

COUNTRY PRIVATE SECTOR DIAGNOSTIC

CREATING MARKETS IN UGANDA

Growth through the Private Sector and Trade

February 2022

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EXECUTIVE SUMMARY

Uganda has a track record of pro-business and market-enabling policies, having helped to spur growth rates averaging six to seven percent since the 1990s. This period of growth has been the result of several factors, beginning with an aggressive privatization program in the 1990s, which reduced the number of state-owned enterprises (SOEs) in Uganda's economy to one of the smallest SOE portfolios in the region. The result has been private markets relatively unencumbered from distorting state competition.

With its increasingly competitive private sector, Uganda has leveraged intraregional trade to its advantage. In recent years, Uganda has been exporting more in terms of gross domestic product (19.5 percent in 2018) than the average East African country—a significant achievement for a landlocked country. Uganda also exports a more diversified basket of products than that of many other low-income countries. Further, it has been able to attract high levels of foreign direct investment (FDI), including investment that is efficiency-seeking: a testament to the competitiveness of its labor market and pro-business policy environment, compared to other countries in the region. The discovery of Sub-Saharan Africa's fourth-largest oil reserves in the Albertine Rift basin in 2006 gave an additional boost to investor interest.

But since 2015, Uganda's growth model has started to show signs of weakness, with growth rates decelerating even before the outbreak of the COVID-19 pandemic. Growth has relied too much on factor accumulation (mostly labor) and too little on productivity growth and human capital. With labor increasingly entering the market via low-productivity informal services and microenterprises, productivity growth has weakened. Meanwhile, the contribution of human capital has been constrained by rapid population growth. Paired with one of the lowest resource mobilization rates in the region and inefficiencies in public spending, providing the education and health services that are needed to make a productive workforce has been increasingly difficult. Rapid urbanization, if not managed well, will add further pressures on already weak public services. This could also undermine the important positive agglomeration effects for productivity that urbanization should bring. Finally, frequent climate shocks constitute another important risk to long-term growth, as Uganda is among the world's most vulnerable and simultaneously least-adapted countries to climate change.

The COVID-19 pandemic has exacerbated the country's development challenges. An estimated 2.6 million Ugandans will fall back into poverty in the short term because of the crisis. The economy contracted by 2.1 percent in 2020 and its fiscal deficit surged to 7.6 percent, significantly reducing the room for growth-enhancing expenditures in the years ahead. The COVID-19 crisis also reversed some of the positive structural transformation that took place in the past decade, with the employment share of agriculture increasing by 10 percentage points as off-farm activities became constrained by social distancing measures and falling demand in other sectors. Finally, the pandemic has delayed once more the prospects for the beginning of oil production, which was initially scheduled for 2022 but will now aim to kick off in 2024–25¹.

This Country Private Sector Diagnostic (CPSD) investigates the potential for greater private sector investment to meet some of these development challenges. At least 600,000 Ugandans enter the labor market every year, making for a workforce that is increasingly younger and urban based. To address the country's simultaneous productivity and job challenge requires a focus on growth in sectors that can leverage demand from abroad, are labor intensive, and low skilled. Three sectors hold promise in this regard: agribusiness, which is important for productivity, employment, and export growth; energy as an enabler of overall productivity; and housing because of its role in fueling growth in the labor-intensive construction sector and alleviating the demographic pressures that rapid urbanization puts on Ugandan cities. Within the agribusiness sector, the CPSD considers three of the most promising value chains—fish, dairy, and maize—and undertakes a more disaggregated assessment of the environment for private investment.

Agribusiness

Uganda's natural topography, favorable climate, ample water sources, and low labor costs give it strong comparative advantages in agricultural production. An open trade regime has helped the emergence of a successful agro-industry for exports with eight of Uganda's top 10 export industries found in agribusiness, including fish, dairy, and maize—the three value chains of focus in this CPSD. These products reach a wide number of destination markets, with some products capturing significant market share. Agro-processing already represents most of Uganda's manufacturing output. Economic and market analyses suggest further potential for the sector to grow and diversify by increasing productivity and boosting product quality and complexity. As evidence of this potential, FDI into the sector had been increasing steadily prior to the pandemic, more than tripling from 2010 to 2019, when it reached \$230 million. The continued development of a competitive agribusiness sector would also play a central role in Uganda's ambitions to transform its economy and to create job opportunities for its fast-growing population. The CPSD discusses policies that could lift the agribusiness sector more broadly, such as adopting the National Accreditation System Bill, which would improve access to markets by supporting international recognition of Ugandan quality assurance systems, international certification, and related service providers.

Energy

Over the past 20 years, Uganda has undertaken significant power sector reforms, considered among the most comprehensive in Sub-Saharan Africa, which have led to considerable results along the energy value chain. Between 2002 and 2020, installed generation capacity quadrupled; the energy mix improved considerably, reducing costly thermal power from 24 to two percent and replacing it with renewable sources like hydro, biomass, and solar. In addition, the size of the transmission network more than doubled. Losses in the transmission and distribution system were also reduced considerably. Uganda now must take on the next generation of reforms to ensure that the excess supply that was generated also gets evacuated, leads to better electricity access for consumers, and stimulates productive use and regional export opportunities. There is an urgency to this agenda: unless Uganda invests now to further its transmission and distribution network, the mismatch between supply and demand could increase total electricity costs by over \$950 million per year. Moreover, to ensure successful delivery on the publicly stated government goals of increasing

access to electricity and reducing its costs, Uganda needs to build on the positive outcomes achieved in the previous reform process—including increased participation by the private sector in the economy—rather than reverse those reforms. Signals to the contrary emanating from the recent reemerging of previously unbundled sector institutions as well as questions surrounding the concession negotiation for Umeme (Uganda’s main electricity distribution company) may send undesirable messages to private investors. The CPSD investigates the different policy reforms that Uganda should consider to encourage private sector participation in the market, especially in the transmission and generation (on- and off-grid) segments of the sector.

Housing

Uganda’s housing market has large pent-up demand that, if satisfied, would not only solve many of the urbanization and inclusion challenges of the country but could also provide an important stimulus to labor-intensive construction and other related sectors. Currently, Uganda’s urban housing market comprises a very small formal housing market that is accessible to only an estimated 12 percent of households. Moreover, even at this high end of the market, many households are forced to transact using cash and personally obtained finance, such as loans from family members, because mortgage finance is inaccessible. Uganda’s future housing strategy must therefore focus on providing accommodation alternatives that meet the full spectrum of household affordability. To achieve this, innovative strategies are needed that reach beyond the formal into the informal segment of housing. For example, providing preplanned sites would ensure a level of settlement planning during initial urban growth processes that would be conducive to future service installation and tenure regularization. The CPSD discusses these and other strategic interventions and policy actions that can entice private investors into Uganda’s housing market.

Beyond discussing challenges and opportunities specific to these three promising sectors, the CPSD also analyzes some of the cross-cutting challenges affecting the Ugandan economy. Consultations held with experts, private sector stakeholders, and development partners have identified the quality of government institutions, land rights, access to productive finance, non-tariff trade barriers, and roads as critical areas where reform can support private sector-led growth. Table ES.1 provides a heatmap that summarizes how these constraints play out across sectors. Table ES.2 provides a summary of the recommendations found in this report.

1. More recently, Uganda’s oil story has taken a new twist with the signing of the East African Crude Oil Pipeline Agreement between Uganda, Tanzania, and other investors on May 20, 2021. This was one of the final parts in a very long process. The agreement will allow work to commence on the pipeline, stretching from Hoima in western Uganda to the Chongoleani peninsula in Tanzania—a journey of 1,445 kilometers. The signing has given a boost to Uganda’s oil ambitions, though after a decade of commercial and logistical setbacks, as well as sluggish oil prices, enthusiasm is measured. Increasingly, views in government are for greater diversification of the economy, seeing beyond oil as a quick fix for the economy.

**TABLE ES.1 HEATMAP OF CONSTRAINTS BY SECTOR
(DEGREE OF CONSTRAINT: RED-HIGH, YELLOW-MEDIUM, GREEN-LOW)**

Cross-Cutting Constraints	 Agribusiness			 Energy	 Housing
	Fisheries	Dairy	Maize		
Institutional <ul style="list-style-type: none"> • Regulatory • PPPs/financial • Competition 	Insufficient legal/regulatory systems to reduce illegal and unregulated fishing and safeguard biosecurity.	Lack of enforcement of quality standards for dairy products. Need for system of demarcation/traceability.	Overlapping roles of government agencies in regulation of crops.	Gaps in enforcement of quality standards for off-grid systems (e.g., solar). Gaps in the regulatory framework for independent power transmission.	Competing local government structures complicated holistic urban planning.
Access to Productive Finance	Small percent of lenders' portfolios in agribusiness, reflecting perceived risk, be this fishing or smallholder farming.			Lack of innovative financing/financial incentives in off-grid sector. Still very nascent stage.	Constrained capital markets limiting availability of wholesale finance. High interest rates, very limited mortgage finance available.
	Lack of financial literacy, credit history, and collateral options for smallholders and fishing communities.				
Non-Tariff Barriers to Trade & Logistics	Costly logistics, storage, and cold chain services.			Lack of harmonization of legal, regulatory, and operational framework for intraregional power trade.	Construction sector losing regional and international trade competitiveness due to logistics constraints (roads, rail, and points of exit).
	Unpredictable trade relationships and delays in resolving trade disputes.				
	For maize, high % of informal exports; quality levels below acceptable standards.				
	Border delays increasing logistics costs.				
	Insufficient national quality infrastructure.				
Infrastructure Gaps	Inconsistent power supply.			Inadequate infrastructure at medium/high voltage levels in the transmission and distribution network.	Lack of infrastructure and serviced land limiting orderly expansion of urban areas.
	Low penetration of agtech/fintech services for farmers.				
	For fish, high cost of temperature controlled logistics and storage.				

Note: PPP = public-private partnership.

Cross-Cutting Constraints	 Agribusiness			 Energy	 Housing
	Fisheries	Dairy	Maize		
Skills	Lack of awareness of sustainable fishing, dairy, and commercial framing practices. Limited capabilities in producing key inputs (i.e., fish food, fodder, high quality feed for cattle).			Capacity gaps in specialized technical areas (transmission/ procurement).	Professional skills limited and prone to out-migration. Technical skills training insufficient leading to poor quality construction.
	Poor market information and business development services.			Insufficient project management for large transmission infrastructure projects.	Lack of formal real estate businesses constraining housing sector growth.
Land Rights	Use of customary tenure land, which comprises over 70% of the land in the country, challenged by inadequate national coverage of documentation required to secure land rights.			Limited land security limiting the development of mini-grids.	Limited formal land rights and overlapping traditional land rights increasing time and expense of land transactions. Large informal housing sector developing outside of formal land titling and planning system.
Other Critical Constraints	Overfishing and unsustainable fishing practices threatening depleting stocks. Environmental degradation from pollution and impacts of climate change on water levels.	Low use of modern data analysis to maximize milk composition, production volume, and animal fertility.	Insufficient access to quality assurance testing along the supply chain (e.g., to reduce contamination of crops).	Lack of coordination across government agencies, especially in energy sector planning.	Lack of information technology and infrastructure limits use of 4IR technology in housing sector development.

Note: 4IR = 4th Industrial Revolution; fintech = financial technology.

TABLE ES.2 SUMMARY OF SECTOR RECOMMENDATIONS**Agribusiness**

- Conduct a comprehensive review of the MAAIF and all other agriculture-related institutions to clarify functional mandates, strategic objectives, and budget allocations.
- Review Operation Wealth Creation subsidy design for opportunities to shift toward private sector-led solutions.
- Adopt the National Accreditation System Bill; prioritize capacity building in quality and standards institutions.
- Ensure that negotiations for AfCFTA implementation (and existing regional trade agreements) focus on the removal of persistent and ad hoc NTBs to facilitate access to existing and new markets.
- Leverage international technical and financial support to implement trade facilitation improvements to align with the WTO Trade Facilitation Agreement.
- Conduct a financial feasibility study of a shift to alternative pay-for-results programs for agriculture extension service providers.
- Increase the budget and prioritize capacity building for the Uganda National Meteorological Authority to further develop agriclimate information and make data publicly available to strengthen innovation and risk assessment in agrifinance programs.
- Improve the PPP Unit's capacity and continue prioritizing PPPs for irrigation, temperature-controlled logistics, storage, and off-grid energy solutions.
- Develop leasing regulations conducive to the needs of commercialized farmers, especially smallholders.

**Energy**

- Undertake thorough cost/benefits analysis of the recent UEGCL, UEDCL, UETCL merger as well as other institutional changes to ensure that development benefits are not reversed.
- Engage with private and public partners to make sure that institutional changes in the sector are carried out transparently and follow a consultative process for continued trust among stakeholders.
- Allow PPP investments in transmission infrastructure through UETCL special purpose entities with private players.
- Introduce IPTs for transmission infrastructure through regulations to guide risk-sharing arrangements, tariffs, and provider selection procedures.
- Provide clear guidelines for enforcement of quality standards for SHSs.
- Streamline territorial zoning for the on-grid distribution operations to improve concession viability and network optimization.
- Revise the Energy Rebate Policy and provide a framework for direct utility investment for dedicated grid extensions for productive users.
- Enhance resource mobilization for smart subsidies to support mini-grids and SHSs.
- Review the role of small service providers in distribution to minimize fragmentation.
- Introduce adequate institutional structures (i.e., PPPs) for promotion of export and regional power trade.
- Develop mini-grid project "packages" for private competition including the provision of land and subsidy and grant facilities.
- Pilot transmission projects for PPP tenders to test market responses and enable empirical determination of appropriate terms and conditions.
- Enlist potential productive users constrained by lack of access and tender offers for development.
- Invite firms to provide SHSs under special subsidy and grant plans.



Housing

- Review legislative and policy reform and implementation to improve systems of land titling, transfer, compensation, and records.
- Continue rollout of the digitized deeds registry to create a platform for private sector investment in the housing sector.
- Improve planning and infrastructure development capacity of Greater Kampala Metropolitan Authority to guide its future rapid urban growth and housing requirements.
- Make metropolitan spatial planning, urban infrastructure development, and housing part of an integrated strategy with a single, overarching planning agency.
- Integrate urban, housing, and infrastructure planning functions in newly designated secondary cities, ensuring linkages to industrial park development strategy to maximize local economic development opportunities.
- Review tariffs and trade arrangements in relation to import and export of housing-related intermediate inputs to ensure maximum trade competitiveness and encourage locally manufactured inputs for housing and construction sectors.
- Develop an integrated investment promotion framework for land, infrastructure, and housing to guide public and private investments.
- Conduct review of Uganda's PPP framework as it relates specifically to housing.

Note: Recommendations for agribusiness subsectors are in appendix B of the main report. AfCFTA = African Continental Free Trade Agreement; IPT = independent power transmissions; MAAIF = Ministry of Agriculture Animal Industry and Fisheries; NTBs = nontrade barriers; PPP = public-private partnership; SHS = solar home system; UEDCL = Uganda Electricity Distribution Company Ltd.; UEGCL = Uganda Electricity Generation Company Ltd.; UETCL = Uganda Electricity Transmission Company Ltd.; WTO = World Trade Organization.

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ABBREVIATIONS AND ACRONYMS

4IR	4th Industrial Revolution
AfCFTA	African Continental Free Trade Agreement
COMESA	Common Market for Eastern and Southern Africa
CPSD	Country Private Sector Diagnostic
CGIAR	Consultative Group on International Agricultural Research
CSA	climate-smart agriculture
DFI	development finance institution
EABI	East Africa Bribery Index
EAC	East African Community
EACOP	East Africa Crude Oil Pipeline
ECP	Electricity Connection Policy
EPRC	Economic Policy Research Centre
ERA	Electricity Regulatory Authority
EU	European Union
FDI	foreign direct investment
GDP	gross domestic product
GMO	genetically modified organisms
ha	hectare
IFC	International Finance Corporation
IMF	International Monetary Fund
ICD	inland container depot
IPT	independent power transmission
ITC	information and communication technology
IUU	illegal, unreported, and unregulated
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MEMD	Ministry of Energy and Mineral Development
MSMEs	micro, small, and medium enterprises
ND-GAIN	Notre Dame Global Adaptation Initiative
NDP III	National Development Plan III
NPL	nonperforming loan
NSSF	National Social Security Fund
NTBs	non-tariff barriers
NWSC	National Water and Sewage Corporation

OWC	Operation Wealth Creation
PIM	public investment management
PPP	public-private partnership
REA	Rural Electricity Agency
SACCO	Savings and Credit Cooperative Society
SAR	special administrative region
SCD	Systematic Country Diagnostic
SHS	solar home systems
SMEs	small and medium enterprises
SOE	state-owned enterprise
SPS	sanitary and phytosanitary standards
TCGU	The Grain Council of Uganda
TFP	total factor productivity
TIDE	The Inclusive Dairy Enterprise
UBOS	Uganda Bureau of Statistics
UDC	Uganda Development Corporation
UEDCL	Uganda Electricity Distribution Company Ltd.
UEGCL	Uganda Electricity Generation Company Ltd.
UETCL	Uganda Electricity Transmission Company Ltd.
UHFPS	Uganda High-Frequency Phone Survey
UIA	Uganda Investment Authority
UNBS	Uganda National Bureau of Standards
UNHS	Uganda National Household Survey
WASH	water, sanitation, and hygiene
WTO	World Trade Organization

Note: All monetary amounts are US dollars unless otherwise indicated.

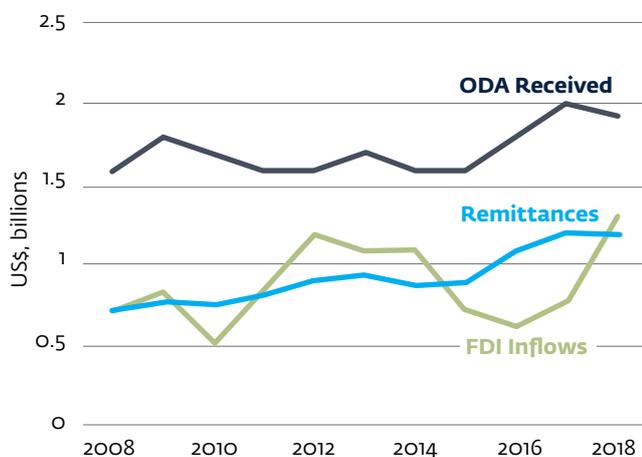
01. COUNTRY CONTEXT

Located west of Kenya and east of the Democratic Republic of Congo, Uganda is the second-most populous landlocked country in the world, with an estimated population of 44.7 million. Despite the political and logistical challenges posed by its location, Uganda has made significant strides in private sector development, poverty reduction, and the growth and diversification of its economy. It has emerged as one of the largest exporters in the region, even though the economy is still dominated by smallholder agriculture, which employs over 70 percent of the population. With one of the youngest populations in the world and more than half a million new job entrants every year, the country needs continued growth of the private sector to ensure job creation and livelihood development.

After 30 years of disrupted development post-independence due to conflict and instability, Uganda has witnessed a substantial economic transformation in the past three decades. At the time of the country's independence from Great Britain in 1962, Uganda's gross domestic product (GDP) per capita (in constant 2010 figures) was \$4,012; today it has reached \$11,057, and the country is projected to reach middle-income status in 2040. Life expectancy improved by nearly 20 years in the past three decades. In the same period, agriculture's contribution to GDP fell from about half in 1990 to a fifth in 2019, replaced by sustained growth in construction (driven by road infrastructure and housing), services (led by trade, transport, telecommunications, and tourism and hospitality), minerals (driven by gold beneficiation), utilities (driven by electricity expansion), and manufacturing (led by agro-processing and construction materials/components). Employment, too, shifted away from agriculture and mainly into trade services (driven largely by small-scale retail) until the turn of the millennium, when the share of the workforce in agriculture stabilized around two-thirds.

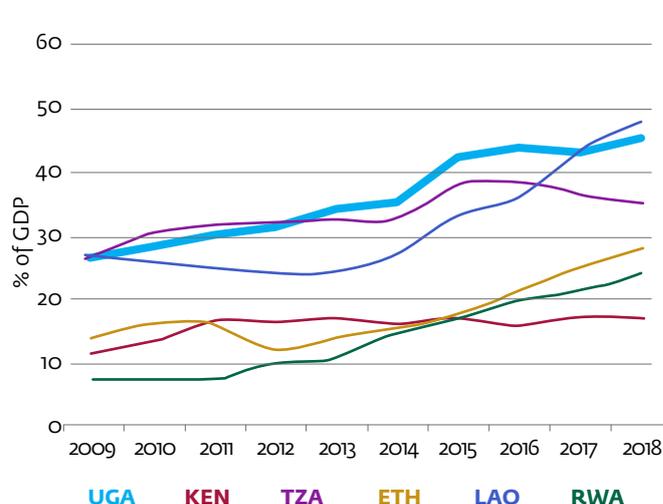
1.1 WHAT MAKES UGANDA ATTRACTIVE TO PRIVATE INVESTORS?

In the past five years, Uganda has been able to attract growing amounts of foreign direct investment (FDI) reaching \$1.3 billion in 2018, to levels exceeding peer countries (figure 1.1 and figure 1.2). Between 2015 and 2019, Uganda also counted 161 new greenfield investments, 30 percent of which came from Kenya (with many investments in financial services). Other important investors were India, South Africa, the United States, and the United Arab Emirates. While the majority of the FDI that Uganda received was market seeking, the country is also among the few countries in Africa that have been able to attract a good share of efficiency-seeking FDI (when investors seek to increase cost-efficiency of production by taking advantage of various location-specific competitive factors).¹ This trend is important because efficiency-seeking investment is export oriented and has the potential to help Uganda improve the productivity of its workforce and connect domestic suppliers to global value chains. Tourism and emerging technology are other sectors that have been able to attract FDI in the recent past.²

FIGURE 1.1 FDI INFLOWS AND REMITTANCES HAVE INCREASED OVER TIME, 2008–18)

Sources: World Development Indicators and Computation based on COMTRADE and FDI Markets data.

Note: ODA = official development assistance.

FIGURE 1.2 TOTAL INWARD FDI STOCK: UGANDA VERSUS COMPARATORS, 2009–18)

Source: UNCTAD.

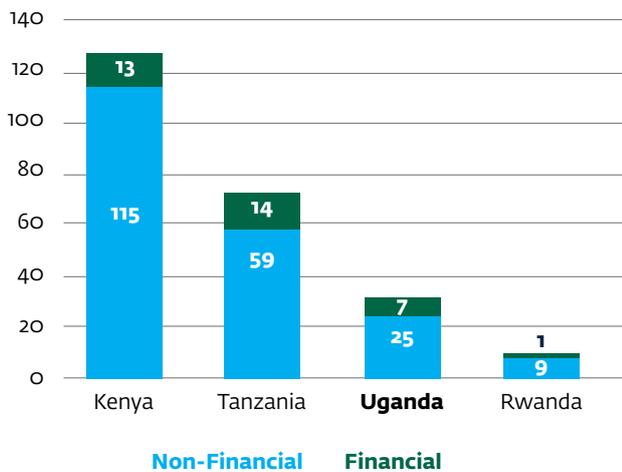
Note: ETH = Ethiopia; FDI = foreign direct investment; GDP = gross domestic product; KEN = Kenya; LAO = Lao PDR; RWA = Rwanda; TZA = Tanzania; UGA = Uganda.

FDI stocks are presented at book value or historical cost. For many economies, FDI stocks are estimated by cumulating FDI flows over a period of time or adding flows to an FDI stock that has been obtained for a particular year.

Three decades of solid macroeconomic performance and development gains pre-COVID-19, including halving the poverty rate in just two decades, helped entice investors to come to Uganda. Between 1990 and 2015, Uganda recorded average growth rates of 6 to 7 percent, and between 2002 and 2013, the share of people living below the national poverty line more than halved, from 40.0 percent to 19.7 percent.³ After recording double- and triple-digit inflation rates until the early 1990s, Uganda has shown a commitment to low and stable inflation since (with a spike in 2011–12), despite a flexible exchange rate regime and commodity-price-induced volatility. Since 2000, Uganda has pursued an expansionary fiscal policy to finance infrastructure investments. While the efficiency of this spending was not optimal (see more on this in chapter 2 under Cross-Cutting Constraints to Private Sector Investment), Uganda managed to keep its public debt in check (it now stands at 41 percent of GDP) so that its risk of debt distress is considered low. Uganda's fiscal policy is also moderately equalizing, lowering the Gini coefficient by 3.2 points.⁴

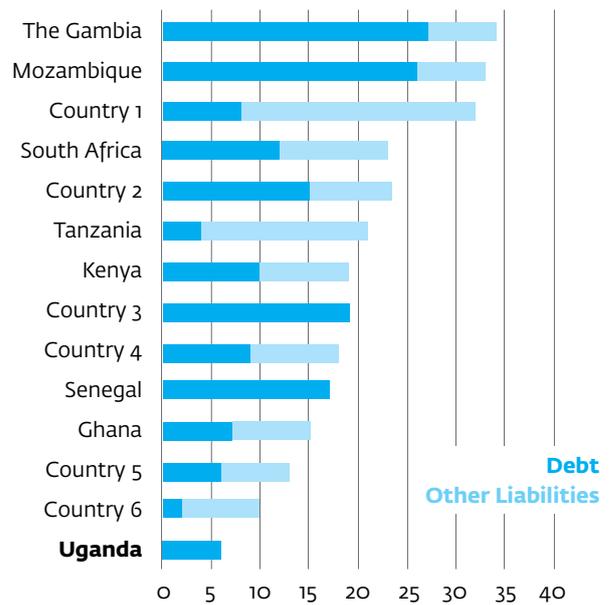
Uganda’s economic policy is generally liberal and pro-private sector, though the government is beginning to play a more assertive role in driving industrialization. One testament to Uganda’s liberal policy approach is the country’s small number of state-owned enterprises (SOEs). Uganda embarked on a relatively aggressive privatization of SOEs in the early 1990s,⁵ bringing the number of 139 SOEs down to 33, one of the smallest SOE and least risky portfolios⁶ in the region (see figure 1.3 and figure 1.4).⁷ Sectors in which the presence of SOEs can still be felt by the private sector include the tourism, housing, broadcasting, energy, and oil sectors. Another example of the government’s private sector focus is recent efforts to bring domestic arrears, which were reducing private sector liquidity, under control.⁸ The government has also introduced several administrative reforms to ease the regulatory burden on business, including through digitization, process reengineering, and one-stop shops. However, while the government has continued to pursue pro-private sector policies, recent political signals also point to growing interventionist tendencies in some areas with the proposed merging of separately functioning public agencies. One example is the energy sector, which was successfully unbundled and privatized 20 years ago. The government is now proposing a possible reversal of this structure despite its being widely seen as a success story.

FIGURE 1.3 NUMBER AND TYPES OF PUBLIC CORPORATIONS



Sources: Country authorities. Classification follows the International Monetary Fund (IMF) Government Finance Statistics Manual 2014.. Data from IMF, “Uganda: Fiscal Transparency Evaluation” (Country Report 17/130, IMF, Washington, DC, 2017).

FIGURE 1.4 SELECTED SUB-SAHARAN AFRICA SOE LIABILITIES (IN PERCENT OF GDP)



Sources: J. Harris et al., “Government Support to State-Owned Enterprises: Options for Sub-Saharan Africa” (IMF, Washington, DC, 2020).

Note: Countries that are not named explicitly did not grant IFC permission to publish the data.

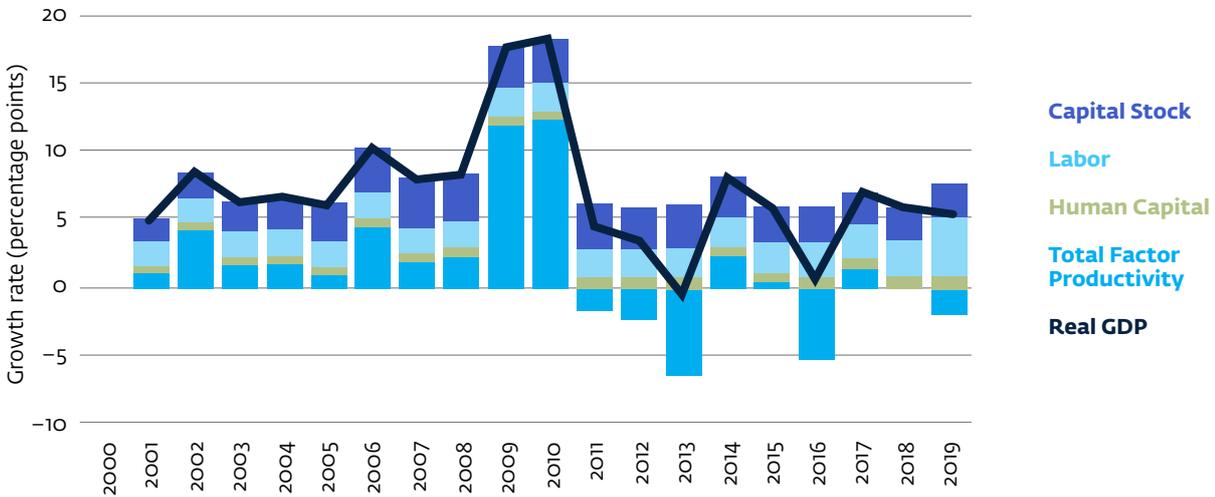
Uganda's economy could get a significant further boost from investments in the oil sector, though there are uncertainties around the timing.⁹ While oil exports have been projected to increase Uganda's exports by an additional 5 percentage points of GDP,¹⁰ the timing of this bonanza remains uncertain. Currently, industry experts expect activities to start around 2025.¹¹ Several obstacles look set to prevent oil production from commencing before 2025. First, a general agreement of the principles of the future tax regime weighs heavily on the relationship between the government and oil companies. Second, the delays in reaching an agreement on and implementing downstream arrangements regarding the refinery and pipeline have caused significant delays. Third, a more fundamental challenge to development of the Albertine oil reserves comes from the high cost and marginal economics of the oil fields that affect the oil companies' profitability. Global oil prices may also continue, beyond 2025 (and maybe much longer), to hover below \$60 per barrel, the projected breakeven point for Uganda's oil exports, threatening to make the investments unprofitable.

1.2 WHILE THE POTENTIAL OF THE UGANDAN ECONOMY IS GREAT, MEDIUM-TERM GROWTH PROSPECTS FACE RISKS

Uganda's growth, transformation, and poverty reduction progress slowed, stalled, and even began to reverse during the 2010s. During most of the past decade, GDP per capita growth hovered below 2 percent per annum and below comparator countries; average annual per capita GDP growth from 2015 to 2019 was only 1.7 percent. Similarly, the national poverty rate stalled and slightly reversed, rising from 19.7 percent in 2012 to 21.4 percent in 2016. The international poverty rate (US\$1.90 purchasing power parity a day in 2011) exhibited a more pronounced reversal, deteriorating from 36 percent in 2012 to 42 percent in 2016. Uganda's figure is higher than in Lao People's Democratic Republic (21 percent), Ethiopia (33 percent), and Kenya (37 percent), while still lower than in Rwanda (57 percent) and Tanzania (49 percent). The disconnect between economic growth and poverty reduction is in part explained by the country's high and accelerating population growth. Over the past five years, Uganda's population growth—3.8 percent in 2018—has been higher than the average in Sub-Saharan Africa. These elevated population growth rates reflect persistently high levels of fertility¹² and reduced mortality rates. Further, regional inequalities in living conditions have persisted or increased, with the northern and eastern regions lagging along many dimensions, despite progress observed in the north.¹³

In the past decade, total factor productivity has been waning in Uganda's growth story. While capital accumulation was the dominant driver of growth in the first half of the decade of the century, labor force growth became the primary driver of GDP growth from 2015 to 2019, reflecting one of the highest population growth rates in the world. The strong growth in factor accumulation against moderate growth rates over the past decade also implies that, on average, total factor productivity (TFP) has been negative (figure 1.5). According to the World Bank's Systematic Country Diagnostic of 2021, the decline in TFP can be traced back to the waning of initial gains from pro-market and public sector reforms, and from poor governance increasingly curbing the competitiveness and productivity of the private sector. In addition, weak public investment management and continued poor social risk management have resulted in slow progress in addressing the infrastructure deficit.

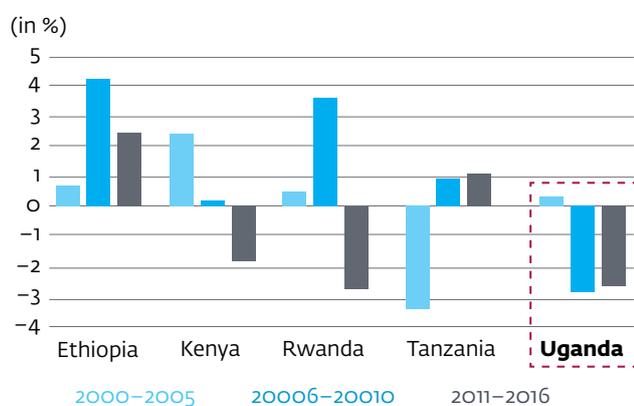
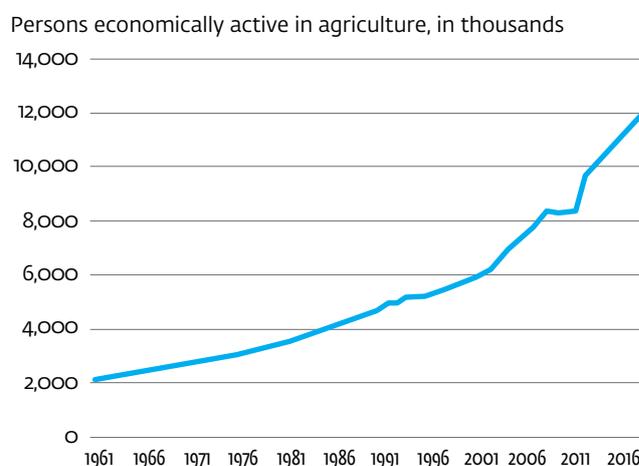
FIGURE 1.5 IN THE PAST DECADE, THE TOTAL FACTOR PRODUCTIVITY CONTRIBUTION TO GROWTH TURNED FROM POSITIVE TO NEGATIVE



Source: World Development Indicators and World Bank staff calculations.

The inability to lift smallholder farmers out of poverty and commercialize agriculture is reflected in the country’s low productivity growth. Most Ugandans remain dependent on rainfed subsistence agriculture. The lack of productivity and growth in the sector has held back the creation of more and better jobs and has stalled poverty reduction. Underemployment is persistent. Most people work less than 30 hours per week and earn below \$35 per month.¹⁴ Productivity is particularly low outside of cereal production, especially for root crops where yields have been declining and even for cash crops where tobacco and coffee yields have also stagnated. Meanwhile, regional peers have managed to increase TFP (figure 1.6 and figure 1.7).¹⁵

Productivity is further hampered because Ugandan businesses find it difficult to grow to scale and are increasingly found in the shadow economy. Uganda’s economic transformation has been characterized by the proliferation of micro, small, and medium enterprises (MSMEs), which exhibit low levels of productivity and high levels of informality. During the first decade of the 2000s, Uganda’s nonsubsistence economy became increasingly informal in employment and the firm landscape. The share of nontradable services in aggregate employment increased by 7 percentage points at the expense of the combined share of manufacturing and commercial farming and commercial fishing. As microenterprises in retail trade and in the hotel and restaurant industry absorbed more labor than formal small and medium enterprises (SMEs) and larger firms in manufacturing and commercial agriculture, the share of informal nonfarm activities grew relative to formal employment. This shift also increased the employment share of microenterprises, resulting in an economy uniquely dominated by microenterprises. As of 2010, 7 out of 10 jobs in Uganda could be found in microbusinesses.

FIGURE 1.6 TOTAL FACTOR PRODUCTIVITY IN AGRICULTURE**FIGURE 1.7 LABOR IN AGRICULTURE (IN THOUSANDS, 15+ YEARS, MALE AND FEMALE)**

Source: US Department of Agriculture International Agricultural Productivity database.

Low resource mobilization limits Uganda's ability to invest in infrastructure and human capital. Uganda's tax revenues averaged 11.6 percent of GDP over the past five years, well below the government's medium-term target of 16.0 percent. Thus, despite some efforts, Uganda has made little improvement in mobilizing increased tax revenues over the past half a decade. Furthermore, Uganda's performance pales compared to peers in the region, such as Kenya and Rwanda that have an average of close to 16 percent of GDP. Informality and small firms reduce the tax base significantly, and a suboptimal tax policy framework and strategy limit Uganda's revenue efforts further. Widespread tax exemptions result in forgone revenues estimated at 4–6 percent of GDP each year.¹⁶ Improving tax collection in Uganda is therefore one of the cornerstones to sustainably finance human capital and infrastructure while containing the surge in public debt. These issues are becoming more acute given the impact of the COVID-19 pandemic, including permanent closures of firms and the sizable decline in tax revenues.

Demographic trends are slowing progress on poverty and social indicators, and affect the productivity of Uganda's human capital. Even though the average annual economic growth was 4.5 percent between 2012 and 2016, Uganda's poverty rate increased by 1.7 percentage points during the same period. In part, the disconnect between economic growth and poverty reduction is explained by the country's high population growth, which has made Uganda one of the fastest growing and youngest nations in the world.¹⁷ Its population is expected to almost triple by 2050, challenging Uganda to create more than 600,000 jobs per year before 2030 and 1 million jobs per year by 2040 to keep up with the pace of labor force entrants.¹⁸ These elevated levels of population growth mean that progress in per capita terms is weak: average annual per capita GDP growth from 2016 to 2019 was only 1.7 percent. Rapid population growth has also made the provision of health and educational services and water and sanitation an uphill struggle, resulting in weak social outcomes. The World Bank's Human Capital Index shows that children in Uganda still reach less than half of their human capital potential as adults, with adverse implications not only for the well-being of Ugandans but also for aggregate productivity. An influx of refugees is adding to the population gains (box 1.1).

BOX 1.1 THE IMPACT AND POTENTIAL OF HOSTING THE WORLD'S THIRD-LARGEST REFUGEE POPULATION

While Uganda has performed remarkably well in integrating the largest refugee population in Africa, the persistence of large refugee settlements will pose integration, livelihood, and sustainability risks. Uganda is currently the third-largest refugee-hosting nation in the world, after Turkey and Pakistan, with around 1.4 million refugees distributed mostly in the northern and western parts of the country. The country's progressive hosting approach gives refugees freedom of movement and the right to work, and this policy has led to some 28 percent of Uganda's refugees currently being employed. For those who arrived five or more years ago, employment stands at 54 percent. However, the rapid influx of refugees has caused significant natural resource depletion, added tremendous pressure to service delivery in some of the poorest regions of the country, and caused tensions with some host communities. Furthermore, several factors constrain refugees' fuller integration into the Ugandan labor market. For example, refugees living outside camps are not entitled to in-kind or cash support, and language barriers, discrimination in financial markets, and a lack of social capital mean that refugees are severely disadvantaged in accessing employment and entrepreneurial opportunities in urban areas. The result is that most refugees are either in highly vulnerable underemployment or entirely dependent on humanitarian support, remittances, and informal social assistance.

Notwithstanding the challenges, the influx of refugees into Uganda also presents opportunities for investors, domestic and foreign, especially in the agribusiness and energy sectors:

- **Fruit products as an example of agribusiness investment opportunities:** For the domestic market, various fruit products (especially juices) are assessed as economically viable in terms of production in refugee-hosting areas, especially the increased commercial production of mangoes, pineapples, and passion fruits. By sourcing 50

percent of its fruit needs from the refugee-hosting districts, the Ugandan food-processing company,^a RECO, could significantly reduce its labor costs as well as potentially create sustained employment and earning opportunities for approximately 3,000 refugees and host community farmers. RECO would need to invest in bulking and collection stations to help farmers deliver their produce and lower both transportation barriers and postharvest losses. However, this cost could be offset over time if full production of 20,000 metric tons of fruit per annum was shifted to refugee-hosting areas.

- **Solar energy as an example of energy investment opportunities:** At the household level, investment opportunities exist, especially in solar power. The solar lighting market is fairly well developed in most of the refugee-hosting districts with some 14 percent of surveyed businesses involved in selling solar products. Accessibility of solar lighting products is well distributed locally in these districts, which is a good indicator that there is huge potential for growing the solar market further if the current challenges affecting the sector are addressed. These challenges include poor quality products; lack of after-sales service to regain consumer confidence; and weak supply chains, resulting in high product costs due to the need to source from Kampala. Finally, mobile phone penetration is fairly good in the refugee areas, with coverage of 66 percent. This offers a potential payment modality for future energy sector investors. Most people (96 percent) buy their energy products on a cash basis, and that is one of the reasons that the uptake of energy products has remained low in these areas. However, there is strong potential for mobile phone penetration and mobile money to provide an ideal platform for innovative consumer transaction and credit systems—a further conducive factor for future off-grid investors.

a. "Establishment of Efficient Mechanisms for the Commercial Collection of Fruit Products from Refugee-Hosting Districts in Uganda," Partnership for Improving Prospects initiative, February 2021.

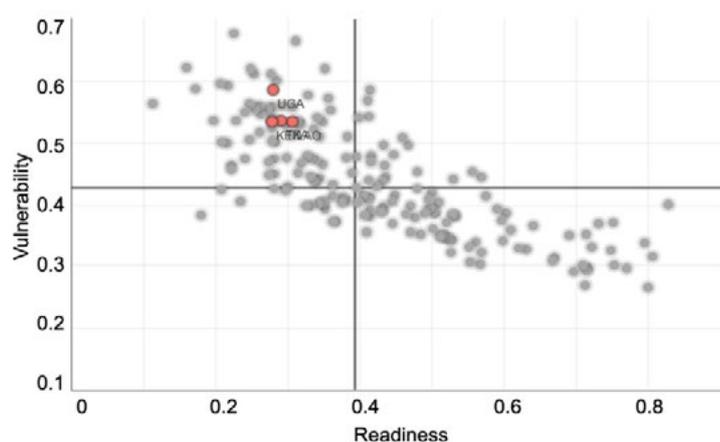
Source: World Bank/IFC, Partnership for Improving Prospects initiative, various publications, 2021.

The productivity-enhancing agglomeration effects of Uganda's rapid urbanization are diminishing as public service delivery in urban areas is becoming more difficult. With an urbanization rate of 5.3 percent, Uganda is one of the fastest urbanizing countries in the world. While the urbanization process has helped raise productivity in some sectors, the largely unplanned urban development is putting significant pressure on the delivery of social and infrastructure services as well as creating a significant housing deficit.¹⁹ Uganda currently has a shortfall of more than 2 million housing units, and it is growing at a rate of 200,000 units annually. By 2030, the deficit is expected to reach 3 million units. At the same time, living conditions in cities and towns have deteriorated, and it is estimated that slums and informal settlements provide accommodation to more than 60 percent of Uganda's urban dwellers. Such settlements are characterized by a lack of basic services (including health and education), overcrowding, homelessness, crime, and poor sanitation.

The possibility of future political instability poses a risk to current and prospective investor confidence. Uganda's election in January 2021 was the most contested since multiparty democracy was introduced in 1996, with accusations of intimidation from members and supporters of some opposition parties. While there was no direct threat or physical damage to investor projects or commercial properties, the government's closing down of the internet for several days during the election period did disrupt domestic and international business.

The impacts of climate change are another serious risk that investors are increasingly weighing in their investment and location decisions. Uganda is among the world's most vulnerable and simultaneously least adapted countries to climate change (figure 1.8). In 2021, Uganda ranked 166th out of 182 countries on the Notre Dame Global Adaptation Initiative (ND-GAIN) Index, just one position ahead of Burundi and behind both Kenya and Tanzania, which are tied for 147th. The increasing frequency of climatic shocks such as droughts and hot weather poses a serious risk to the economy and rural households, which lack adaptive capacity owing to low technology adoption rates and limited access to alternative off-farm income streams. The general trend toward warmer temperatures threatens to displace some of Uganda's major crops, notably coffee, much of which would become unviable in Uganda's lowlands unless agro-forestry practices are adopted to provide shade (for example, areas suitable to arabica coffee are expected to shrink by more than 50 percent).²⁰ Finally, the country lags its East African peers in water management, storage, and irrigation, which are key to building resilience in the agricultural sector.

FIGURE 1.8 UGANDA IS ONE OF THE MOST VULNERABLE COUNTRIES TO CLIMATE CHANGE BUT LEAST PREPARED TO DEAL WITH IT



Source: Notre Dame University (2018).

Note: The ND-GAIN Matrix illustrates the comparative resilience of countries. The vertical axis shows the score of vulnerability, and the horizontal axis shows the readiness score. A high vulnerability score and low readiness score place Uganda in the upper-left quadrant of the ND-GAIN Matrix, meaning it has both a great need for investment and innovations to improve readiness and a great urgency for action.

1.3 COVID-19 PRESENTS PAINFUL HEADWINDS TO THE UGANDAN PEOPLE AND ECONOMY

The World Bank's most recent Uganda Economic Update (2021)²¹ highlights the shock caused by the onset of COVID-19 with a sharp contraction of Uganda's economy, marking its slowest pace in three decades. Household incomes fell as firms closed and jobs were lost, particularly in the urban informal sector. The country's GDP contracted by 1.1 percent in 2020 and is estimated to have recovered to 3.3 percent during fiscal year 2021. Economic activity stalled during the latter part of the fiscal year because of a domestic lockdown that lasted over four months, border closures for everything but essential cargo, and the spillover effects of disruption in global demand and supply chains due to the pandemic. This resulted in a sharp contraction in public investment and deceleration in private consumption that hit the industrial and service sectors hard, particularly the informal services sector. Higher coffee, maize, and gold exports helped offset some of the losses of export revenue caused by the halt in international tourism. Even if GDP growth rebounds strongly by 2022, the level of per capita GDP is likely to remain well below its pre-COVID-19 trajectory. Uganda was expected to begin oil production in 2022, but production will be delayed until 2025 because post-COVID-19 projections suggest that oil prices will remain below Uganda's breakeven price of \$60 per barrel.

COVID-19 has already had a profoundly negative impact on Uganda's labor markets, poverty, vulnerability, and human capital development but has shown some recent signs of recovery. The number of poor people in Uganda is projected to increase by 2.6 million in the short term because of the pandemic. Following the mobility restrictions that were put in place in March 2020, 16.6 percent of respondents to the June round of Uganda's High-Frequency Phone Survey on COVID-19 had stopped working. The rate of work stoppage was higher in urban areas (28 percent) and in services sectors (33 percent). The employment rate also declined significantly from about 87 percent in March 2020 to 70 percent in June, before returning to pre-March levels by August, when it was recorded at about 86 percent. Since then, employment rates were varying slightly around 86 to 89 percent between September 2020 and February 2021.

A business survey released from April 2020 showed that in that month, 29.4 percent of businesses closed operations; 34.8 percent and 34.5 percent of manufacturing businesses operated at 26–50 percent and 50–75 percent utilization capacity, respectively. Fifty-one and a half percent of businesses reduced their payroll. Sharp output declines (month on month) were recorded in these sectors: art and entertainment services (93.2 percent), construction (78.5 percent), mining (69.7 percent), and accommodations and food services (69.6 percent). Several firms surveyed noted they would appreciate government support to cope with the impact of COVID-19, including with tax holidays, restructuring of loans, access to short-term financing, provision of personal protective equipment, and deferment of utility fees.

The COVID-19 crisis has also reversed positive structural transformation, resulting in increased vulnerability to poverty, at least in the short run. The employment share of agriculture has increased 10 percentage points since its pre-COVID-19 share before March 2020. There are several reasons for this: first, many more people in the nonfarm sectors lost their jobs than in agriculture; second, there was a sizeable shift among working respondents from nonfarm sectors to agriculture because the agricultural sector was least affected by lockdown measures; and third, 2020 was a year of mostly favorable climatic conditions. However, increasing dependence on agriculture is concerning given that the agricultural sector's growth and productivity have been low, the sector is highly vulnerable to climate shocks, and the COVID-19 crisis is hitting this sector as well.

1. Uganda's percentage of FDI that was efficiency-seeking was 21 percent compared to Kenya at 28 percent, Rwanda at 10 percent, Ethiopia and Tanzania at 0 percent, Lao PDR at 6 percent, Ghana at 8 percent, Senegal at 28 percent, and Vietnam at 22 percent.
2. Uganda is home to pioneering tech-leveraging companies such as SafeBoda (ride-hailing) and Fenix International (solar pay-as-you-go) and has attracted regional tech leaders such as Andela (software development outsourcing) and Jumia (e-commerce) to establish major operations in the country.
3. According to the latest official poverty estimates based on the Uganda National Household Survey (UNHS), between 2012/13 and 2016/17 (referred to as 2012 and 2016 in what follows) the poverty rate in Uganda under the national poverty line increased moderately to 21.4 percent, a 1.7 percentage point increase that resulted in around 1.4 million Ugandans slipping into poverty. However, recent evidence suggests that poverty most probably fell after the period from 2016 (results forthcoming in the Uganda 2021 Systematic Country Diagnostic).
4. C. Mejia-Mantilla et al. "Impact of Fiscal Policy on Poverty and Inequality in Uganda: Fiscal Incidence Analysis Using the UNHS 2016/17." (Policy Research Working Paper WPS 9051, World Bank Group, Washington, DC, 2019).
5. S. Kayizzi-Mugerwa, "Privatization in Sub-Saharan Africa on Factors Affecting Implementation" (Discussion Paper 2002/12, UNU-WIDER, Helsinki, 2001).
6. In 2017, the International Monetary Fund deemed the SOE portfolio largely profitable. In June 2018, the combined debt of these SOEs (also called public corporations) amounted to \$2.1 billion or 6 percent of GDP. See Government of Uganda Ministry of Finance, Planning and Economic Development, "Annual Debt Statistical Bulletin," 2019, <https://www.finance.go.ug/publication/annual-debt-statistical-bulletin-fy-2018-19>; International Monetary Fund, Fiscal Affairs Dept. "Uganda: Fiscal Transparency Evaluation" (IMF Country Report 17/130, IMF, Washington, DC, 2017), <https://bit.ly/3wo9dWy>.
7. Most public corporations are nonfinancial, including the National Water and Sewage Corporation and Uganda Electricity Transmission Company Limited (UETCL). The largest financial corporations, other than the Bank of Uganda, are the National Social Security Fund, Uganda Development Bank, Pride Microfinance Ltd., and Post Bank Uganda.
8. To bring arrears under control, an external auditor and the Auditor General have verified the stock of domestic arrears, which was published for the first time with a lag less than a year. The government reduced the stock of arrears to 2.7 percent of GDP by the end of fiscal 2019 from 3.1 percent of GDP at end of fiscal 2017 and is on track to bring this down to 2.4 percent of GDP by the end of fiscal 2020. Finally, the Ministry of Finance, Planning and Economic Development is also putting in place measures to reduce the generation of arrears, including a commitment control system, a prepayment system for utilities, establishment of a separate budget for the repayment of arrears, and formulation of a comprehensive domestic arrears strategy.
9. World Bank, "Uganda: Oil Revenue Management: Closing Gaps in Fiscal and Savings Frameworks to Maximize Benefits" (World Bank, Washington, DC, 2020), <http://hdl.handle.net/10986/33899>.
10. Uganda's recoverable oil reserves are estimated around 1.38 billion barrels, which can support production of up to 260,000 barrels per day for 20–30 years. This level of production will place Uganda below Africa's largest oil producers, Nigeria and Angola.
11. If planned production programs materialize, Uganda can expect to receive on average about 3–4 percent of non-oil GDP over 25 years, in the form of royalties, profit oil, income taxes, government's take, and other indirect taxes such as withholding taxes. The actual annual revenue flows will be determined by the bell-shaped production profile, envisaged to peak about five years after the start of production, at which point revenues could reach 9 percent of non-oil GDP. Revenues will also heavily depend on the evolution of prices.
12. The total fertility rate in Uganda is still slightly above five births per woman, associated with an early age at marriage and of childbearing.
13. D. Merotto, "Uganda: Jobs Strategy for Inclusive Growth" (Jobs Series Issue 19, World Bank, Washington, DC, 2020), <https://openknowledge.worldbank.org/handle/10986/33342>.
14. Merotto, "Uganda: Jobs Strategy."
15. National agricultural output has grown at only 2 percent per annum over the past five years, compared to agricultural output growth of 3 to 5 percent in other East African Community member countries.
16. Value added tax expenditures are the largest at 2.5 percent, corporate income tax is at 2.3 percent, and excise duty is at 0.4 percent of GDP.
17. Over the past five years, Uganda's population growth has been almost 1 percentage point higher than that for the Sub-Saharan African region and for low-income countries as a whole, reaching 3.8 percent in 2018.
18. Merotto, "Uganda: Jobs Strategy."
19. Indeed, increased congestion on an already low-grade road network within Kampala is creating serious agglomeration diseconomies for businesses (less than 30 percent of Kampala's road network is paved, the lowest of any East African capital).
20. J. Ramirez-Villegas and P. Thornton, "Climate Change Impacts on African Crop Production" (CCAFS Working Paper 119, CGIAR Research Program on Climate Change, Agriculture and Food Security, Copenhagen, Denmark, 2015), https://cgspace.cgiar.org/bitstream/handle/10568/66560/WP119_FINAL.pdf.
21. R. Sebudde et al., "Uganda Economic Update, 17th Edition: From Crisis to Green Resilient Growth—Investing in Sustainable Land Management and Climate Smart Agriculture" (World Bank Group, Washington, DC: 2021)

02. STATE OF THE PRIVATE SECTOR

From the severe contraction in economic activity caused by COVID-19, There have been signs of recovery from the severe contraction in economic activity caused by COVID-19, underpinned by improved business and trading conditions as restrictions ease.¹ Domestic investments picked up during the last quarter of 2020 in line with global investment recovery. Manufacturing and construction recovered during the quarter ending March 2021, while the cash crop sector has sustained agricultural sector growth. That said, the picture is mixed in the MSME sector, which is still feeling the effects of the pandemic. For example, only 40 percent of household enterprises—a key part of the informal economy—that closed during 2020 had reopened in February 2021.² Moreover, with Uganda currently in the midst of a second wave of COVID-19, there is uncertainty as to whether further lockdowns will undermine business recovery in parts of the economy.

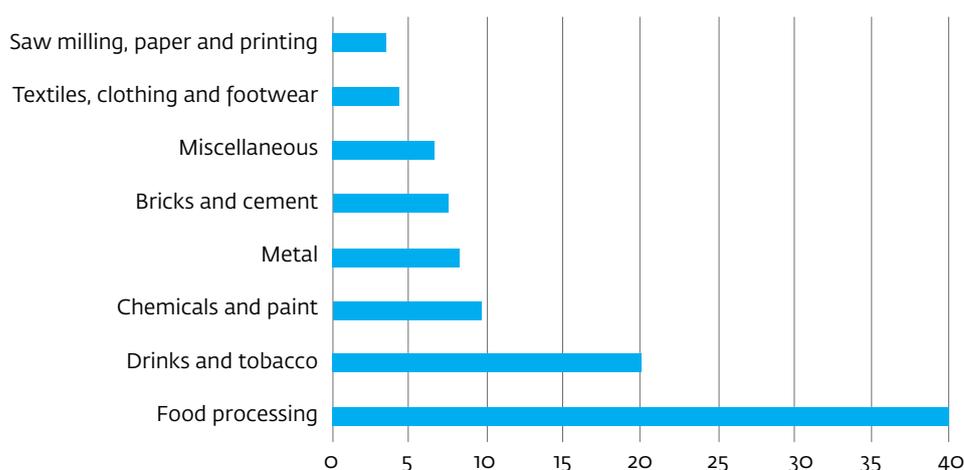
The agricultural sector has weathered the impact of the pandemic better than other sectors of the economy. Agriculture, which covers half of Uganda’s land area and takes place overwhelmingly on small farms, is still the primary source of income for over two-thirds of Uganda’s workforce.³ This proportion has not changed significantly in the past two decades, has been higher than in comparator countries (Ethiopia, Ghana, Kenya, Lao PDR, Rwanda, Tanzania), and has increased in the fallout of the pandemic. Agricultural exports (including agro-processing) contribute to over half of Uganda’s total merchandise (excluding services) export value and have grown faster in the past two decades than those of Kenya, Rwanda, and Tanzania but slower than those of Ethiopia, Ghana, and Lao PDR. Agriculture’s contribution to GDP dropped from over 50 percent in the 1970s and 1980s to 23 percent in 2020, reflecting structural transformation toward services and, to a lesser degree, manufacturing. That said, this structural transformation toward services and industry has not kept up with the rapid pace of population growth in terms of providing a sustainable jobs base.

Agriculture is Uganda’s major opportunity area. Land and water resources for agriculture in the country are among the best in Africa, owing to its diverse agro-ecological zones, rich volcanic soils, and two rainy seasons in most of the country. The large yield gap in Uganda’s staple crops points to much scope for increasing productivity and incomes, and rapid national and regional population growth will generate high rates of demand growth. There are significant trade growth opportunities to build on Uganda’s competitive success in exporting a range of agricultural commodities such as milk, maize, and fish.⁴ Rising regional demand suggests these are key opportunity sectors. Aside from existing high-volume agricultural exports, there is large untapped potential to enter or scale up the production of other high-value agricultural products such as fresh fruits and vegetables, leather, medicinal plants, and wood products.

However, agriculture in Uganda remains constrained by several interrelated challenges. The sector has experienced negligible or negative total factor productivity growth in the past two decades, underperforming compared to peers in the region.⁵ National agricultural output has been growing slower than in other East African Community (EAC) member countries and slower than annual population growth. As a result, underemployment in agriculture is persistent (the mean weekly number of hours worked in agriculture is below 30) and earnings are low and stagnant (below \$35 per month).⁶ This is largely due to stagnating yields for crops among smallholder farmers,⁷ which are in turn a result of poor agricultural practices, limited access to and quality of extension services, low use and quality of improved inputs,⁸ insecure land ownership, high rates of postharvest losses, lack of access to finance, and the negative impacts of climate change. Most of Uganda's agriculture is highly vulnerable to floods, droughts, and increasingly unpredictable rainfall patterns, with average temperatures forecast to continue to rise.

Industry employs seven percent of the workforce and manufacturing is estimated to contribute 16 percent to total GDP, far above the contribution of manufacturing value added in all six comparator countries (which range from Ethiopia's six percent to Ghana's 11 percent)⁹. Manufactured goods also account for 16 percent of Uganda's total merchandise exports.¹⁰ Agro-processing represents the majority of Uganda's manufacturing output, with food processing alone accounting for 40 percent, led by sugar, coffee, and tea processing (figure 2.1).¹¹ Other prominent manufacturing subsectors include construction materials (such as steel fabrications, bricks, and cement) and chemicals (for industrial and consumption products) for the domestic and neighboring country markets. Manufacturing value added, which stood at US\$5.9 billion in 2020, grew rapidly at an average annual rate of 6.6 percent between 2000 and 2010. However, this growth decelerated to an average of 5.2 percent between 2010 and 2019, before slumping to just 1.2 percent in 2020 as the early impacts of the pandemic set in. Earnings per hour in the sector have also been falling.¹²

FIGURE 2.1 SHARE OF UGANDA'S MANUFACTURING OUTPUT BY SUBSECTOR, 2019 PERCENT



Source: M. Fowler and J. Rauschendorfer, "Agro-industrialisation in Uganda" (Working Paper F-IH-UGA-006-2, International Growth Centre, London, 2019), from Uganda Bureau of Statistics (various).

Services account for 21 percent of employment (lower than all six comparator countries) and 43 percent of GDP (average compared to comparator countries).

Services exports contribute 37 percent of Uganda's total export value.¹³ Services value added grew at an average annual rate of 13.75 percent between 2000 and 2010, slowing to 3.74 percent between 2010 and 2016 (the latest available data).¹⁴ As in manufacturing, earnings per hour in the services sector have been falling. Depending on estimates, tourism contributed between 2.9¹⁵ and 3.7 percent of GDP in 2016–17. Pre-COVID-19, tourism was the largest foreign exchange earner for Uganda with \$1.2 billion in 2018.¹⁶ According to the Uganda Bureau of Statistics, the biggest services subsector category in terms of gross output is trade and repairs, followed by real estate activities, education, transportation and storage, and human health and social work activities.¹⁷

Uganda has the potential to transform into a regional hub for several tradable service sectors, leveraging its strategic location, if key constraints are addressed. Uganda is the major trade gateway to significant “captive” markets in South Sudan and the eastern Democratic Republic of Congo, meaning both imports and exports flow through the country. This opens a major opportunity to add value to trade flows via transport, logistics, and trade-related services (such as freight forwarding and e-commerce). Services sector growth and upgrading are constrained by several of the same factors affecting other sectors, such as access growth finance, digital infrastructure, regulatory weaknesses, and weak management and technical skills. Additional constraints specific to the services sectors include inadequate physical infrastructure (including road and highway systems, electrical grids, and telecommunications), a lack of market information and skilled personnel, and security issues (hijacking goods mid-transport).¹⁸

2.1 ADDRESSING CROSS-CUTTING CONSTRAINTS TO PRIVATE SECTOR INVESTMENT

Improve the Quality of Public Institutions

The poor quality of public institutions, particularly regarding the control of corruption, is putting a strain on investment, the establishment of new business, and firm growth. In 2013, only 2.6 percent of firms responding to the World Bank's Enterprise Survey cited corruption as a major obstacle to their business activity. By 2017, this picture had changed. The most recent East African Bribery Index report¹⁹ put Uganda ahead of its regional neighbors on bribery with 41 percent of respondents indicating that they had paid a bribe during the previous 12 months. The Worldwide Governance Indicators also show Uganda falling behind on several indicators such as government effectiveness, regulatory quality, and control of corruption (figure 2.2). Uganda also continues to score poorly and lag its peers in several business-enabling areas, including the time, complexity, and cost of starting a business; connecting a business to the electricity grid; registering a property; and importing inputs and component parts.

FIGURE 2.2 WORLD GOVERNANCE INDICATORS: INCREASES IN UGANDA'S POLITICAL STABILITY BUT A DETERIORATION IN GOVERNMENT EFFECTIVENESS, REGULATORY QUALITY, AND CORRUPTION



Source: Worldwide Governance Indicators.

Note: Data is shown in percentile rank form. The black bars represent confidence intervals, with larger bars indicating less confidence, as different countries are covered by a different numbers of sources, with different levels of precision.

Weak public financial management limits the government's ability to invest effectively in growth-enhancing infrastructure, climate resilience, and human capital. Uganda's capacity for public financial management is weak, with an estimated efficiency below 40 percent.²⁰ This is particularly concerning in a country with one of the lowest revenue mobilization rates in East Africa as a result of weak tax administration and large forgone revenues due to tax exemptions. In addition to low tax revenues, budget grants to Uganda dropped by almost half over the past five years, as donors were deterred by the perception of increased corruption. Uganda struggles with the underexecution of its expenditures, and the expenditure composition needs to be more balanced.²¹

Despite a commitment to public-private partnerships (PPPs), weaknesses in the institutional framework limit Uganda’s ability to leverage private sector funding. In 2017, it was estimated that Uganda has an estimated infrastructure deficit of about \$1.4 billion a year and loses nearly \$300 million per year in inefficient infrastructure spending, mostly through underpricing and the inability to complete projects within cost and on schedule.²² PPPs can help minimize the risks related to inadequate funding of the government’s infrastructure program and those related to long-term aspects of ensuring the efficiency of investments. Supporting the development of a PPP framework in all aspects, including the sector-specific ones (tariffs and cost recovery, project preparation and development funding and capacity, and so on) and those beyond the sector (environmental and social management, land) is an important prerequisite for private investment to materialize. While the PPP Act was enacted in 2015, the corresponding centralized coordinating agency (PPP Unit) created to drive the process remains understaffed, and the ownership and capacity within the contracting agencies to develop and implement PPPs are uneven or inadequate.

Uganda is perceived to lag its regional peers in terms of the degree of competition in its domestic markets. This is reflected in the latest Global Competitiveness Report²³ where Uganda ranks 116th out of 141²⁴ countries in the competition-related indicators, behind Rwanda, Kenya, and Tanzania, which—unlike Uganda—have competition laws and authorities²⁵ in place.²⁶ Uganda also falls behind in overall competition and creation of an even playing field in domestic markets and extent of dominance and market power (see figure 2.3 and figure 2.4). Operational and business risks related to lack of competition are also perceived to be higher in Uganda than in Kenya but at par with Rwanda and Tanzania. According to the Economist Intelligence Unit data,²⁷ investors perceive significant risks in Uganda relating to unfair business practices and the existence of vested interests and cronyism.

FIGURE 2.3 DOMESTIC COMPETITION 0–100 (HIGHEST IS BEST)

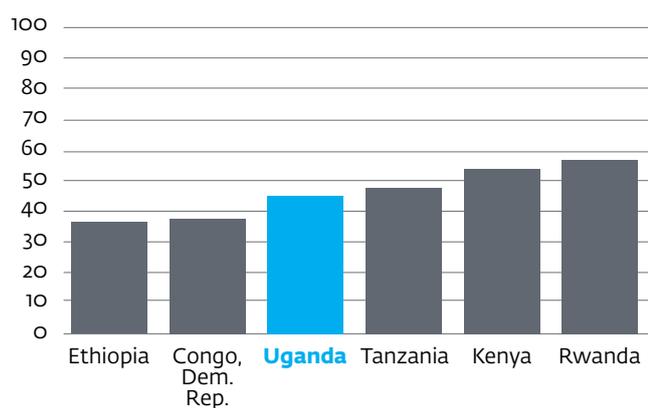
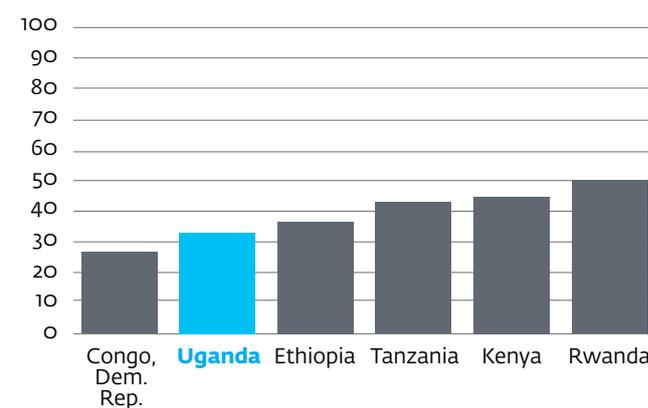


FIGURE 2.4 EXTENT OF MARKET DOMINANCE 0–100 (HIGHEST IS BEST)



Source: World Bank elaboration based on data from the World Economic Forum’s Global Competitiveness Report (2019)

Increase Access to Productive Finance

Uganda has made important progress on financial inclusion, but credit to the private sector remains weak compared to other countries. Uganda has doubled the share of adult Ugandans who can be considered formally included in the financial system in just 10 years (from 28 percent in 2009 to 58 percent in 2018). A large share of this increased inclusion can be attributed to mobile money, with 56 percent of adult Ugandans using mobile money as of 2018. However, in comparison to the East African region, the performance of Uganda's financial sector is weak in mobilizing long-term savings and allocating those savings to private sector credit and investment. Domestic credit to the private sector as a percentage of GDP stood at only 14.2 percent in 2020, compared to 32 percent in Kenya. Similarly, the domestic stock market capitalization of Uganda reached a mere 3.4 percent compared to 20.6 percent in Kenya. By the end of 2020, the ratio nonperforming loans in Uganda's banking system was one of the lowest in the EAC (5.2 percent as a share of total gross loans, down from over 10 percent two years ago).

Lack of competition, high interest rates, limited credit information, and weak property rights limit firms' access to finance. Interest rates in the banking industry remain high (19.26 percent on average for Uganda's 2019/20 fiscal year, which runs July 1 to June 30), while the Central Bank rate was 9.3 percent.²⁸ Interest rates have been significantly higher than Uganda's regional neighbors throughout the past decade, putting Ugandan firms at a clear disadvantage. Although the banking system is well capitalized and profitable, competition among banks is limited. The sector exhibits a lack of innovation, and its services fail to reach large segments of the market. Only between 10 and 25 percent of bank lending goes to SMEs. Lending at longer maturities is constrained as banks rely primarily on short-term deposits (90 percent of their funding base), and SMEs often do not meet financial accounting standards that would facilitate access to long-term capital. Two credit bureaus have started to reduce information asymmetry and facilitate access to financing. A law allowing movable assets as collateral has been passed. However, legal uncertainty over property rights and lengthy proceedings to recover collateral continue to weigh on banks' assessment of credit risk.

Boost Uganda's Human Capital

In most sectors, the skills of frontline workers are currently not a binding constraint for the private sector. The World Bank's 2020 Jobs Diagnostic found that firms do not cite skills as a main constraint to business.²⁹ It also found that more years of schooling are not associated with higher wages, suggesting that Uganda's labor market is demand driven rather than supply constrained. Falling returns to additional years of education suggest that demand for labor for the bulk of Ugandan workers is too low, especially for those without tertiary education (most of the workforce). Without significant structural change into higher value-added goods and services, the demand for workers with more education simply has not increased in tandem with the supply of workers.

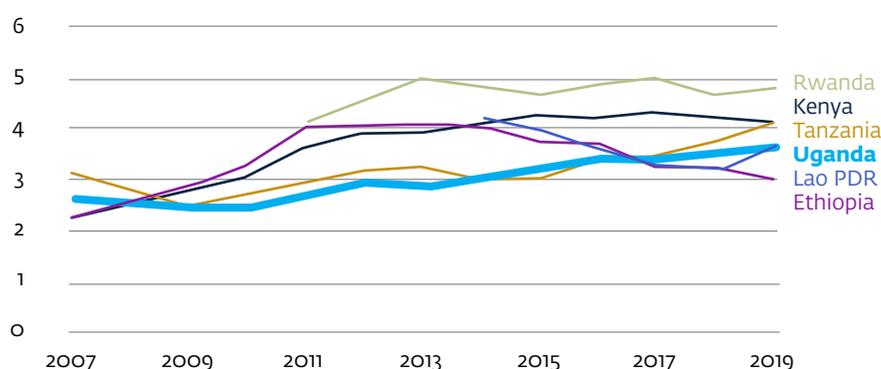
Yet, a more effective dialogue with the private sector could support the closing of skills gaps in specific industries. In the short term, the obtention of work permits for non-Ugandans could be eased to fill critical skills gaps. Targeted technical and vocational training efforts could fill skills gaps in close consultation with industry associations. As global production becomes increasingly automated and skill intensive and as Uganda's economy moves into gradually higher-value-added activities, improving skills and learning outcomes, especially for youth and women, will be critical to sustaining economic transformation momentum and increasing firm competitiveness. Because human capital takes time to build, more public investment in education needs to begin today, especially given large and growing demographic pressures.³⁰

Remove Barriers to Trade

Official trade tariffs have come down, but greater efforts on tackling non-tariff barriers (NTBs) to trade would help unlock Uganda’s regional export opportunities. As part of its liberal approach and in recognizing the challenges of a landlocked country, Uganda has championed and pursued regional trade integration. In 1992 it became a cofounder of the EAC, which now absorbs over half of its non-gold merchandise exports. Uganda has also been a member of the Common Market for Eastern and Southern Africa (COMESA) since 2012 and recently became an early ratifier of the African Continental Free Trade Agreement (AfCFTA).³¹ While trade barriers have come down sizably (effectively, applied weighted average tariff decreased from 8.9 in 2012 to 8.05 in 2019, lower than in Kenya [11.48]),³² unpredictable delays at the border and other NTBs interfere with Uganda’s trade performance, reducing firm competitiveness and lowering investment incentives.³³ Earlier this year, Kenya radically banned imports of maize and dairy from Uganda. Trade disputes around the Rwandan border post escalated after fighting erupted over new policies that were put in place on the Rwandan side.³⁴

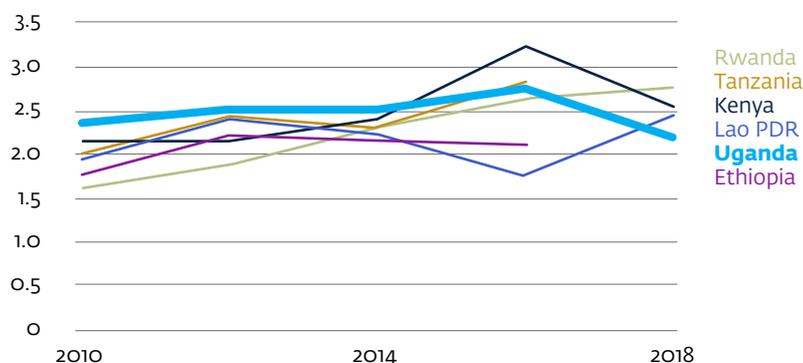
A weak trade logistics performance represents a significant barrier to trade for landlocked Uganda. Uganda’s trade logistics infrastructure (as measured by the World Bank’s Logistics Performance Index) has been on a decline since 2016, falling behind Rwanda and Lao PDR because of increased lead times for supply chain imports (figure 2.5 and figure 2.6). Significant impediments include gaps in reliable transport services and in storage facilities (including cold storage for horticulture products and silos and hermetic bags for grains), delays at border crossings, high transport costs, and extensive trade documentation requirements and associated compliance costs. Cross-border trade information exchange is currently costly, inefficient, inaccurate, and untransparent. Compounded by poor data management capabilities in the country’s fragmented logistics and freight-forwarding sector, the resulting delays negatively impact the durability (since most exports are agricultural goods) and competitiveness of traded goods.³⁵ Efforts should be made toward developing a dedicated logistics policy and a committee composed of public and private stakeholders to holistically address issues related to logistics.

FIGURE 2.5 ROAD QUALITY INDEX, BY COUNTRY, 2007–19



Source: Source: World Economic Forum GCI, Road Quality Index.

Note: The Road Quality Index, developed by the World Economic Forum, comprises two elements: (a) a measure of the average speed of a driving itinerary connecting the 10 or more largest cities in an economy accounting for at least 15 percent of the economy’s total population; and (b) a measure of road straightness.

FIGURE 2.6 TRADE LOGISTICS PERFORMANCE INDEX, BY COUNTRY, 2010–18

Source: World Bank; Logistics Performance Index: Quality of trade and transport-related infrastructure (1 = low to 5 = high).

Note: Respondents from international institutions and private companies and individuals engaged in international logistics evaluate eight markets on six core dimensions on a scale from 1 (worst) to 5 (best). The markets are chosen on the basis of the most important export and import markets of the respondent's country, random selection, and, for landlocked countries, neighboring countries that connect them with international markets. Details of the survey methodology are in J.-F. Arvis et al., "Connecting to Compete 2010: Trade Logistics in the Global Economy (WB 55852, World Bank, Washington, DC, 2010). Respondents evaluated the quality of trade and transport-related infrastructure (such as ports, railroads, roads, and information technology).

Private sector players identify weak quality and standards systems as one of the most significant impediments to export market access. According to an International Trade Center (ITC) survey of 500 exporters and importers in Uganda, product certification and technical requirements are the greatest hindrances. MSME competitiveness is particularly affected by inadequate testing facilities and systems for quality certification and sanitary and phytosanitary standards (SPS) systems within the country.³⁶ The annual value of flowers, fruits, and vegetables exported to the European Union (EU) has quadrupled since 2010, but in 2018 the government of Uganda acknowledged that most of the country's horticulture products fell short of EU standards and thus risked being intercepted by EU customs agencies. Concerns included the presence of pests, poor storage, packaging, and elevated levels of pesticide residue. Public investment is needed to strengthen quality and SPS rules, technical testing capabilities (including staff training and equipment), and enforcement. Further, the Uganda Investment Authority could play a key role in identifying and sourcing investments in the cold chain as well as other quality-preserving or -enhancing technologies and solutions along high-potential supply chains.

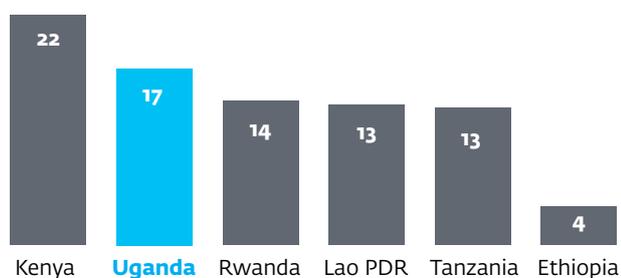
Improve Transport Infrastructure

Uganda's road network, which accounts for over 90 percent of total traffic, has been improving but remains a key bottleneck. Growth in the Northern Corridor (Malaba-Kampala-Katuna) has strengthened logistics and market access. Thanks to significant public investment in paved road network expansion (over 1,000 kilometers between fiscal years 2015/16 and 2018/19) and rehabilitation (770 kilometers in the same period), road quality as measured by the World Economic Forum's index has been continuously improving.³⁷ However, Uganda's road quality index rating remains the second lowest in the peer group, on par with Lao PDR (figure 2.5). Delays at weighbridges and congestion increase unpredictability for clients over when their goods will arrive, while inadequate quality infrastructure increases breakdowns and maintenance costs for transport and logistics companies, raising the cost of freight transport and thus lowering the competitiveness of Uganda's exporters.

There is significant potential in developing the almost nonexistent railway and waterway transport options as alternatives to road transport. The government is already making substantial investments to upgrade the railway, air, and water transport infrastructure. The Standard Gauge Railway is intended to connect Kampala to the Kenyan border at Malaba and the Port of Mombasa, with 95 percent of capacity dedicated for cargo and freight services. At the same time, rehabilitation work has begun on the Meter Gauge Railway, with the Port Bell-Kampala portion rehabilitated and plans to rehabilitate the Tororo-Gulu route. Further, work is ongoing to develop water transport over Lake Victoria by building the New Kampala Port at Bukasa and by remodeling and expanding the Port Bell and Jinja ports. Waterway transport will facilitate Uganda's links to the multimodal Central Corridor, which passes through Tanzania and ends at the port of Dar es Salaam, as well as reduce road traffic. Finally, work is underway (though behind schedule) to expand and upgrade Entebbe Airport, with an estimated total investment of almost \$500 million planned over three phases between 2015 and 2034.

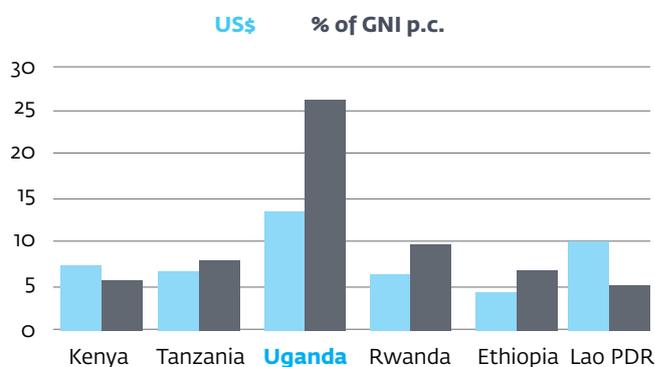
Improve Access to Power

Uganda has invested considerably in power generation and transmission, but low urban access rates, reliability, and pricing remain key constraints for firms. Remarkable progress has been made in the electrification side and in increasing the capacity for power generation.³⁸ In the past five years, the share of Ugandans with access to the grid increased from 14 to 24 percent. An additional 18 percent of Ugandans are now reached through off-grid solutions. However, access to electricity in urban (economic) centers is low compared to peers, which affects business.³⁹ Electricity prices for firm users are high by comparison (see figure 2.7). The 2018 national electrification survey also indicated that 30 percent of enterprises and 50 percent of manufacturers lack access to electricity, and 44 percent of enterprises had to turn customers away because of unreliable power.⁴⁰ For medium-sized and larger firms, particularly in manufacturing, power reliability is a major bottleneck resulting in idle production lines, equipment damage, and high backup generator costs.⁴¹

FIGURE 2.7 PRICE OF ELECTRICITY, US CENTS PER KWH, 2020

Source: *Doing Business* data, 2020

Note: kWh = kilowatt-hour.

FIGURE 2.8 AVERAGE PRICE OF A LOW-USAGE MOBILE SERVICES BUNDLE, 2019

Source: International Telecommunication Union.

Note: Low-usage data and voice basket refers to a monthly allowance of 70 minutes, 20 SMS messaging, and 500 megabytes. GNI p.c. = gross national income, per capita.

Bridge the Digital Divide

Uganda's path to middle-income status by 2040 and increased job creation relies on the country's ability to realize the full potential of digital transformation.⁴² Digital solutions can support the delivery of essential services for firms (such as utility and tax payments, access to markets via digital platforms and e-commerce, and digital small- and medium-enterprise finance), consumers (such as mobile money, remittances, online education, and e-commerce), and even the most vulnerable through expanded short-term social safety nets. Incentivizing integration of digital technologies in agriculture and manufacturing sectors would support needed productivity improvements in these sectors.

Despite some positive engagement in the information and communication technology (ICT) sector by the government of Uganda, internet penetration rates are comparatively low. Investment by the government of Uganda (and private sector) in fiber infrastructure and improvements in the policy and regulatory environment, including on information security and data privacy, has helped set a foundation for growth, but at 14 percent, internet penetration rates are among the lowest of 10 African peer countries according to a recent survey,⁴³ and internet costs are still high (figure 2.8). The communications infrastructure is limited to key urban centers, while rural areas, particularly in the northern region of the country as well as the country's 1 million or more refugees and host communities, have limited or no connectivity. Ensuring universal and affordable broadband access to all Ugandans, refugees, and host communities will require improvements in the policy and regulatory environment to encourage investments in rural and underserved communities, including release of newly available spectrum, more efficient use of existing infrastructure through infrastructure sharing, and reduction in the cost of internet and digital devices.

Lack of basic digital literacy contributes to low digital adoption. Recent surveys by the Ugandan government and research organizations point to a general lack of basic digital literacy in the population, particularly within the public sector. Challenges include lack of a national digital skills framework that guides government policies, programs, curriculum, and standards for digital skills, inadequate connectivity and equipment at schools, and strong leadership on digital skills development. Ensuring the requisite skills exist to power Uganda's digital transformation requires approval of the draft ICT in Education Policy to guide investments in the formal education sector and development of a national digital skills framework.

Accelerate the Land Titling and Transfer System

The slow pace of land registration continues to constrain the use of land as a commercial asset in Uganda. The commercial use of land is constrained by the insecurity of tenure rights, stemming from the prevalence of unrecorded communal and customary land rights. As a result, the use of land as collateral is limited, and land markets are not well organized. The ongoing Competitiveness and Enterprise Development operation (initiated in 2013) aims at scaling up and strengthening systematic land registration in Uganda through the establishment of the National Land Information System, improvement of infrastructures, institutional capacity building, and systematic land registration activities. While there has been progress on key metrics, including the reduction in the mortgage processing timeline from 28 days in 2010 to 3 days currently, the speed and scale of land registration are lagging because of regulatory, capacity, and infrastructure constraints. While scaled-up land registration is the prerequisite for a well-functioning land market, more needs to be done to mobilize investments in land assets, especially in contract enforcement, conflict resolution, and availability of financial products and services for investments in productivity. Box 2.1 highlights some of the notable actions Uganda has taken and further opportunities to leverage spatial approaches for private sector development.

BOX 2.1 LEVERAGING SMART INDUSTRIAL AND SPATIAL DEVELOPMENT STRATEGIES

The government of Uganda can leverage spatial agglomeration effects to realize increasing marginal returns to public investment by focusing additional efforts on developing secondary cities, industrial parks, logistics hubs, and growth corridors as growth centers.

Dense clusters of workers, consumers, and firms that avoid congestion can enable a “miracle of productivity” driven by scale and specialization. Scale and specialization depend on connectivity in labor and consumer markets, which in turn are driven by density and transport. Centrally located affordable housing is a key driver of density. Conversely, congestion (which reduces transport mobility) and high land prices (which induces urban sprawl) in cities like Kampala can eliminate the competitiveness of urban centers. Developing secondary cities and applying a growth corridor or spatial strategy to development will also reduce the overconcentration of existing business and industrial hubs in the larger cities while creating private sector development opportunities in more peripheral parts of the country. This can reduce spatial inequality and create hubs that can serve rural areas with scale-efficient economic and social infrastructure. The effort will require improving the urban policy and legal framework, planning and institutional capacity, urban and peri-urban land tenure system and markets, and housing availability.

The government of Uganda has begun to embrace spatial development strategies. The master plan for the Northern Economic Corridor envisions a multimodal transport and logistics system linking northern and central Uganda with Kenya to the east, South Sudan to the north, and the Democratic Republic of Congo to the west and enabling the development of several secondary cities as production hubs. For example, work has begun on constructing the Gulu Trade Logistics Hub and rehabilitating the Tororo-Gulu railway line. Fifteen secondary towns

have recently been given city status and the National Physical Development Plan envisions rapid growth leveraging these cities as growth nodes.

The development of industrial parks will continue to be another key element of Uganda's spatial development strategy.

Industrial parks can create significant firm agglomeration effects if carefully designed, prioritized, sequenced, and integrated into city and infrastructure development strategies. Industrial parks are the centerpiece of the government's increasing focus on selective industrial policy, as signaled in the National Development Plan III (NDP III) (2020/21–2024/24) and the newly launched National Industrial Policy (2020–30). Other recent and ongoing industrial policy efforts include introducing export levies on some raw materials to induce domestic processing, increasing use of import tariffs to protect infant industries, local content requirements in the Investment Code, and concessional equity and debt into target pioneer industries through Uganda Development Bank and Uganda Development Corporation.^a While well-designed and effectively delivered industrial policy can enable the development of new, internationally competitive firm capabilities in higher-value-added activities, it fails more often than it succeeds. Historically, industrial policy has only worked when recipient firms are “disciplined” by a combination of domestic competition, export targets, global value chain relationships, private investors, and conditionalities with a credible threat of withdrawal, among other factors.^b Thus, the revival of selective industrial policy should seek to crowd-in rather than crowd-out private investment and establish reciprocal control mechanisms to ensure recipient firms are incentivized to build productive capabilities toward export competitiveness rather than becoming vessels for patronage distribution.

a. M. Walter et al., *Industrial Policy for Economic Transformation in Uganda* (Kampala: Centre for Development Alternatives and Konrad-Adenauer-Stiftung, 2020), https://www.kas.de/documents/280229/9581001/CDA_KAS+-Reality+Check+12_Industrial+Policy+for+Economic+Transformation+in+Uganda.pdf/34cdb812-3de4-87e2-7281-0256682ba533?t=1594904315863.

b. A. Amsden, *The Rise of 'The Rest': Challenges to the West from Late-Industrializing Economies* (New York: Oxford University Press, 2020); J. Studwell, *How Asia Works: Success and Failure in the World's Most Dynamic Region* (London: Profile Books, 2013).

1. The analysis of Uganda's private sector is hampered by a lack of up-to-date data. The Uganda Bureau of Statistics (UBOS) issued its last full business census in 2010 and the World Bank's last Enterprise Survey dates to 2013. An update of the business census is currently under preparation. The following section is therefore based mainly on the firm data included in the 2016 household survey and the 2020 Jobs Diagnostic, which used the survey dataset. The main limitation of these sources is their outdatedness, lack of content beyond basic indicators, and the significant inconsistencies between them. The most recent dataset is the 2016/2017 National Manpower Survey, an informal sector survey for the Kampala area. In April 2020, UBOS also conducted a rapid COVID-19 business survey surveying 1,182 private firms on the impact that COVID-19 has had on their operations.
2. R. Sebudde et al., "Uganda Economic Update, 17th Edition: From Crisis to Green Resilient Growth—Investing in Sustainable Land Management and Climate Smart Agriculture" (World Bank Group, Washington, DC: 2021).
3. World Bank, "Closing the Potential-Performance Divide in Ugandan Agriculture" (Fact sheet, World Bank, Washington, DC, 2018).
4. See the Atlas of Economic Complexity, Growth Lab at Harvard University, Uganda Export Basket in 2020, <https://atlas.cid.harvard.edu/countries/227/export-basket>.
5. National agricultural output has grown at only 2 percent per annum over the past five years, compared to agricultural output growth of 3 to 5 percent in other EAC member countries.
6. D. Merotto, "Uganda: Jobs Strategy for Inclusive Growth" (Jobs Series Issue 19, World Bank, Washington, DC, 2020), <https://openknowledge.worldbank.org/handle/10986/33342>.
7. For example, overall maize yields barely increased on average from 2,505 kilograms per hectare in 2014 to 2,621 kilograms per hectare in 2018 (FAOSTAT). Current yields for maize, millet, rice, and sorghum are estimated to be only 20–33 percent of their potential for rainfed agriculture and even less for irrigated agriculture.
8. Uganda's use of inorganic fertilizers is one of the lowest in Sub-Saharan Africa at just 1.2 kilograms per hectare, and this is concentrated on larger and more commercially oriented farms, with less than 10 percent of smallholders purchasing and applying fertilizers. See Sheahan, M., and Barrett, C., "Ten striking facts about agricultural input use in Sub-Saharan Africa", Food Policy v67, p12-25, Feb 2017; and Okobo, G. and Barungi, M., "Constraints to Fertilizer Use in Uganda: Insights from Uganda Census of Agriculture 2008/9", Journal of Sustainable Development, #5, 2012.
9. A GDP rebasing exercise led to the contribution of manufacturing to Uganda's GDP jumping from 7 percent in 2008 to 16 percent in 2009, where it has remained, apart from some minor fluctuations. Uganda Bureau of Statistics, National Labour Force Survey 2016/17, Kampala, 2017.
10. UNCTAD (United Nations Conference on Trade and Development), "General Profile: Uganda," UNCTADSTAT, 2020, <https://bit.ly/3uebAJT>.
11. M. Fowler and J. Rauschendorfer, "Agro-industrialisation in Uganda." (Working Paper F-IH-UGA-006-2, International Growth Centre, London, 2019), <https://bit.ly/2RJ4n7A>.
12. United Nations Industrial Development Organization, UNIDO Statistics Data Portal, Uganda Manufacturing Profile, <https://stat.unido.org/country-profile>.
13. See the Atlas of Economic Complexity, Growth Lab at Harvard
14. TheGlobalEconomy.com. "Uganda: Services Value Added." https://www.theglobaleconomy.com/Uganda/services_value_added/.
15. Government of Uganda, Ministry of Finance, Planning and Economic Development, "Budget Framework Paper FY 2019/20," Kampala, 2018, <https://bit.ly/3bRAYid>.
16. Government of Uganda, Ministry of Tourism, "Budget Framework Paper 2019/20," 2019.
17. Uganda Bureau of Statistics, Statistical Abstract 2020 (Kampala: UBOS, 2020), <https://bit.ly/3fgwdB6>.
18. UNCTAD (United Nations Conference on Trade and Development), Services Policy Review: Uganda (II) (New York and Geneva: UNCTAD, 2014), https://unctad.org/system/files/official-document/ditctmcd2013d12_en.pdf.
19. Transparency International-Kenya. "East Africa Bribery Index 2017," 2017, <https://tikenya.org/kenya-bribery-index-2/>.
20. IMF 2013 and the World Economic Forum report the level of efficiency in public investment in Uganda to be between 0.33 and 0.36, indicating that over 60 percent of the resources invested in public projects go to waste. See Dabla-Norris, E., Brumby, J., Kyobe, A., Mills, Z. and Papageorgiou, C., 2012. "Investing in public investment: an index of public investment efficiency." Journal of Economic Growth, 17(3), pp.235-266.
21. Capital spending averaged 6.7 percent of GDP during fiscal years 2017–19 and reached 8.6 percent of GDP by the end of fiscal year 2020, and 10.1% by end -FY21 three times the size of fiscal years 2008/09–2011/12. However, low execution rates point to challenges in terms of absorptive capacity and the shift toward infrastructure that took place at the expense of investing in social sectors such as education and health. The social sectors experienced a decade-long decline in real per capita allocations, hampering service delivery.
22. World Bank, "Infrastructure Finance Deficit: Can Public-Private Partnerships Fill the Gap?" (Where We Work/Uganda, World Bank, Washington, DC, 2017).
23. WEF (World Economic Forum). 2019. "The Global Competitiveness Report 2019," edited by Klaus Schwab.
24. WEF (World Economic Forum). 2019. "Uganda: Global Competitiveness Index 4.0, 2019 Edition." Retrieved from <https://bit.ly/3oLzgEx>.
25. Rwanda is in the process of operationalizing its competition enforcement body—Rwanda Inspectorate, Competition and Consumer Protection Authority.

26. While Uganda approved a National Competition Policy in 2014, implementation has not followed. The National Competition Policy was originally designed to fill gaps such as lack of competition principles and provisions in sector regulation and absence of legal and institutional mechanisms to implement Uganda's commitments, both at the regional and international levels, regarding competition policy and consumer protection. The policy outlines the objective to enhance efficiency, competitiveness, welfare, and equity, in line with several African jurisdictions. It also calls for the establishment of the National Competition and Consumer Protection Commission as a requirement for the implementation of the policy and identifies specific policy interventions to promote competition, including the formulation and implementation of a National Competition Law. However, as of 2020, the implementing body established by the policy had not been operationalized, and while a competition bill has been drafted, it is still undergoing the legislative process.
27. Economist Intelligence Unit. "Country Report – Uganda", July 2019.
28. According to a study by the Bank of Uganda and the International Growth Centre that decomposed the determinants of interest-rate spreads, the biggest contributor between 2008 and 2018 was overhead costs (61 percent), followed by loan provisions. Bank of Uganda, "Annual Report 2019/20."
29. Returns to completing primary education fell by half between 1999 and 2016, at a time when the share of the working-age population with at least primary education increased from 18 to 34 percent for women and from 3 to 42 percent for men. Moreover, returns to tertiary education have dropped significantly, even though the increase in adults with some postsecondary education increased only marginally. In fact, the pay-off to tertiary education is now the same as returns to secondary education, which is unusual because postsecondary education pays off more than lower levels of education, sometimes exponentially, in many countries.
30. In 2018, Uganda spent 2.5 percent of its GDP in government education spending. This is lower than both the regional average (4.0 percent) and the average for its income group (3.6 percent).
31. Because regional partners are vital, Uganda should not only work toward preserving regional access within the EAC but also beyond, such as with the members of the COMESA Free Trade Area and the rest of Africa. Sudan, the Democratic Republic of Congo, and Ethiopia accounted for most of Uganda's exports to other COMESA members (about 21 percent of non-gold exports in 2019). Countries within Africa absorb almost all of Uganda's agro-based manufactures. The AfCFTA, through its private sector investment financing framework, offers an opportunity to boost industrial capacity and take advantage of the liberalized pan-African market. The framework is envisaged to unlock \$ 1 trillion in AfCFTA-certified and accelerated investments. See tralac (Trade Law Centre), "Status of AfCFTA Ratification," infographic, October 4, 2021, <https://www.tralac.org/resources/infographic/13795-status-of-afcfta-ratification.html>.
32. Retrieved from WITS (World Integrated Trade Solution). 2020, <https://wits.worldbank.org/>.
33. In a 2016 study, customs and trade facilitation issues were found to take the longest time to be resolved, at an average of 10 months. Unpredictable delays at the border and other NTBs interfere with Uganda's trade performance, reducing firm competitiveness and lowering investment incentives. L. Calabrese and A. Eberhard-Ruiz, "What Types of Non-tariff Barriers Affect the East African Community?" (ODI briefing, Overseas Development Institute, London, 2016), <https://odi.org/en/publications/what-types-of-non-tariff-barriers-affect-the-east-african-community/>.
34. I. R. Mugisha, "Rwanda, Uganda Trade Barbs as Dispute Grows," *The East African*, March 14, 2019, <https://www.theeastafrican.co.ke/tea/news/east-africa/rwanda-uganda-trade-barbs-as-dispute-grows-1414256>; Tom Collins, "Rwanda-Uganda Conflict: Is the End in Sight?," *African Business*, March 23, 2020, <https://africanbusinessmagazine.com/region/east-africa/rwanda-uganda-conflict-is-the-end-in-sight/>.
35. The Trade Logistics Information Pipeline managed by TradeMark East Africa aims to address this challenge via an electronic exchange of trade information across borders. More broadly, the Uganda electronic single window continues to make significant progress on improving trade processing efficiency and eliminating NTBs.
36. International Trade Centre, "Uganda: Company Perspectives—An ITC Series on Non-tariff Measures" (ITC, Geneva, 2018). Kenya's recent confiscation of Ugandan dairy exports, for instance, was justified because those products did not meet SPS standards. Similar issues affect animal feed exports to Uganda's regional neighbors, with grains containing high levels of aflatoxins.
37. There are also ongoing civil works contracts for upgrading 1,134 kilometers of road as well as plans to construct new roads to gazetted industrial parks and around major construction centers, to add transport corridors connecting Uganda to its neighbors, and to construct roads to connect oil and gas, minerals, and tourism centers.
38. Installed generation capacity increased from about 300 megawatts in 2002 to 1,252 megawatts in 2019, of which 80 percent is hydropower. The transmission network nearly tripled in size between 2003 and 2019.
39. Despite the heavy infrastructure investments by government, infrastructure services remain a key binding constraint to many firm operations. For example, only 58 percent of the urban population currently has access to electricity compared to 89 and 84 percent in Rwanda and Kenya, respectively. This has resulted in one of the lowest electricity consumption rates per capita in the world.
40. UBOS (Uganda Bureau of Statistics). "National Electrification Report for Energy for Rural Transformation-ERT III Baseline Survey, 2018," Kampala, 2020.
41. M. Walter and S. Aubert, *Powering Uganda's Transformation (Reality Check #10, Centre for Development Alternatives with Konrad-Adenauer-Stiftung, 2018)*, <https://cda.co.ug/711/reality-check-10-powering-ugandas-transformation-2/>.
42. The section has been adapted from World Bank, *Uganda Digital Economy Assessment: Country Diagnostic* (Washington, DC: World Bank, 2020).
43. ICRC (International Development Research Center) and CRDI (Centre de recherches pour le développement international), "Let the People Speak: Using Evidence from the Global South to Reshape Our Future," *After Access Survey, 2017/18*.

03. SECTOR REVIEW: AGRIBUSINESS, ENERGY, AND HOUSING

3.1 CHOICE OF SELECTED SECTORS

Several factors important to economic development in Uganda were considered when choosing sectors for review. Previous sections have identified the need to refocus efforts on the enabling sectors to increase productivity and build competitiveness of other sectors while reducing costs of public services and upgrading the economy with greener and more future-oriented modes of production. Four criteria, reflecting these priorities, were therefore used to select sectors for deeper assessments: (a) feasibility of attracting investment into the sector in the next three-to-five years, (b) potential to leverage revealed capabilities to drive trade performance, (c) potential to support enhanced competitiveness and productivity growth, and (d) potential to contribute toward equity, social inclusion, and job creation (see figure 3.1). In addition, the sector selection considers the feasibility of expected sector reforms, the ability for the Country Private Sector Diagnostic (CPSD) to add value, and an overall fit with Uganda's strategic priorities.

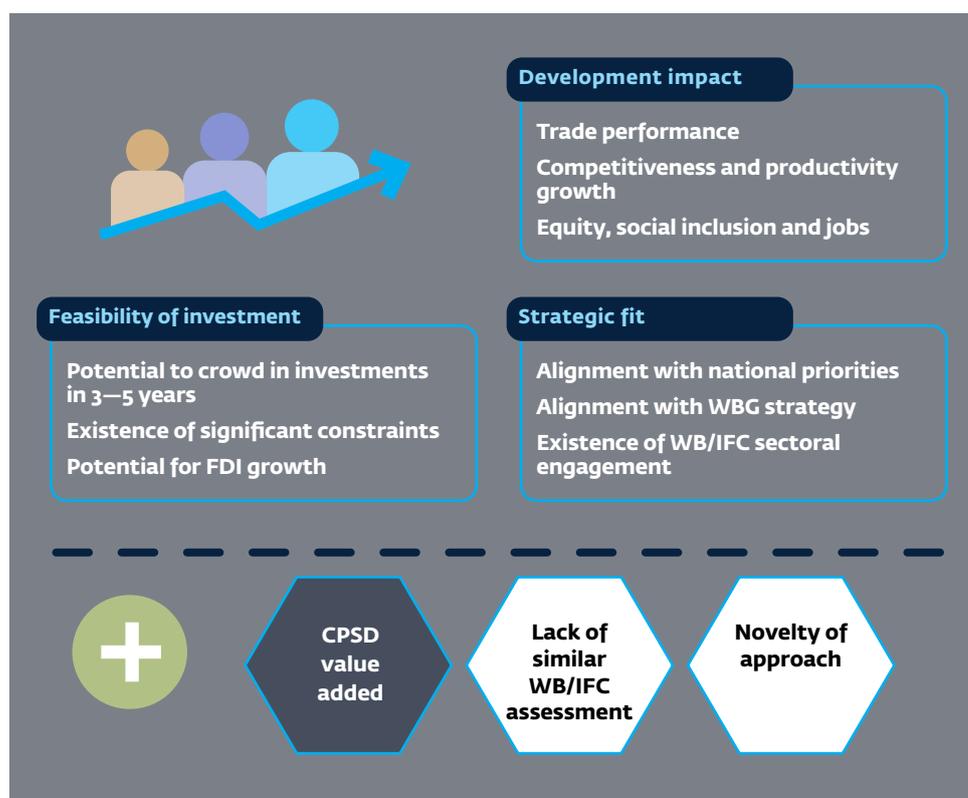
While the choice of agribusiness is obvious, the choice of its subsectors may not be. The agribusiness review focused on three subsectors: dairy, fisheries, and maize. A large body of analysis already exists for many of Uganda's most well-known and competitive exports, like coffee and tea. Dairy, fisheries, and maize represent smaller but growing sectors that are successfully accessing export markets with increasing demand, although COVID-19 has affected many of these trends. Ugandan dairy exports, for example, had grown dramatically in recent years before the pandemic, tapping into unmet demand in Kenya, with regional demand forecasted to continue to grow in the future. Global demand for fish had expanded for 60 years straight prior to the pandemic, with Ugandan fisheries having captured significant shares of sophisticated markets.¹ Meanwhile, Ugandan maize exports have grown about 50 percent over the past five years in a market where global exports are also growing.² Dairy, fisheries, and maize are priority sectors under National Development Plan III (NDP III).

Dairy, fisheries, and maize are protected by high import tariffs under the EAC's Common External Tariff, but trade remains regionally and internationally competitive. Maize imported to the EAC bloc is considered a sensitive item and is protected with a tariff of 50 percent. But importantly, Uganda's main maize markets are regional, within the EAC where demand is strong, and analysis shows maize to be an efficient use of domestic resources and to be competitive—except against genetically modified

organisms (GMO) varieties of maize—when comparing production costs to import parity prices). The dairy sector predominantly targets regional markets within the EAC and COMESA, although Uganda’s low production costs make Ugandan dairy products increasingly competitive on global markets. Fish exports are already internationally competitive in the products unique to Uganda. EAC trade protection will remain in place for the immediate term, with the AfCFTA having the potential to reduce these protections in the longer term. Still, AfCFTA signatories can classify products as sensitive items to maintain high import tariff protection, which Uganda may opt for to protect its dairy and maize industries.

The selected agribusiness subsectors also have the potential to be economic accelerators. Each of the subsectors selected reveals among the highest comparative potential multiplier effects on GDP growth and employment for every additional million US dollars in sector revenue.³ These sectors also have potential for further value addition and product diversification. Maize, for example, is a critical input to animal feed production, which, in turn, is a critical input to the poultry and fish sector. More affordable, higher-quality animal feed can help simultaneously increase demand for maize while also increasing the competitiveness of the poultry and fish sectors.

FIGURE 3.1 CRITERIA USED TO SELECT SECTORS FOR FURTHER ANALYSIS



Note: CPSD = Country Private Sector Diagnostic; FDI = foreign direct investment; IFC = International Finance Corporation; WB = World Bank; WBG = World Bank Group.

Opportunities in Uganda

Using the sector selection framework described, in-depth sector assessments in three sectors were undertaken: (a) agribusiness with a focus on the fisheries, dairy, and maize value chains, (b) energy with a focus on pushing electrification rates, and (c) housing. The following rationale was used:

- **Agribusiness:** As Uganda’s largest economic sector—generating a quarter of the GDP and employing 70 percent of the labor force—agriculture is vital for income generation, employment, and livelihoods, particularly for the lowest-wage 40 percent of the population. A lift in production, yields, and quality has the potential of raising farmer incomes and contributing to a further reduction in poverty. Agricultural products—including cereals, coffee, tea, fish, sugar, cocoa, cotton, and milk—dominate Uganda’s revealed comparative advantage and the export basket. Moreover, economic complexity assessments suggest that Uganda can diversify into new agricultural products to improve its economic complexity. FDI into the sector has been increasing, reaching \$230 million in 2019 from \$77 million in 2010. Agribusiness development is contingent on the development of agro-processing and other light manufacturing as well as higher-skill and more knowledge-intensive agricultural services that will help Uganda achieve structural transformation.
- **Energy:** The availability of reliable electricity is key for productivity and competitiveness. Affordable and reliable electricity serves as a key input to all other sectors of the economy, directly and indirectly affecting growth, job creation, productivity, and competitiveness. Uganda already has an advanced energy sector; however, access to electricity constrains productivity. Surplus energy generation has added urgency to the need to stimulate productive use due to pressure on cost and financial sustainability. Constraints in transmission and distribution systems and their interconnection are the main barriers to maximizing electricity access and achieving sector efficiency.
- **Housing:** Uganda has a rapidly growing population that is increasingly urbanized. The formal urban housing market in Uganda is unable to meet the needs of most Ugandan households and serves a limited number of middle- and high-income households. At the same time, housing construction and rental activities are important contributors to Uganda’s economic growth and assist to develop and grow upstream secondary and tertiary economic sectors. Housing construction and rental are estimated to have contributed 11 percent to Uganda’s GDP in 2018. Intermediate inputs comprised 47 percent of this total, while 53 percent was contributed by gross value added during construction and real estate management. Affordable housing has multiplier effects due not only to its link to construction and demand for capital (for construction) but also consumption goods (agricultural, agro-processed food, furniture, and consumer durables), solid waste management, and traffic decongestion.

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1. FAO (Food and Agriculture Organization of the United Nations), “Global Aquaculture Production Set for Contraction as COVID-19 Challenges Persist.” GLOBEFISH, January 8, 2021, <http://www.fao.org/in-action/globefish/fishery-information/resource-detail/en/c/1367507/>.
 2. ITC Data, International Demand for Products exported by Uganda in 2020. <https://www.intracen.org/country/uganda/>.
 3. C. Burgi et al., “IFC’s Economic Impact Estimation” (IFC, Washington, DC, forthcoming).

04. SECTOR ASSESSMENT: AGRIBUSINESS

4.1 CONTEXT

Eight of Uganda's top 10 export industries can be found in agribusiness—coffee, fish, cereals, sugar, cocoa, tobacco, vegetable oil, and dairy—and all were growing before the pandemic. Ugandan firms have even managed to capture market share in some segments where global demand has been relatively flat or declining, such as coffee, sugar, and raw cocoa. Products reach a wide number of destinations and important global hubs. Kenya's role as a regional hub and home to primary international auction houses make it the main market for tea and tobacco, while fresh flowers are mostly exported directly to the Netherlands, the global center for that market. Exports of fish maw have seen explosive growth in demand in Asian markets—mostly Hong Kong SAR, China; Myanmar, and Vietnam. With its favorable agricultural conditions and lower labor costs, Uganda is in a strong position to grow its agribusiness.

Agribusiness in Uganda also presents a potential path out of poverty for Ugandans currently employed in small-scale subsistence agriculture, especially for women and youth. Nine out of 10 of Uganda's poor live in rural areas, and three out of four rely on farming for their livelihood. Farm income is even more important for women and youth. More than three-quarters of Uganda's youth engage in farming as their first job.¹ Nearly 90 percent of women (compared to around 60 percent of men) are employed in agriculture. Further, women account for more than 60 percent of production, about 90 percent of postharvest handling and processing, and almost 100 percent of household food provision.² Connecting small-scale agricultural producers to agribusinesses (which form part of the manufacturing sector) gives farmers access to more stable market conditions and provides them with incentives for producing beyond subsistence levels. Agribusinesses also play an important role as input providers to the farmers they work with, which lifts agriculture productivity and stabilizes their incomes.

Because of the important role of agribusiness for poverty reduction, job creation, productivity, and export earnings, the government has identified improved agro-industrial production and improved access to export markets as one of its top development objectives through 2025. The NDP III identifies 10 agricultural value chains that the government will prioritize in an effort to meet these objectives: coffee, tea, fish, cocoa, cotton, vegetable oil, beef, maize, dairy, and cassava.³ These sectors were selected on the basis of benefits on food security and nutrition, impact on exports earnings, existing production capacity, and market opportunities. The CPSD reviewed each of these sectors and selected three to assess more deeply: dairy, fish, and maize because of their demonstrated export potential and perceived potential for value addition, growth, and investment. While this chapter focuses on agribusiness, it is necessary to recognize that agribusinesses are also supported in their performance through interventions targeted at small-scale agriculture. Box 4.1 summarizes the most important sectorwide constraints to growth in both the agriculture and agribusiness segment of the economy.

BOX 4.1 SECTORWIDE CONSTRAINTS TO GROWTH AND INVESTMENT IN AGRICULTURE AND AGRIBUSINESS

The Uganda Systematic Country Diagnostic (SCD) update includes agriculture as a focus area and has an expanded review of general constraints affecting sector growth and development. Below are a select number of constraints taken from the SCD that also emerged in the context of the CPSD.

- Institutional weaknesses within the responsible ministries and agencies have been a key bottleneck for agricultural policy design and implementation, regulation, and administrative coordination. Despite the emphasis on the agricultural sector in many policy plans, agriculture was estimated to account for, on average, just 3.6 percent of total public expenditures between 2013/14 and 2017/18.
- Political interference accentuates inefficiencies in the farm input market. Under the country's flagship subsidy program, Operation Wealth Creation (OWC), which began in 2014, extension services have steadily moved away from knowledge transfer and have increasingly focused on distributing free or highly subsidized agricultural inputs. These are distributed by the military, are often of low quality, and are marred by untimely distribution. The cost of the OWC distortion is substantial because inputs are sometimes procured at 20–50 percent above market prices. At the same time, it is crowding-out private sector investment in these goods and services inputs.
- Farming is exposed to increasing climate variability and weather shocks, with Uganda being the most vulnerable to climate change among regional peers on the Notre Dame–Global Adaptation Initiative (ND-GAIN) index. More than 95 percent of cropland is rainfed and used for subsistence farming, making it especially vulnerable to weather variability and climate hazards. Ultimately, weather conditions will continue to dictate agricultural productivity over the next few years, even as more investments in resilient infrastructure—especially irrigation—come online.
- Beyond the farm-gate, poor logistics and considerable postharvest losses affect the quality of crops, access to markets, and incentives to adopt more productive approaches. The agricultural supply chains linking farmers to output markets are underdeveloped and fragmented. Smallholders typically depend on lower-quality postharvest handling and storage practices, whereas aggregators are constrained by a lack of working capital to take on the postharvest processes on a larger, more centralized level. One of the major challenges affecting international trade flows is the exchange of information between trade actors across borders. The existing cross-border trade information exchange framework is costly, inefficient, and often inaccurate, and it lacks transparency. Agricultural trade especially requires accurate and timely information sharing to ensure product quality is maintained during transportation. Other issues include low availability of trucks and poor road networks.
- High transportation costs and weak competition in agricultural intermediation squeeze the profit margins of farmers engaged in domestic and international trade. For commodities grown primarily for export and with limited long-term storage potential, remoteness can make farmers even more vulnerable to intermediaries. Weak competition in market intermediation, likely due to high costs of entry into long-distance subnational trade and high transport costs, means that intermediary traders and aggregators capture a high share of the market surplus.
- Access to finance in agriculture is highly constrained. Financial institutions shy away from the sector, which has consistently contributed to the second-highest percentage of nonperforming loans when compared to other sectors like manufacturing and real estate. Only 10 percent of farm households had access to credit in the past five years, and 6 percent of small-scale agribusiness had access to a loan or line of credit, as opposed to 44.1 percent in Kenya. Lending to the sector is dominated by microfinance, deposit-taking institutions. Lack of finance options constrains sector investment into efficiency and quality-improving inputs like mechanization, shellers, driers, improved storage, and so on.

Source: World Bank Group, Uganda Systematic Country Diagnostic Update (World Bank 2021).⁴

Market Structure and Firm Characteristics of the Agribusiness Sector

Medium- and large-size agribusinesses play a central role in structuring otherwise highly informal agricultural markets and driving export-oriented value chains. These firms aggregate domestic production, are often vertically integrated, and rely on expansive supply chains with operational models that include out-grower schemes and contract farming. Uganda's successful exporters have proven to global buyers that they have the logistical efficiency and quality assurance capabilities required to get products to market. Along the value chain, most employment is informal. Formal job opportunities are limited in part because most agribusinesses operate unregistered. NDP III (2020) states that fewer than 10 percent of registered firms have 10 or more employees. Nearly three-quarters have fewer than 5 employees.

More than two-thirds of formal agribusiness exporters earn over \$1 million in annual revenue, demonstrating rewards to economies of scale and potential to turn a profit, even in small-margin industries. The country's largest firms are competitive in global and regional markets. They tend to be more successful than SMEs when entering new markets, with around a 25 percent chance they will still be exporting that product to that market five years later. The exports of smaller firms face longer odds, but size is an important indicator of potential export success. Microenterprises have almost no chance of surviving on the market for five years, although official data may obscure the fact that small-scale cross-border traders do have lasting trade relationships via informal channels. More capacity-building support is needed for MSMEs trying to enter formal trade channels.

Ugandan agribusinesses that both import and export tend to be more productive and profitable than those that just export, suggesting that the trade regime for imports is as important as that for exports. World Bank Trade team analysis of customs and tax data provided by the government shows that these firms reached more markets and produced a wider variety of products than firms that focused only on exporting. In 2020, these firms exported 230 different products to 68 different markets compared to 147 products to 63 markets for export-only firms. With the government's focus on increasing value addition and diversification, it should be noted that open markets are critical to empowering exporters to help them access intermediate inputs of high quality and the capital goods needed for production at costs that allow them to stay competitive.

Trade relationships with European buyers are especially critical for Uganda's agribusinesses, where the country's coffee, flowers, and fish are in high demand. More than 60 percent of the country's coffee exports go to the European Union on average each year, along with essentially all its flower exports and roughly two-thirds of its fish fillets. While its most important products plug into these global value chains and thus appear relatively concentrated, the country has a diverse basket of agricultural exports destined to a wide range of countries, finding success in tea, cocoa, sesame, and vanilla, among others.

Regional trade has been more problematic, with sharp decreases in some exports in recent years, as trade disputes have embroiled the EAC market. Exports to Kenya, long Uganda's most important export market and trade partner, have been disrupted in some cases for many years. Most notably, tensions have risen since Kenya's import ban on Ugandan milk in late 2019, followed by its ban on sugar and sugarcane imports in mid-2020, and further bans on maize, fish, and poultry products in 2021. The neighboring country has based these trade restrictions on claims of Ugandan products not meeting sanitary and quality standards, as well as, in the case of poultry, seeking to help its own domestic industry recover from the impacts of the pandemic on the market.

Elsewhere in the region, Uganda has found recent export success: expanding into new regional markets and increasing trade volumes. Besides the core EAC market of Kenya, this has largely been driven by exports to Sudan and the Democratic Republic of Congo, which have grown in value by 25 and 12 percent over the past five years, respectively. EAC and COMESA markets offer further growth opportunities for Ugandan agribusiness. EAC has been the fastest-growing economic region in Africa.⁵

The AfCFTA could help Uganda to deepen trade integration further and expand exports of needed agricultural products into areas of deficit in neighboring countries. Modeling suggests implementation of the AfCFTA could increase Uganda's share of intra-AFCFTA exports in total exports by 28 percent.⁶ Output from the agricultural sector could grow by over \$1.6 billion by 2035. More open access to competition from imports will also challenge Ugandan firms, with impacts varying across subsectors.

The government's role in the agribusiness space has traditionally been focused on supporting subsistence and smallholder farmers rather than providing public goods that could benefit the entire sector. In the past, government policy has centered on transforming subsistence farming into modern, commercially oriented farming through the highly subsidized distribution of inputs and agricultural services. Fewer resources have gone into enhancing the capacity of the Ministry of Agriculture Animal Industry and Fisheries (MAAIF) to deliver on its mandates efficiently and effectively or toward increasing public investment in infrastructure, such as irrigation and rural roads.

Unlike other countries in the region, SOEs are not powerful actors in Ugandan markets. The government has also demonstrated an increasing willingness to partner with the private sector. The PPP Act (2015) has helped to facilitate increased private sector ownership of SOEs. It has also empowered the Uganda Development Corporation to attract private investment in key sectors, including agriculture. PPPs have now been established with agro-enterprises in fruits, sugar, cassava, and tea processing. For example, the Uganda Development Corporation partnered with Teso Tropical Fruit Cooperative Union in 2019 to invest in a greenfield fruit processing factory for oranges and mangoes, creating over 1,100 direct and indirect jobs.

4.2 POTENTIAL AND CHALLENGES FOR PRIVATE INVESTMENT IN THE SECTOR

Fisheries

Uganda today is already the world's largest exporter of fresh, chilled, and frozen Nile perch fillets, controlling roughly a third of global market share.⁷ In 2019, it was also the world's second-largest exporter of fish heads, tails, and maws, trailing only Hong Kong SAR, China, the center of the global market for such products and a major re-exporter. Together these products accounted for nearly 5 percent of all exports by value from 2015–2019—which does not include informal trade mostly destined for regional markets, some of which is later re-exported. ITC's Export Potential Map suggests Uganda has over \$150 million in untapped export potential in five fish products—namely cured fish, fresh cuts, frozen fillets, fresh whole fish, and frozen whole fish.⁸ Having integrated into global value chains supplying fish to both Europe and Asia, ITC information suggests Uganda has potential to increase fish exports to Hong Kong SAR, China; Germany; Italy; Portugal; and the United States—and even within the wider South African Development Community region to the Democratic Republic of Congo and Zambia.

Aquaculture—or fish farming—is only just beginning to expand and professionalize in Uganda and holds significant potential. IFC industry experts point to aquaculture systems playing an increasingly central role in the global market for fish because wild-catch fisheries continue to be overexploited and face existential sustainability threats. Aquaculture in Uganda has attracted significant investment in recent years, although output is still only a fraction of that from wild catch fisheries in Lake Victoria and other lakes (see box 4.2).⁹ This could change quickly. Demonstration projects have shown aquaculture yields could increase up to 20-fold with the proper inputs and techniques.¹⁰ The government is hoping to facilitate increased investment in commercial cage farming in both marine and freshwater areas. With wild catch output shrinking, Uganda's lowlands are well suited for fishpond aquaculture, with opportunities to expand into hatcheries and integrated feed mill systems.

BOX 4.2 RECENT INVESTMENTS IN UGANDA'S AQUACULTURE INDUSTRY

Investment in cage aquaculture systems has grown dramatically in recent years, especially on Lake Victoria. Uganda has attracted investment from Africa's largest vertically integrated aquaculture firm as well as a large Chinese aquaculture firm, both specializing in farming tilapia. In fact, there has been substantial investment into tilapia production in Sub-Saharan Africa in recent years, with most targeting production for domestic markets. Across the continent, aquaculture value chains are becoming

more integrated, with investment now targeting critical inputs in genetics, hatcheries, and feed mills. Larger, vertically integrated firms are active in multiple segments of the value chain, including upstream hatcheries and feed mills where they can produce their own inputs while also selling to smaller aquaculture farmers. Export-oriented traders and processors are also starting to backward integrate into large-scale farms to ensure quality and supply.

Source: IFC

Opportunities also exist around the production of value-added products. Most fish are sold either dried or smoked for the local market or receive simple primary processing (e.g., gutted, filleted) for exports. Secondary processing could produce fish oils, fish soluble, fish silage, and fish meal—critical components for animal feed and other manufacturing processes. Development of a domestic feed industry, capable of producing quality, affordable inputs would be advantageous to competitiveness. With competitiveness in maize production, this may be viable, and further investigation is warranted. Successful projects would require significant capital investment, skills, and market knowledge.

With fresh water covering roughly one-fifth of Uganda’s surface area, opportunities to continue to develop sustainable capture fisheries and aquaculture production are evident. Unlike its neighbors, some of which share these transboundary water resources, Uganda has the comparative advantage of having an organized set of processors and exporters with proven capability to meet the standards of foreign markets and established global trading networks. These firms have led the professionalization of the value chain, including investment in modern technology and food safety management systems. This stands in sharp contrast to most of the rest of the actors in the value chain. The overwhelming majority of fish production comes from Lake Victoria (especially exports), where fish are caught from mostly individual artisanal fishermen in small wooden boats and canoes. Fish collectors, traders, and factory agents then play the key role of aggregating and transporting supply.

The government is eager to promote investment in the fishing industry, with the president promising during his reelection campaign that the government would deliver a new industry master plan, help to secure new markets for fish exports, and increase earnings.¹¹ The government is seeking to further develop fish and fish product value chains by offering PPPs and attracting investment into aquaculture parks, which could include new fish processing facilities in Mukono, Jinja, Kamuli, and Serere in the next five years. The government is also pledging to restock endangered species and strengthen the protection and preservation of breeding grounds. The proposed 2021 Fisheries and Aquaculture Bill would strengthen regulation and increase deterrent punishments for people convicted of committing offenses related to illegal fishing and mismanagement of water bodies.¹²

Challenges to private investment in fisheries

Overfishing and sustainability

Part of the industry’s contraction in 2020 can also be explained by low supply, with fish stocks continuing to deplete at alarming rates in many wild-catch fisheries, causing concern over the sustainability of the industry. Climate change is already affecting Uganda’s freshwater lakes. Changes in weather patterns have resulted in rising water levels, which some analysis suggests may be deoxygenating the water and contributing to large fish die-offs. Pollution of the water bodies is also increasing, a serious problem for biodiversity health. With populations growing across the region and imports increasing in foreign markets, demand will continue to rise and will place tremendous strain on fish stocks if not sustainably managed.

Illegal, unreported, and unregulated (IUU) fishing is a serious threat to sustainability. The country lacks sufficient legal and regulatory systems and the capacity to monitor and enforce existing laws.¹³ The government called in the military in 2017 to crack down on illegal fishing, but this was never intended to be a long-term solution. Illegal trade of fish is estimated to account for more than 10 percent of informal exports out of the country.¹⁴ Additional threats to sustainability include illegal fishing of large fish for their maw; the use of explosives, poison, illegal nets, and other illegal fishing gear to catch fish; illegal movement of fish and fish products; unlicensed boats; and corruption among fisheries officers.

Depleted supplies have led to volatile prices and pushed many downstream players out of the industry. Before the military stepped in to stop IUU, the number of formal processing facilities in the country had dwindled from 21 to 5. Improved enforcement, the government's renewed focus on sustainability, and Nile perch's natural ability to spawn quickly helped revive the market. Still, before the pandemic, only 12 fish processing factories across the country were operational.¹⁵

Weak legal and regulatory frameworks

Despite fish being a key export, Uganda's fish value chain is still largely unstructured and mostly artisanal. Most fisherfolks work individually and earn meager incomes, living at a subsistence level off their catch. Desperation and poverty can be strong motivations for IUU practices. With Uganda's massive lakes, regulating these individuals, informal fishers, and traders is challenging. The government has made progress in recent years toward more centralized regulation of the sector, including the registration of fishers and fishing boats on Uganda's waters. On Lake Victoria and other transboundary water systems, the government will need to continue to deepen coordination and collaboration with neighboring counterparts to effectively regulate the market.

Aquaculture systems have been slow to develop in Uganda for a myriad of reasons. These include a long-standing reliance on wild catch, which provides income with limited need for investment or access to finance. Aquaculture farming is also a knowledge-intensive activity, with precise design and management of these systems necessary to ensure biosecurity and efficiency. The necessary equipment has not always been available on the market in Uganda, and even today, some products are restricted from manufacture or import because of their potential illegal use in other systems. Furthermore, high-quality feed and fingerlings, the most critical inputs, have been lacking on the market. Misuse or mismanagement of antibiotics and other inputs can create disastrous consequences and have led to strict buyer requirements of farmed fish, which also require the necessary national quality assurance systems in place to certify safe and sustainable production—a system still underdeveloped in Uganda.

Aquaculture systems are easier to regulate than wild catch, but the government still needs to establish clear industry standards, effective support mechanisms, and effective regulation of input quality. MAAIF released the National Fisheries and Aquaculture Policy in 2017 to advance this front. But like other sector development strategies in agriculture, implementation has been weak. Fish farmers need access to high-quality inputs, such as fingerlings and feed. Low-quality and adulterated, domestically produced feed forces farmers to import feed, and with fish feed normally accounting for roughly two-thirds of production costs, this can immediately make an operation infeasible. Technical assistance is also needed to increase awareness of sustainable production and processing of fish to increase productivity. Unregulated aquaculture can lead to contamination of aquatic soils and sediments, eutrophication, and overuse of antimicrobials that degrade the environment and threaten long-term viability of production.

RECOMMENDATIONS

To address these issues and other critical constraints, the CPSD recommends the following actions:

Short-term priorities

- Adopt the Fisheries and Aquaculture Bill and gazette new protocols to create clear regulatory frameworks aligned with the Aquaculture Stewardship Council Principles and to strengthen governance of these value chains, especially with regard to reducing IUU fishing.
- Commit to a series of public-private dialogue events across the country to ensure awareness of the Fisheries and Aquaculture Bill's legal ramifications, to foster support for changes, and to gather feedback for improvements in implementation.
- Deepen regional cooperation on sustainable fisheries management through more joint patrols, the establishment of standard operating procedures, and a strategic environmental assessment of Lake Victoria to ensure biosecurity and ecosystem sustainability.
- Pilot an aquaculture advisory platform, leveraging development partners and the private sector, to demonstrate and train current and potential aquaculture farmers on modern, sustainable production systems and best practices.
- Ensure transparent and equitable appropriation of export levy funds toward monitoring, control, and surveillance activities.

Medium-term priorities

- Digitize a registration process for all actors along the fishing value chain and phase-in digitization of payments to the government from fisherfolk to improve fisheries management. Support the uptake of digital technology along the value chain.
- Continue capacity building and professionalization of the Fisheries Protection Unit.
- Encourage Marine Aquaculture Stewardship Council assessment and certification of fisheries.
- Incentivize installment of off-grid and microgrid renewable energy systems at processing facilities to reduce long-term operating costs and reliance on costly emergency diesel generator sets, especially for temperature-controlled storage facilities.
- Prioritize PPPs for temperature-controlled logistics, including transportation, storage, and off-grid energy solutions.

Dairy

Ideal climatic and topographical conditions, large cattle herds, and a cultural history in dairy farming have positioned Uganda as a leader in the commercialization of the regional dairy market. Uganda's relatively stable weather patterns, moderate temperatures, and grassy plateau are ideal for high-productivity milk production. Today, Uganda is home to Sub-Saharan Africa's seventh-largest head of cattle, between 13 and 15 million—about a third of which are raised specifically for dairy production—ranking Uganda in the top 25 of all countries in 2021. As domestic and foreign investment has increased in recent years, the value chain has evolved to become highly competitive, with some of the lowest production costs in the region.

Before the pandemic, Uganda was Sub-Saharan Africa's largest net exporter of dairy products (predominantly liquid milk and cream), with opportunities for continued growth and diversification. The country trailed only South Africa in terms of the total value of exports—the only two countries in the subcontinent to have a positive trade balance for dairy products. Uganda's dairy export growth has been explosive—especially that of liquid milk exports to Kenya, prior to Kenya's import ban put in place in 2019.¹⁶ Prior to this, exports had more than doubled since 2014, roughly three-quarters of which went to Kenya each year. Recognizing Uganda's success, the EAC 2020 Investment Guide included dairy farming, facilities for processing and manufacturing dairy products, and breeders' farms as strong investment opportunities in Uganda.¹⁷ Ugandan dairy companies have also invested in product diversification and differentiation, with varying degrees of success in domestic and foreign markets (yogurt being a notable success within Uganda). Further diversification is possible into flavored milk, drinkable kefir, and mixes of yogurts with cereals.

Analytical models point to opportunities for export growth and value addition of Ugandan dairy products. ITC's Export Potential Map estimates Uganda has untapped potential of over \$90 million for milk, low-fat milk powder, and sweetened milk powder.¹⁸ And indeed, to produce longer-shelf-life products that are more easily and safely transported, Uganda's lead dairy firm has invested in and now exports sweetened and unsweetened milk powder of various fat content—a capital and knowledge-intensive endeavor. IFC's analysis of Uganda's economic fitness suggests diversification into dairy products like sweetened condensed milk, butter, and yogurt are some of the most feasible pathways for diversification. Similar complexity analysis by the Harvard Growth Lab suggests fermented milk products, ice cream, and cheese are also feasible areas for export growth, although the latter would require a significant increase in disposable income.¹⁹

Trends in the global market also suggest investment opportunities in related inputs and supporting services along the value chain (box 4.3). This includes feed and forage production, genetics, and breeding services (such as artificial insemination), and product research and development. The world's leading dairy businesses are investing in circular economy approaches to improve competitiveness while reducing their impact on the environment. Sustainable packaging is a prime example. In 2020, Fonterra's Anchor brand introduced a new plant-based milk bottle, intended to propel the brand toward having all packaging reusable, recyclable, or compostable by 2025.²⁰ While innovation ecosystems are nascent in Uganda, similar environmentally friendly solutions are desperately needed in the market. As scrutiny on the environmental footprint of livestock industries continues to increase, Uganda's dairy products could become increasingly preferred over importing products from more distant leading industry suppliers like New Zealand.

BOX 4.3 IFC INVESTMENT IN UGANDA'S DAIRY SECTOR

Recent private investments have helped increase productivity and create jobs along dairy supply chains in the southwest and central parts of the country. Pearl Dairy, the most notable market entrant, has established production facilities in the southwest city of Mbarara, where it works with an estimated 10,000 farmers in the company's catchment area. Outreach and training throughout its supply chain has helped

Pearl Dairy more than double raw milk production among its suppliers in just a few years. The company believes it will be possible for Uganda to approach productivity of 20–25 liters per cow per day with continued investment in training, outreach, and collaboration with government extension services—a monumental increase from 1 to 4 liters per day when the firm first entered the market.

Source: IFC

Similar to the fisheries sector, the dairy sector features a small set of large-scale processors that have invested in the capabilities, technologies, and know-how to export to regional and global markets. These large players rely on production from dairy cooperatives and, to a lesser extent, traders that aggregate fresh milk within a certain catchment area. A few have intensive dairy farming operations. Being highly perishable and easily contaminated, ensuring milk makes it from the farm to a collection point with effective cooling and testing equipment is critical. In recent years, supported by both the private and public sector, the number of cooling centers, collection points, and processing facilities has expanded, and total production had reached over 2.7 million liters per day before the pandemic. Based on Uganda's booming population and high rate of urbanization, the Consultative Group on International Agricultural Research (CGIAR) calculates milk production will need to triple over the next few decades to meet the caloric consumption needs of the country's large urban populations.²¹

The government has announced planned investments in two new economic corridors that will connect heretofore isolated regions to market demand. Improved connectivity along the southern corridor, following the Malaba-Kampala-Katuna highway, has helped spur the development of dairy in the region and lifted much of the nearby population out of subsistence farming. In the next five years, the government will focus on developing two additional corridors: the Eastern Corridor and the Albertine Corridor. Together, these are hoped to form a “growth triangle,” connecting rapidly expanding urbanized zones and economic activity that leverage the natural resource endowments in these regions. Similar approaches will be supported by “Area-Based Commodity Planning,” a government strategy that has helped to develop domestic value chains and commercial production of dairy products as well as vegetable oil and tea in Kalangala, Ankole, Kigezi, and Toro.

Challenges to private investment in dairy**Market access**

A high dependency on the Kenyan market makes Uganda's dairy exports highly vulnerable to shocks and politics. More than 90 percent of formal exports go to Kenya, but a small percentage reaches other regional markets, including Rwanda and Sudan. This is in part because the EAC has high protection for its regional producers. Dairy

products, including milk and milk powder, are declared sensitive items in the EAC's Common External Tariff and are protected by a 60 percent ad valorem tariff on imports outside the bloc. In late 2019, Kenya placed an import ban on Ugandan dairy, alleging Uganda was dumping milk into its market. Without access to their largest market, Uganda's exporters have had to reduce capacity, thus also reducing procurement. The effect has rippled through the value chain, with many upstream players forced to abandon dairy farming and slaughter their animals for immediate income needs. Uganda's largest exporter estimates its total export revenue fell roughly 40 percent from 2019 to 2020, forcing it to lay off 1,500 staff. Such disputes within the EAC, an established and relatively successful economic community, do not bode well for AfCFTA negotiations, which will have to find agreement for sensitive products like dairy. Failure to find a durable solution to remove and restrict NTBs would likely stall any major private investment in Uganda's dairy sector within the next few years. This would be a major setback in the commercialization and scaling up of the industry.

Low productivity, poor animal health, and weak genetics

While competitive within the region, paltry milk production per cow limits opportunities for the industry to continue to grow. Analysis by the think tank Economic Policy Research Centre (EPRC) suggests Ugandan dairy farmers are producing only a quarter of the milk they could due to myriad constraints in the sector.²² EPRC found that recent growth in total output from the dairy sector has been largely driven by an increase in herd size and not by improvements in productivity. Between 2002 and 2016, the total head of dairy cattle more than doubled, while average milk production per cow declined by 8 percent. This is clearly unsustainable. In recent years, the government has licensed more milk processors, hoping to encourage the development of stronger value chains in more catchment areas, but nearly all operate well below installed capacity.

Productivity remains low due to low use of and low-quality of inputs—especially feed and veterinary services. Poor feeding practices and poor animal care are common throughout the country. As a first step, improved feed and nutrition of the animals would go a long way to creating more resilient herds, with better breeding and genetics a next step toward higher productivity. However, Uganda has very little commercial feed or hay production and limited and low-quality veterinary extension services, public or private. Further complicating matters for dairy farmers is the lack of regulation and enforcement of quality standards and product labeling leading to common complaints of low-quality and inefficient feed and veterinary drugs on the market.²³ Those who rely on the government have only limited access to extension services. Even then, these services have not been adequate to drive broader behavior change and sectoral transformation.

Investments in genetics and improved breeding practices can help transform Uganda's dairy sector. The struggle to increase productivity is in part due to poor management of genetics, difficulty in introducing higher-grade exotic breeds, and a high rate of failure for artificial insemination. Modern dairy value chains rely on continuous innovation and technology development to drive productivity and competitiveness, with genetics and breeding particularly important. Modern data collection and analysis can help farmers tailor and maximize protein and fat content in milk, production volumes, animal fertility, body types, and weight—all to ensure a productive animal breed that will thrive in its particular climactic conditions. In warmer climates like Uganda, where most cattle openly graze, heat tolerance, parasite resistance, and forage conversion efficiency are particularly important metrics.

RECOMMENDATIONS

To address these issues and other critical constraints, the CPSD recommends the following actions:

Short-term priorities

- Negotiate a durable solution to Kenyan market access to allow for the trade of dairy products to resume and for future disputes to be more quickly resolved through standard, agreed-upon protocols.
- Formalize and expand the school milk program currently being piloted through the second phase of The Inclusive Dairy Enterprise (TIDE) project (in 14 districts and Kampala) to increase domestic demand for dairy products in more districts.
- Include dairy-related subsectors in the new National Innovation Fund to support prototype and product improvements, intellectual property acquisition and protection, and partnership formation as well as to secure alternative funding and build capacity to enable commercialization that can help drive research and development. In addition, the National Innovation Fund may support innovative private sector-led solutions to (a) improved veterinary services, (b) higher-quality feed and fodder, (c) improved grass varieties for pasture rehabilitation, (d) water harvesting and storage equipment, and (e) off-grid renewable energy production and storage systems.
- Strengthen enforcement of milk quality standards in larger Uganda markets, in part to incentivize an industry shift toward milk payments based on milk quality.

Medium-term priorities

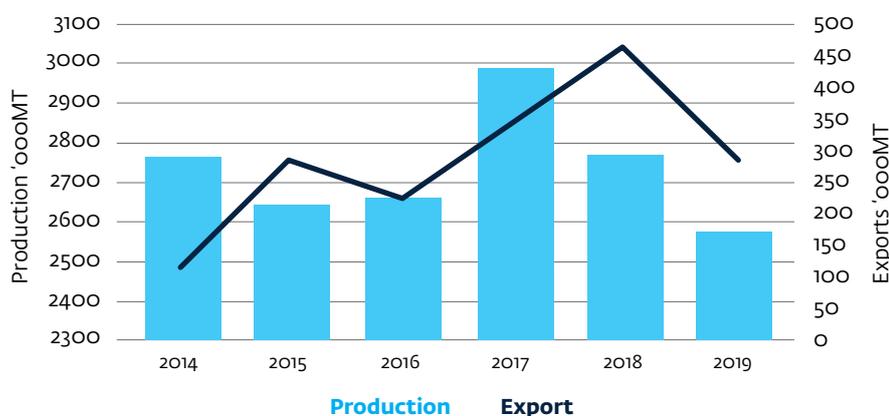
- Prioritize funding earmarked for infrastructure improvements to finance PPPs for rehabilitation and development of new milk collection centers and cooling equipment along the cattle corridor to expand access to cooling equipment, increase collection, and facilitate more processing of raw milk in remote areas.
- Encourage vertical integration as well as establishing confined or semiconfined free stall operations, which is the only way to maximize the benefits of new genetics, better feed rations, and improved animal husbandry.
- Establish a performance-based salary and bonus system for veterinarians to incentivize wider and more effective extension services.

Maize

Maize is a key food security commodity in East Africa and Uganda has a strong export position. Uganda is a net exporter of maize, with the percentage of maize exports to total production growing from 4.1 percent in 2014 to 11.7 percent in 2019.²⁴ However, exports are mainly informal, at about 70 percent of production. Production of maize is returning to historical averages in 2021 with 3.0 percent annual growth expected over the next three to five years. The crop is highly commercialized and a source of livelihood to farmers, traders, and processors.

Maize grain is not as significant a component of the Ugandan diet as in neighboring countries and doubles as both a cash crop and food crop, allowing for more acceptable export (figure 4.1). While 80 percent of maize flour is sold locally, Uganda is a prominent regional supplier of maize grain. Maize grain is exported regionally with the majority going to Kenya, where it contributes to that country's fortified maize flour production and its growing feed industry. Some fortified maize product is produced in Uganda, 90 percent of which is purchased by humanitarian assistance agencies (such as the World Food Program) and 10 percent remains in the local market. Fortified maize and diversification into oils, cakes, and other protein products represent a potential market opportunity.

FIGURE 4.1 UGANDA MAIZE PRODUCTION AND EXPORTS, THOUSANDS METRIC TONS (MT), 2014–19



Source: FAOSTAT 2020.

Unlike its neighbors, Uganda benefits from two maize harvest periods annually. This has the benefit of comparatively higher annual yields but exacerbates issues around proper postharvest handling, especially drying. Uganda's favorable conditions for maize production, with excellent soil, access to sunshine, and abundant rains have helped create a potential breadbasket for East Africa, but this is threatened by changing climatic conditions.

The EAC trade pact and COMESA offer access to export markets and protection from maize importation from those outside the pacts. However, trade can be volatile with export/import bans and NTBs affecting regional trade flows. These issues influence prices, market stability, and investment. While internal EAC and COMESA markets are liberalized and operate without taxes, a 50 percent tariff applies to maize imported to the EAC.

The production of maize in Uganda is an efficient use of domestic resources and partly competitive when comparing production costs to parity prices for non-GMO maize and soybeans.²⁵ Competitiveness is largely based on low economic costs of labor. However, the cost of hired labor and low yields do depress profit potential. When tested for labor cost sensitivity (increase in labor costs by 50 percent), maize production becomes inefficient for most production systems (smallholders with low, medium, and high input usages and commercial farms).

Challenges to private investment in maize

Low input, low output system

Maize production in Uganda is dominated by smallholder farmers who have low use of improved inputs and farming practices. Commercial farms account for about 5 percent of maize farming. About 35 percent of maize farmers manage plots of 2 to 5 hectares with the expectation to sell the surplus. The remaining farmers work on plots smaller than 2 hectares and have little to no application of improved inputs.²⁶ Only an estimated 21 percent of farmers use improved seed, 9 percent use pesticides, 8 percent use chemical fertilizers, 7.7 percent use herbicides, and less than 1 percent use irrigation (table 4.1).²⁷ Such practice leads to average maize yields of 2.7 tons per hectare (2020) when 5 tons are estimated to be achievable.²⁸

TABLE 4.1 PROFILE OF UGANDA MAIZE PRODUCERS

Farmer Category	Number of Farmers	Average Farm Size	Production Sold to Market	Yields (tons/hectare (ha))	Use of Improved Inputs
Commercial	170,000	>5 ha	100%	3.5	Yes
Limited input investment	1,200,000	2–5 ha	50%	2.1–3.5	Limited fertilizer and improved seed
Little to no input investment	2,100,000	1–2 ha	<50%	1.1–2.1	No fertilizer and improved seed

Source: M. Barungi, “State of Uganda’s Maize Industry” (EPRC Case Study 6, Economic Policy Research Centre, Kampala, 2019).

Higher yields cannot be achieved without better access to and adoption of high-quality agricultural inputs by smallholder farmers. Grain farmers are confronted with overstretched and underinformed extension agents and are rarely applying climate-smart agricultural (CSA) practices. A shift to digital extension services that potentially involve a partnership between government extension services and digital agtech providers could reach more farmers at less cost and provide more customized CSA extension advice. Moreover, agtech and agrifinance products can help provide a range of other services, from soil analysis to market linkages to small-scale commercial farmers. Kenya is a leader of agtech in East Africa and has demonstrated that private sector models of service are feasible.

Institutional inefficiency

Improving government regulatory efficiency and rationalizing perceived overlapping mandates would help facilitate exports and maize quality. For example, there is some confusion between the roles of the Uganda National Bureau of Standards (UNBS) and the Department of Crop Inspection on SPS certification and aflatoxin management. Exporters also complain about challenges to understand and comply with export licensing requirements. High levels of adulterated or counterfeit seed and fertilizer inputs seep into the system with little regulatory resistance. Tracking and registering input sellers may help discourage the sale of compromised inputs. More contract farming relationships can also help improve the allocative and technical efficiency within MAAIF, other agriculture-related ministries, and local governments.²⁹

High postharvest losses and limited value addition

High postharvest losses of maize and poor maize quality combine to lower returns on investment and inhibit market access. Maize farmers suffer from large postharvest losses in the range of 20 to 40 percent due to inadequate drying and poor storage.³⁰ Grain storage is critical for grain market management and quality control. In Uganda, grain warehouses are privately owned and managed with an estimated capacity of 750,000 tons. Most of these warehouses are controlled by members of the Grain Council of Uganda—an association of grain producers, traders, and exporters—to manage their supplies (box 4.4). These warehouses are working at about 30 percent capacity. Many provide drying, storage, and other services to farmers; however, costs may be prohibitive for smaller lots of maize. In addition, required certification (such as free of aflatoxin) and grading can discourage small farmers from using these facilities, pushing them to immediate cash sales with traders who are less concerned about quality. Best practices of postharvest drying, handling, and transport are not well adopted. Uganda's grain is often found with high aflatoxin contamination, which profoundly affects access to markets.

BOX 4.4 THE GRAIN COUNCIL OF UGANDA

The Grain Council of Uganda (TGPU) created the Regional Grain Hub model to promote wholesome grain storage and processing systems and to develop the capacity of especially large warehouses' owners to manage large volumes of grain in an institutional framework. The hub model consists of regionally distributed grain processing firms that act as farmer supply stations or hubs where multiple services are under one roof or location.

TGPU has 7 operational hubs with another 10 to 15 planned. The hub model is based on the hierarchy of operations where the off-takers in the hub offer an increasing number and complexity of services to farmers, including cleaning, drying, storage, data collection services, grain buying and quality awareness dissemination, licensed storage (warehouse receipting), and production extension support.

Source: Grain Council of Uganda.

Most grain produced is milled for the domestic market without further value addition, and raw grain is mainly exported. Poor grain quality, informality, and low-value addition have been a hallmark of the Uganda grain sector. However, there has been emerging activity in the fortified and blended complementary food and porridge market. Steady emphasis on quality grain production, clear and enforced grain production standards, and financial incentives can help build a local market for value addition products.

Market access

While Uganda is competitive in maize production in East Africa, trade is highly susceptible to political engagement. The Uganda-Kenya trade border experiences occasional interruptions in trade. Since Uganda's grain prices are greatly affected by Kenya's purchases, this has an important effect on Uganda's market stability. In the first half of 2021, Kenya's government banned all maize imports from Uganda to Kenya on the basis that quality standards were allegedly not being met. Such activity creates significant investment risk.

Logistics bottlenecks

Logistics bottlenecks constrict trade potential by adding cost or complexity for maize and other products. Roads are generally poorly maintained resulting in longer travelling times. Traveling from Kampala to Juba in South Sudan, for example, can take as much as 24 hours to cover the 633km distance. Additionally, the cost of transporting containers from the port of Mombasa to Kampala is higher at \$4,000-4,500 compared to transporting that same container from China to Mombasa, which only costs roughly \$1,000. To diversify options and decrease transportation costs, Uganda should look beyond road networks and explore the development of multimodal transport options. Rail and water transport currently cater for only 10 percent of Uganda's trade. Using the waterways through Kisumu, Mwanza, Portbell, and Bukakata in Masaka would reduce traffic on the roads. Box 4.5 provides an example of how private sector investment can help to unplug logistical bottlenecks and create new market opportunities.

BOX 4.5 THE GULU LOGISTICS HUB EXPECTED TO FACILITATE TRADE IN NORTHERN UGANDA

Uganda has become an important trade hub for goods destined for South Sudan, the eastern region of the Democratic Republic of Congo, and other regional inland markets. These goods pass along transport corridors in the north of the country, but due to a lack of storage and distribution hubs along the route, transporters and logistics services companies depend on facilities in Kampala and Jinja. Routing back through these cities increases the time and distance of trips, and logistics costs increase.

The Gulu Logistics Hub is currently being developed and will include a multimodal terminal yard to provide

intermodal transport, a customs examination center bringing services closer to traders, warehousing, and cold storage. The modern facility is expected to ease regional distribution of cargo from the grain-rich northern Uganda to neighboring South Sudan and the Democratic Republic of Congo. It is expected to reduce barriers to trade in the region, by decreasing turnaround time for trucks and long containers, thus enhancing trade and improving the livelihoods of local farmers, manufacturers, transporters, exporters, and importers.

Source: Grain Council of Uganda.

RECOMMENDATIONS

To address these issues and other critical constraints, the CPSD recommends the following actions:

Short-term priorities

- Invest in storage access points program and pricing structures to facility use by smallholder farmers. This may include partnerships with private sector warehouse owners and managers.
- Invest in programs that make farming tools accessible that support good maize farming practices, such as bags, shellers, light mechanization, and so on.
- Increase the functionality of the Warehouse Authority and related agencies, especially those with the ability to license warehouses and enforce quality standards.
- Clarify the perceived institutional overlap between the UNBS and the Department of Crop Inspection on SPS certification and aflatoxin management.
- Review the Ugandan government's maize procurement policy and adjust to prioritize the purchase of high-quality maize.
- Improve access to aflatoxin testing and raise the UNBS's ability to enforce quality certification.
- Prioritize making the process for obtaining a license to export maize highly functional and requiring minimal time for compliance.

Medium-term priorities

- Develop a registration system linking traders to the sale of quality maize, grading and traceability, and potentially input dealers to discourage counterfeiting and adulteration.
- Develop policy that advances the use of maize grading.
- Explore advantages of a functional commodity exchange.
- Develop a PPP framework and incentives or irrigation investments.
- Review the maize value addition market for Ugandan firms in animal feeds and blended or complementary human food, fortification, and porridge production.

4.3 RECOMMENDATIONS TO SUPPORT THE WIDER AGRIBUSINESS SECTOR

As evidenced in the previous sections, facilitating the recovery and further development of fisheries, dairy, and maize value chains will require a multifaceted engagement between the government and the private sector. Attention to future impacts of climate change, boosting resilience, and increasing adoption of climate-smart agriculture should be coupled with a focus on incentivizing product quality, improving regulatory clarity, and strengthening enforcement. Further digitization of government services and improved access to digital infrastructure, coupled with an enabling environment for agtech will help drive innovation, increase efficiency, and connect more players along the value chain. Investment in temperature-controlled logistics, storage, and irrigation, especially through deliberately designed PPPs can also advance agribusiness. Ensuring access to regional markets and continuing to improve trade facilitation at the border will also help exporters.

Several sector-wide reforms are recommended to support the growth and emergence of more productive and competitive agribusiness value chains. For any of the above value chain recommendations to be effective, addressing critical cross-cutting constraints to agriculture sector development is needed. Many of these constraints have been highlighted in previous sections of the report, including more prudent management of public investment and stricter adherence to budgets, targeted infrastructure investment, improved legal and regulatory frameworks, easier and wider access to finance, and continued investment in human capital, among others. The government of Uganda does recognize opportunities for reform in agribusiness and is actively engaged in reforms. Many are consistent with subsector reform recommendations previously mentioned, as are the following recommendations that are aimed to broadly support the entire agribusiness sector:

- Conduct a comprehensive functional review of the MAAIF and semiautonomous government agencies as well as other agriculture-related institutions to clarify functional mandates, strategic objectives, and budget allocations.
- Review the Operation Wealth Creation subsidy design for opportunities to shift toward more private sector-led solutions.
- Adopt the National Accreditation System Bill and prioritize capacity building in institutions charged with inspection, sanitary standards, and international quality certification.
- Ensure negotiations for the implementation of the AfCFTA (and existing regional trade agreements) focus on the removal of persistent and ad hoc NTBs to facilitate access to existing and new markets.
- Leverage available international technical and financial support to implement trade facilitation improvements to align with the World Trade Organization Trade Facilitation Agreement.
- Continue to modernize extension services to increase digital data collection and application.
- Conduct a financial feasibility study of a shift to alternative pay-for-results programs for agriculture extension service providers.

- Increase the budget and prioritize capacity building in the Uganda National Meteorological Authority to further develop agri-climate information and make data publicly available to allow for increased innovation and better risk assessment in agri-finance programs.
- Continue to prioritize PPPs for irrigation, temperature-controlled logistics, storage, and off-grid energy solutions as well as improving the capacity of the PPP Unit.
- Develop leasing regulations conducive to the needs of commercialized farmers, especially smallholders.
- Introduce electronic signature for land administration business processes.

4.4 COVID-19 CHALLENGES IN THE AGRIBUSINESS SECTOR

Early economic indicators and responses from Uganda’s High-Frequency Phone Surveys suggest the country’s agriculture sector has fared better than others since the onset of the crisis.³¹ Over the initial months of the pandemic, food distribution systems proved resilient. Since the World Health Organization declared COVID-19 a pandemic on March 11, 2020, agricultural exports had, in aggregate, been higher year-on-year each month, apart from a slight contraction in September, 2020. The previous year, 2019, was more volatile. However, intra-EAC trade suffered significant contractions.

For specific export-oriented industries, the impact has varied, in some cases affecting both supply and demand conditions. Coffee exports destined for the main markets and US markets, for example, have been resilient with sustained demand, while international demand for fish in those same markets has fallen. Initial lockdowns caused serious disruption to commercial production, with some agri-food industries furloughing more than three-quarters of their employees. Trade disputes with Kenya in early 2019—albeit unrelated to COVID-19—have exacerbated the stress on multiple agribusiness sectors, including sugar, dairy, and maize.

With disrupted supply chains and reduced global demand, foreign investment is likely to diminish from pre-pandemic levels. In the years prior, Uganda attracted investment into key agri-food value chains—namely, in aquaculture, horticulture, food crops, seed production, and downstream modern supermarket chains. More than \$280 million in investments across more than a dozen deals had been announced since 2015, according to an analysis by the Financial Times. These deals originated from a variety of locations, suggesting a growing awareness of investment opportunities in Uganda, with investors from China, Germany, the Netherlands, and the United Arab Emirates as well as with regional players headquartered in Kenya, South Africa, and Tanzania. IFC has also invested in one of the country’s leading dairy firms. In the more medium-term, these investments will inject new and improved capital and know-how into value chains, helping boost productivity and product quality, while also creating opportunities for knowledge spillovers in other related activities.

Uganda’s abundant natural resources, competitive domestic labor market, and revealed comparative advantage in some export-oriented agrifood value chains hint at the country’s potential to attract more private investment. However, investment decisions will continue to be shaped by the COVID-19 crisis in the coming years. The government will need to remain diligent and proactive, continuing to improve enabling conditions in critical sectors to position them for medium-term growth.

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05. SECTOR ASSESSMENT: ENERGY

5.1 CONTEXT

As a key input to all other sectors of the economy, affordable and reliable electricity directly and indirectly influences growth, job creation, productivity, and competitiveness. Uganda already has an advanced energy sector; however, low access to electricity and high electricity prices continue to constrain productivity. Reliability of supply is another constraint: The 2018 national electrification survey indicated that 30 percent of enterprises and 50 percent of manufacturers lack access to electricity, and 44 percent of enterprises had to turn customers away because of unreliable power.¹ Surplus energy generation has added urgency to the need to stimulate productive use due to pressure on cost and financial sustainability. Constraints in transmission and distribution systems and their interconnection are the main barrier to maximizing electricity access and achieving sector efficiency.

At the same time, there is great interest in private sector solutions in Uganda's energy sector based on the experience of private investments and PPPs in both the electricity distribution and generation of earlier years. The primary objective of this CPSD sector assessment is to unpack binding constraints for a stronger private sector contribution and to identify priority actions focused on private sector solutions. This is timely; the government is considering a second generation of reforms to put more emphasis on transmission and distribution investments to enable evacuation of power, serve latent national demand, and tap into export opportunities in neighboring countries.

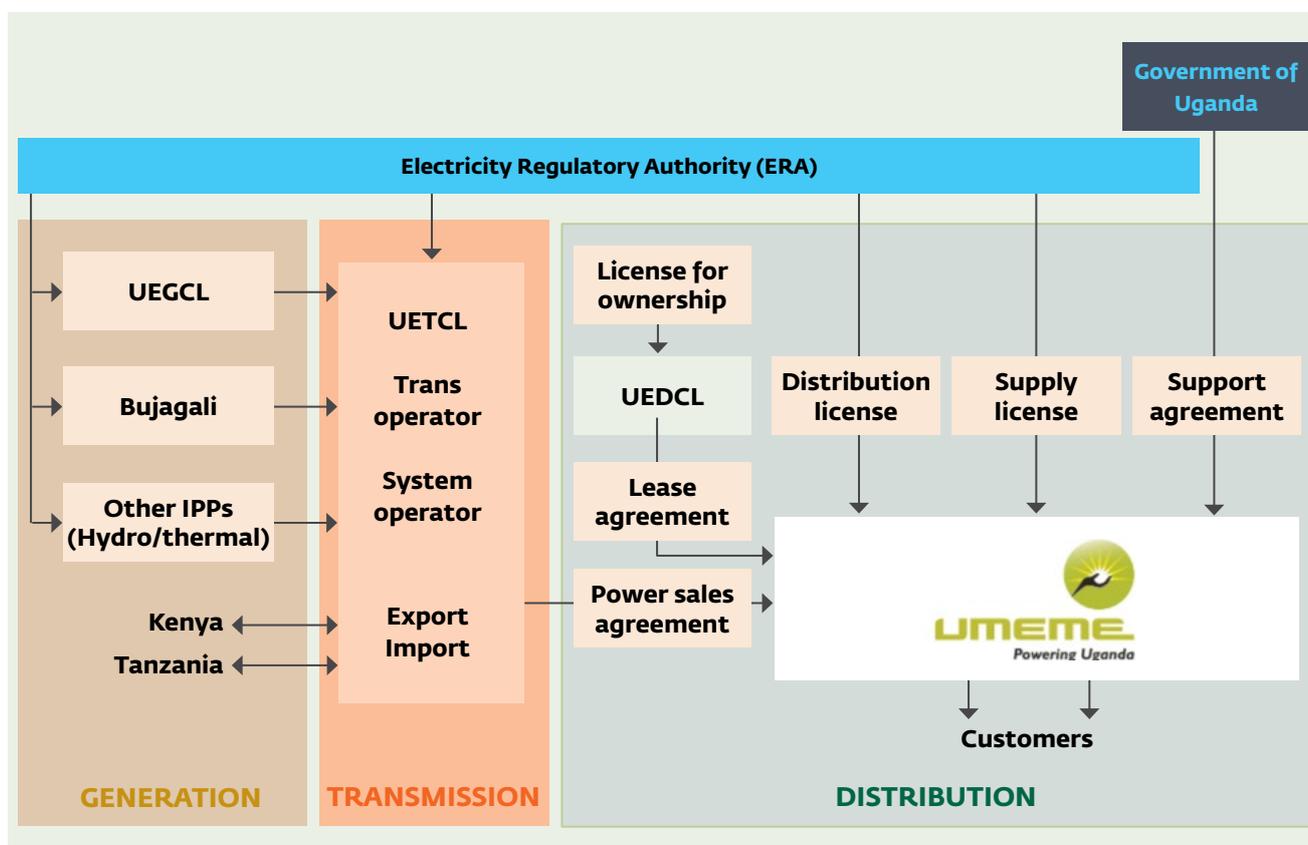
To ensure successful delivery on the publicly stated government goals of increasing access and reducing costs of electricity, Uganda needs to build on the positive outcomes achieved during the previous reform process, including through significant participation and operation by the private sector, rather than reverse those reforms. Signals to the contrary emanating from the recent reemerging of previously unbundled sector institutions as well as those surrounding the concession negotiation for Umeme are closely watched by private investors and need to be thoroughly analyzed to make sure that development benefits are not reversed. Likewise, engagement with the private sector, development partners, and other stakeholders to ensure that institutional changes in the sector are carried out transparently and follow a consultative process will be important to ensure continued trust among participants.

Sector Developments

Over the past 20 years, Uganda has undertaken significant power sector reforms that are considered among the most comprehensive in Sub-Saharan Africa. The reforms were implemented via the 1999 Electricity Act. The act paved the way for the unbundling of the national utility into separate generation, distribution, and transmission entities; establishing an independent sector regulator; and sustaining near-cost reflective tariffs since 2012 that were driven mainly by inaugurating the 250-megawatt Bujagali hydropower plant and by decommissioning 100 megawatts of high-speed diesel generation.

The unbundling of the energy sector was accompanied by significant private investments and PPPs in both electricity distribution and generation. On the generation side, Uganda Electricity Generation Company Ltd. (UEGCL) was formed as the government asset holding company concessioned to Eskom Uganda Ltd. For distribution, Uganda Electricity Distribution Company Ltd. (UEDCL) was created as the government asset holding company for the electricity distribution assets, concessioned to Umeme Ltd. under a 20-year concession. Only in the transmission sector, Uganda Electricity Transmission Company Ltd. (UETCL) operates as a government company with no concessions at present. It is also the sole buyer of power in Uganda (figure 5.1).

FIGURE 5.1 INSTITUTIONAL SETUP OF UGANDA'S ELECTRICITY SECTOR

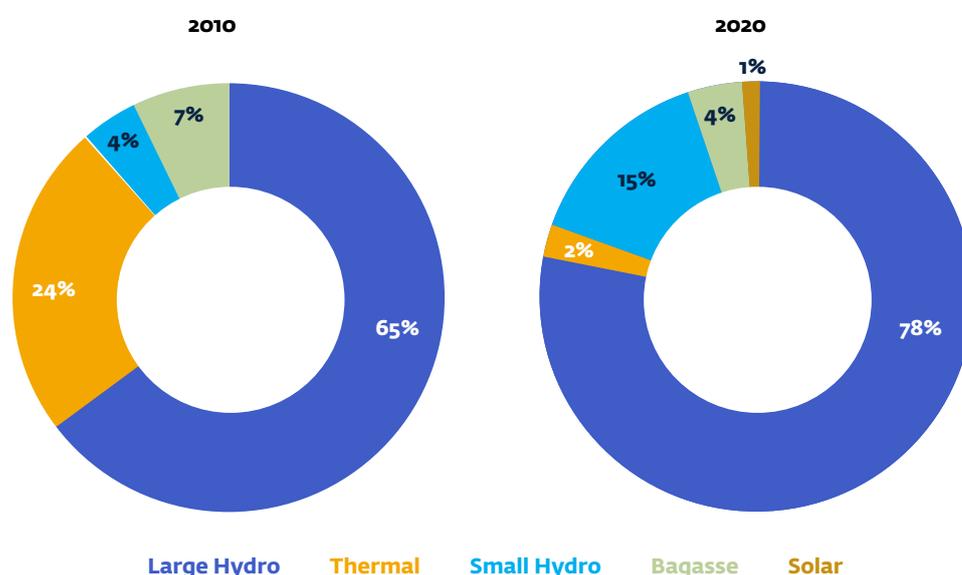


Source: Umeme, 2021. "Electricity Distribution for a Better Uganda: Annual Report 2020." Available: https://www.umeme.co.ug/umeme_api/wp-content/uploads/2021/04/Umeme_Annual_Report_2020_Final.pdf

Considerable results across the value chain have been achieved through these power sector reforms. Installed generation capacity increased from about 300 megawatts in 2002 to 1,252 megawatts in 2020, of which 80 percent is hydropower and 12 percent is from a combination of newer renewable sources of solar and bagasse, a byproduct from sugar production. Figures show the improvement in the generation mix in Uganda, reducing costly thermal from 24 to 2 percent and replacing it with renewable sources like hydropower, bagasse, and solar (figure 5.2). The transmission network has expanded from about 1,165 kilometers in 2003 to 2,989 kilometers in 2019, and transmission losses have remained stable at about 3.45 percent. In the distribution segment, Umeme has reduced distribution losses from 38.0 percent in 2005 to about 16.9 percent in 2019 and increased revenue collections to over 99 percent in 2019. In 2016, Uganda's utilities, together with the Seychelles, were the only two out of 39 utilities in Sub-Saharan African countries that could be considered financially viable, operating at full cost recovery, covering both operational and capital expenditures.²

At the same time, recent sector developments, such as the proposed merger of the government of Uganda entities and the uncertainty of the Umeme concession, are unsettling for future private sector participation. With recent cabinet decision (April 21, 2021), the government of Uganda resolved to remerge the three electricity companies UEGCL, UEDCL, and UETCL into one company. Likewise, the Rural Electricity Agency (REA) was taken over by the Ministry of Energy as one of its departments. The decision was billed as part of the government's grand plan to downsize government and eliminate wastage of resources. While the exact implications of the decision are yet to be seen and the costs and benefits of the merger need to be more fully analyzed, the concern is that potential benefits of such a decision will be far outweighed by bringing back inefficiencies seen before the reform (including governance challenges, lack of financial discipline, lack of technical capacity to specialize on each of the segments, and adverse effects in terms of raising concessional and private capital in the sector). This is highly disconcerting for private sector participation, both regarding contractual arrangements that already exist with the private sector as well as the perspective of mobilizing future concessional funding for the sector.

More specifically, it will be important to assess the impact of such reform on the overall cost of power, considering that centralized fixed costs represent a significant portion of the electricity tariff. In addition, uncertainties and a perceived negative high-level political attitude toward the Umeme concession are raising additional concerns about future private sector participation in the distribution sector as well as their potential to discourage private sector participation in other areas of the electricity sector (such as, generation and transmission). It has been proved (including through the experience of Bujagali), that a strong distribution framework allows stable and robust cash collection at the top of the sector waterfall that provides comfort to investors to undertake projects on a private basis. Thorough analysis is needed to ensure that development benefits are not reversed and that institutional changes in the sector are carried out transparently and follow a consultative process to carry forward private participation in the sector.

FIGURE 5.2 UGANDA ELECTRICITY GENERATION MIX MEGAWATT-HOURS, 2010 AND 2020

Source: ERA Energy Statistics, 2010 and 2020

Constraints in transmission and distribution systems and their interconnections are the main barriers to maximizing electricity access and achieving efficiency and financial sustainability. Uganda transitioned away from supply shortages and vulnerability to drought in the early 2000s. The current and potentially sizeable future surplus (once the last of two new hydropower projects is complete) is putting additional pressure on sector efficiency and financial sustainability because supply must be paid for regardless of whether it is used. In Uganda, the mismatch between supply and demand could increase total electricity costs by over \$950 million per year.³ Moreover, the current transmission and generation facilities limit the use of existing supply to around 693 megawatts out of the 1,252 megawatts of installed capacity. The Ministry of Energy and Mineral Development (MEMD) Priority and Issue Paper of 2019 estimated that this bottleneck is suppressing around 450 megawatts of potential near-term demand, increasing the cost of service by a further \$0.10 kilowatt-hour and increasing cost due to unused capacity by \$125 million per year by 2023.⁴

Uganda's off-grid market is complementing grid connectivity rollout and is one of the most dynamic in East Africa. According to the 2018 national electrification survey, 18 percent of the population currently relies on off-grid solar technologies of Tier 1 and above, while only 24 percent are connected to the grid.⁵ The Uganda Solar Energy Association reports over 210 solar companies operating in the Ugandan market as of the end of December 2019, with most sales coming from a few international companies (for example, Fenix, M-Kopa, Solar Now, Village Power, and Solar Today). These companies sold over 373,130 off-grid solar products from July 2018 to June 2019, positioning Uganda as the third-largest market in East Africa behind Kenya and Ethiopia.⁶ In addition, in 2019, the government of Uganda adopted the Quality Assurance Framework for component-based solar home systems (SHS). However, lack of detailed regulations for the off-grid sector and key affordability barriers prevent adequate access to off-grid technologies, especially of larger sizes powering productive uses of electricity.⁷

While Uganda has significantly advanced in the development of its energy sector, several limitations and shortcomings of the first-phase of power sector reforms impede the government's goal of maximizing electricity access and increasing efficiency. In particular, the following issues stand out:

- **Fragmented institutional structure:** The reforms divided the sector into three functional and institutional segments while adding the REA, the Electricity Regulatory Authority (ERA), and the Ministry of Energy as the governing institution. However, some of the functions remained overlapping with no clear collaborative procedures leaving the sector institutionally fragmented.
- **Sector planning responsibilities:** The legal and regulatory framework has not been explicit regarding which institution oversees sector planning and its coordination across other agencies and institutions. This has constrained holistic sector planning and investment.
- **Regulatory framework for mini-grids and other off-grids:** While Uganda's energy sector's legal and regulatory framework focuses on generation and on-grid service developments, it lacks detailed regulations for the off-grid and mini-grid sectors, which had, until recently, been left to be regulated mainly by market forces driven by private participation. This lack of quality standards, enforcement, and regulation hampers private investment in the two segments.
- **Regional and export market development:** The original reform program, and lately, the UETCL grid development plan, were premised (among other factors) on a vibrant export market. To date, only 7 percent of the energy is exported, despite the supply overcapacity. This is because the government of Uganda did not prioritize the development of the requisite export transmission infrastructure while developing generation projects. Further, there has been no dedicated institutional structure and strategy to promote energy export. Therefore, there is a missed opportunity to optimize generation capacity through export in the medium term. While the neighboring countries build their supplies, Uganda remains poised to benefit from export given its central location, making it a cheaper alternative than those countries supplying from afar.

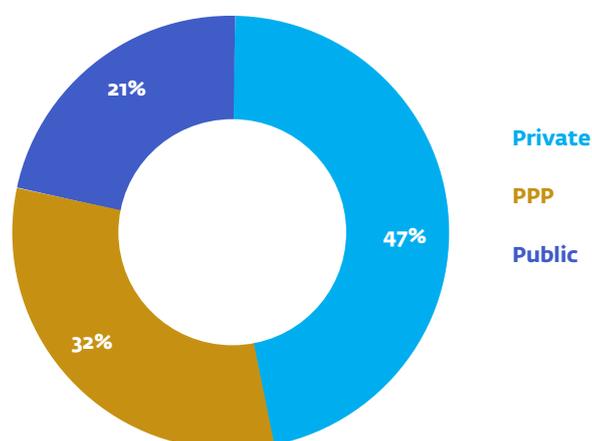
5.2 POTENTIAL AND CHALLENGES FOR PRIVATE INVESTMENT IN THE SECTOR

Generation Segment

Uganda’s energy sector reform and the resulting legal, regulatory, and institutional framework have been conducive to the development of the generation segment of the industry. Between 2002 and 2020, the country transitioned from a supply deficit to a surplus with a generation capacity that has quadrupled to nearly 1,250 megawatts today and is set to increase to 1,850 megawatts by the end of 2021 with the addition of the Karuma dam. In addition, renewable energy–focused initiatives—like the GET FiT program supported by development partners, including the World Bank—have accelerated the development of several mini-hydros, grid-destined solar, and cogeneration from bagasse.

The transformation of the generation segment was supported by significant private sector participation and private capital investment. Of the 1,252 megawatts of installed capacity, only 183 megawatts from the Isimba Hydroelectric Power Station are purely public; 300 megawatts come from Kira-Nalubale, a legacy plant currently operated under a PPP with Eskom Uganda, while the remaining 769 megawatts (61 percent) of the generation capacity is privately operated. The profile of energy dispatch in 2019 shown in figure 5.3 illustrates the relative contribution to energy dispatch of private, public, and PPP sources.

FIGURE 5.3 RELATIVE CONTRIBUTION TO ENERGY DISPATCH OF PRIVATE, PUBLIC, AND PPP SOURCES



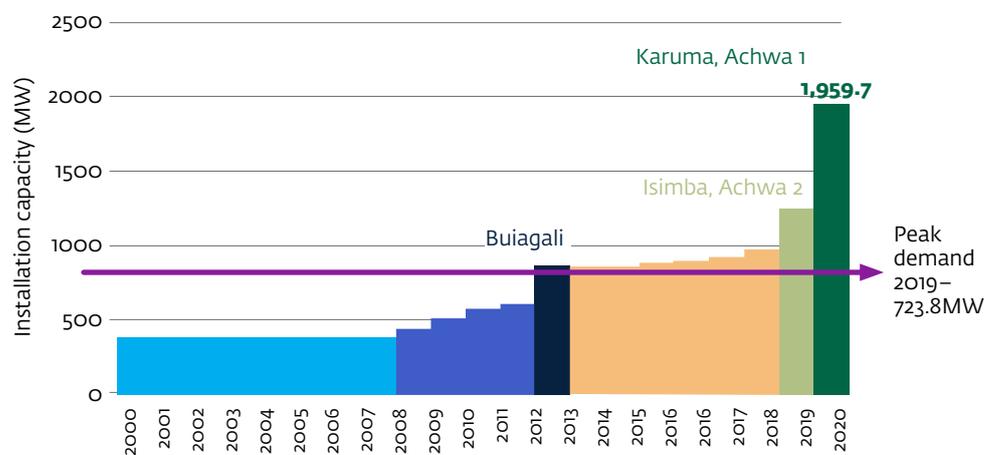
Source: Adapted from ERA Tariff Report 2019.

Note: PPP = public-private partnership.

The key challenge for the sector now is to stimulate productive use of electricity to take advantage of a surplus of generation. At present, the available generation exceeds demand even at peak times, which has been aggravated by the COVID-19 pandemic. The latter caused peak demand to fall from about 723 megawatts in 2019 to below 530 megawatts in May 2020 but then picked up steadily to close 2020 at 690 megawatts.⁸ At the same time, the sector has a large pipeline of plants with a cumulative capacity of up to 834 megawatts⁹ that includes the 600 megawatts at Karuma. The imbalance is forecast to remain through to 2040 thus increasing the strain on sector viability. Figure 5.4 shows the evolution of energy supply and demand over time.

The potential for expanding private participation is implicit in the investment required to unlock pent-up demand constrained by a lack of adequate transmission and distribution infrastructure. This presents an opportunity to invest more into large-load dispatches and regional export-oriented strategies for the medium term. On the other hand, this situation presents a risk that, if the effort to stimulate productive use and export is not realized, there will be enormous pressure on sector service cost and financial sustainability. On the off-grid front, the recent publication of the isolated grid regulation by the ERA should unlock the potential in mini-grid–destined generation from a combination of solar photovoltaic and small hydros.

FIGURE 5.4 EVOLUTION OF GENERATION AND PEAK DEMAND, 2000–19



Source: ERA Sector Performance Report 2019.

Note: MW = megawatt.

Transmission Segment

Over the past decade, UECTL has significantly expanded its transmission network. UECTL is a parastatal company whose primary purpose is to make bulk electricity purchases and transmit the electricity along a high-voltage network to local and foreign distribution points. Over the past five years, UECTL has added 1,264 kilometers to its network, growing it to an overall length of 2,890 kilometers, blending 66-kilovolt, 132-kilovolt, and 220-kilovolt lines. In addition, some key transmission projects have been undertaken, the most recent being Kawanda-Masaka, Soroti-Lira, and the ongoing Kole-Gulu-Nebbi-Arua 236-kilometer, 132-kilovolt project. Moreover, regional interconnections, such as the Uganda-Rwanda 200 kilovolt interconnection, are complete, and the Kenya-Uganda 400 kilovolt interconnection is ongoing.

However, the expansion of the transmission network remains insufficient to evacuate the generation capacity from existing and newly developed power plants, with significant challenges for rural areas. While the above projects have enhanced the transmission capacity in the country as well as within the region, they remain short of the optimal requirements to ensure effective utilization of existing generation supply capacity. Large rural areas of the country are still insufficiently connected to the grid. In northeast, northwest, and north, there are inordinately long 33-kilovolt lines that compromise supply reliability and undermine loss reduction efforts. To address these gaps, UECTL has planned several additional large-scale grid extensions (see appendix C, UECTL Current and Planned Transmission Projects).

The main challenges have been a limitation in financing and institutional capacity to efficiently turn around projects. This segment has large investment needs of \$5.71 billion over the next five years to add 2,000 kilometers of high voltage transmission lines and 33 substations and a current funding gap of around \$2.5 billion. The following projects represent the main UECTL investment with a regional power trade focus:

- The 294-kilometers-long, 132-kilovolt Kole-Gulu-Nebbi-Arua line, currently under implementation with a 2023 completion date.
- The 131-kilometers-long, 220-kilovolt Lessos (Kenya)-Tororo (Uganda) transmission line, which is 85 percent complete and is expected to be completed by 2020.
- The 220-kilovolt Masaka (Uganda)-Mutukula (Tanzania)-Mwanza (Tanzania) interconnection, for which the Eastern Africa Power Pool is procuring a consultant to update the feasibility study.
- The 352-kilometers-long, 220-kilovolt Democratic Republic of Congo–Uganda link, which will connect the eastern part of the Democratic Republic of Congo to Uganda’s power grid. The Democratic Republic of Congo portion will connect Beni–Bunia–Butembo, will be 280 kilometers long, and will further connect to Nkenda (Uganda) via a 72-kilometers-long extension.
- The 400-kilovolt Olwiyo (Uganda)-Nimule (South Sudan) grid link for which the governments of the respective countries had signed a memorandum of understanding in 2015.

Private participation in the transmission segment has been constrained by the lack of an established regulatory framework. While there is a PPP Act and policy through which private capital can be attracted into transmission investments, the regulatory framework is not aligned to this regime where guidelines on risk-sharing, investment recovery, and cost inclusion in the tariff would be determined. The ERA, with support from the World Bank, has commissioned a study to be completed by end of 2021 to advise on the specific regulatory requirements and framework for introducing independent power transmissions (IPTs) in Uganda.

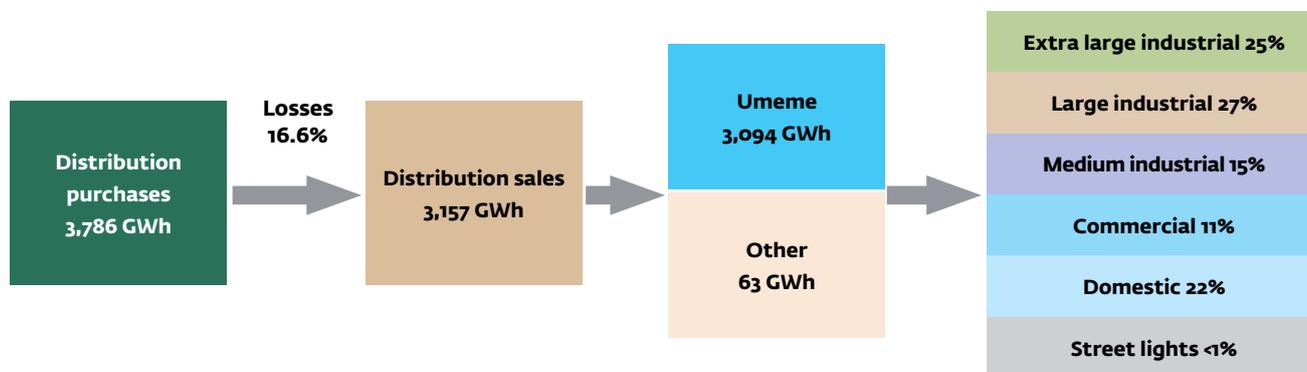
Building on the countries’ experience with attracting significant private investment in the generation and distribution segments, there seem to be significant opportunities for private sector participation in transmission. The potential for private participation in transmission is intertwined with network deficits, which presents a window of opportunity. There are various options to develop transmission projects through PPPs, IPTs and engineering, procurement, construction, and funding (EPCF) modes. A particularly ready avenue would be through PPP arrangements whereby UETCL can create special purpose vehicles in partnership with selected private players to undertake projects like the planned interconnections with eastern and northeastern Democratic Republic of Congo. However, adequacy of existing frameworks for private participation in the sector—including legal, regulatory, and institutional constraints to UECTL awarding transmission concessions as well as cross-cutting reforms—is needed to take this forward.

Distribution Segment

On-grid distribution

The performance of on-grid distribution is largely dominated by Umeme Limited, a publicly listed company operating under a PPP model on a 20-year concession since 2005. Umeme accounts for 90 percent of transmitted energy in the Ugandan market, while UEDCL covers about 2 percent, mainly managing territories as a residual operator for small providers who went out of business. Another 1 percent is distributed by the remaining small operators, mainly cooperatives, and 7 percent is exported¹⁰ (see figure 5.5).

FIGURE 5.5 UGANDA'S ENERGY DISTRIBUTION



Source: Uganda Electrical Regulatory Authority (ERA), 2022. "Energy Sales by Customer Category." 12 January 2022. Available: <https://www.era.go.ug/index.php/stats/distribution-statistics/energy-sales-by-customer-cateory>

Note: GWh = gigawatt-hour.

While Umeme has achieved tremendous results, growing customers from about 280,000 in 2005 to more than 1.5 million by 2021, this level is far below the target for the sector connections performance. Consequently, in 2018, the government approved the Electricity Connection Policy (ECP), which subsidizes customers that require no-pole or one-pole connections. The aim was to reach 60 percent coverage and increase demand by 500 megawatts by 2027. However, by the end of 2019, the ECP had achieved only 200,116 connections compared to the target of 300,000 per annum.

ECP implementation faces the dual challenge of lengthy reimbursement processes as well as the exclusion of large and other productive users to make the investment viable. The policy involves distribution companies making the connections and getting reimbursed by the government (through REA) upon verification. The challenge relates to the lengthy verification and reimbursement process that locks up large amounts of operational working capital, constraining connection efforts and other operations. On the other hand, as the ECP does not support grid extensions and connections for large and other productive users, this limits opportunities for connecting large loads and ultimately hampers the need to effectively use the growing generation capacity.

An institutional challenge is the fragmentation and restriction of territorial demarcations. For example, Umeme can only connect customers within 1 kilometer of its network by concession. This, coupled with territorial crisscrossing amongst operators, often leads to suboptimal network extensions and delays in connecting new consumers. The tariff is regulated, and it represents a cap on how much capital investment can be approved. At the same time, the tariff is not readily affordable to consumers.

Given the low levels of grid access, there is significant potential for private participation in expanding the on-grid sector. As the government embarks on the second-order reforms that include territorial rationalization and institutional mergers, there will be opportunities to invest in grid extension and grid strengthening to increase access levels to serve productive users and household consumers. It is estimated that to achieve 100 percent access by 2030, about 4 million new on-grid connections must be made at an estimated cost of \$4.5 billion. Moreover, the development of industrial parks and the prioritization of productive use connections presents another opportunity for private participation to help increase access and generation optimization possibilities concurrently. This has been supported by the Energy Rebate Policy instituted by the ERA in which industrial consumers can extend electricity lines to service their facilities and recover the cost of electricity extension from their energy bills with Umeme or any other distributor. However, to date, this has not been taken up as expected owing to the lack of such capital from productive users. Given the excess supply capacity, the viable remedy would be to consolidate such connection requirements under the ECP.

Off-grid distribution

Over the past 20 years of sector reform, progress in achieving increased access levels has been slow, achieving only 24 percent on-grid and 27 percent off-grid (2018), putting at risk the goal of achieving universal access by 2030. Scale-up of electricity service connections through the grid alone will be too expensive, especially as costs for grid extension and connections escalate moving from urbanized settlements to villages with scattered settlements. Under these circumstances, off-grid solutions that include a combination of mini-grid and standalone SHS have become viable for increasing access levels. Both segments are discussed following:

Standalone solar home systems

The market for standalone SHS in Uganda is vibrant and growing. As the third-largest market for off-grid solar products in East Africa, Uganda presents significant opportunities for private-sector investment. More than 210 solar companies were in operation in the Ugandan market by the end of December 2019. Moreover, according to the Uganda Solar Energy Association,¹¹ a civil society membership association of solar product and solution providers, 428,100 units of SHSs were in use in 2019—a significant growth from the 284,328 units sold in 2018. Presently, the cumulative number SHS users are estimated at 3.3 million. One of the leading players in this space is Engie International (previously Fenix International), producer of the “Ready Pay Solar” product, which is reported to have served up to 600,000 customers as of 2020.

The legal and institutional framework for the standalone SHS is open and market based. The Uganda National Bureau of Standards carries a standard-setting mandate and has put in place several standards for SHS products. All other aspects of this sector are market driven, ranging from imports through to domestic and commercial installations. Several private players work independently to offer varied packages that provide services on an “outright purchase” (or on lease) and “pay-as-you-go” basis.

The key challenges facing this sector include:

- **Affordability:** Many of the targeted users cannot afford the service and thus remain outside the service loop or the use the pay-as-you-go option and default along the way. The default rate is estimated at 50 percent by industry operators.
- **Enforcement of standards:** While the UNBS has put quality standards in place, enforcement remains a challenge and because many poor-quality products remain on the market, they dampen the overall market appetite of targeted users.
- **Lack of financial incentives:** The government has put in place a raft of subsidies and grants for on-grid service operators, but such initiatives are not available for SHSs, which have affected down-market uptake.
- **Lack of adequate capacity for standalone SHSs repairs and maintenance:** SHS users are unable to ensure that products acquired will serve effectively through their expected life cycle.

Significant untapped opportunities remain for private participation in the standalone SHS sector. The draft National Electrification Strategy has forecast that to achieve universal access by 2030, standalone SHSs will contribute 5.9 million new connections valued at \$409 million. This will also benefit many unelectrified public institutions, such as schools and health facilities, which are often located in remote areas and characterized by poor surrounding infrastructure and low energy demand, making them unattractive to traditional energy service providers. Thus, off-grid solar photovoltaic power systems present a key opportunity to provide clean, reliable, and cost-effective electricity to schools and health facilities that would otherwise not have access to reliable electricity. The dramatic cost reductions and technological improvement of solar technology in the past decade have made solar an economically and technically viable solution that can be deployed in a fraction of the time it would take the centralized grid to arrive. At present, it is estimated that 278 public infrastructure assets, including schools and health centers, will require about \$2.8 million in investment. It is expected that most of these installations can be provided and serviced by the private sector.

Mini-grid distribution

To increase access to energy and reach areas with high population density and demand, mini-grids are a viable alternative to on-grid or SHSs. Their case has been helped by declining capital costs and increased quality of service. Mini-grids have been deployed globally and represent a significant business opportunity for developers and suppliers. In Uganda, where currently about 24 percent of its people are connected through the electricity grid network, the development of mini-grids is in the early stages.

The legal, regulatory, and institutional framework for mini-grids is weak. The Electricity Act has no detailed provisions for mini-grids, and up until December 2020, there was no regulation to support this segment as sector policies and institutions were primarily focused on main grid operations. Moreover, owing to the high upfront cost of setting up mini-grids, the resulting tariffs are not readily affordable by the target population without subsidy support. Therefore, the REA, with support from the government and development partners, conducts feasibility studies, and packages territories for mini-grid development. This packaging includes land acquisition, territorial zoning, and subsidy allocation before they are tendered to private operators. In the last REA master plan of 2010/11, 683 mini-grid sites had been identified, targeting 104,046 customers.¹² This is further corroborated by the draft studies in 2020 for the development of the National Electrification Strategy that indicates a target of 100,000 users based on 342 mini-grid sites.¹³

Given these intricate modalities, the development of the mini-grid sector has been slow. The main mini-grid operators in Uganda are WENRECo in West Nile with 19,191 customers and Kalangala Infrastructure Services (KIS) on Lake Victoria with 4,208 customers. While these are private operators, their operation has been supported by government subsidies and donor grants; otherwise, they would not have achieved financial closure because their end-user tariffs would have been unaffordable. In addition, the latest baseline (2014 for mini-grid service providers) identified 13 projects with a combined capacity of 764 kilowatts and serving 1,977 consumers in various parts of the country. In the latest award of tenders for mini-grid packages by REA, Winch Energy International won the bid to set up a local subsidiary to develop 40 mini-grid sites on a pilot basis in Lamwo and Rakai/Isingiro. The pilot is targeting 4,000 users and investing up to \$4 million in debt and equity. With a subsidy of euros 2.8 million, the subsidized end-user tariff is \$0.29 per kilowatt-hour. The company is expected to start commercial operations by December 2021. Another entrant to the industry is Equatorial Energy, which is setting up on the islands of Lake Victoria.

The main challenges facing the mini-grid sector include the following:

- **Lack of enabling framework and institutional anchor:** An enabling regulatory framework had been absent until December 2020 when an Isolated Grid Regulation was published by ERA; its impact on the industry is yet to be established. The institutional setup has no dedicated provisions for the off-grid sector.
- **Affordability of services:** Cost-reflective services are not affordable, and the process of getting subsidies and grants takes very long. Without these, the tariff becomes utterly unaffordable at greater than \$0.50 per kilowatt-hour.
- **Cost and procedure for land acquisition:** These are the responsibility of the government of Uganda, but the valuation and compensation process takes too long and can derail the project development process and dislodge financing partners.
- **Fragmented settlements requiring longer networks:** Longer networks are needed where homes are not clustered, and villages tend to have fewer homes or trading centers—usually about 20 to 100 homes in a village. This increases the cost of setting up the mini-grid.
- **The licensing or exemption period:** For an established mini-grid, the period is 10 years; this is rather short and thus means that the tariff must be high to recover the investment cost over a shorter time.

The opportunity for private participation in mini-grid development still stands, albeit the process would be expedited were mini-grid sites to be packaged in advance with land secured and subsidies and grants determined before tendering them. The draft National Electrification studies of 2020 have an indicative number of 342 sites targeting 100,000 users valued at \$213 million. These will be available for private entities to prepare their technical and financial proposals for selection in the years ahead. This will be supported by the government and its development partners. The imminent Isolated Grid Regulation will provide details on how to invest, territorial demarcations, and a clear succession plan when the grid arrives at the hitherto off-grid sites, enhancing investor confidence.

5.3 RECOMMENDATIONS TO SUPPORT THE DEVELOPMENT OF THE ENERGY SECTOR

As laid out in previous sections, there are significant opportunities for increased private sector participation in Uganda's energy sector, especially given the constraints in transmission and distribution systems. To address the challenges identified, the following actions need to be taken in the short to medium term:

- **Review institutional mandates and sector planning.**
 - Undertake thorough analysis of potential costs and benefits of the recent UEGCL, UEDCL, UETCL merger as well as other institutional changes to ensure that development benefits are not reversed.
 - Engage with the private sector, development partners, and other stakeholders to make sure that institutional changes in the sector are carried out transparently and follow a consultative process to ensure continued trust among participants.
 - Implement integrated planning across the sector (generation needs, mapping transmission needs, and localization of demand and distribution centers' needs). The lack of integrated planning has been one of the key issues causing development mismatches across the energy delivery value chain and failure to prioritize projects in all three subsectors.
- **Streamline territorial zoning for on-grid distribution operations and revise distribution voltage caps.**
 - Streamline territorial zoning for the on-grid distribution operations to improve concession viability and network optimization.
 - Review the role of small service providers in distribution to minimize fragmentation.
 - Revise distribution voltage caps to 132 kilovolts.
 - The current proposals made in the draft of the National Electrification Strategy will help address the territorial fragmentation of the distribution sector by consolidating it into viable portions. Moreover, a voltage-cap upgrade is needed to address the on-grid distribution sector's restriction to installation at 33 kilovolts, which makes extensions of the distribution grids to large loads for industry and other productive users inefficient, thus undermining reliability and other quality-of-supply measures.
- **Enhance the PPP framework for investment in the transmission sector, including provisions for risk sharing, tariff setting, and procurement.**
 - Introduce IPTs for transmission infrastructure through developing a requisite regulatory framework to guide risk-sharing arrangements, tariffs, and transparent and competitive provider selection procedures.
 - Allow PPP investments for transmission infrastructure through UETCL setting up special purpose entities with selected private players while the regulatory framework goes through the established consultative procedures.
 - Introduce clear policy on power export promotion and create supporting institutional structures in UETCL dedicated to regional power trade.

- **Revise the Energy Rebate Policy and create a framework for distribution utilities to provide dedicated grid extensions for productive users.**
 - Considering the low uptake of the energy rebate plan.
 - ERA should consider amendments in regulation that enable distribution companies to prioritize connecting industry and other productive users to optimize the growing generation capacity.
- **Support the development of off-grid (SHS and mini-grid) opportunities for private participation through enforcement of quality standards and incentivize the private sector to move into rural areas.**
 - Provide clear guidelines for enforcement of quality standards for SHS.
 - Enhance resource mobilization for smart subsidies to support mini-grid and standalone SHSs, especially to incentivize the private sector to move into deeper rural areas and serve more remote households.
- **Develop mini-grid project “packages” for private competition including the provision of land and streamlined subsidy or grant facilities.**

5.4 COVID-19 CHALLENGES IN THE ENERGY SECTOR

Uganda’s COVID-19–related economic downturn also significantly affected the energy sector, on both the demand and supply sides. Reduced electricity demand and consumption, especially in industrial sectors such as manufacturing, which, according to the ERA, account for 78 percent of all electricity sales, significantly impacted energy sector revenue collection. The reduced demand added further pressure to the sector’s financial sustainability, especially as deemed energy generation payments remain on the government’s balance sheets. On the supply side, the sector was affected by a slowdown in project implementation as energy companies were dealing with operational challenges, including COVID-19–related restrictions on the movement of workers, difficulties with supply chains, and a significant amount of uncertainty as to when “business as usual” could be resumed. In addition, companies also faced increased operational costs that reduced their bottom-line and appetite for new investment. Another impact was the slowdown of installation of new connections. The sector had targeted 300,000 households for connection in fiscal 2019/20 through the implementation of the free connections policy. However, by the end of the first half of fiscal 2019/20, only 30 percent of targeted households had been connected.

Overall, the COVID-19 crisis has further accelerated the need to continue sector reform to build back better a resilient and financially sustainable energy sector that can be a driver for growth, job creation, productivity, and competitiveness of the country. Revamping the current institutional and governance structure of the distribution sector and expanding the electricity transmission and distribution network are critical measures on the way forward. Uganda can build on its extensive experience attracting significant private investment into the sector; it seems there are significant opportunities for private sector participation to support this endeavor.

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06. SECTOR ASSESSMENT: HOUSING

6.1 CONTEXT

Uganda has significant housing demand comprising an existing housing backlog and the need to provide accommodation for its rapidly growing and urbanizing population. Uganda's rapid urban growth will need to be supported with 180,000 new accommodation units per year just to keep pace with urban household growth. In addition, the existing inadequate housing conditions in slums and many newly settled areas will also require strategies for accommodation and services improvements. Most of this annual housing demand (59 percent or 107 000 households per annum) will be focused on Kampala, which is estimated to grow from 3.3 million people in 2020 to 5.5 million people by 2025,¹ but intermediate towns are also experiencing rapid population growth (including Guru, Jinja, Lira, and Mbarara).²

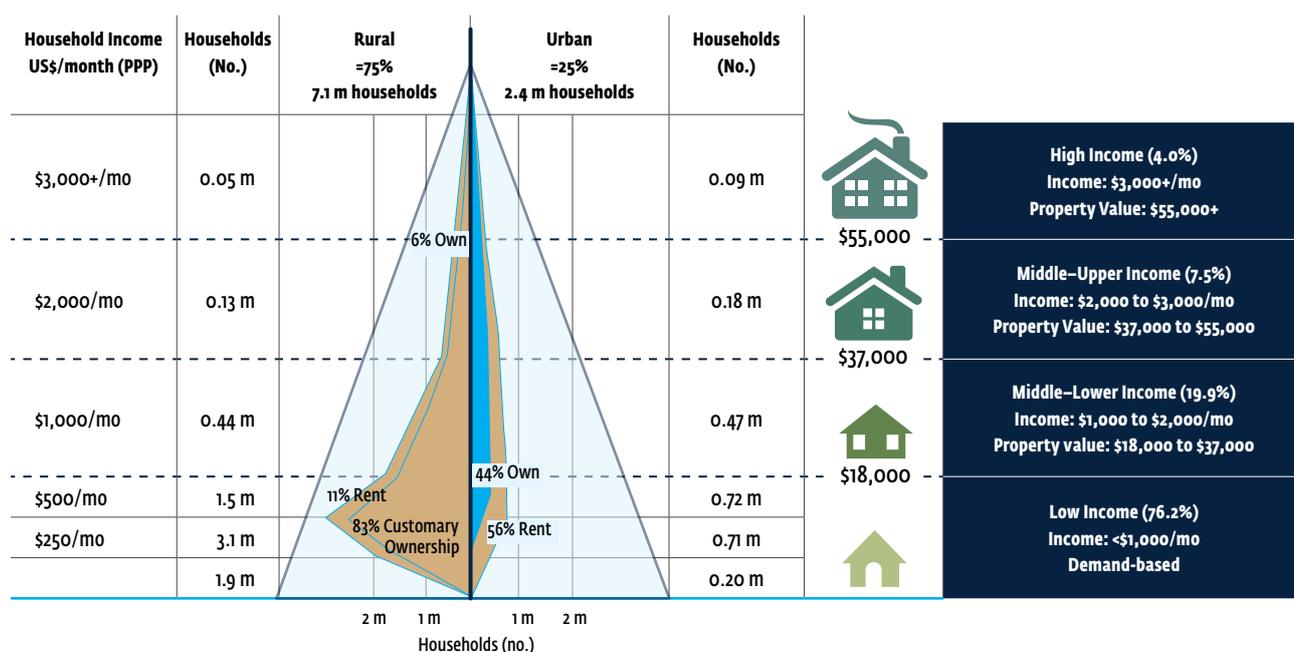
Uganda's urban households rely extensively on the informal land and housing development market to secure urban housing. Uganda's urban housing market comprises a very small formal housing market serving a minority of middle- and higher-income households. Uganda's National Housing Policy states that 60,000 housing units are constructed per annum, but no specific data exist to corroborate this. It is more likely that actual formal housing delivery is below 5,000 registered, conventionally constructed units per annum, all costing more than \$50,000. This includes freestanding houses, housing estates, and apartment blocks across all urban areas of Uganda. A limited number of generally higher-cost units is constructed each year by the National Housing Corporation, with the balance constructed by private developers. These housing units are available for sale through cash transactions, installment payment schemes, and limited mortgage loans provided by regulated banks such as Housing Finance Bank, Stanbic, and Absa. Most households are forced to build and rent housing using informal market mechanisms.

Urban households are almost equally balanced between housing ownership and rental, but rental is growing at a higher rate because of the lack of new homeownership opportunities. In 2018, 46 percent of urban households owned their accommodation, and 44 percent rented. As urban growth accelerates and homeownership continues to be constrained, larger proportions of urban households will be forced to access rental accommodation in existing built-up areas and slums. This is evident in Kampala, where already over half of all households rent housing.³ In response to the lack of formal land titling opportunities, over 98 percent of households will continue to access housing through the following informal mechanisms: accessing informal rental housing (mostly basic rented rooms with shared ablutions), increasing occupancy densities in existing housing, or self-managed incremental construction of accommodation on any available land (legally or informally accessed).

Uganda’s future housing strategy must focus on providing accommodation alternatives that meet the full spectrum of household affordability so that the housing supply better meets growth and changes in housing demand. Uganda’s households have a limited housing affordability profile (see figure 6.1). Pre-COVID-19, only 30 percent of households could afford formally produced and mortgage-financed housing costing more than \$18,000. Thirty-one percent of households could afford houses costing between \$18,000 and \$9,000, 30 percent were able to afford housing between \$9,000 and \$4,000, and the remaining 26 percent were able to afford housing costing less than \$4,000. Furthermore, limited access to housing finance forces most Ugandan households to rely on incremental housing development using personal savings, material stockpiling, and interpersonal loans.

Three-quarters of Uganda’s households cannot afford mortgage-financed housing. Figure 6.1 indicates the very small proportion of households (11.5 percent) that can afford mortgage-financed housing that costs more than \$37,000. Housing Finance Bank has the largest mortgage loan portfolio in Uganda, with other banks contributing the balance of the limited total mortgage portfolio. Yet, although mortgage finance is available in Uganda, even at the high end of the market many households are forced to transact using cash and personally obtained finance such as loans from family members because mortgage finance is not accessible to them. Below this, the middle-lower-income market (20 percent of households) is already mostly forced into rental housing or obtaining land and building housing informally through incremental housing construction, often using irregular savings and material stockpiles. As a result, the average time to complete a house in Uganda can be as long as a decade.

FIGURE 6.1 UGANDA’S HOUSING AFFORDABILITY SUBMARKETS



Source: Authors

Note: m = million; PPP =purchasing power parity.

6.2 POTENTIAL AND CHALLENGES FOR PRIVATE INVESTMENT IN THE SECTOR

Potential

In a socioeconomic context like Uganda's, housing must be seen as a multistep process undertaken by multiple actors rather than as the delivery of a fixed, completed house. Housing is a complex sector that requires the alignment of many inputs from multiple economic sectors and direct contributions from households to create outcomes. This includes identification; planning and release of land; construction and management of engineering services; alignment of financial systems to mobilize capital and end-user finance; and the design, development, and sale or rental of the accommodation to households or investors. Given Uganda's supply and demand constraints previously discussed, very few households can be reached through the simultaneous mobilization of all these inputs. Therefore, Uganda's challenge is to ensure that key parts of this process are improved so that households can progressively access and improve land, services, and housing over time. Using this methodology, many more households can start their housing journey and commit available resources to improve their housing conditions over time.

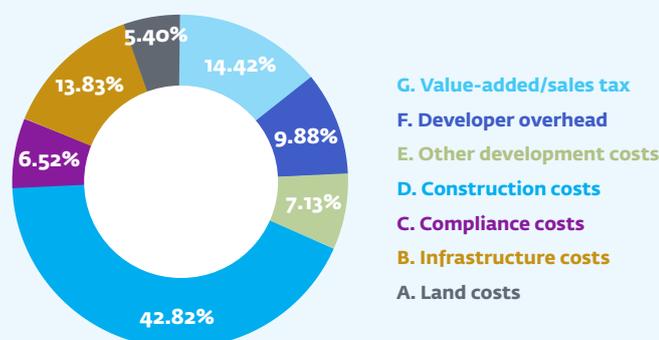
Uganda's housing sector offers significant potential for private sector participation along the different activities of the housing value chain. Five focal areas with potential for private sector engagement are discussed in this section. These areas cover the whole value chain from construction through the real estate sector and retail housing finance. Targeting these five focal areas will ensure balanced growth in housing supply that will simultaneously stimulate household demand for housing.

First, housing development and construction offers a range of private sector development and investment opportunities. The range includes formal housing projects, as well as structuring public-private partnerships for large-scale land servicing and housing development to produce more affordable houses that target lower-income households. The National Housing Corporation has landholdings that can also be earmarked for housing projects, either directly or through PPPs with private sector developers. Formal projects will need to shift focus to the broader household demand available in the middle-upper and middle-lower market segments rather than relying mainly on the limited number of upper-income households. This in turn will require innovative approaches to planning, designing, packaging, and developing projects that are appropriate for Uganda's nascent formal housing market and that bring down the non-construction-related costs of housing (see box 6.1). Investing in and developing professional and artisan skills, training, and improvement are also potential areas for engagement in Uganda. New approaches to packaging housing projects, such as the creation of special-purpose investment vehicles and potential PPPs, must also be used to crowd-in investments in ways that offer sufficient protection to investors.

BOX 6.1 MAKING HOUSING INVESTMENTS MORE ATTRACTIVE BY BRINGING DOWN NONCONSTRUCTION-RELATED COSTS

One way to attract more private investment in the housing development space is to reduce development costs and widen access to formally developed housing in Uganda.^a More efficient housing projects that produce less expensive houses will increase the number of households able to purchase them. Housing cost benchmarking calculations for Kampala show that while the housing construction market is regionally competitive, there is still significant scope to reduce Uganda's housing development costs. The figure below shows the Centre for Affordable

Housing Finance in Africa's (CAHF's) breakdown of housing costs of a standard, formally developed house in Kampala.^b This indicates that 57 percent of total housing development costs in Uganda are non-construction-related, and construction costs alone are 51 percent higher than in Pretoria, South Africa. Reductions in intermediate input costs, development delays, and financing costs will improve the number and quality of housing that households can afford as well as the proportion of households that can access formally developed housing.



Source: Housing cost benchmarking calculations from D. Gardner, J. Pienaar, and K. Lockwood, "Uganda's Housing Construction and Housing Rental Activities: Housing Economic Value Chain and Housing Cost Benchmarking Analysis" (Centre for Affordable Housing Finance in Africa, Johannesburg, South Africa, 2020).

- a. D. Gardner, J. Pienaar, and K. Lockwood. "Uganda's Housing Construction and Housing Rental Activities: Housing Economic Value Chain and Housing Cost Benchmarking Analysis" (Centre for Affordable Housing Finance in Africa, Johannesburg, South Africa, 2020), <https://housingfinanceafrica.org/documents/ugandas-housing-construction-and-housing-rental-activities-housing-economic-value-chain-and-housing-cost-benchmarking-analysis/>.
- b. Gardner, Pienaar, and Lockwood, "Uganda's Housing Construction and Rental Activities."

Second, intermediate inputs to housing development offer further opportunities for private sector growth. In 2018, intermediate inputs into dwelling construction contributed 4.8 percent to GDP. Yet, Uganda’s building materials sector is becoming less competitive, with a loss of market share in 26 building material product categories (18 of which showed international market growth) and a gain in only 12 over the past five years.⁴ A growing housing economy would stimulate the growth of the local building materials manufacturing and development-related services sectors. There is little reason for Uganda to not take its place as a key manufacturer and exporter of quality, appropriate building materials to the East and Central African subregions. Investments in improving manufacturing competitiveness and scale would assist to drive this market, which in turn would assist both local construction and export markets.

Third, the real estate sector is currently mostly informal and offers opportunities for private sector development, formalization, and investment. Real estate gross value added grew four times between 2008 and 2018 yet remained roughly consistent at 2 percent formally and 98 percent informally driven. Real estate capacity development, efforts to develop and manage real estate portfolios, and a formalization of a mostly informal industry to better serve lower-income households and reduce corruption should be focus areas of a new housing strategy. Assisting informal real estate companies to formalize their legal status and professionalize their product and service offerings would build better trust with the market and would encourage more landlords and tenants to transact in the formal economy. This would assist to stabilize and grow Uganda’s rental markets, which in turn could provide a more stable base for additional formal housing developments aimed at the rental market. The creation of a new class of more professional, small- to intermediate-scale residential landlords offers significant local business potential.

Fourth, developing capital market mechanisms for attracting local and foreign investments into the housing sector is a key area of growth.⁵ More sustainable sources of finance into Uganda’s capital markets and banking sector would assist in increasing competition among banks for funds for financing growing mortgage portfolios and in moving the dependency on government bonds by the banking sector. Significant sources of private local capital, notably the assets managed by the National Social Security Fund—which has some U Sh 10 trillion invested in fixed income, equities, and real estate across East Africa—can be mobilized for investment in well-structured investment vehicles and sound housing projects. The government of Uganda and the World Bank Group have also taken important steps toward establishing the Uganda Mortgage Refinancing Corporation, which will help banks grow their mortgage portfolios by refinancing portions of their mortgage books. In addition, piloting innovative financial instruments such as real estate investment trusts, bonds and green bonds for housing, and infrastructure investments could become important channels for Uganda to attract different classes of finance into its market.

Fifth, retail-level housing finance provision is a further critical area for private sector participation. Mortgage loan portfolios are currently very limited in Uganda. Broadening and deepening the reach of existing and new banks and nonbank financial institutions in providing housing and construction finance has significant growth potential. Developing innovative mortgage finance products with existing mortgage providers, such as Housing Finance Bank, that offer longer-term, lower-interest financing and reach further down-market will be important for the development of asset-backed housing financing. The very large informal housing market can also be stimulated through the provision of more relationship-based financing products, such as microloans and Savings and Credit Cooperative Societies (SACCOs) financing approaches.

Challenges

To exploit the above-mentioned opportunities for private sector investment, it will be necessary to identify and deal with key challenges currently limiting private participation in the sector. The CPSD identifies several cross-cutting challenges to private sector development in Uganda that have specific importance in limiting investments in the housing sector. These are institutional issues, land titling processes, trade and logistics constraints, infrastructure gaps, digital technology, access to finance, and human capital. The implications of these constraints for the main potential areas for private sector investment in housing are discussed in this section.

Formal housing development is hampered by Uganda's overlapping and incomplete land registry system and difficulties experienced in doing business. Limits to formal land titling and transfer processes limit the ability of developers to mobilize, procure, plan, and service land for housing development at scale. Widespread corruption in land registration circumvents formal land and housing development processes and constrains the formalization of land and housing development.⁶ The ability to mobilize development finance and mortgage finance for formal housing projects is also hindered by limitations on being able to perfect collateral in the event of defaults. This specifically limits the potential to provide mortgage finance on Mailo (traditional land tenure rights) land. The developing land registration system will need to manage the many land titling conflicts and duplications between historical tenure arrangements and the modern cadastral system. These conflicts complicate land identification and release for housing development, create additional burdens of costs in mobilizing land for infrastructure projects, and create lengthy procedural delays and court battles around land transactions and compensation.

Limited bulk infrastructure networks hinder opportunities to invest in housing estates and raise the cost of developing housing as private developers must recover the costs of providing such infrastructure within housing estates. Access networks (roads and public transport), water and sanitation networks, and electricity reticulation and supply are the most significant problems. Limited infrastructure and capacity to provide services by city authorities and service provision SOEs escalate the cost of land suitable for development. The limited capacity of city authorities and state entities tasked with providing urban infrastructure requires innovative solutions to local service provision, such as solar photovoltaic and water heating, microgrids, and local-level or on-site water and sanitation management solutions.

Planning and regulatory issues further constrain the growth of investment in housing projects in Uganda. Outdated town planning and land use management frameworks continue to constrain orderly land use planning, servicing, and release for development. Planning for Kampala and other secondary cities—including newly proclaimed cities—will be critical to guide future orderly urban development. While new building standards have recently been promulgated, the extremely high incidence of informal (extra-legal) housing development will make enforcement of standards very challenging. It will be necessary for Uganda to consider implementing more relevant and supportive planning, addressing land use, building regularization programs to improve housing standards in the pervasive informal market over time, and encouraging more compact, vertical urban development in the future. Also, the current PPP framework is not yet ideally structured for housing-based PPPs, which limits the potential for private investments in infrastructure and housing. While a new PPP framework, regulations, and authority were implemented in 2015,⁷ this framework is not yet adequately developed and institutionally supported to attract large-scale private sector participation in housing construction and real estate development.

Limited professional and artisan skills in the construction sector are also a constraint to efficient planning, design, and development of housing. Specifically, the professional cadre linked to the construction industry (including architects, quantity surveyors, engineers, and building professionals) is highly mobile and can only be retained in-country with regular, growing construction activity in the economy. Artisans (including in bricklaying, plastering, plumbing, tiling, and electrical work) are available within Uganda but are in general relatively poorly skilled and require training and development to consistently deliver high-quality workmanship. The lack of such development skills locally often results in expatriate companies being engaged to develop large-scale housing projects. This in turn can result in the importation of professional and artisanal skills and even basic labor and materials from other countries. The lost economic value addition this creates has a detrimental outcome on the potential impact such projects can have on the local upstream manufacturing and services sectors and the development of replicable local capacity for future development. These constraints require a review of regional skills flows (including consideration of work permit arrangements for scarce skills) and investments in training capacity to support the professionalization of the construction sector.

Uganda's ability to scale up intermediate input manufacturing to supply its local and export housing and construction markets is constrained by current trade parameters. The decline in Uganda's competitive advantage in regional and international building materials exports is affected by the structure and capacity of its local industry,⁸ as well as by an export promotion framework that is not incentivizing improved quality and volumes of exports. A further consequence of the loss of competitiveness in local manufacturing is upward pressure on Uganda's ability to competitively supply its local housing and construction industry. Because most of Uganda's trade in building materials is within the EAC, local logistical constraints (notably road and rail linkages and ports of entry and exit) are important constraints. Further, current trade barriers, tariffs, and incentives affecting exports must be reviewed in light of Uganda's regional trade agreements.

Real estate markets in Uganda are predominantly informal and must move toward greater formalization if the rental housing market is to mature and grow. The very large informal housing market is supported by many small, generally informal (unregistered and nonprofessional) real estate brokers and agents who are not yet properly regulated and do not adhere to professional standards. This creates a market prone to informal agreements and mistrust. Furthermore, currently, the market is polarized into a few formal real estate companies in the formal market and thousands of households and community-level rental housing operators. Very few intermediate-level real estate operators exist, limiting the potential to grow the scale of investment in this space and their ability to provide alternative types of housing beyond simple houses. This indicates the need for regulation of the sector, the creation of professional standards and requirements, and the need to build a larger cadre of real estate professionals as developers, managers, and brokers of real estate across the market.

Uganda's housing sector is severely constrained by an underdeveloped capital market. This in turn limits the scale, rate, and tenor at which finance can be channeled into retail finance products required by the housing sector, including development finance and end-user finance. Interest rates remain high, and finance terms are limited, which limits the ability to design and scale up longer-term financing instruments. While there are 10 local commercial banks, the banking sector continues to trade heavily on treasury bills, limiting the need to develop other potentially more complicated and higher-risk funding instruments, including housing and development financing. Significant sources of capital exist within local capital markets (including the National Social Security Fund, which has assets of over \$3 billion), yet little is attracted into the housing sector because of its perceived risk profile, and further sources of foreign direct investment for housing are reticent to invest in Uganda under current capital market conditions.

Retail-level housing finance is very limited in Uganda, a condition that further reduces the ability of the housing sector to formalize and grow. Mortgage finance and unsecured loan portfolios for housing are severely constrained. This increases the risk and reduces the reach of housing developers who are forced to rely extensively on cash transactions and limited cash installments to sell housing. The lack of capital market depth previously discussed, along with relatively high interest rates and short tenor on financing, further limits affordability, even where mortgage finance and small loans are available. Further development of collateral security to underwrite mortgage loans and alternative, non-asset-based lending approaches, including community-based and SACCO-driven financing, are required to strengthen financial institutions' capacity to raise capital and invest securely in housing.

6.3 RECOMMENDATIONS TO SUPPORT THE DEVELOPMENT OF THE HOUSING SECTOR

In view of the stated challenges, the government should focus on a range of interventions and policy reforms to attract private capital into the housing sector (some innovative approaches from other countries are presented in box 6.2):

- **Prioritize investing in the rollout of trunk infrastructure** (including road, transport, energy, water, sanitation, and so on) and related investments in urban services in the capital and key secondary cities that will shape the locations of future housing investments.
- **Develop integrated strategies for planning** and development of urban infrastructure and services within the Greater Kampala Metropolitan Authority through the Greater Kampala Metropolitan Planning Authority and in key secondary cities, linking urban services to planned industrial parks and housing. For example, the Kampala Capital City Authority Act (2010) made provision for the Greater Kampala Metropolitan Planning Authority but did not specify what form it should take.⁹ As a result, metropolitan spatial planning, urban infrastructure development, and housing program implementation are not part of any integrated strategy.
- **Adopt a more unified approach to housing, infrastructure, and land** development such that there is an integrated investment framework for all these sectors. It should be an overarching investment framework that government, development finance institutions (DFIs) and private investors can support, and which PPPs and other financing arrangements can be designed around.
- **Scale and deepen provision of planned, proclaimed, and serviced land** for both large-scale private housing developers and small-scale local investors in affordable rental accommodation.
- **Improve systems of land titling, transfer, compensation, and records**, eliminate corrupt practices in land administration, and ensure continued rollout of a digitized deeds registry across Uganda.
- **Foster growth of affordable housing finance** through (a) a secondary mortgage market instrument, (b) a supportive environment for real estate investment trusts, and (c) support to capital base growth and housing finance product offerings by nonmortgage banks and SACCOs.
- **Develop data and information on the housing sector** to drive cross-sectoral consensus on interventions required for housing sector development and entrench housing as a key sector for post-COVID-19 recovery and future economic growth.
- **Drive recovery and growth of the housing construction and input manufacturing sector** by identifying and addressing blockages to the growth of relevant local manufacturing sectors; and reviewing tariffs and trade arrangements to boost import substitution and export competitiveness in Uganda's manufactured goods for housing and construction sectors.
- **Start to implement green building frameworks**, which can stimulate economic development and build a more climate-resilient and sustainable built environment. Uganda's future approach to housing must build a strong framework for driving green building approaches and should focus on meeting net zero carbon-built environment targets that call for all new buildings to be net zero carbon by 2030 and all buildings to comply by 2050.

BOX 6.2 LEARNING FROM INNOVATIVE HOUSING PRACTICES ELSEWHERE

International experience provides useful case studies that Uganda can learn from when implementing new housing strategies. There are many innovative approaches to planning, mobilizing inputs to, developing, financing, managing, and improving affordable housing that have had significant impacts in other developing countries; these can guide potentially successful strategies for housing development in Uganda. A select list of such approaches that have potential in Uganda's urban development context is briefly discussed below.

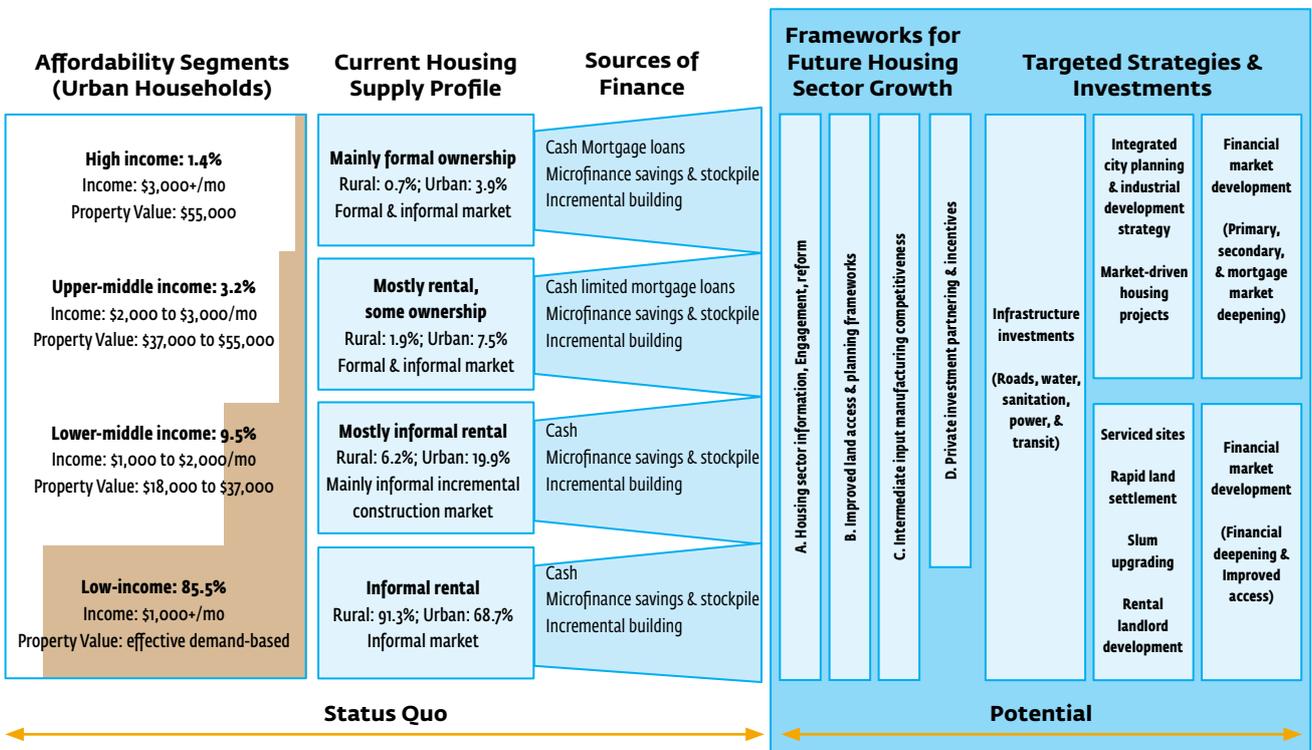
- **Rapid Land Settlement:** An approach to rapid settlement of urbanizing households on preplanned and pegged sites help ensure a level of settlement planning during initial urban growth processes. This ensures a regular urban form that is conducive to future services installation and tenure regularization. Access to serviced land has also been effectively augmented by successful incremental housing development support programs to assist households to efficiently construct shelter.
- **Informal Settlement (slum) Upgrading:** Recent reviews of large-scale informal settlement upgrading programs in developing countries have shown the medium- to long-term potential of this approach to providing basic land title, infrastructure, and support for self-built housing processes to create substantial neighborhood growth over the medium to long term.
- **Micro-housing Development:** Certain countries, including India and Mexico, are recognizing that unrealistically high housing standards and the size of units limit access to housing to higher-income households. The development of micro-housing units that comprise small plots of land or small (less than 20 m²) housing units, at times not fully complete, provides much-needed basic access to tenure, services, and shelter to lower-income households. Micro-housing is more affordable and provides an important first step onto the housing ladder.
- **Affordable Rental Portfolio Development and Management:** International Housing Solutions has used a real estate investment trust framework to raise reasonably priced capital for the development and management of significant portfolios of affordable housing rental portfolios in South Africa and Kenya.
- **"Massive Small" Rental Housing Development:** An international "massive small" housing movement is advocating the potential of many small-scale rental housing developers and managers, rather than the development of cumbersome large-scale projects. Policy frameworks to support the development of better-quality housing developments of fewer than 20 units are being developed and tested in different parts of the world, along with innovative and large-scale financing approaches in inner cities and low-income neighborhoods (e.g., TUHF in South Africa).
- **Innovative Housing Technologies:** While mostly innovative and alternative building technologies promise more than they deliver, new technology offers potential to improve the speed, quality, or performance of housing. Potentially beneficial technologies include the growing application of 3D printing, development of modular housing solutions, and use of more environmentally friendly materials to conventional brick-and-mortar-based construction.

6.4 COVID-19 CHALLENGES IN THE HOUSING SECTOR

The housing sector internationally has been severely impacted by COVID-19, and Uganda’s housing market is no exception. These impacts are felt in many immediate ways, including the need to rapidly deliver urban services—specifically WASH (water, sanitation, and hygiene) programs in densely populated urban areas—and decreased regular payments for municipal rates and taxes. The real estate sector has also been impacted by increases in defaults on rental payments thus impacting landlords’ financial stability. Uganda’s nascent housing finance portfolios are also impacted by higher levels of default and lower demand for new loans as formal and informal employment and incomes are affected. These factors are leading to increased evictions and tenure insecurity.

COVID-19’s negative impacts on Uganda’s economic growth will likely result in a significant reduction in housing construction in both the formal and informal sectors. Not only does this put housing developers and contractors at risk, but it has created widespread layoffs of professional, skilled, and unskilled employees in both formal and informal sectors. A Longer-term and deeper economic crisis due to a major decline in housing construction activity, which comprises a significant portion of Uganda’s GDP.

FIGURE 6.2 INTERVENTIONS AND POLICY REFORMS REQUIRED FOR PRIVATE SECTOR ENGAGEMENT IN HOUSING



Source: Authors

The high economic multipliers in the housing construction sector exacerbate this economic decline by impacting demand for intermediate inputs into the housing sector. The decline in formal and informal construction will have a direct impact on Uganda's GDP. This is due to the direct reduction in economic activity in residential construction but also because of the indirect impacts upstream in the housing value chain. Housing construction relies on a high amount of local content. Roughly half of each Ugandan shilling spent on housing is used to procure upstream goods and services, a majority of which are locally manufactured.

Because of the significant contribution housing construction and real estate make to Uganda's GDP and its very high economic multipliers, these sectors offer important opportunities for post-COVID-19 economic and social recovery. Reinvigorating housing construction, both formal and informal, is one of the most effective mechanisms for overall economic stimulation and employment creation. Stimulating investment in housing will build upstream manufacturing and services sectors simultaneously. If this is coupled with proposed supports to improve local, intermediate input manufacturing competitiveness, this can kick-start regional trade in manufactured components. Furthermore, any economic activity in housing brings social outcomes that benefit recovery, including more housing units and higher quality of life.

1. Centre for Affordable Housing Finance in Africa (CAHF). 2020.
2. Rural populations are growing, live in generally poor housing conditions, and have limited access to formal services. However, the rural housing context is not as severe as that in Uganda's capital and other rapidly growing urban centers. Rural households continue to rely on traditional systems of land transfer and local, traditional construction methods to develop housing.
3. Uganda Bureau of Statistics, "Uganda National Housing Survey 2016/17" (UBOS, Kampala, 2018), 122–23.
4. Centre for Affordable Housing Finance in Africa (CAHF). 2020.
5. The EAC has four operational stock exchanges: Nairobi Securities Exchange (Kenya), the Rwanda Stock Exchange, Dar es Salaam Stock Exchange (Tanzania), and the Uganda Stock Exchange. Current market capitalizations place the Uganda Stock Exchange second largest after the Nairobi Securities Exchange. Uganda: U Sh 19,645.46 billion (\$5.52 billion); Kenya K Sh 2,457.32 billion (\$22.7 billion); Tanzania T Sh 15,977 (\$6.89 billion). The Uganda Stock Exchange has 18 listed shares, of which 8 are in the financial sector.
6. "Experts Warn Government of Looming Housing Crisis in Uganda," Daily Monitor, November 24, 2019, <https://www.monitor.co.ug/uganda/news/national/experts-warn-government-of-looming-housing-crisis-in-uganda-1860892>.
7. Ministry of Finance, Planning and Economic Development, "Public Private Partnerships Act, 2015."
8. A revealed competitiveness analysis undertaken by CAHF (2019) indicates that Uganda is generally becoming less competitive in the production of building materials: over the five-year period from 2013 to 2018, it lost world market share in 26 building material product categories and gained market share in only 12 product categories. Of the product categories in which Ugandan exports gained world market share, only 4 were in growing world markets, while 8 were for product categories where world demand is declining (that is, world export growth is negative). This calls into question the sustainability of those export markets over the longer term.
9. E. Slack, "Options for the Design of a Greater Kampala Metropolitan Authority" (Working paper, International Growth Centre, London, 2018), <https://www.theigc.org/project/options-design-greater-kampala-metropolitan-authority/>.

07. CONCLUSION

A competitive and dynamic private sector is essential for Uganda to create sufficient jobs for a young and rapidly growing labor force that is increasingly based in urban areas. Over the past two decades, the government has had a good track record of implementing pro-private sector policies, which has led to significant inward investment, high levels of regional trade, and a vibrant informal economy.

In recent years, however, growth rates have slowed, a trend evident before the onset of the COVID-19 crisis. The reasons are multifarious. The earlier pro-private sector push from the government has waned, and a growing political stagnation has undermined investor confidence. In terms of human and physical capital, continued low productivity in strategic sectors—especially agriculture—and increased pressures on infrastructure and services (transport and power) have stifled economic transformation and affected Uganda’s regional competitiveness. The earlier growth gains—albeit from a much lower base—have leveled out.

This CPSD focused on three strategic sectors: agribusiness, housing, and energy. All of them are fundamental to Uganda’s future development: to enable it to progress from a largely low-level agrarian economic base to greater value addition; to accommodate a rapidly growing population in its urban areas, which are the main centers for jobs; and to provide critical enabling infrastructure that powers the emerging manufacturing base. The private sector will be integral to making these processes happen.

Despite the years of growth, the private sector in Uganda still faces significant challenges linked to the state of the country’s infrastructure, human capital, institutional capacity, and land system. These economywide constraints—together with more sector-specific ones—are discussed in this report because they affect each of the three strategic sectors considered. Recommendations are provided that could lead to increased growth and investment in the focal sectors over the next three to five years. The recommendations are captured in each of the sector reviews. While some of these proposals will require significant public-private investment—for example, in transport infrastructure—many others require more a political commitment or an institutional change rather than financial investment. In this respect, the aim has been to make the proposals as practical and workable as possible. The complete list of recommendations is provided in appendix A and appendix B.

APPENDICES

APPENDIX A RECOMMENDATIONS BY SECTOR

TABLE A.1 SUMMARY RECOMMENDATIONS FOR AGRIBUSINESS, ENERGY, AND HOUSING



- Conduct a comprehensive review of MAAIF and all other agriculture-related institutions to clarify functional mandates, strategic objectives, and budget allocations.
- Review Operation Wealth Creation subsidy design for opportunities to shift toward private-sector-led solutions.
- Adopt the National Accreditation System Bill; prioritize capacity building in quality and standards institutions.
- Ensure negotiations for AfCFTA implementation (and existing regional trade agreements) focus on the removal of persistent and ad hoc NTBs to facilitate access to existing and new markets.
- Leverage international technical and financial support to implement trade facilitation improvements to align with WTO Trade Facilitation Agreement.
- Conduct a financial feasibility study of a shift to alternative pay-for-results programs for agriculture extension service providers.
- Increase the budget and prioritize capacity building in Uganda's National Meteorological Authority to further develop agriclimate information and make data publicly available to strengthen innovation and risk assessment in agrifinance programs.
- Improve the PPP Unit's capacity and continue prioritizing PPPs for irrigation, temperature-controlled logistics, storage, and off-grid energy solutions.
- Develop leasing regulations conducive to the needs of commercialized farmers, especially smallholders.



Energy

- Undertake thorough cost/benefits analysis of the recent UEGCL, UEDCL, UETCL merger as well as other institutional changes to ensure that development benefits are not reversed.
- Engage with private and public partners to make sure that institutional changes in the sector are carried out transparently and follow a consultative process for continued trust among stakeholders
- Allow PPP investments in transmission infrastructure through UETCL special purpose entities with private players.
- Introduce IPTs for transmission infrastructure through regulations to guide risk-sharing arrangements, tariffs, and provider selection procedures.
- Provide clear guidelines for enforcement of quality standards for SHSs.
- Streamline territorial zoning for the on-grid distribution operations to improve concession viability and network optimization.
- Revise the Energy Rebate Policy and provide a framework for direct utility investment for dedicated grid extensions for productive users.
- Enhance resource mobilization for smart subsidies to support mini-grids and SHSs.
- Review the role of small service providers in distribution to minimize fragmentation.
- Introduce adequate institutional structures (PPPs) for promotion of export and regional power trade.
- Develop mini-grid project “packages” for private competition, including the provision of land and subsidy and grant facilities.
- Pilot transmission projects for PPP tenders to test market responses and enable empirical determination of appropriate terms and conditions.
- Enlist potential productive users constrained by the lack of access and tender offers for development.
- Invite firms to provide SHSs under special subsidy and grant plans.



Housing

- Review legislative and policy reform and implementation to improve systems of land titling, transfer, compensation, and records. Continue rollout of the digitized deeds registry to create a platform for private sector investment in the housing sector.
- Improve planning and infrastructure development capacity of Greater Kampala Metropolitan Authority to guide its future rapid urban growth and housing requirements. Make metropolitan spatial planning, urban infrastructure development, and housing part of an integrated strategy with a single, overarching planning agency.
- Integrate urban, housing, and infrastructure planning functions in newly designated secondary cities, ensuring linkages to industrial park development strategy to maximize local economic development opportunities.
- Develop a more competitive construction industry that can serve local and regional export markets. Review tariffs and trade arrangements in relation to import and export of housing-related intermediate inputs to ensure maximum trade competitiveness and encourage locally manufactured inputs for housing and construction sectors.
- Develop an integrated investment promotion framework for land, infrastructure, and housing to guide public and private investments. Conduct a review of Uganda’s PPP framework as it relates specifically to housing.

Note: AfCFTA = African Continental Free Trade Agreement; ERA = Electricity Regulatory Authority; IPT = independent power transmission; MAAIF = the Ministry of Agriculture Animal Industry and Fisheries; MEMD = Ministry of Energy and Mineral Development; NTB = nontrade barrier; PPP = public-private partnership; REA = Rural Electricity Agency; SHS = solar home system; UEDCL = Uganda Electricity Distribution Company Ltd.; UETCL = Uganda Electricity Transmission Company Ltd.; WTO = World Trade Organization.

APPENDIX B

RECOMMENDATIONS BY AGRIBUSINESS SUBSECTOR

TABLE B.1 SUMMARY OF SHORT- AND MEDIUM-TERM RECOMMENDATIONS FOR FISHERIES, DAIRY, AND MAIZE

Short-Term Reform Priorities	Medium-Term Reform Priorities
 <p>Fisheries</p> <ul style="list-style-type: none"> • Adopt the 2021 Fisheries and Aquaculture Bill and gazette new protocols and regulations in a timely manner, along with necessary public-private dialogue to foster support for changes and to ensure awareness of legal ramifications. • Deepen regional cooperation on Sustainable Fisheries Management, including through more joint patrols and establishment of agreed standard operating procedures. • Digitize registration process for all actors along the fishing value chain; digitize (in phases) payments to government from fisherfolk. • Pilot an aquaculture advisory platform, leveraging development partners and the private sector, to demonstrate and train current and potential aquaculture farmers on modern, sustainable production systems and best practices. • Conduct prefeasibility studies to develop investment prospectus for opportunities along the aquaculture value chain, including production, inputs, logistics, services (including cold chain), and so on. • Ensure transparent and equitable appropriation of export levy funds toward monitoring, control, and surveillance activities. • Continue capacity building and professionalization of the Fisheries Protection Unit. • Encourage Marine Stewardship Council assessment and certification of wild-catch fisheries. • Incentivize installation of off-grid and micro-grid renewable energy systems at processing facilities to reduce long-term operating costs and reliance on costly emergency diesel generators, esp. for temperature-controlled storage. • Prioritize PPPs for temperature-controlled logistics, including transportation, storage, and off-grid energy solutions. 	<ul style="list-style-type: none"> • Ensure transparent and equitable appropriation of export levy funds toward monitoring, control, and surveillance activities. • Continue capacity building and professionalization of the Fisheries Protection Unit. • Encourage Marine Stewardship Council assessment and certification of wild-catch fisheries. • Incentivize installation of off-grid and micro-grid renewable energy systems at processing facilities to reduce long-term operating costs and reliance on costly emergency diesel generators, esp. for temperature-controlled storage. • Prioritize PPPs for temperature-controlled logistics, including transportation, storage, and off-grid energy solutions.



Dairy

Short-Term Reform Priorities

- Negotiate durable a solution to Kenyan market access.
- Expand school milk program pilot program to increase domestic demand.
- Include dairy-related subsectors in a new national innovation fund, such as (a) higher-quality feed and fodder; (b) improved grass varieties for pasture rehabilitation; (c) water harvesting and storage equipment; (d) off-grid renewable energy production and storage systems.

Medium-Term Reform Priorities

- Strengthen enforcement of milk quality standards in larger markets, in part to incentivize industry shift to milk payments based on milk quality.
- Allocate sufficient funding to Dairy Development Authority to expand opening hours of milk collection centers.
- Prioritize PPPs for rehabilitation and development of new milk collection centers and cooling equipment along the cattle corridor.
- Encourage vertical integration and establishment of confined or semi-confined free stall operations to maximize benefits of new genetics, better feed rations, and improved animal husbandry.
- Establish legal framework and pilot national livestock identification and traceability system in collaboration with lead firms.
- Establish a performance-based salary and bonus system for veterinarians to incentivize wider and more effective extension services.



Maize

- Invest in storage access points program and pricing structures to facilitate use by smallholders - may include a partnership with private sector warehouse owners/managers.
- Invest in program-making tools accessible that support good maize farming practices, bags, shellers, light mechanization, etc.
- Increase the functionality of Warehouse Authority and related agencies, especially with the ability to license warehouses and enforce quality standards.
- Clarify perceived institutional overlap between Bureaus of Standards and Department of Crop Inspection on SPS certification and aflatoxin management.
- Review the government of Uganda's maize procurement policy and adjust to prioritize the purchase of high-quality maize.
- Improve access to aflatoxin testing and raise UNBS's ability to enforce quality certification.
- Develop licensing criteria for maize-related businesses, similar to that of dairy/coffee.
- Improve the process for obtaining a license to export maize.

- Develop a registration system linking traders to the sale of quality maize grading and traceability and potentially input dealers, to discourage counterfeiting and adulteration.
- Develop policy that advances the use of maize grading.
- Explore advantages of a functional commodity exchange.
- Develop PPP framework and incentives for irrigation investments.
- Conduct analysis of maize value-addition market for Ugandan firms in animal feeds and blended/complementary human food, fortification, and porridge production.

Note: PPP = public-private partnership; SPS = sanitary and phytosanitary; UNBS = Uganda National Bureau of Standards.

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