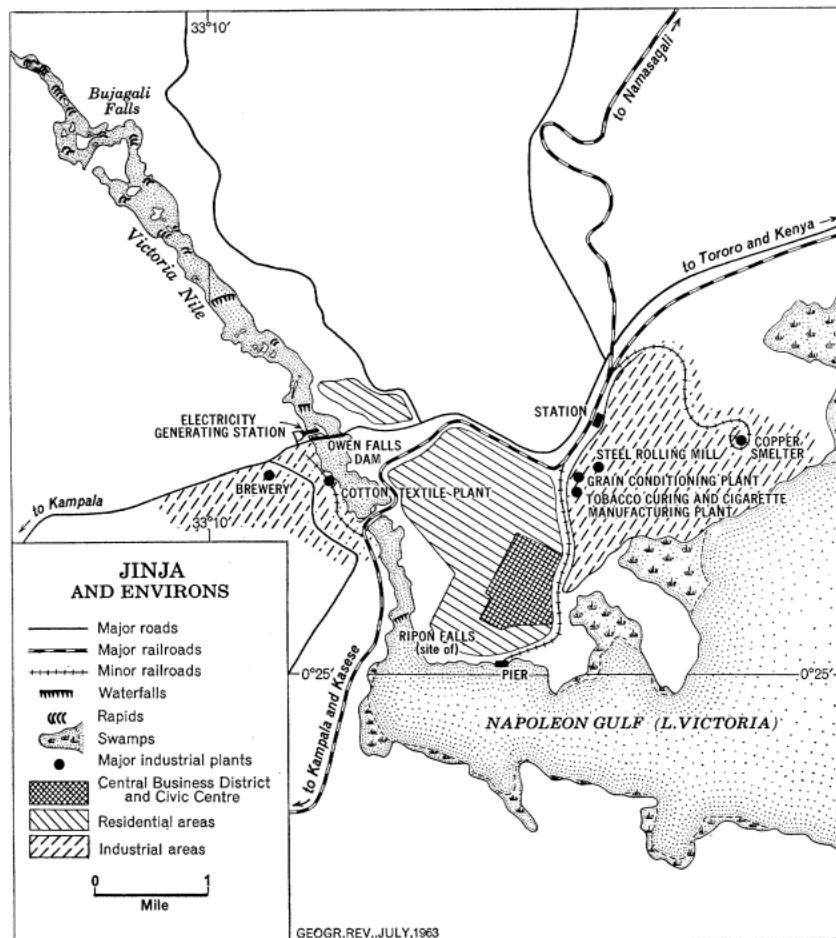


Source: B.S. Hoyle, "The Economic Expansion of Jinja, Uganda," *Geographical Review* Vol. 53, No. 3 (July 1963), p. 378.

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

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

Figure 3: Industrial estates in Jinja and Njeru, 1963



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

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

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

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

¹⁰ F. I. Nixson, "Factors Influencing the Location of Industry in Uganda," mimeo, Makerere College, Kampala, 1966, 6.

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

The advent of the National Resistance Movement (NRM) government in 1985 saw much disputed structural adjustment and a tentative revival of the national economy. Kampala City and the broader metropolitan economy began to be developed more actively. In particular, the provision of industrial land and the creation of industrial estates in Nakawa, Nateete and Kawempe as proposed by the Kampala Development Plan of 1972, and later largely implemented, allowed for the establishment of new factories – principally light manufacturing in agro-processing, food and beverages, chemicals, plastics, pulp, paper and furniture, and metal products – from the 1990s onwards as the economy improved to achieve an average GDP growth level of 5.6 percent from 1986 to 2002.¹¹ It took until the early 2000s for manufacturing to return to Jinja, drawn by the town's infrastructural endowment, and historical attributes as an industrial centre.

To the west of Kampala, in both the colonial and post-independence eras, what is now present-day Mpigi District was a rural district, characterised by agricultural production in the form principally of food crops for the Kampala population (maize, bananas, tomatoes, onions, ground nuts) and forest reserves Mpanga, Degeya, Lufuka) and the conversion of forestry resources into marketable products (the district is, in particular, historically renowned for its drum-making). Originally West Mengo in the late 1960s, then Mengo from 1974, it finally became Mpigi District in 1980.¹² To the north and south of Kampala, in the other districts making up the present-day corridor, similar agriculturally based areas were also prevalent.

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

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

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

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

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

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

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

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

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

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

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

¹⁴ *Ibid* pp 30.

¹⁵ *Ibid*, pp. 166-168.

4.3 The Contemporary JKM Corridor Spatial Economy

4.3.1 Uganda's macroeconomic context and growth drivers

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

Growth is expected to rebound in 2021, though the economic outlook remains challenging with the continuation of the pandemic worldwide. Key sectors including manufacturing, construction, and retail and wholesale trade should rebound, though the tourism and hospitality sectors are likely to remain subdued. Planned investments in infrastructure will likely increase the debt-to-GDP ratio further to around 50 percent by 2023.¹⁷ Given the continuing uncertainty in the macroeconomic outlook constraining global demand and access to capital, it will be critical that investments are planned, prepared and implemented efficiently and effectively to maximise their development impact.

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

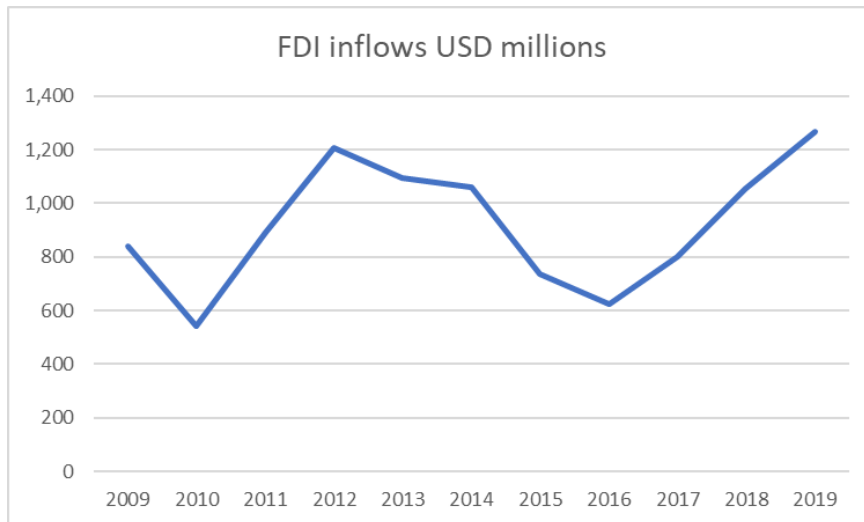
¹⁶ <https://www.afdb.org/en/countries/east-africa/uganda/uganda-economic-outlook>

¹⁷ *ibid*

¹⁸ UNCTAD World Investment Report 2020

¹⁹ UIA Annual Investment Abstract 2019-20

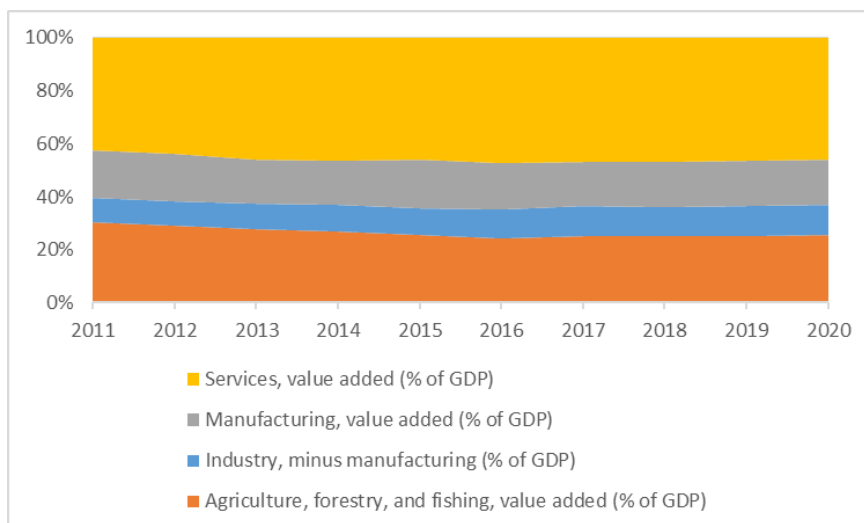
Figure 4: FDI Inflows to Uganda, 2009-2019, USD millions



Source: UIA Annual Investment Abstract 2019-20

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

Figure 5: GDP composition, Uganda, 2011 to 2020



Source: World Bank, World Development Indicators

²⁰ World Bank, World Development Indicators

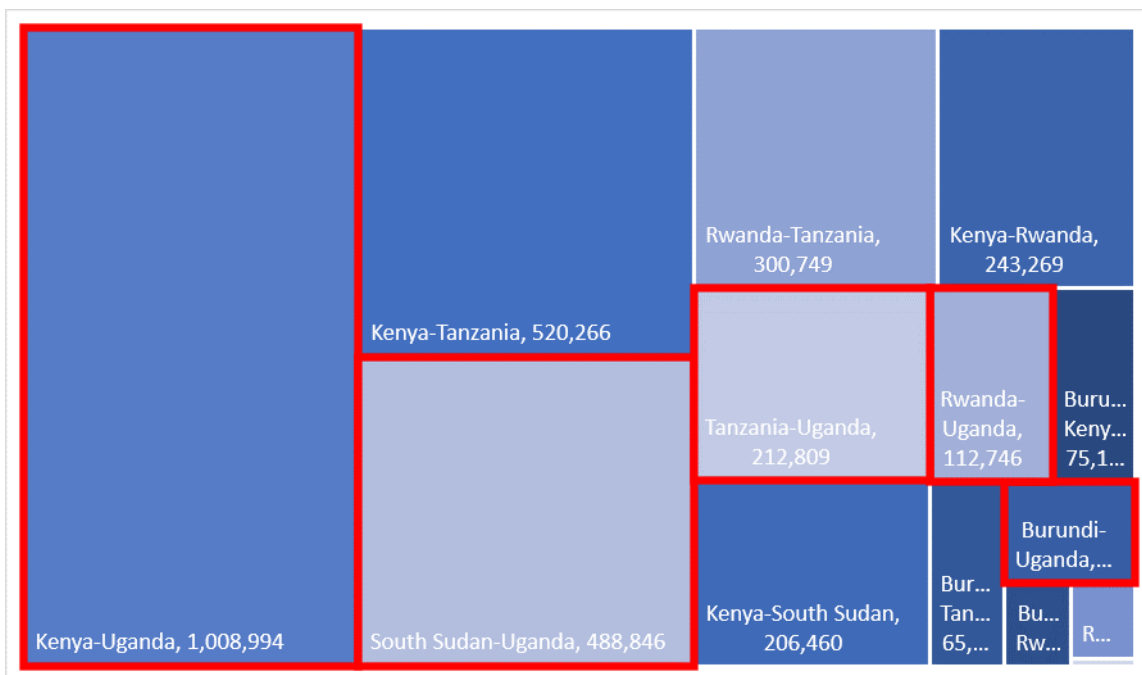
²¹ UNHS 2016/17, UBOS

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

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

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

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



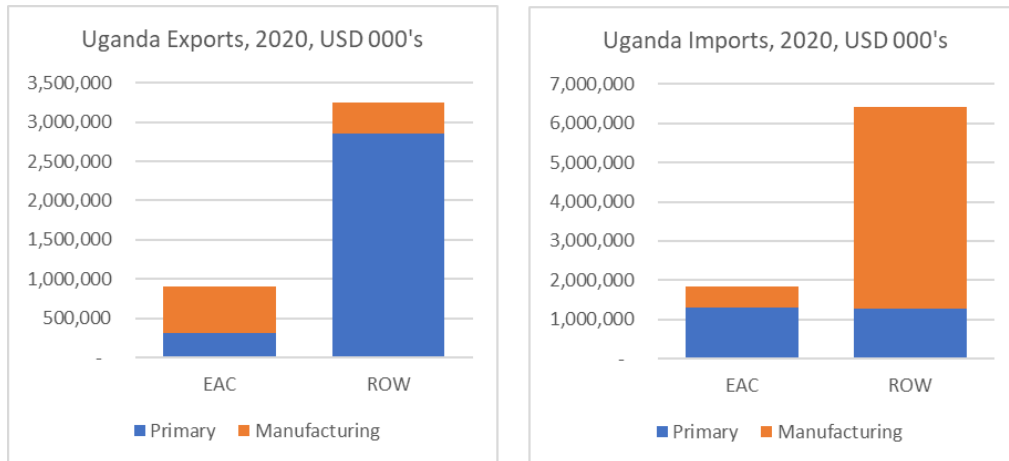
Source: UNCTAD STAT, merchandise trade matrix in thousands of United States dollars, annual, 2015-2020

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

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

The EAC market accounts for 60 percent of Uganda's total manufacturing exports but just 10 percent of primary commodity exports. Uganda's current account deficit was -6.6 percent of GDP in 2019.²³

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



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

²³ World Bank, World Development Indicators

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

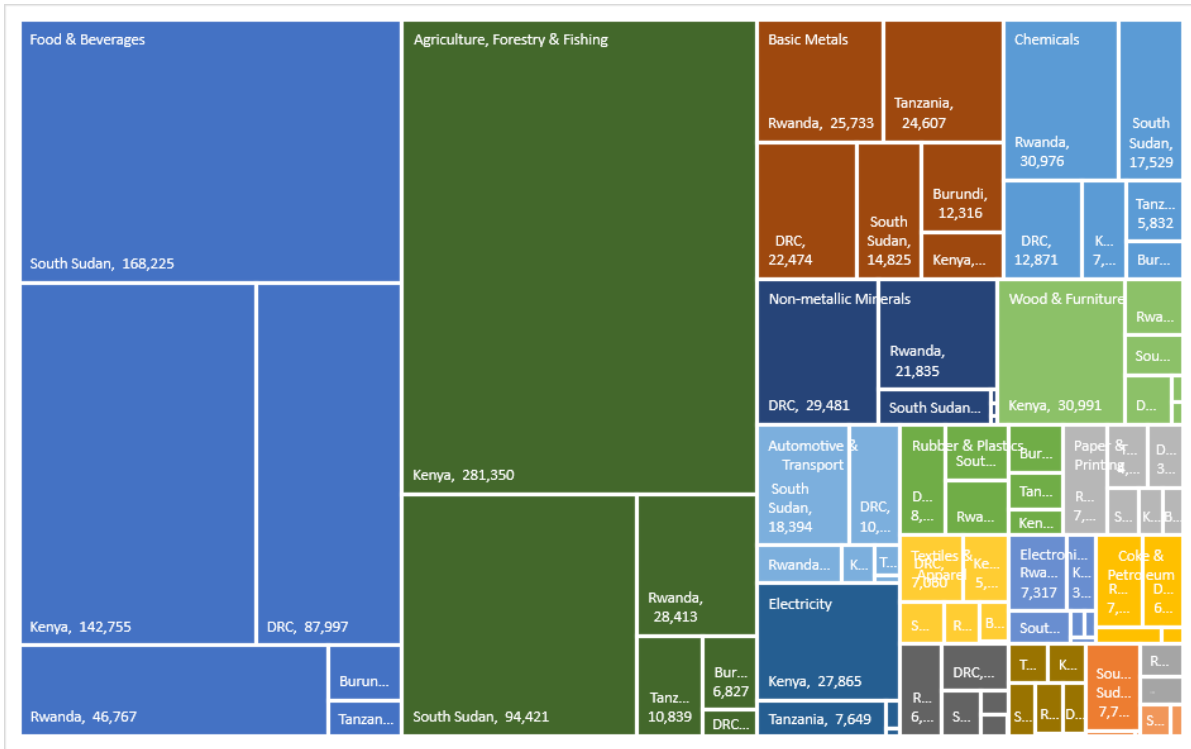
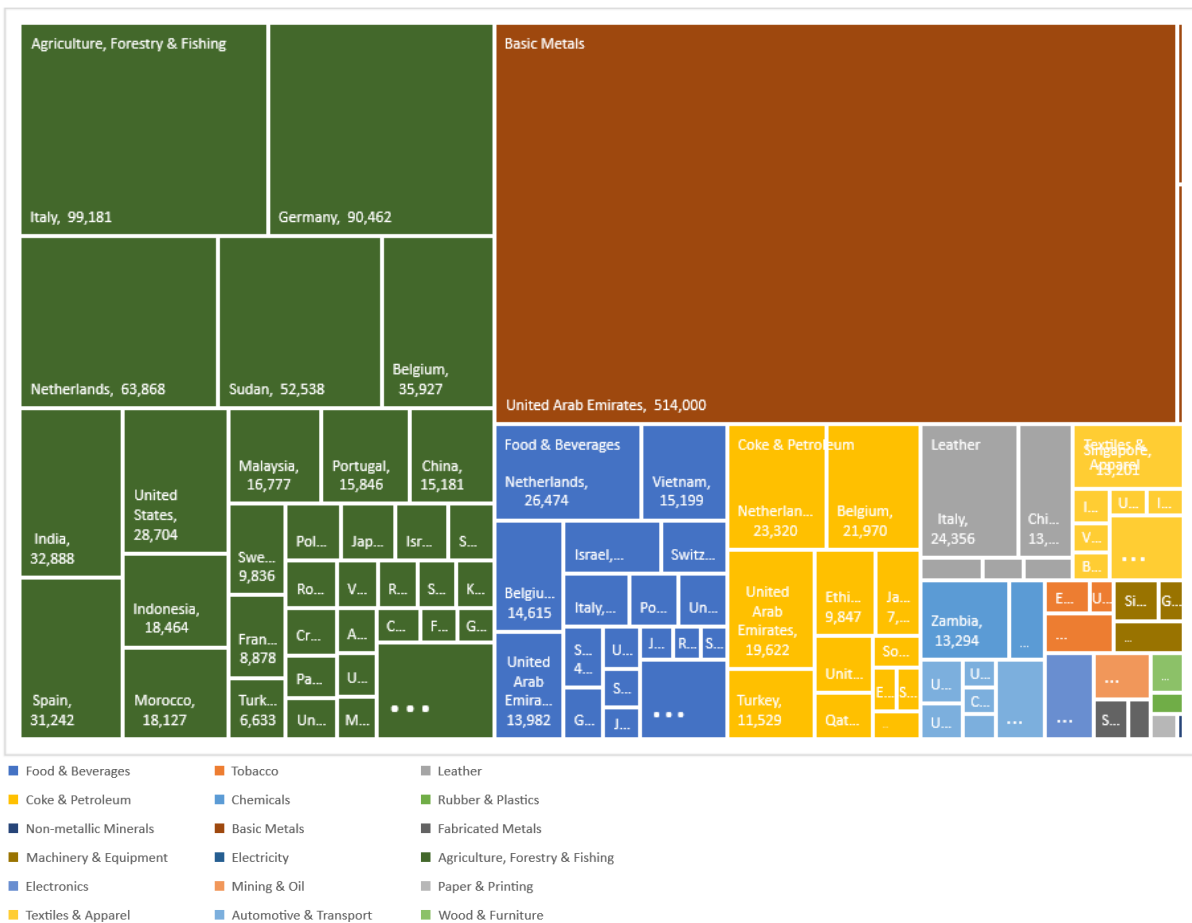


Figure 9: Uganda exports to the Rest of the World, 2018, USD 000's

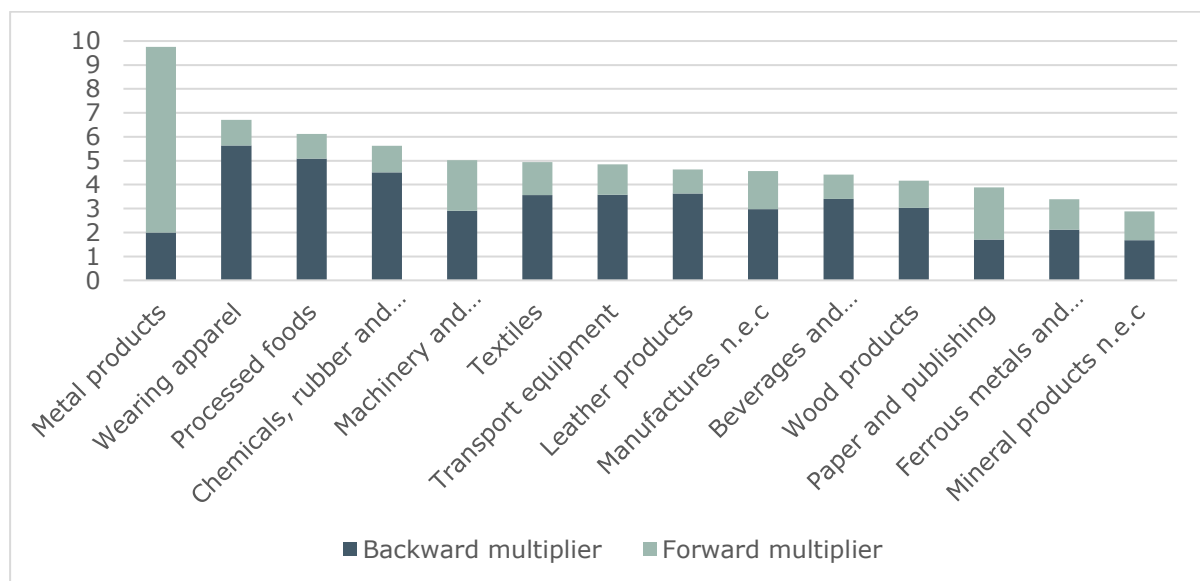


Source: UN COMTRADE data accessed via World Bank World Integrated Trade Solution (WITS)

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

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

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



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

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

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

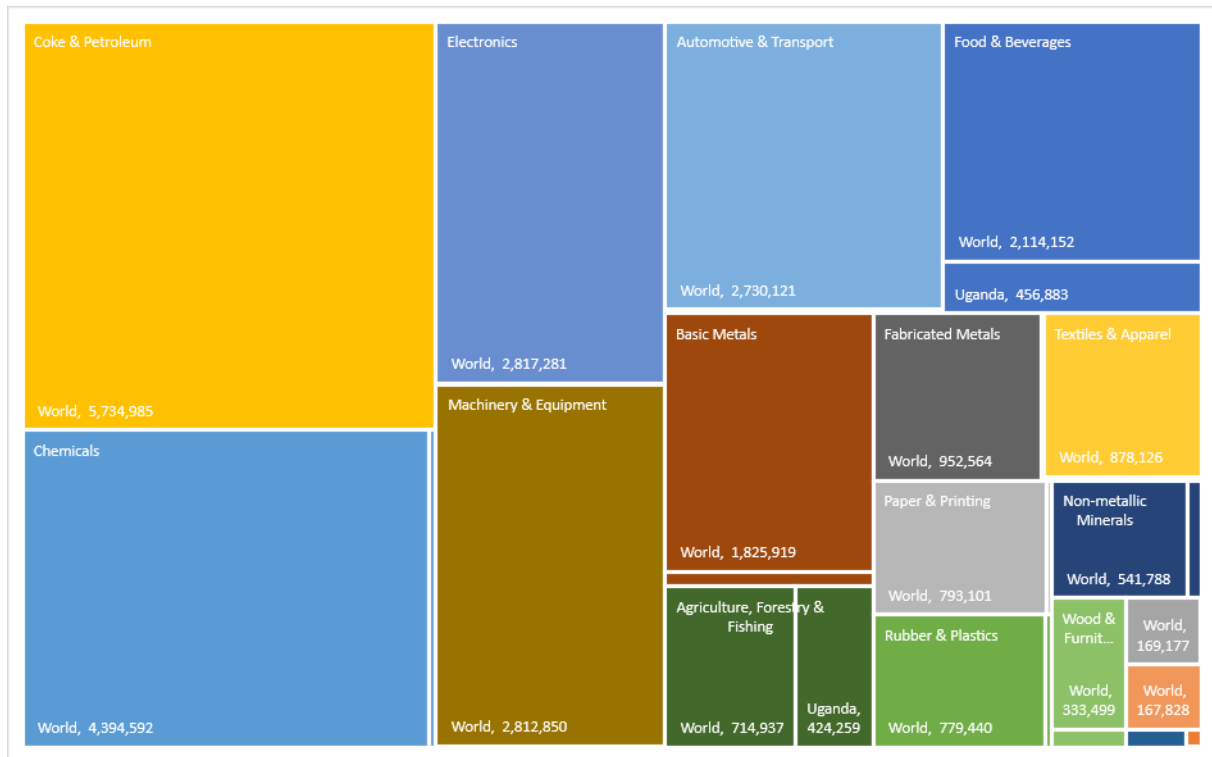
Access to regional markets will be vital to achieving the economies of scale necessary to develop and sustain a competitive manufacturing sector. In the first instance, this means focussing on sectors that have a comparative advantage globally *and regionally* with the aim of *regional import substitution*: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

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

²⁴ https://media.africaportal.org/documents/Ugandas_vision_of_middle_income_status-why_the_growth_of_the_middle_class_mat_nGIucZp.pdf

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

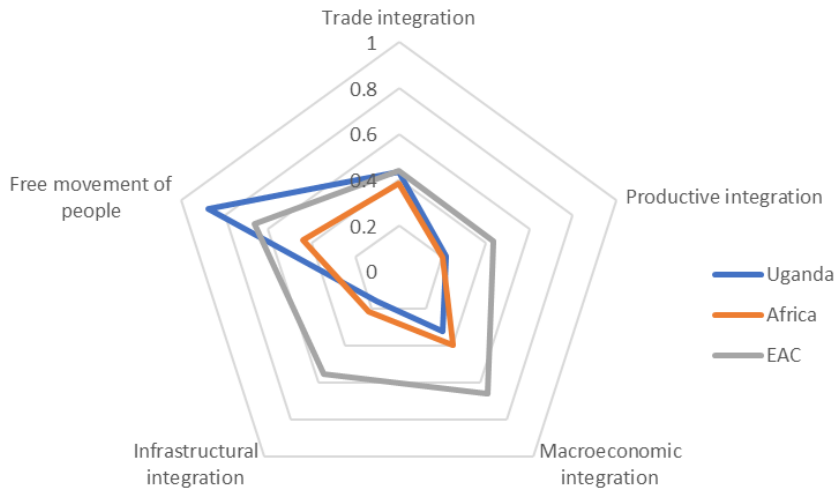
Figure 11: EAC (excluding Uganda) and DRC imports from Uganda and RoW, 2018, USD 000's



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

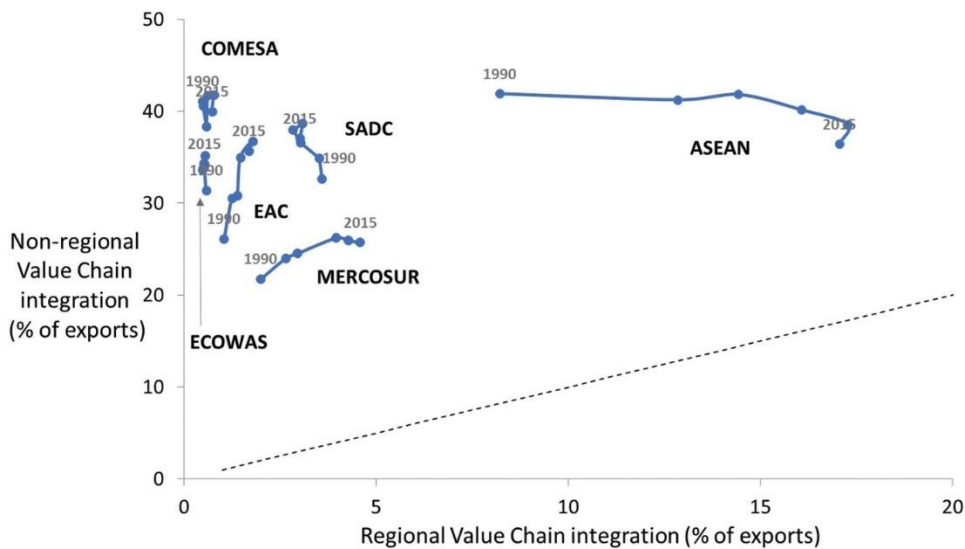
Though the EAC is relatively well-integrated compared to Africa in general, it lags far behind regions such as ASEAN and MERCOSUR. Figure 12 shows the Africa Regional Integration Index for the EAC, while Figure 13 illustrates the integration of EAC into global and regional value chains. Between 1990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

Figure 12: Africa Regional Integration Index Score for Uganda RECs



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

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



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

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

The vast majority of Uganda’s international trade transits through Mombasa and the Northern Corridor (98 percent versus 2 percent through Dar es Salaam) where transport times remain high, taking a semi-trailer truck about 5.75 days on average to cover the 1,200km distance between Mombasa and Kampala²⁶, though costs to import a container into Kampala have declined significantly from USD 4,000-4,500 to USD 3,000-3,500²⁷ owing to a decline in the cost of

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

²⁷ ODI. (2017). Resolving the unresolved non-tariff barriers in the East African Community.

https://assets.publishing.service.gov.uk/media/59d5fc36e5274a5be9d131ee/EAC_NTBs_Stage_2_report_260917_final.pdf

inland transport on the Northern Corridor from USD 2.61 per km in 2015 to USD 1.88 per km in 2019²⁸. Nonetheless, the cost of transport remains much higher than international competitors such as Europe and China, where the cost of transport makes up around 8 percent of the value of goods produced compared to 30 percent in the EAC, constraining the use of inputs sourced regionally as they are generally uncompetitive and more expensive than those sourced from abroad.²⁹ Uganda ranks 102nd in the 2018 Logistics Performance Index, comparing poorly against neighbours Kenya (68) and Rwanda (57), though it did score significantly higher in the 2016 iteration (ranking 58).³⁰

Box 1: The Northern Corridor

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

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

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

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

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

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

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

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

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

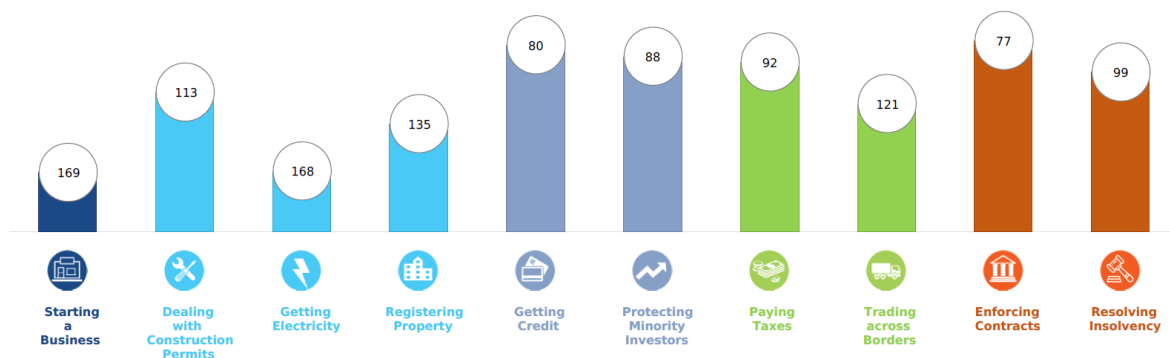
Figure 14: Freightos Baltic Index (FBX): Global Container Freight Index



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

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

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



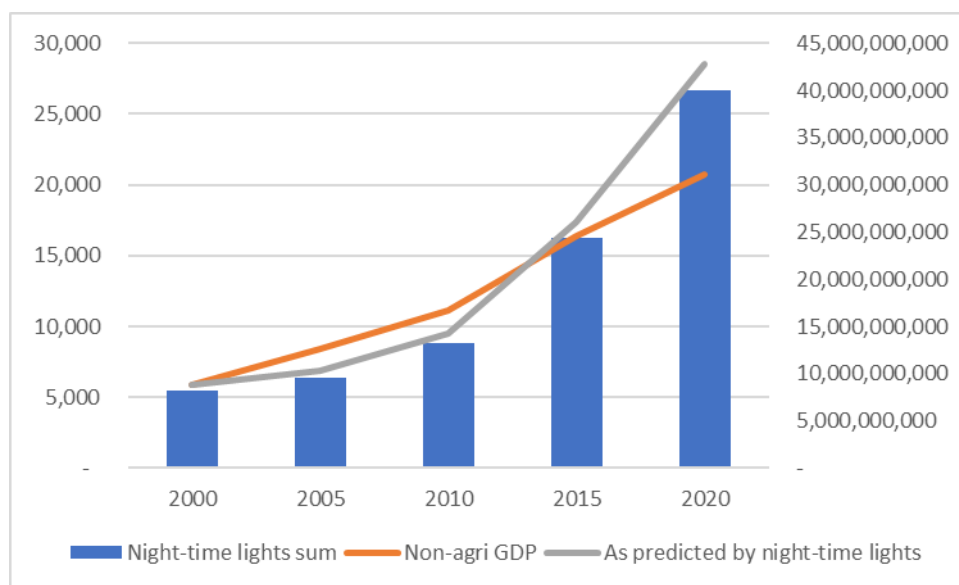
Source: World Bank Doing Business <https://www.doingbusiness.org/en/rankings>

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

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

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

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



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

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

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

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

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

Manufacturing is concentrated in and around Kampala, especially large firms, and heavy industry. Kampala hosts 32 percent of manufacturing firms employing 35 percent of workers while the Central Region hosts a further 27 percent of firms and 26 percent of workers. The JKM region is relatively more specialised in non-food manufacturing, as Figure 17 below indicates, which contributes just less than three-quarters (74 percent) of manufacturing jobs in Kampala with the main sectors being Other Manufacturing³⁴ (17 percent), Metal Products (16 percent), Textiles & Wearing Apparel (14 percent), Furniture (11 percent) and Paper Products & Printing (10 percent). Kampala hosts 84 percent of Paper Products & Printing workers, with a further 8 percent in Central, in Other Manufacturing the shares are 69 percent for Kampala and 19 percent in Central and in Metal Products they are 38 percent in Kampala and 29 percent Central.

Figure 17: Manufacturing sector location quotients, employees, Regions

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

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

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

³³ All statistics from Uganda National Survey Report 2019-2020

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

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

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

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

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

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

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

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

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

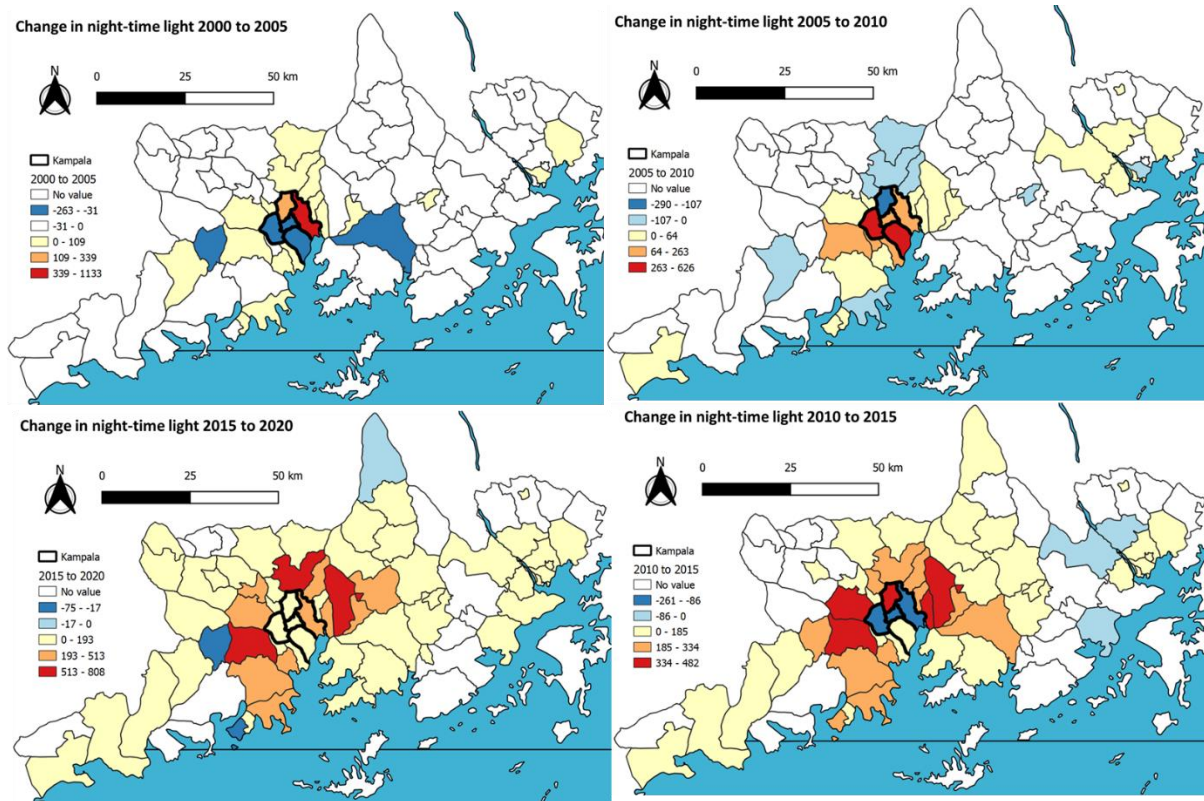
Kampala and the surrounding districts concentrate on FDI, particularly in manufacturing projects. Central Region accounted for 86 percent of all licensed investment projects in 2019/20, with 48 percent in Kampala, 16 percent in Wakiso and 14 percent in Mukono. In value, Central Region accounted for around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

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

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

³⁵ All figures from UIA Annual Investment Abstract 2019-20

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

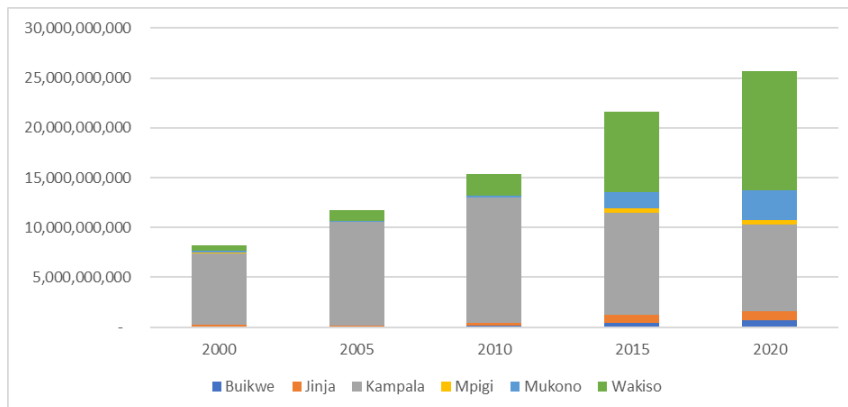


Source: Authors' estimates using data from Chen, Zuoqi; Yu, Bailang; Yang, Chengshu; Zhou, Yuyu; Yao, Shenjun; Qian, Xingjian; Wang, Congxiao; Wu, Bin; Wu, Jianping, 2020, "An extended time-series (2000-2018) of global NPP-VIIRS-like nighttime light data" <https://doi.org/10.7910/DVN/YGIVCD>, Harvard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

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

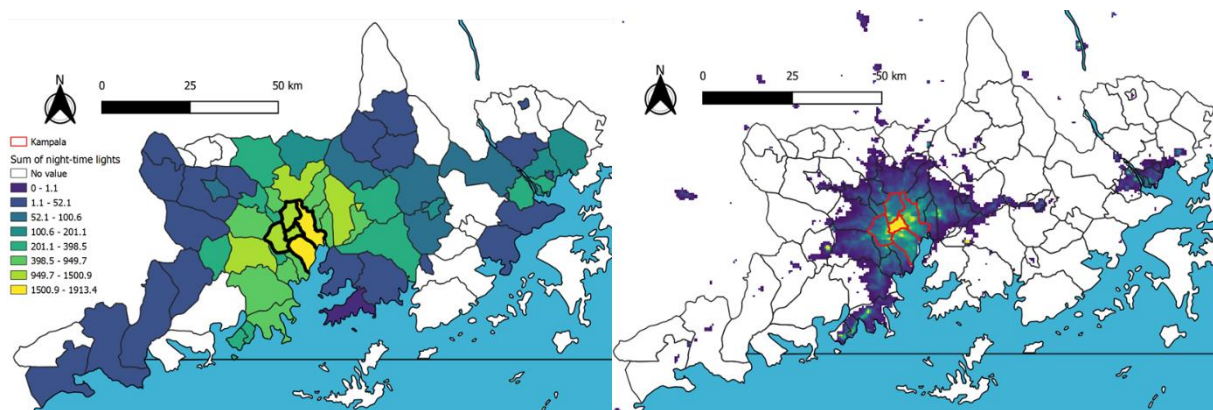
Though the expansion of the city and economic activity is occurring in all directions, it is particularly prominent along the main trunk of the corridor, east as far as Buikwe municipality, west to Mpigi and especially Kyengera, and south to Entebbe. Several sub-counties including Goma (Mukono district),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

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



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

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



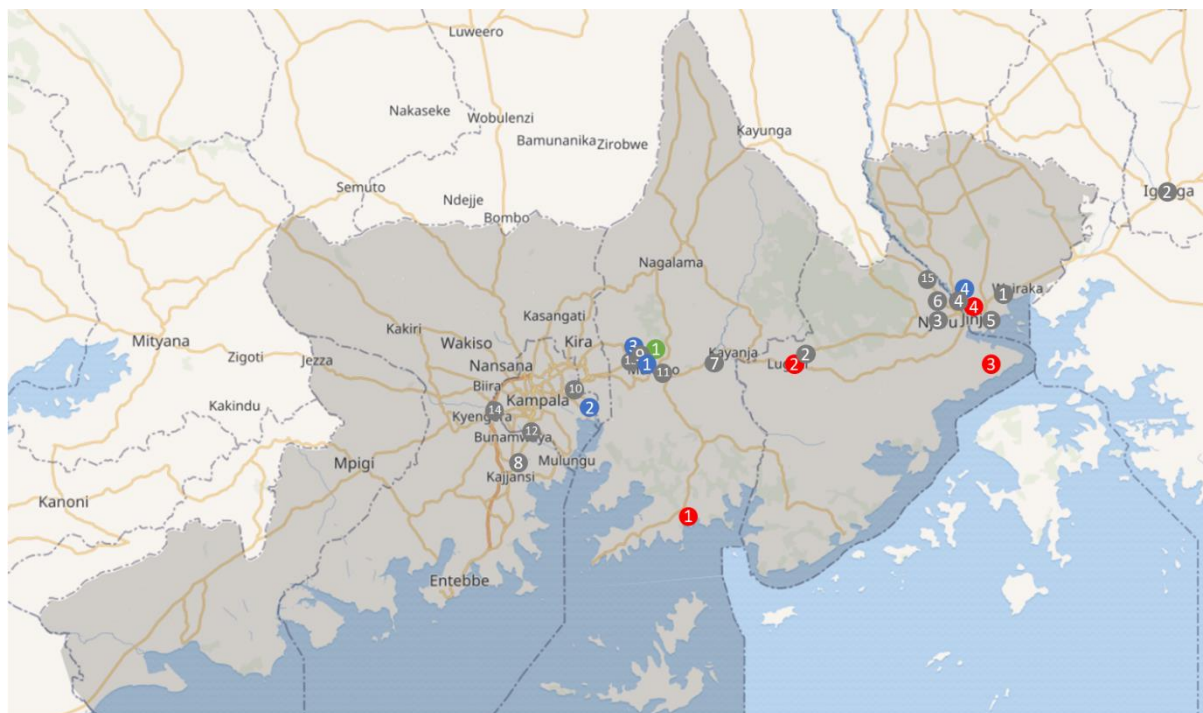
Source: Authors' calculations using data from Chen, Zuoqi; Yu, Bailang; Yang, Chengshu; Zhou, Yuyu; Yao, Shenjun; Qian, Xingjian; Wang, Congxiao; Wu, Bin; Wu, Jianping, 2020, "An extended time-series (2000-2018) of global NPP-VIIRS-like nighttime light data" <https://doi.org/10.7910/DVN/YGIVCD>, Harvard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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Significant investments in transport and logistics infrastructure are planned – and required to unlock access to markets and inputs that will drive the industrialisation process – which should shape the future development of the JKM Corridor. Agro-industrialisation and iron and steel are key manufacturing sector opportunities – identified as “lifeline” sectors in Vision 2040 and prioritized in the NIP – and in which Uganda and the JKM Corridor have a potential comparative advantage. Improved access to input and product markets will be essential to realise their potential. Several nationally strategic infrastructure projects have been proposed, or are already underway, in the corridor, including the Kampala-Jinja Expressway, rehabilitation of the railway and investments to ports and shipping on Lake Victoria, which have the potential to enhance market access and reduce input costs for firms located on the JKM Corridor. As per Strategic Objective 2, the objective should be to crowd-in investment and promote clustering in locations with ready access to this connective infrastructure (see Figure 23 below).

³⁸ Annual Agricultural Survey 2019 Report

³⁹ “The political economy of fisheries sector in Uganda: ruling elites, implementation costs and industry interests” subweb.diis.dk, 2014

Agro-industrialisation

The JKM Corridor locates all stages of the agro-industrialisation value chain, from production, post-harvest handling and storage, processing, and access to markets for export and consumption. Investment is required to improve each stage. The JKM Corridor concentrates a high proportion of the large-scale commercial farms in Uganda, producing cash crops with the potential for value addition. These include sugarcane, coffee, tea and vanilla, as well as fish from Lake Victoria. Increased output is necessary, however, to provide sufficient produce at scale for agro-processing, which should include absorbing/creating demand for agricultural products from other areas of the country.

- 1 Further commercialization of the agriculture sector should be encouraged through the provision of land for investors in suitable locations, targeting crops with the potential for value addition;
- 2 Investment in post-harvest handling and storage of agricultural products is required to reduce post-harvest losses by 20 to 40 percent.⁴⁰ NDP III proposes facilities for fish in Mukono and grain in Jinja, however other subsectors and general storage facilities, including cold storage and refrigeration, should be developed in suitable locations that are well-connected to the main corridor infrastructure and planned transport infrastructure investments;
- 3 Serviced industrial land for agro-processing facilities should be located in urban centres along the main corridor, with access to agriculture inputs, labour, and domestic and export markets.

Iron and steel

The iron and steel sector has been identified as a potential growth sector in which Uganda could have a comparative advantage. Uganda has abundant exploitable iron ore deposits, as well as limestone and dolomite, which provide the key raw materials inputs to the industry, while coal and/or gas could be imported from Tanzania to fuel the process. Domestic and regional demand is expected to grow as steel products are inputs to other manufacturing sectors (e.g., automotive) and the construction sector. Domestic production of iron and steel would substitute for imports, improving Uganda's trade balance. A nascent steel sector exists, located primarily on the JKM Corridor (see above); however, to be truly competitive the value chain must be deepened.

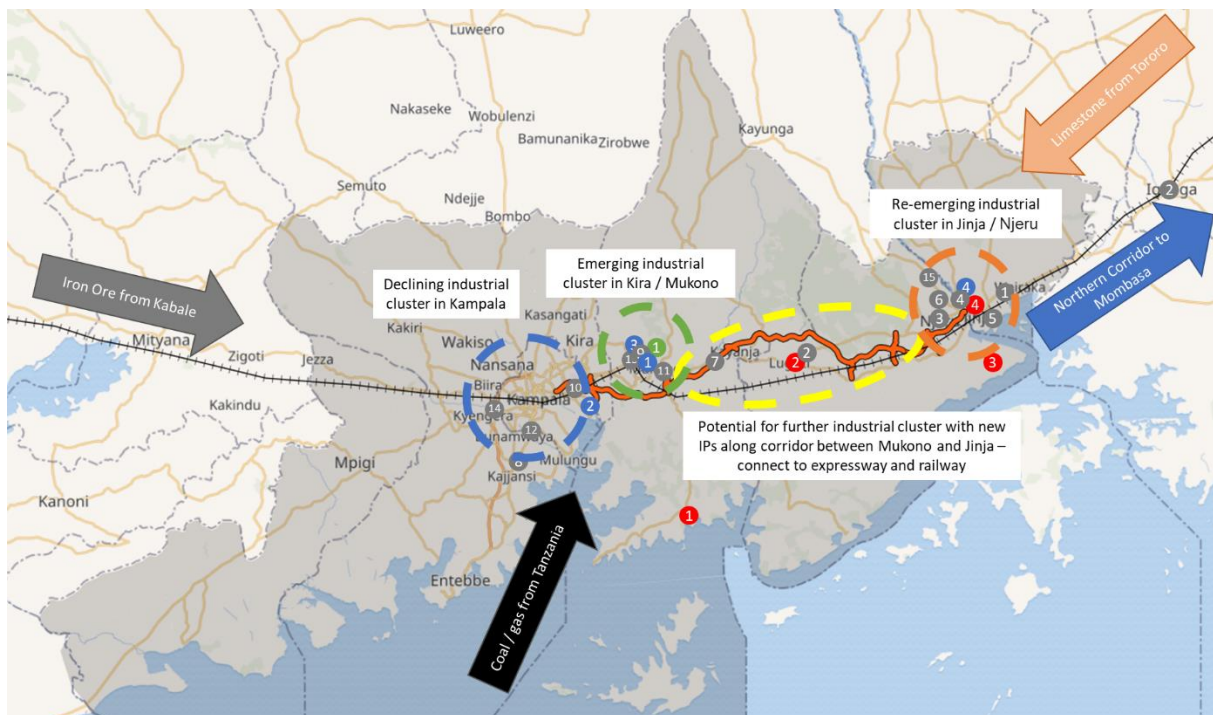
Connectivity between raw materials production and manufacturers needs to be improved, requiring significant investment in transport infrastructure. Uganda imports more than 60 percent of its inputs to the steel industry. The most exploitable iron ore deposits are located in Kabale in southwestern Uganda. There is also a proposal for an integrated iron and steel production facility at this location, which could produce semi-processed steel to input to rolling mills. This will require significant investment in transport infrastructure – including potentially the rehabilitation of the railway – to transport iron ore and/or intermediate steel inputs to the existing steel production clusters located primarily to the east of Kampala towards and in Jinja. Coal or gas will also be required for the production of intermediate inputs (e.g., direct reduced iron) – a few manufacturers located in JKM Corridor (e.g., Tembo, Steel Rolling Mills, Pramukh) have the capacity to produce direct reduced iron products, while the majority focus on downstream products. This must be imported from Tanzania; in the short-term, this would be coal via Lake Victoria offloading at Port Bell, while in the longer term there is an MoU to construct a gas pipeline from Dar es Salaam to Kampala. The main limestone deposits are located in Tororo.

⁴⁰ EPRC (2018) Fostering a Sustainable Agro-Industrialisation Agenda in Uganda

Uganda should have a regional comparative advantage – assuming raw materials can be exploited – enabling exports of steel products to EAC neighbours. The current domestic demand for steel products is likely insufficient to justify the significant investments required to access raw materials (i.e. iron ore from Kabale and coal from Tanzania). However, there is significant potential to export to EAC countries that lack raw materials inputs (e.g., Kenya). It is critical that Uganda’s steel manufacturers can access EAC markets with minimal costs (i.e., tariffs, quotas, transport costs etc.).

The JKM Corridor already concentrates almost all steel production in Uganda – these clusters should be reinforced. Firms with the capacity to produce intermediate iron and steel products should be supported to ramp up capacity and linkages strengthened with downstream producers. Significant investment is required to develop new supply chains for iron ore and coal. The JKM Corridor is the confluence of these supply chains, as well as the access to a key export market in Kenya.

Figure 23: The Kampala-Jinja Expressway and railway rehabilitation/upgrade should unlock the potential for a new industrial cluster between Mukono and Jinja



Source: COWI A/S

4.4.2 Strategic Objective 2: Promote agglomeration economies by developing IPs along the JKM Corridor – especially in the east from Mukono to Jinja

To be competitive, Ugandan firms need access to inputs – land, (skilled) labour, capital, primary and intermediate products, power, utilities and services, technology, etc. – at efficient rates in comparison to their competitors. Agglomeration economies – the benefits of firms clustering or co-locating in an area – can reduce the cost of many of these inputs. Localization economies occur when firms of the same sector co-locate and include reduced labour costs from access to a larger pool of skilled labour; reduced primary and intermediate input costs, developing and deepening value chains, from producers having access to a larger market; knowledge and technology spillovers. More general benefits referred to as urbanization economies, including reduced costs of services (e.g., power, utilities, transport, financial, legal etc.), which can be provided more efficiently when firms are located together rather than dispersed.

Whether producing for domestic consumption or exporting, Ugandan firms are competing in a global market against firms from across the world – many of which are located in large-scale urban agglomerations with access to lower-cost inputs. For example, the top five exporters in the textiles and apparel sector, which has been prioritized in the NIP, are China, Vietnam, Bangladesh, India and Turkey, with the majority of manufacturers clustered in large cities of more than 5 million people.

Knowledge-intensive sectors tend to be even more concentrated and benefit especially from spillovers and access to skilled labour. As noted above, high-value tradable sectors (finance, legal, consultancy, computer programming etc.) are located almost exclusively in Kampala, which is competing with other regional hubs such as Nairobi, Dar es Salaam and Kigali for investment and market share. The scope for these activities to be located outside of Kampala (and surrounding areas) is highly limited for the foreseeable future.

The potential scale of the JKM Corridor must be leveraged to improve the competitiveness of Ugandan firms – further concentration and clustering should be the objective. Investment in new infrastructure in the manufacturing and tradable services sectors – i.e., serviced industrial land (IPs), commercial office space, transport, logistics, power transmission etc. – should be concentrated where it will deliver the greatest returns in terms of attracting inward investment, job creation and revenue generation. This is the JKM Corridor. Arguments for dispersing investment to other locations, such as taking advantage of underutilized assets (existing infrastructure, housing stock, land), lower labour costs, or regional balance do not yet apply or are otherwise significantly outweighed by the benefits of agglomeration, *in Uganda's current stage of development*. The following is therefore recommended:

- 1 Identify and make available suitable land for industrial development (IPs) along the main JKM corridor – east of Kampala towards Jinja in Wakiso, Mukono and Buikwe districts are likely to be the prime locations – in-line with forecast market demand (see section above);
- 2 Localize value chains by promoting clustering of suppliers through co-location on IPs and provision of serviced land for MSMEs and complementary services (e.g., warehousing, logistics etc.) adjacent to IPs (see Box 3 below);
- 3 Allocate sufficient funds for 'last mile' connective infrastructure (access roads, water supply, power transmission) to ensure that IPs are integrated into local utility/transport networks – missing / poor connective infrastructure can significantly increase transaction costs and negate locational agglomeration economies; at the same time, well-planned location of IPs could reduce the investment required in connective infrastructure (i.e., clustering IPs along trunk infrastructure);
- 4 Plan to locate housing (and associated infrastructure and services) near to, or accessible to, industrial land (i.e., well connected to trunk transport networks). Reduced travel times increase the size and flexibility of the labour market, which results in more efficient allocation of labour, increase productivity for firms, and raises wages. Failure to do so will again negate potential agglomeration economies.

Box 2: Importance of agglomeration economies and last-mile connectivity for industrialisation – evidence from Ethiopia Industrial Parks Program

Since 2015, Ethiopia has pursued a policy of export-oriented industrialisation, driven by an ambitious industrial parks (IP) program that has invested around US\$1.5bn in 16 IPs. However, these IPs are not concentrated in one area, but rather have been located in different cities across the country. Though it is still relatively early, and some IPs have only been operational for a few years, there are clear signs that the strategy of spatial 'balance' has lessened the impact of the program. Export revenue from manufacturing was targeted to increase as a share of total merchandise exports from less than 10 percent to 25 percent in 2020 and 40 percent by 2025 when it would reach US\$3.6bn; in reality manufacturing exports are around US\$400m and remain just less than 13 percent of total merchandise exports. Similarly, GTP II targets an increase in manufacturing employment from 380,000 to 758,000 in 2020 and to 1.5m in 2025, while IPs have created less than 100,000 jobs to-date.

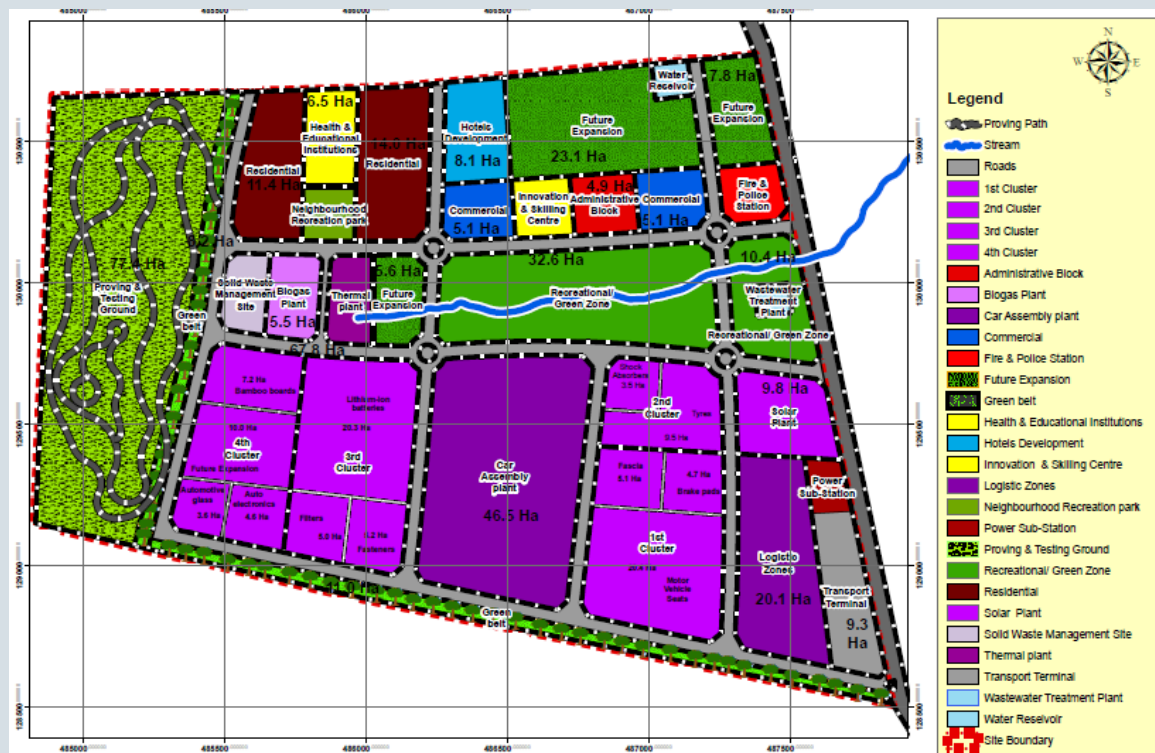
Several IPs are empty or have low occupancy, despite being officially operational for two or more years, in particular those located in smaller cities, far from trunk infrastructure, e.g. Jimma (508km to the west of Addis Ababa), opened in 2019 but currently unoccupied. In contrast, IPs located in Addis Ababa, Adama (90km from Addis Ababa, located close to the Modjo dry port and on the railway) and Hawassa (285km to the south, but the flagship IP of the program) account for 86 percent of the total jobs created. IPs in secondary cities face a range of constraints including missing 'last mile' infrastructure such as access roads, power and water, poor connectivity to transport and logistics infrastructure – despite investing US\$4bn in the railway many IPs are located in cities far from this or major transport corridors – insufficient skilled labour and high turnover of staff, and weak integration into local value chains and a lack of domestically sourced inputs for production. Concentrating investment in fewer locations – at least initially – could have avoided many of these issues as well as delivering greater returns on investment in IPs and complementary infrastructure.

Box 3: Kiira Motors Corporation, Vehicle Assembly Plant and Eco Automotive Industrial and Technology Park (Eco AITP)

Kiira Motors Corporation (KMC) is a Ugandan state-owned enterprise (SOE) that manufactures electric vehicles (EVs), initially for the domestic market but with the long-term target of exporting for the regional market. KMC is a strategic anchor investor designed to catalyze investment and entry of domestic SMEs into the production of automotive components. KMC and GoU have set an ambitious target for 65 percent local content value by 2030, which will require sourcing components and services from up to 300 local suppliers.

A vehicle assembly plant is currently being constructed in Jinja Industrial and Business Park, which will have capacity for 5,000 vehicles per year, with the first phase expected to be completed by December 2022. In the medium-term, the development of the Kiira Eco AITP has been prioritized as a strategic project in Uganda's Third National Development Plan (NDP III), and will comprise of a vehicle assembly plant for SUVs and pick-up trucks, as well as facilities for training workers, testing vehicles, technology and innovation center, logistics services, and serviced land for component suppliers in 10 targeted clusters (lithium-ion batteries; seats; filters; brake pads; bamboo boards; automotive glass; fascia; tires; shock absorbers; automotive fasteners). The AITP will thus create an integrated automotive supply chain in one self-contained cluster.

Plan of AITP



Source: KMC Strategic Investment Plan

4.4.3 Strategic Objective 3: Support businesses and build the capacity of workers to benefit from emerging industrialisation opportunities

Businesses need more than just improved access to physical infrastructure and services if they are to improve their productivity. As the World Bank Doing Business Ranking for Uganda (see Figure 9) indicates, firms face a range of challenges that constrain productivity including administrative (obtaining permits etc.), financial (access to credit) and legal (contract enforcement), as well as access to skilled labour. Support should be provided to businesses located in the JKM Corridor to address these challenges, including the following recommendations:

- 1 Locate One Stop Shops in IPs that can provide support for investors to apply for permits, and visas, pay taxes, customs, utility bills etc.;
- 2 Promote linkages between larger manufacturers and MSMEs via a matching service that identifies where MSMEs are producing inputs needed by large manufacturers and provides support to help them meet minimum standards and requirements;
- 3 Co-locate business incubation and workspaces/land for MSMEs in or adjacent to IPs, with associated support services;
- 4 Locate “Skills Hubs” within IPs that will provide training to workers in collaboration with investors;
- 5 Promote linkages between TVET and higher education institutions and private sector companies to design courses and provide training to workers in line with the needs of businesses.