Centre for Affordable Housing Finance in Africa

UGANDA'S HOUSING CONSTRUCTION AND HOUSING RENTAL ACTIVITIES

HOUSING ECONOMIC VALUE CHAIN AND HOUSING COST BENCHMARKING ANALYSIS

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HOUSING AND THE ECONOMY

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Executive summary

This report uses CAHF's Housing Cost Benchmarking and Housing Economic Value Chain Modelling methodologies to analyse the Ugandan housing market. The report provides an overview of the structure of Uganda's housing supply and demand for housing and determines the contribution of housing construction and rental activities to Uganda's economy. Further, it provides a basis for comparing the costs of constructing housing in Uganda in relation to housing costs in other African countries. These analyses are used to identify key areas of Uganda's housing system that can be improved to maximise the potential production of owned and rented housing that better matches the demand profile of Uganda's urban and rural households.

Uganda has a population of 46 million people in 2020, growing at a rate of 3.6 percent a year, making it the country with the third-highest population growth rate in Africa. Currently, Uganda has a low rate of urbanisation, with only one quarter of its population living in urban areas. However, with a projected urbanisation rate of 5.6 percent per annum, Uganda's urban areas are poised for rapid increases in households requiring decent, affordable housing. Uganda's urban households will grow from 2.9 million in 2020 to 3.8 million in 2025—a total increase in housing needed of 180 000 units per annum.

Uganda's housing agenda is rapidly becoming urban-focused. While the majority of Uganda's households will still live in rural areas over this period, the total number of housing units required in urban areas will be greater than that in rural areas. Unsupported, Uganda's urban housing needs will be met through a combination of the following processes: First, through the rapid expansion of basic informal rental housing (such as rooms with shared or separate ablutions) in informal or slum areas. Second, existing built-up areas will face increased population densities through more co-living arrangements as households are forced to share housing. Third, through the extension of existing formally and informally developed housing to accommodate larger or multiple households. Fourth, through the incremental building of houses by households able to access land, with or without secure tenure; and finally, through formal housing development, sale and rental. Without substantial changes to Uganda's current housing policy and processes, a vast majority of households will continue to be housed through informal processes.

CAHF's Housing Economic Value Chain analysis estimates that housing construction and rental activities contributed a combined output of 11.0 percent of Uganda's GDP in 2018 at UGX12 135 billion (US$3 255 million). This combined value indicates total GVA of UGX6 430 billion (US$1 725 million) and intermediate inputs of UGX5 706 billion (US$1 531 million). Seventy-five percent of the intermediate inputs were sourced from secondary sectors (a majority of which are locally manufactured goods), 22 percent from tertiary sectors and only 2 percent from primary sectors. Total intermediate inputs were equivalent in value to 5.2 percent of Uganda's GDP in 2018, while the direct GVA contribution was 5.8 percent.

In 2018, Uganda invested almost UGX 8 trillion (US$ 2 145 million) in the construction of housing. Of this, 67 percent comprised intermediate inputs into the construction process and the remaining 33 percent was value added by construction-related activity. Intermediate inputs into dwelling construction were equivalent to a very significant 4.8 percent of Uganda's GDP in 2018, while the gross value added contributed a further 2.4 percent. The relative economic impacts of housing construction in Uganda are substantially greater than in South Africa, where intermediate inputs into housing construction were equivalent to 1.2 percent of GDP in 2018 and the GVA only contributed 0.5 percent of GDP. This shows the very important impact that housing construction has on a developing economy such as Uganda.

The total economic value added from residential rental services was UGX 4.1 trillion (US$ 1.1 billion), comprising 9 percent intermediate inputs of UGX 373 billion (US$ 100 million) and 91 percent gross value added of UGX 3.8 trillion (US$ 1 billion). This relatively under-developed rental sector is due to the relatively small proportion of urban households that rent (29 percent), as well as to the under-developed nature of the rental sector, where most rentals are provided by small-scale and household landlords.

CAHF's Housing Cost Benchmarking methodology defines six key housing typologies and size configurations, specifies their design and completes a detailed cost breakdown for Kampala, Uganda. Comparing the cost of a

standard 55m² house in Kampala against major cities in five African countries,[1] the cost benchmarking shows that Kampala has the third-highest construction cost (US$58 596) after Pretoria, South Africa (US$40 199) and Lagos, Nigeria (US$52 103). Building the standard house in Kampala is 46 percent more expensive than in Pretoria, while in Nairobi (the most expensive of the five cities) it is 11 percent more expensive than Kampala.

In total, 43 percent (US$25 092) of the total cost of developing this standard house is for construction-related inputs, showing that 57 percent of the total cost of developing such a house is for other cost items. The next largest cost categories are infrastructure (14 percent / US$8 102); VAT (14 percent / US$8 450); developer overhead (10 percent / US$5 790); other development costs (7 percent / US$4 178); compliance costs (7 percent / US$3 820) and then land cost (5 percent / US$3 165). When comparing the costs of different housing typologies (smaller detached houses and medium and higher-rise units), multi-storey typologies increase average construction costs (with higher buildings requiring higher-specification construction and fittings such as elevators and emergency exits). However, there are significant savings on land and infrastructure costs that substantially offset the construction cost increases.

While Uganda's housing development costs are in the mid-range of five countries benchmarked in sub-Saharan Africa, this analysis shows significant potential for reducing overall housing development costs in Uganda. Construction costs alone are 51 percent higher than in Pretoria, South Africa and all other major cost categories have potential for cost reductions through minimising relatively high input costs, as well as reducing process and holding costs incurred due to delays in the development process.

This analysis highlights the opportunity for Uganda to create a more orderly response to the rapid urbanisation it will face in the future, given its relatively low current rates of urbanisation and current high levels of economic growth. However, the rapid urbanisation in Uganda's urban centers (and specifically in Kampala and Entebbe) in the future will result in important shifts in the housing sector. This urban housing challenge will require different responses to what has been implemented in the past if Uganda is to successfully guide and manage urban growth and housing development.

Uganda's housing market already plays a critical and substantial role in its economic growth and sectoral diversification and should be an even greater contributor to Uganda's economic growth and social prosperity in the future. The housing economy provides an excellent, sustainable market for locally manufactured goods and local services. However urgent attention needs to be given to the ability of Uganda's local manufacturing and services sectors to support and grow local housing construction demands in the future, as well as its potential to improve its international competitiveness as a building materials exporter.

A better-functioning housing sector has diverse and interlinked benefits. First, it focuses household expenditure on investment-oriented activities. Housing payments create long-term fixed investments in the country's economy by ordinary households and build housing stock that generates regular income streams from real estate or focuses household income in assets that would otherwise be spent on rental.

Investments in housing grows Uganda's gross fixed capital formation – the economy's engine of production. Houses are not only used for shelter but also to produce rental income, and stimulate regular consumption of other goods and services. Housing construction also reaches deeply into Uganda's upstream secondary (manufacturing and construction) and tertiary (services) economic sectors by stimulating demand for mostly locally produced value-added intermediate products and services.

But this is not where the economic impact of housing ends. The demand for more and better housing and other goods and services are further enhanced through the growth in incomes of developers, contractors, landlords, goods and services suppliers and the high number of people that receive wages and profits from the construction and rental of housing. And finally, a well-managed housing sector yields important increases in government revenue from taxation, levies and regular service charges and property rates.

If all of these interrelated economic benefits from a growing housing sector are realised, they offer a significant opportunity for economic and social development. Uganda's early-stage urbanisation and new housing policy offer an important point at which strategies and sectoral interventions can be developed and implemented at scale to influence its housing future. Such an opportunity cannot be squandered. However, in order to meet the current and future housing needs of urban households, Uganda will need to design and implement more comprehensive and targeted strategies in the housing sector, as well as for sectors that directly support

[1] From lowest to highest estimated cost: Pretoria, South Africa; Lagos, Nigeria; Kampala, Uganda; Dodoma, Tanzania and Nairobi, Kenya.

housing. Six core strategic areas are identified that Uganda must address for the housing sector to keep pace with rapid urbanisation.

Strategy 1: Scale and deepen affordable housing supply. Uganda needs to ensure a better match between housing supply and the real effective demand for housing of households. This requires greater down-market focus on producing basic housing products, as well as initiatives that improve the ability of households to access the basic requirements for self-construction, such as secure tenure over land, basic infrastructure and access to building inputs. This will require a shift in investment patterns by government and others in the housing sector to support as many households into the housing sector as possible, and to ensure informal construction is supported and recognized as the most important delivery system in the country.

Strategy 2: Strengthen local development and construction capacity. Creating stability in the local housing construction sector is important to ensure sustainable housing development. In addition, support to and development of Uganda's local construction industry is required to improve business, professional and technical skills in development and construction. Further, providing certainty in the housing sector in a way that encourages participation of local and expatriate developers in Uganda's housing market is key. Developing housing is a multi-year process, and political, economic and policy certainty is critical to the sector's success in scaling up to meet demand.

Strategy 3: Build intermediate input capacity into the housing sector. Building a strong local manufacturing sector is critical to sustainable housing construction. A strategy to strengthen the development of intermediate inputs into construction in Uganda is urgently required, both to feed into its local housing development sector as well as to encourage exports of manufactured building materials.

Strategy 4: Stimulate household effective demand for housing. Maintaining strong economic growth will be the major stimulus for better housing affordability across the population of Uganda. In addition, Uganda's housing finance sector must continue to be developed to support the provision of more and better-designed financial products enabling households to access housing. This includes end-user finance products, as well as improved capital markets and targeted state engagement in the housing market to overcome effective demand blockages, such as through the provision of access to basic serviced land.

Strategy 5: Improve programme and project implementation and sector monitoring. The implementation of a coherent, inclusive programme for housing development in line with the new housing policy is required to enhance housing outcomes across the income spectrum. This will need to be based on solid information and analytics that continue to improve Uganda's relatively solid data on its economy. Specifically, greater information is required around its housing and finance markets to assist investors to understand and respond to specific conditions in the Ugandan market.

Strategy 6: Improve the housing and real estate investment climate. Improving economic conditions will continue to generate interest in Uganda's housing sector. Macroeconomic stability and stable capital markets will assist to encourage local and international investors to seek safe investment opportunities in housing construction and rental markets in Uganda. To support this, a housing education and awareness campaign must assist to develop a better understanding of housing and housing finance markets amongst consumers themselves.

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Disclaimer

CAHF notes that its Housing Cost Benchmarking and Housing Economic Value Chain methodologies continue to be improved over time. The methodology, approach and data collection approaches are continually refined to overcome specific constraints and challenges experienced during CAHF's original fifteen country study and subsequent 'deep dive' analyses of specific countries.

While every effort has been made to ensure the accuracy of the data contained herein, CAHF acknowledges that due to local variations and interpretations and the lack of directly comparable sources of data, accuracy of some costing information may vary. In addition, the nature of some data implies that assumptions and estimates are used to produce some of the analysis. All data and analysis should be taken as indicators of trends, and all will benefit from improved housing market data in the future.

Glossary

Formal/planned areas: planned and surveyed lands by municipality or privately– with title deeds/certificate of right of occupancy. This can be for low, middle- and higher-income houses and earners.

Informal/unplanned areas: Un-surveyed and unplanned land without residential license or with residential licenses. A residential license is encouraged in unplanned areas for purposes of tenure security and proof of ownership. A residential license (which is regularly renewable) is issued by the local municipality and entails information on property details, owner, term/duration of license, map of property and neighbourhood. These areas are characterised by units made up of brick, block and cement structures and vary in terms of low, middle- and higher-income housing.

Domestic production: The local (in this case, Ugandan) production of goods and services within a particular geographic area – whether for consumption in that area, or for export.

Domestic supply: The supply of goods and services for consumption within a country's (in this case, Uganda's) borders - regardless of whether those products were produced locally or imported.

Economic value chain: An interlinked set of value-adding activities that convert inputs (for example, raw materials, or labour) into outputs (for example, window frames, or geysers) in the process of producing both intermediate inputs for use within other economic value chains, and final products.

Factor income: Income received from the different factors of production, including land (rent), labour (wages) and capital (profit).

Final demand: The total value of goods and services that are purchased in their final form in an economy in a given period. In national accounts terms, this includes products that are consumed by households and by government, capital goods that form part of gross capital formation, and products that are exported.

Full-time equivalent employment: The hours worked by a "typical" full-time employee in a particular sector or industry in a given period (day/week/month/year). The concept is used to convert the hours worked by part-time employees into the hours worked by full-time employees. For example, if a particular industry sector currently operates on a basis where full-time employees work 40 hours per week, and three people are employed on a part-time or casual basis to work 20 hours per week, their labour collectively represents 1.5 full-time equivalent employment opportunities.

Government consumption: Government expenditure used for the purchase of final goods and services. This excludes government expenditure on capital assets, which are accounted for under gross fixed capital formation.

Gross domestic product (GDP): The value of all goods and services produced within a particular geographic area (usually a country, in this case Uganda) within a particular period. It can be measured in three ways: i) as the sum of all factor incomes (labour remuneration, interest, rent and profits) earned within the defined geographic area (the income method); ii) as the value added in each sector of the economy (the production method); and iii) as expenditure on goods and services in their final form (the expenditure method). The first two methods measure the value of aggregate supply in the economy, while the third measures aggregate demand. Differences in the valuation of each method arise because of the levying of indirect taxes and subsidies at different stages of the production process, and at the final point of sale. The expenditure method is usually valued at market prices and takes account of all indirect taxes and subsidies. The production method is usually valued at basic prices and includes only indirect taxes and subsidies on production processes.

Gross fixed capital formation (GFCF): The expenditure on capital assets (buildings, civil works, machinery and equipment, transport equipment, computer and telecommunications equipment, research and development, computer software, mineral exploration, cultivated biological resources that yield repeat products - such as vineyards and orchards) - and transfer costs. It does not account for the consumption (depreciation) of fixed capital, and also does not include land purchases. The value of housing construction in a particular period (adjusted for work on hand at the start of the period) is included in GFCF.

Gross operating surplus (GOS): Represents the aggregate of returns to land (rent), capital (interest) and entrepreneurial endeavours (profits). This is often referred to generically as 'returns to capital'. It reflects that part of the value added by a company that is not attributable to labour.

Gross value added (GVA): Represents the payments (returns) made to the owners of the different factors of production (labour, land, capital and entrepreneurship) by a producer of goods and services in a particular period. It reflects the difference between the sales/income of the producer and the payments made to third-party suppliers of intermediate goods and services. The sum of the value added by each sector or industry in an economy is equivalent to the GDP of that economy, but differences in valuation can arise due to the inclusion or exclusion of indirect taxes and subsidies on production processes and products. GVA is typically valued at basic prices or factor cost, while GDP is usually valued at market prices (inclusive of all indirect taxes and subsidies).

Highly skilled employment: Employment requiring a high level of skill, often at a senior management or professionally certified level.

Household consumption expenditure: Expenditure on final goods and services by households, or on behalf of households (for example, when the state subsidises the cost of housing which is transferred to a household). The purchase of these goods and services may be facilitated by the factor incomes of the households themselves (earned income), or from transfers and subsidies from government or individuals outside the household unit (unearned income).

Imports and Exports: An import is a good or service brought into a country from another country. An export is a good or service taken from a country to another. These imports and exports may be in either a final, or intermediate form. For simplicity, we consider houses themselves to be supplied and demanded only within the domestic market, albeit that small numbers of prefabricated houses may be exported or imported.

Imputed rent (also referred to as owners' equivalent rent): Represents the opportunity cost of owning and living in a property. Choosing to occupy a property that you own means that any rent that could have been earned on that property is foregone.

According to the OECD, "Imputed rents are defined as rental equivalents – that is, the estimated rent that a tenant would pay for identical housing let unfurnished, taking into consideration factors such as the type of dwelling (single-family or multi-family), its size (useable surface, number of rooms), its facilities (running water, indoor toilet and bathroom, electricity, central heating, etc.), its location (city centre, suburban or rural) and neighbourhood amenities." [2]

Failure to take account of imputed rents in the national accounts makes it difficult to compare the GDP of countries with significantly different levels of private home ownership, and – in the case of a single country with rapidly changing home ownership patterns – to compare GDP from one period to the next. For this reason the rental equivalent value of owner-occupied dwellings are imputed so as to place home owners and renters on a similar footing and the GDP of the country (and its components) is adjusted accordingly. Methods of determining the imputed rent vary depending on the nature and extent of the rental market in that country and the data available. The accuracy of these estimates depends on the efficient functioning of rental markets across the entire spectrum of housing options and locations. For example South Africa's Consumer Price Index 2016 Weights[3] determined that on average across all households, imputed rents were equivalent to 11.93 percent of household expenditure in 2016. Currently, Uganda's CPI weights[4] indicate that the average Ugandan household spent 5.234 percent of total household expenditure on actual housing rentals. The CPI does not include explicit reference to imputed rents.

Informal employment: The informal sector or informal economy represents that part of the total economic activity that is not registered with, and directly monitored by, relevant government departments and agencies and not directly taxed (it will typically be subject to at least some forms of indirect taxation such as value added tax). Informal employment relates to all people deriving income from this informal activity. Because of its prevalence, most countries include some estimates of the economic contribution of the informal sector in the construction of their national accounts.

Intermediate demand: Demand for a product that undergoes further transformation through value adding activities during a production process. The output of a particular sector or industry can be used to satisfy either intermediate demand from other sectors and industries, or final demand.

[2] Eurostat-OECD (2012). "Housing", in Eurostat-OECD Methodological Manual on Purchasing Power Parities, OECD Publishing. Pg. 138.
[3] Statistics South Africa (2017). P0141.5 - Consumer Price Index (CPI): Weights, 2016. 27 January 2017.
[4] Uganda Bureau of Statistics (2020). Uganda Consumer Price Index 2009/10 = 100. April 2020.

Intermediate inputs: Goods and services that are inputs into a production process and that undergo further transformation as a result of value-added activities during the production process. For example, bricks, sand and cement are just some of the intermediate inputs that are used in the process of producing a house by the construction sector.

Labour: Economic measure of work done by human beings. Labour is a factor of production that is remunerated by wages and salaries and constitutes one possible source of income for households. Other income streams can be derived from capital (interest), land (rents) or entrepreneurial endeavours (profits).

Multiplier effect: A multiplier effect is an economic impact that arises from an initial economic stimulus – such as the sale of a house – that causes changes in other related economic variables (value added, output, employment, tax collections, imports etc.). The cumulative impact of these changes is typically greater than (a multiple of) the initial stimulus that caused them.

System of National Accounts (SNA): The implementation of complete and consistent accounting techniques for measuring the economic activity of a nation. Most countries have adopted an SNA that complies with guidelines collectively developed by the European Communities, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations and World Bank[5]

Net Indirect Taxes: The value of indirect taxes paid, less any subsidies received, by an economic actor. An indirect tax may be levied on part of a production process (such as a skills levy on labour remuneration) or on a product (such as an excise duty or value added tax). Indirect taxes are distinguished from direct taxes (such as corporate tax or personal income tax).

Primary sector: Those sectors of the economy related to primary industries including agriculture, forestry, fishing and mining and quarrying. They are often referred to as extractive industries because they extract resources and products from the environment. These extracted products may be "renewable" or "repeatable" - as in the case of sustainable agriculture and fishing - or "non-renewable" - such as metals and minerals extracted by mining and quarrying.

Secondary sector: Those sectors of the economy related to secondary industries including manufacturing, electricity, gas and water and construction works of finished goods and services.

Semi-skilled and unskilled employment: Employment requiring less skills than skilled employment.

Skilled employment: Employment requiring a special skill, training, knowledge, and (usually acquired) ability to be productive. Organisationally, skilled employment typically includes artisans, supervisors and lower levels of management.

Tertiary sector: Those sectors of the economy that produce and sell a wide range of services including wholesale and retail trade, transport, storage and communication, financial, insurance, professional business advisory, and community and personal services. Because of this the tertiary sector is often referred to as the services sector.

[5] European Communities, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations and World Bank (2009).

Note on exchange rates

Because of the distortions that the use of prevailing market exchange rates can give rise to, it was decided to convert the affordability calculations in this report into international purchasing power parity dollars (PPP$). A PPP$ is a notional currency that reflects the rate at which the currency of one country would have to be converted into that of another country to buy the same amount of goods and services in each country. Use of PPP$ avoids most of the distortions that can be generated by use of prevailing market exchange rates against other currencies – such as the US$. It therefore provides a more accurate reflection of the relative affordability of housing in one country compared to other countries, and will also give rise to less volatile affordability measures over time—particularly in commodity exporting countries that experience wide swings in exchange rates as a result of commodity price changes.

Unless otherwise noted in the text or footnotes, the exchange rates used for in this publication are as follows:

Ugandan Shillings (UGX) per United States Dollar (US$)

2017	UGX 3 611.36
2018	UGX 3 727.79
2019	UGX 3 703.98
2020 (1 January to 30 April)	UGX 3 729.10

Source: Bank of Uganda (2020). Exchange rates. https://www.bou.or.ug/bou/bouwebsite/Statistics/Statistics.html

Ugandan Shillings (UGX) per International Purchasing Power Parity Dollar (PPP$)

2017	UGX 1 077.93
2018	UGX 1 085.74
2019	UGX 1 106.88

Source: International Monetary Fund (2019). World Economic Outlook. October (2019). https://www.imf.org/external/pubs/ft/weo/2019/02/weodata/index.aspx

However it is noted that Section 5: Housing cost benchmarking uses different exchange rates than those given above. The dollar prices used in Section 5 are calculated from the local currency (UGX) input costs collated, based on the prevailing exchange rate at the time of the cost benchmarking exercise (US$1 = UGX 3 693).

1 Introduction

This report focuses on Uganda's housing market and economy and consists of four important analytical components, from which conclusions and recommendations are then derived. The first analytical component is a **Contextual Analysis** of demographic and economic trends that speak to the scale of new household formation and where these households are located, relative trends in per capita incomes, and the comparative performance and contribution of the construction and real estate sectors of the Ugandan economy.

The second analytical component is a **Housing Economic Value Chain** analysis, that follows a methodology developed for CAHF, that provides a macro-level overview of the housing construction and housing rental value chains. The value chain analysis provides a link between micro-economic housing construction and housing rental production activities and the macroeconomy by indicating the ties between these activities and other sectors of the economy. The analysis incorporates both the production/supply side of housing construction and rental-related activities, and the expenditure/demand side and – in the process – the contribution to the gross domestic product of Uganda from the production, income and expenditure perspectives. This section of the report is supplemented by a revealed competitive advantage analysis of Uganda's international trade in building materials.

Figure 1: Components of the analysis

The third analytical component is a **Housing Market Analysis** that serves as a bridge between the preceding macro-level analysis of aggregate housing production and expenditure and the subsequent micro-level analysis. It examines the dynamics of Uganda's housing construction and rental markets. It focuses on rural and urban household incomes and what this implies for housing affordability, and examines the extent to which prevailing housing policies and formal production processes meet the needs of the entire spectrum of Ugandan households.

The fourth analytical component of this report is a **Housing Cost Benchmarking** analysis developed for CAHF that examines, in detail, the cost of producing different standardised types of housing units in Uganda, and contrasts these with their equivalent costs of production in a number of other African economies. In the process, this analysis identifies those components of housing production costs in Uganda that are either relatively cheaper, or more expensive, than other countries – so that they can be subjected to additional scrutiny. This can assist in designing policy interventions that address cost-raising factors and assist in improving housing affordability.

As shown in **Figure 1**, the combination of these four analytical components provides the basis for a number of conclusions relating to Uganda's housing economy, and informs certain high-level policy recommendations on the types of interventions required to optimise the contribution of housing to Uganda's economy, and to meet the housing needs of citizens more effectively.

2 The context to Uganda's housing market

The housing construction and rental activities of a country are the result of a range of influences, including demographic and urbanisation dynamics, income trends, economic growth and structural changes in the composition of the economy, prevailing technologies, subsidy regimes, social norms and household preferences amongst many others. This section analyses available data in relation to demographic and macroeconomic trends that will influence Uganda's housing market and housing economy in the future.

2.1 Demographic trends

The Department of Economic and Social Affairs of the United Nations' Population Division (DESA)[6] estimates Uganda's population at close to 46 million people in 2020, with average growth of 3.66 percent a year between 2015 and 2020. This makes Uganda's population growth rate the third highest in Africa (after Niger's 3.89 percent and Equatorial Guinea's 3.72 percent) and the fifth highest in the world.[7]

Uganda has a relatively low level of urbanisation, even by African standards. DESA estimates that Uganda's urban population is 11.8 million in 2020 (25 percent of the total population).[8] The urban population is however projected to grow at a rapid average annual rate of 5.6 percent over the next five years (2020 to 2025). The proportion of the population that is expected to be urbanised will increase to 31 percent by 2030 and to just over 44 percent by 2050. The capital city Kampala has a population of 3.3 million in 2020 and it is expected to grow to 5.5 million by 2030. DESA projects that Uganda's urban population will increase by an average of 731 000 people per year over the next five years, of which close to 193 000 with be located in Kampala, and the remaining 548 000 will be spread across Uganda's other urban areas.

In its 2016/17 Household Survey,[9] the Uganda Bureau of Statistics (UBOS) indicated that in that financial year, the average household size in Uganda was 4.7 people, and that the national average had not changed noticeably since 2009/10. It estimated that in urban areas, the average household size was 4.1 people, while in rural areas it was 4.9. Assuming that these average household sizes remain the same in coming years, the total number of households from 2020 to 2025, and the additional households that will need to be accommodated from 2021 to 2025, will be as reflected in **Figure 2**. The graph on the left indicates that the number of urban households will increase from close to 2.9 million in 2020 to almost 3.8 million in 2025, and the number of rural households will rise from 6.9 million to 7.4 million over the same period. While the majority of households will continue to be in rural areas, the number of new households formed in urban areas will be substantially greater than those formed in rural areas (right hand graph).

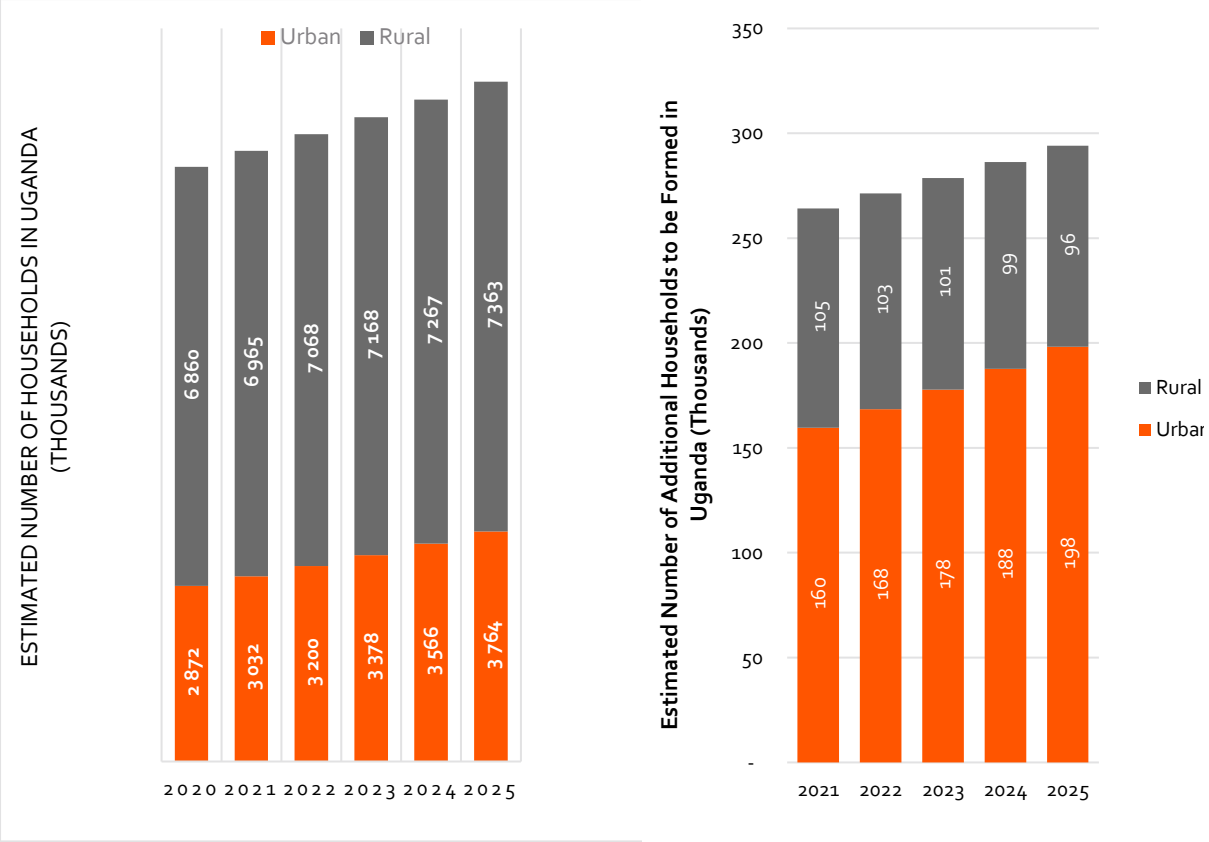
[6] United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019, Online Edition.

[7] Bahrain's population grew at an average of 4.4 percent a year over the same period but it only had a population of 1.7 million people in 2020. Oman's population increased by 3.66 percent p.a.

[8] United Nations, Department of Economic and Social Affairs, Population Division (2018). World Urbanization Prospects: The 2018 Revision, Online Edition.

[9] Uganda Bureau of Statistics (2018). Uganda National Household Survey 2016/2017 Report.

Figure 2: Estimated total and additional households in Uganda (2020-2025)



Source: UN DESA, World Population Prospects, 2019 Revision and World Urbanisation Prospects, 2018 Revision. Own calculations.

The number of households will increase by 265 000 between 2020 and 2021, of which 160 000 will be in urban areas. Between 2024 and 2025, an additional 294 000 households will be formed, of which an estimated 198 000 will be in urban areas. These households will require housing and to the extent that this need is not met by formal housing construction, it will be met by owner-building (either formally or informally), or an increase in average household size through household consolidation. This means that Uganda will face the consequences of rapid urbanisation in the future. The 2016/17 Uganda National Household Survey shows that 40 percent of migrants move to urban areas for income reasons, 26 percent moved to join family already in urban areas, and 19 percent moved due to marriage.[10]

Uganda's rapid urbanisation will increasingly result in a range of important shifts in housing demand in urban areas. Firstly, the need to deliver housing in urban areas will become an urgent priority. Secondly, the average size of households in Uganda has decreased over the last decade. Between the 2005/06 and 2016/17 census counts, urban household size has reduced from 4.6 people per household to 4.1, and rural households from 5.3 to 4.9. For instance, there has been a rapid growth in one and two-person households: from 24 percent in 2012/13 to 32 percent of all urban households in 2016/17. [11] If Uganda is to accommodate such a trend it will require a shift in housing supply to cater increasingly for smaller households. Third, there will be increasing demand for housing due both to the scarcity of available opportunities and the more flexible housing needs of younger, more economically mobile, recently urbanised households. The likely implications of this on tenure conditions are discussed in Section 4.

[10] Uganda Bureau of Statistics (UBOS) (2018). Uganda National Household Survey 2016/2017.
[11] Ibid.

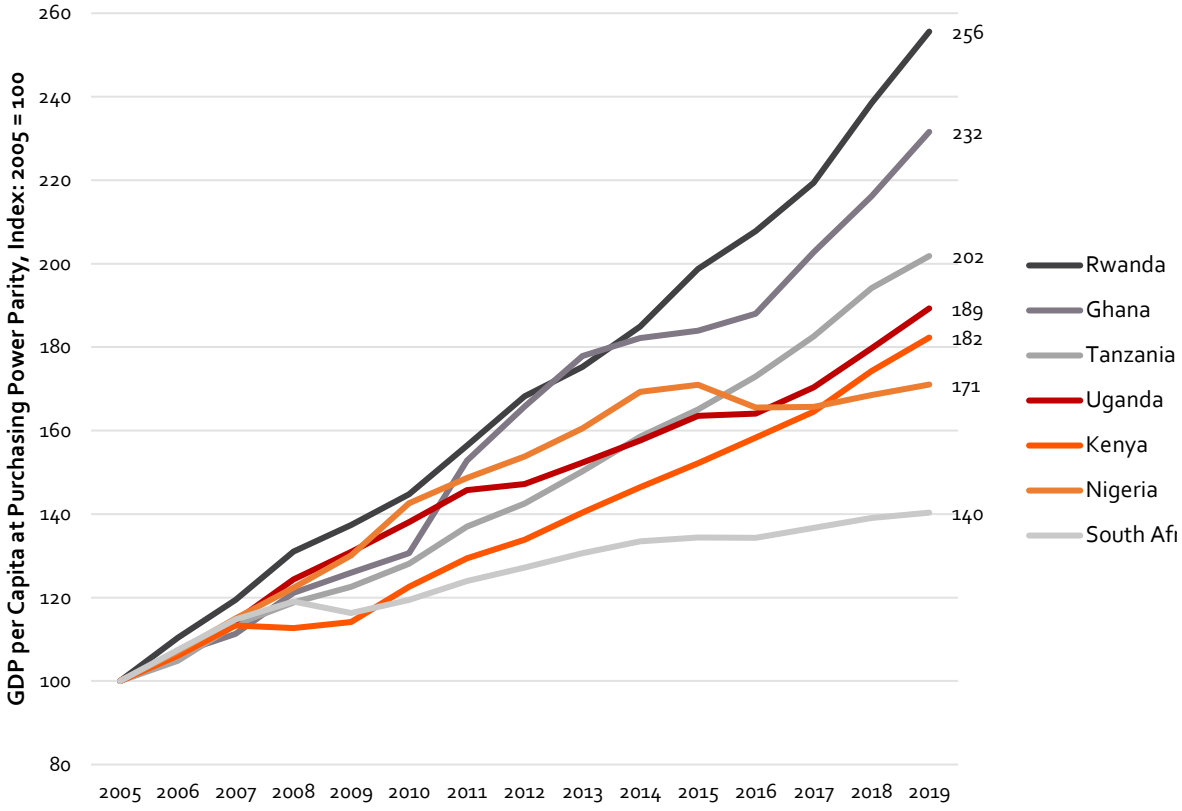
2.2 Economic and income trends

Housing markets are affected by the contexts in which they develop. The housing construction and rental activities of a country are the result of a range of influences, including demographic and urbanisation dynamics, income trends, sectoral growth and composition, prevailing technologies, subsidy regimes, social norms and household preferences amongst many others. This section analyses trends and available data in relation to some of these indicators.

2.2.1 Income trends

Between 2005 and 2019, Uganda's per capita GDP at purchasing power parity – an indication of average incomes before taxation and transfers – increased by 89 percent.[12] While this was significantly lower than the growth experienced by other sub-Saharan African countries such as Rwanda (156 percent) and Ghana (132 percent), it was substantially higher than South Africa (40 percent), and above both Nigeria (71 percent) and Kenya (82 percent). These relative trends are reflected in **Figure 3.**[13]

Figure 3: Comparative trends in per capita GDP at purchasing power parity



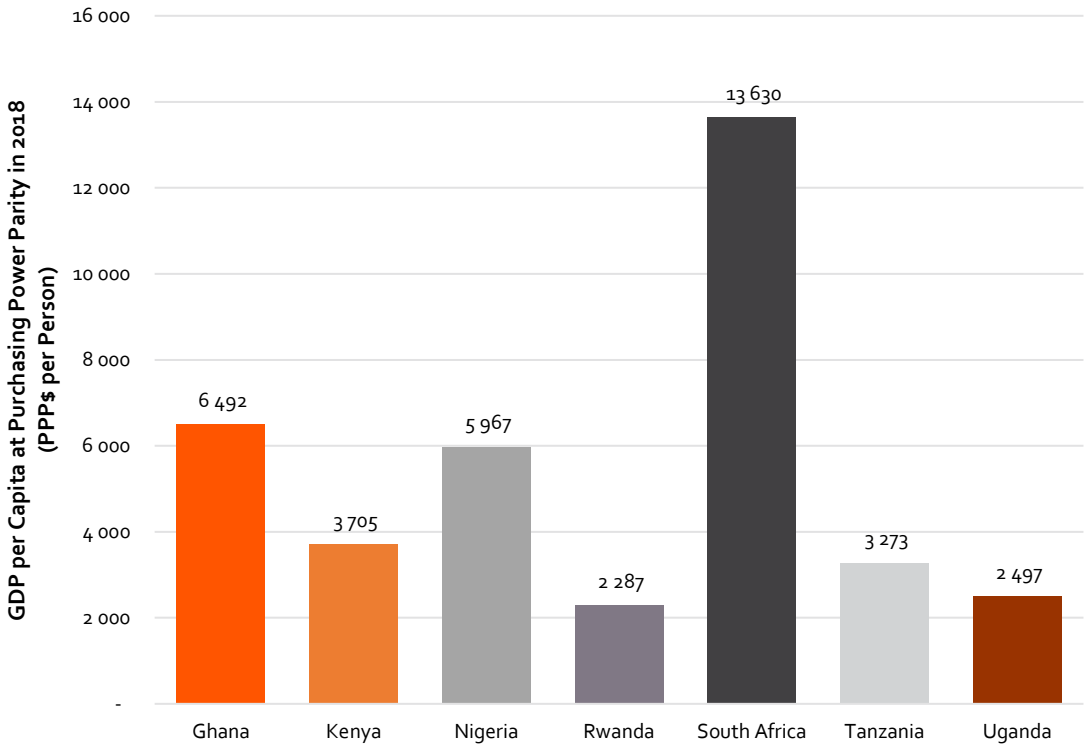
Source: IMF WEO (October 2019).

While the trends in per capita GDP over time are useful, it is also important to take account of the relative levels across countries**. Figure 4** reflects the per capita GDP at purchasing power parity for different African countries in 2018. Although South Africa was by far the worst performer in respect of the growth in average incomes over time (as shown in Figure 2), the value of its average per capita income was still substantially higher in 2018 than the other African countries with whom it is compared. Its per capita GDP was more than double the next-highest country (Ghana), and more than 5 times greater than that of Uganda and Rwanda.[14] The average

[12] This translates into average annual growth of 4.7 percent a year.
[13] International Monetary Fund (2019). World Economic Outlook. October 2019.
[14] As with any average, these figures do not say anything about the distribution of income, or levels of inequality, within these societies.

Ugandan could purchase around 18 percent of what the average South African was able to in 2018. Uganda's per capita GDP was 9 percent higher than Rwanda's, but lower than all the other countries included in this analysis. So, even though the income of the average Ugandan household rose relatively rapidly over the past 14 years (from 2005 to 2019), it remains comparatively low in terms of what it is able to purchase. This has implications for the affordability of housing in general, and the range of housing options required to facilitate greater affordability for increasing numbers of Ugandan households.

Figure 4: Comparative levels of per capita GDP at purchasing power parity across a number of African countries (2018)



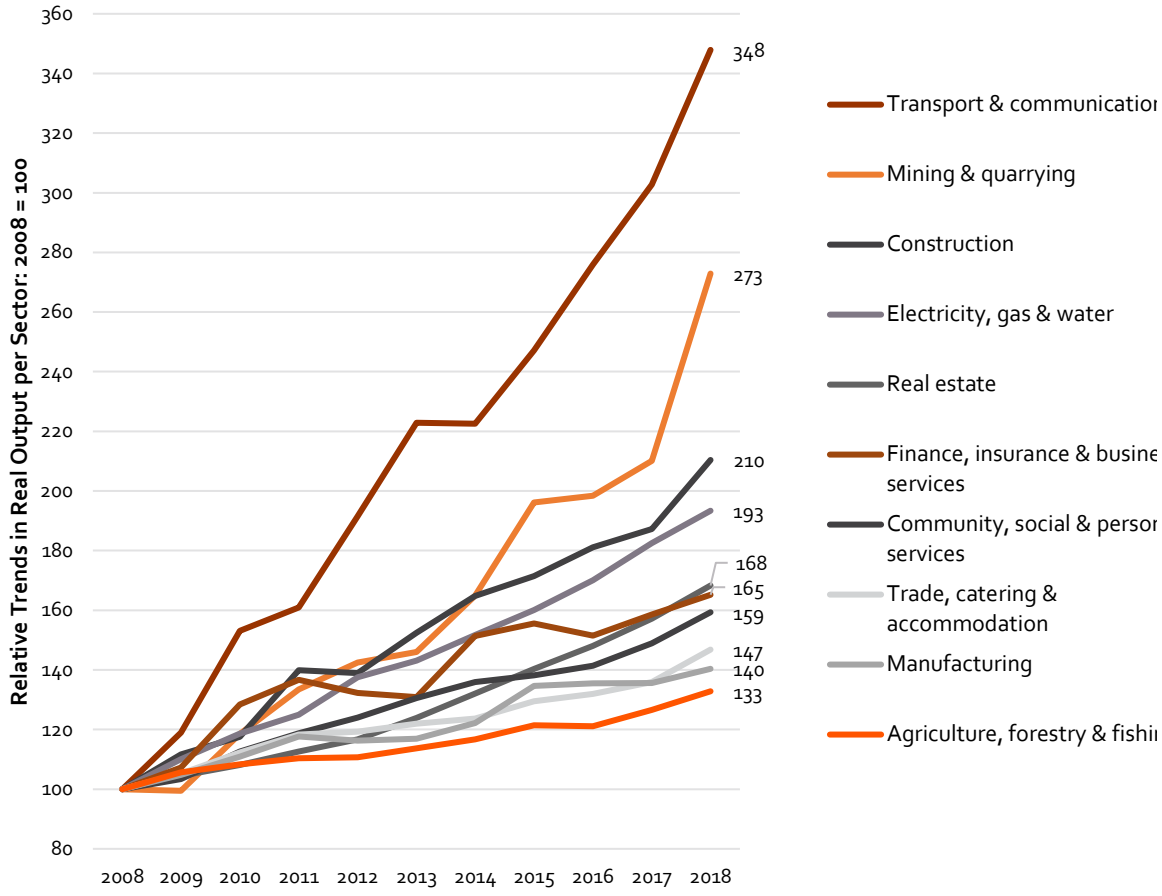
Source: IMF WEO (October 2019).

2.2.2 Relative sector performance and economic composition

Figure 5 reflects the relative trends in the real GDP of the major sectors of the Ugandan economy between 2008 and 2018.[15] It indicates that real value added in the Transport and communication sector increased by 248 percent over this period. While a number of other sectors – most notably Agriculture, forestry and fishing, Manufacturing, and Trade catering and housing – achieved substantially slower rates of growth over this period, all sectors of the Ugandan economy expanded. From the perspective of this study, the growth in the Construction and Real estate sectors are most relevant. The construction sector experienced aggregate growth of 110 percent between 2008 and 2018, while Real estate's gross value added rose by a more modest 65 percent.

[15] Uganda Bureau of Statistics (2019). Annual GDP Publication Tables.

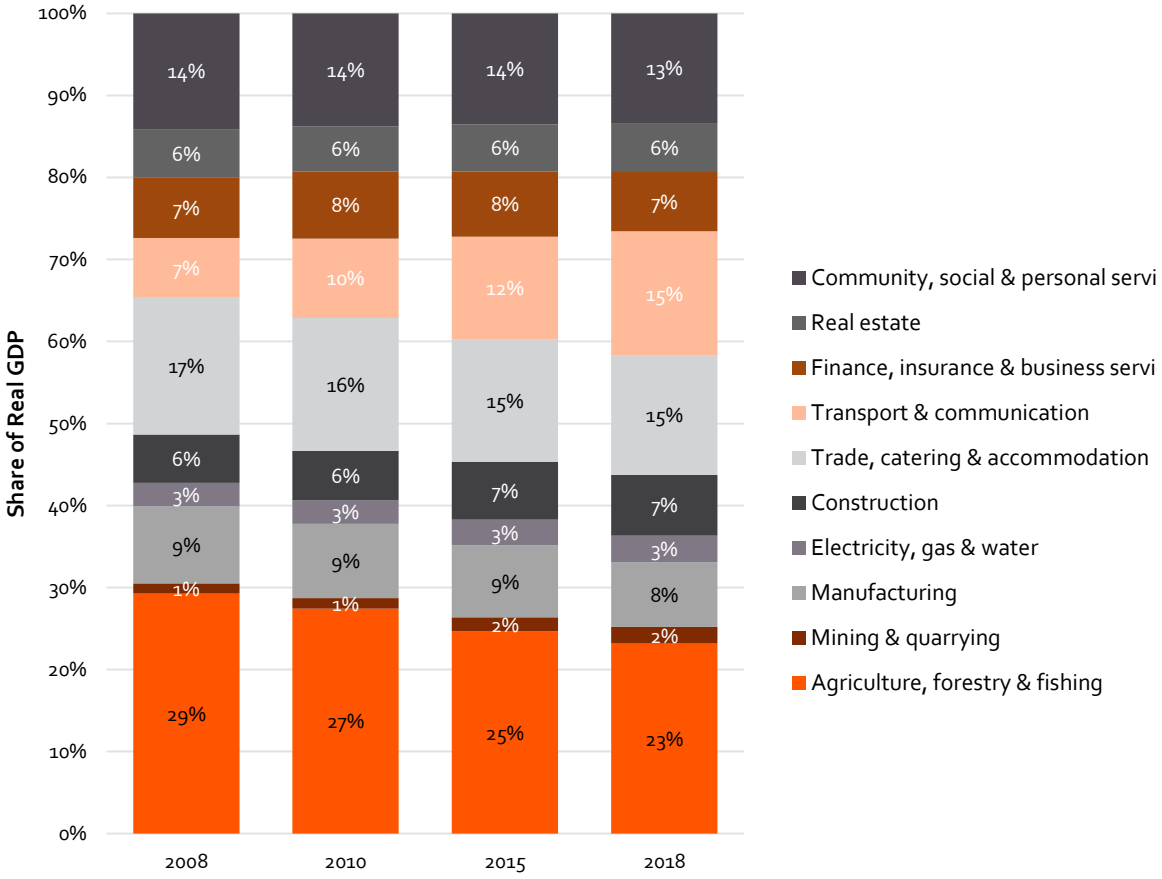
Figure 5: Relative trends in real GDP of the major sectors of Uganda's economy (2008-2018)



Source: Uganda Bureau of Statistics (2019).

The relative growth trends reflected in Figure 4 gave rise to changes in the sector composition of Uganda's economy over time, as reflected in **Figure 6** below. While it remained the most significant contributor to GDP in 2018, the share of Agriculture, forestry and fishing declined steadily from 29 percent in 2008 to 23 percent in 2018, and Trade, catering and housing's share dropped from 17 percent to 15 percent. By contrast, the share of Transport and communication more than doubled over the same period – from 7 percent to 15 percent. The share of Mining and quarrying also doubled, but was still the smallest contributor to the economy, while Construction's share rose from 6 percent to 7 percent, and Manufacturing's contribution dropped slightly from 9 percent to 8 percent. Community, social and personal services also experienced a decline – from 14 percent to 13 percent. Real estate's share remained stable at 6 percent.

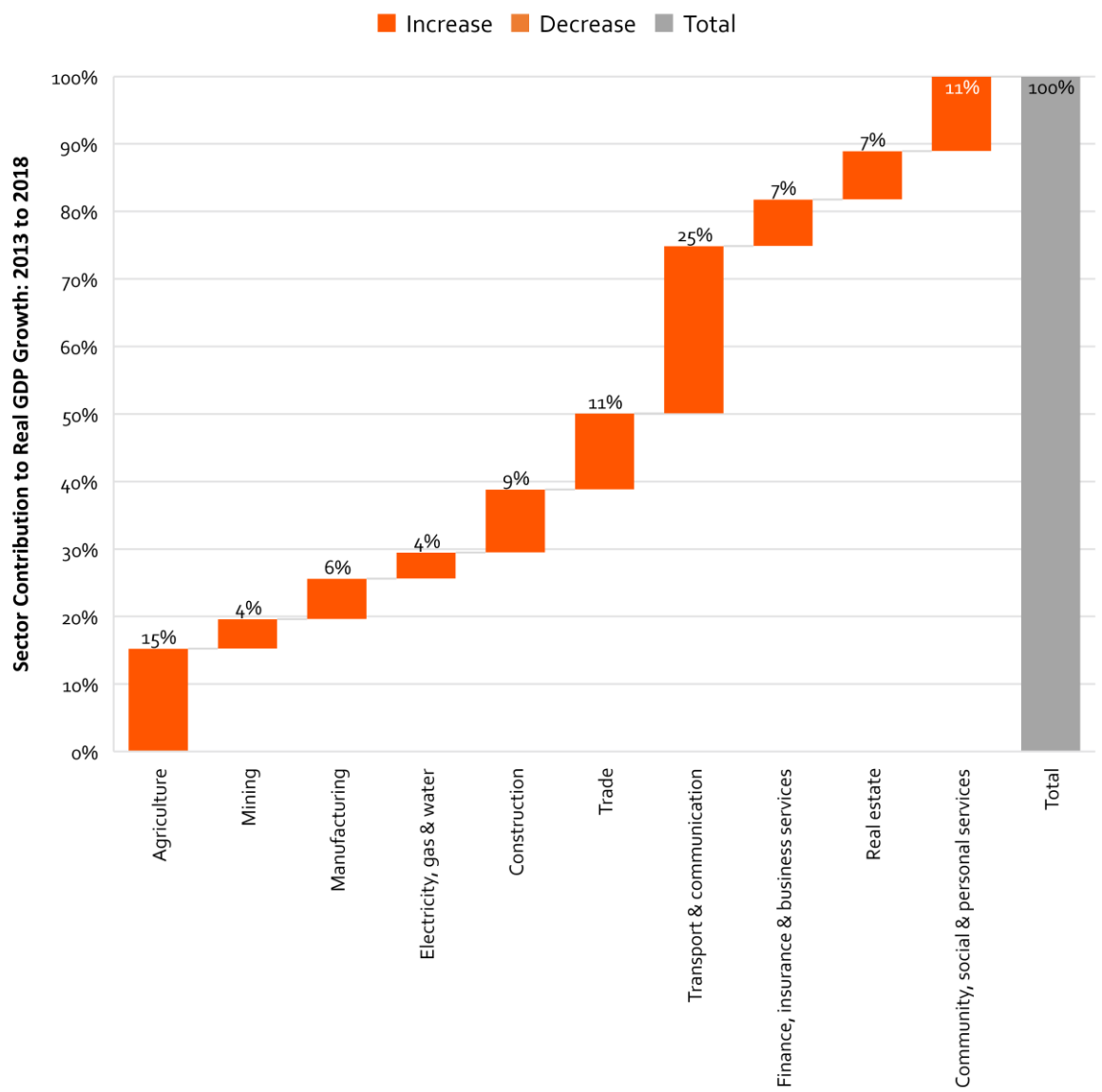
Figure 6: Sector composition of Uganda's real GDP



Source: Uganda Bureau of Statistics (2019).

Figure 7 reflects the contribution of the real growth in output of each major sector of Uganda's economy between 2013 and 2018 to overall/total GDP growth. It indicates that Uganda enjoyed reasonably balanced growth, with all sectors contributing to the expansion of the economy. The biggest single contributor to real GDP growth over this period was Transport and communication (25 percent), followed by Agriculture, forestry and fishing (15 percent) and Trade, catering and housing and Community, social and personal services (both 11 percent). Construction contributed 9 percent of the growth and Real estate 7 percent. Mining and quarrying and Electricity, gas and water made the smallest contributions (4 percent each).

Figure 7: Sector contributions to real GDP growth between 2013 and 2018



Source: Uganda Bureau of Statistics (2019).

2.2.3 Levels of informal economic activity in Uganda

Housing affordability is also impacted by, and impacts on, the size and breadth of the informal economy in Uganda. According to the International Labour Organisation (ILO): "[t]he term 'informal economy' refers to all economic activities by workers and economic units that are – in law or in practice – not covered or insufficiently covered by formal arrangements. Their activities are not included in the law, which means that they are operating outside the formal reach of the law; or they are not covered in practice, which means that – although they are operating within the formal reach of the law, the law is not applied or not enforced; or the law discourages compliance because it is inappropriate, burdensome, or imposes excessive costs"[16]

The benefits of informality for inclusive economic growth depend largely on their impact on productivity growth. The vast majority of people in the informal economy are there because their low skill levels exclude

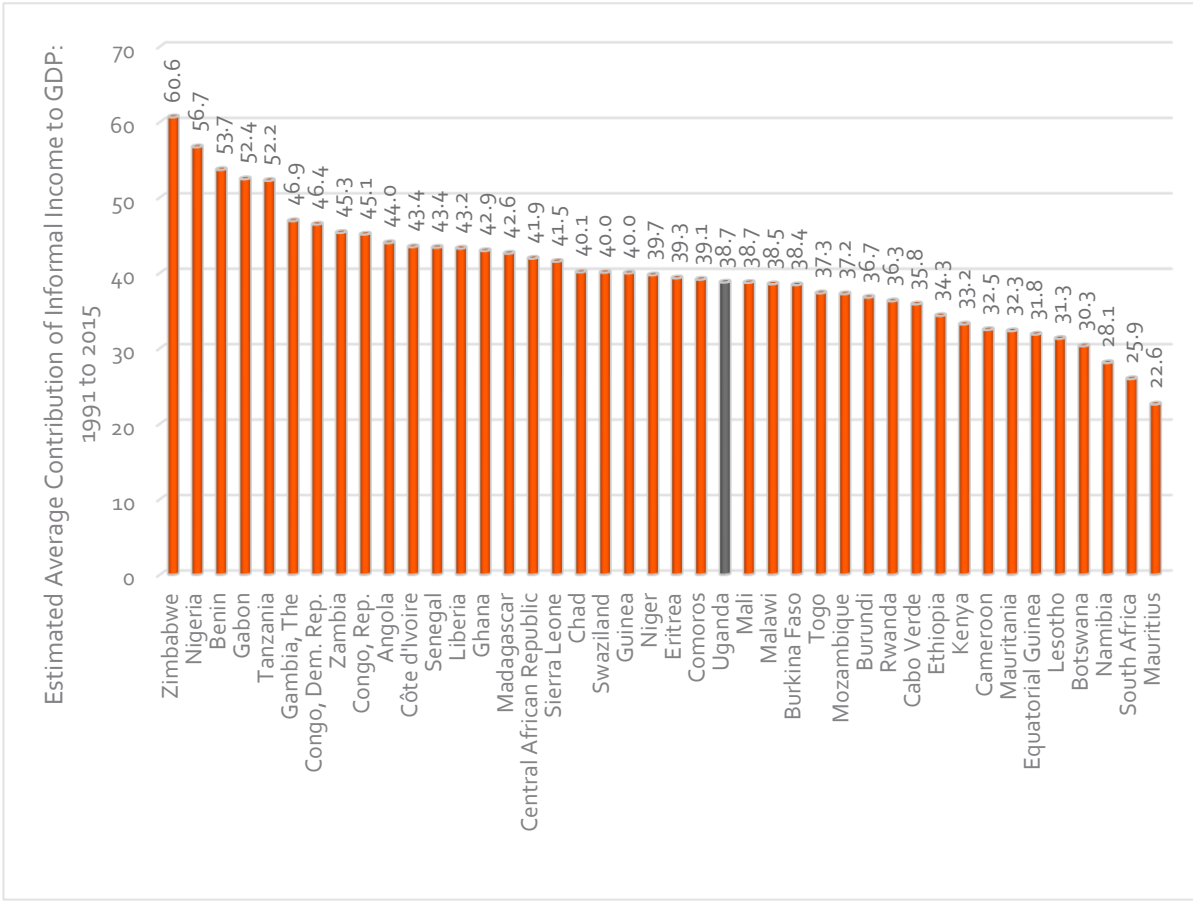
[16] International Labour Organisation (undated). "Conclusions concerning decent work and the informal economy".

them from more formal activity, or because formal economic activity cannot absorb more employment. In such cases their informal activity increases the level of economic activity above what it otherwise would have been and therefore supports inclusive growth. It is only where the costs of formalisation (taxes, administrative and legislative compliance etc.) cause people who would otherwise operate formally to choose to operate informally that informal economic activity will have a negative impact on inclusive growth.

The ILO notes that some countries also include own-account workers engaged in the production of goods exclusively for final use by their households, such as subsistence farming and do-it-yourself construction of own dwellings, but that most countries exclude such workers from the definition of informal employment. Given that a significant proportion of housing construction in Uganda – particularly in rural areas – is probably undertaken for 'own account', the definition of informal employment which is used will be material to any attempts to quantify the impact of housing on the economy.

Fortunately, Uganda explicitly accounts for the contribution of the informal economy to each sector in their national accounts. In other countries such as South Africa, Nigeria and Tanzania, the contributions of the informal economy are consolidated into national accounts estimates and are not published separately. Overall, UBOS estimates that the informal economy contributed 45 percent of the country's GDP in 2018 – which is higher than the estimates of Medina and Schneider (2018),[17] who estimated that on average between 1991 and 2015 close to 39 percent of national income in Uganda was earned from informal activity. Based on their work, Uganda ranked roughly in the middle of the African economies they studied – as reflected in **Figure 8**.

Figure 8: Contribution of informal activity to national income across different African countries

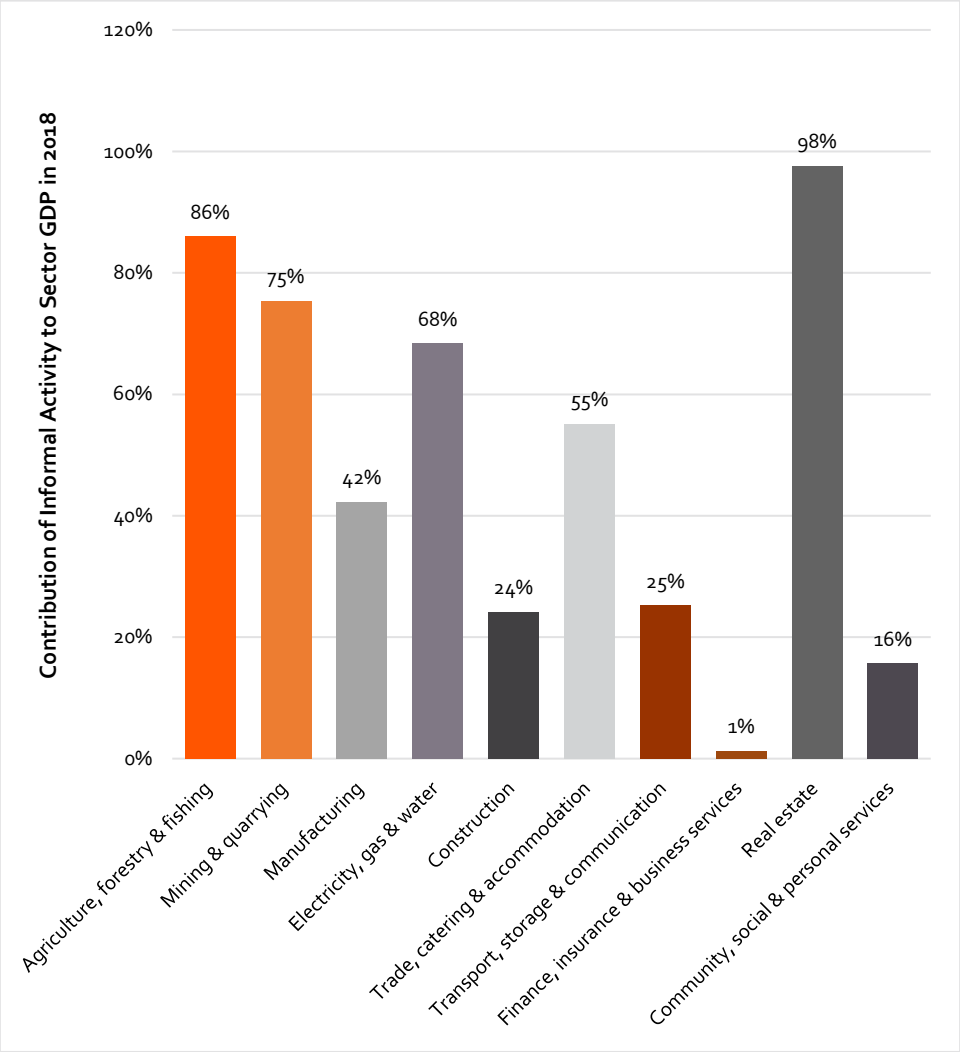


Source: Medina and Schneider (2018).

[17] Medina, L. and Schneider, F. (2018). *Shadow Economies Around the World: What Did We Learn Over the Last 20 Years?* IMF Working Paper WP/18/17. January 2018.

The specific contributions of informal economic activity to the GDP of each sector of Uganda's economy in 2018 are reflected in **Figure 9**. These ranged from 98 percent of Real estate and 86 percent of Agriculture, forestry and fishing, to only 1 percent of Finance, insurance and business services. In 2018 24 percent of Construction-related GDP was contributed by informal activity. Given that informal activity is, for the most part, largely unrecognised in normal regulatory and data collection systems, estimates of such high contributions to sector GDP probably make it harder to track accurately developments over time. Periodic studies are required to test changes to these contributions.

Figure 9: Informal economy contributions to sector GDP (2018)



Source: Uganda Bureau of Statistics (2019). Annual GDP Publication Tables.

3 Exploring residential housing construction and rental activities in Uganda

This section of the analysis quantifies the aggregate contribution of all types of housing construction and housing rental – both formal and informal - to Uganda's economy, and places these activities into economic value chains that describe not just their economic contribution, but also their links with other sectors of the economy that may represent both "upstream" intermediate input suppliers and "downstream" customers. An economic value chain is a useful tool for identifying and quantifying key dependencies, risks, threats and

opportunities facing that sector or activity, and thereby facilitates more effective policies. Section 4 below then goes on to analyse housing construction costs at the level of individual housing units.

While economies are generally divided into different sectors according to generally-accepted definitions – such as the International Standard Industrial Classification (ISIC) - for statistical and analytical purposes, it is important to recognise that this delineation is somewhat arbitrary and the activities in one of these sectors are usually linked to numerous other sectors. Many businesses may also choose to vertically integrate activities that fall within the definition of other sectors for efficiency and other reasons. For example, a large construction contractor may choose to employ architects, engineers and quantity surveyors within its business – rather than outsource these functions. In this case, the value added by these activities would be incorporated into the GVA of the construction sector, whereas if they were outsourced, their value added would be captured under business services (included in the Finance, insurance and business services sector in the economic analysis in Section 2 above).

3.1 The theory of Housing Economic Value Chains

An economic value chain describes the linkages and quantifies the economic value creation in an economy arising from a specific type of activity. Producing residential housing involves construction value-adding activities (digging and laying foundations, bricklaying, plastering carpentry, plumbing, electrical, tiling, roofing etc.), while housing rental incorporates real estate and a range of other value adding services. The Housing Economic Value Chain (HEVC) describes the extent to which developers, contractors and households add value to the economy during the process of building, improving and renting houses through the addition of their intellectual property, management and skills (reflected in labour remuneration), payment of rents and interest, and generation of profits (collectively termed the gross operating surplus).

In order to engage in these value-adding activities, contractors and lessors need to purchase material and service inputs from other "upstream" sectors of the economy. The HEVC sets out what raw materials, manufactured goods and services (intermediate inputs) are required to support housing construction and rental activity, and where these are sourced from. The combined impact of the value adding activity in housing construction and rental and the purchase of intermediate inputs in support of those activities constitutes the **direct impact** of those activities.

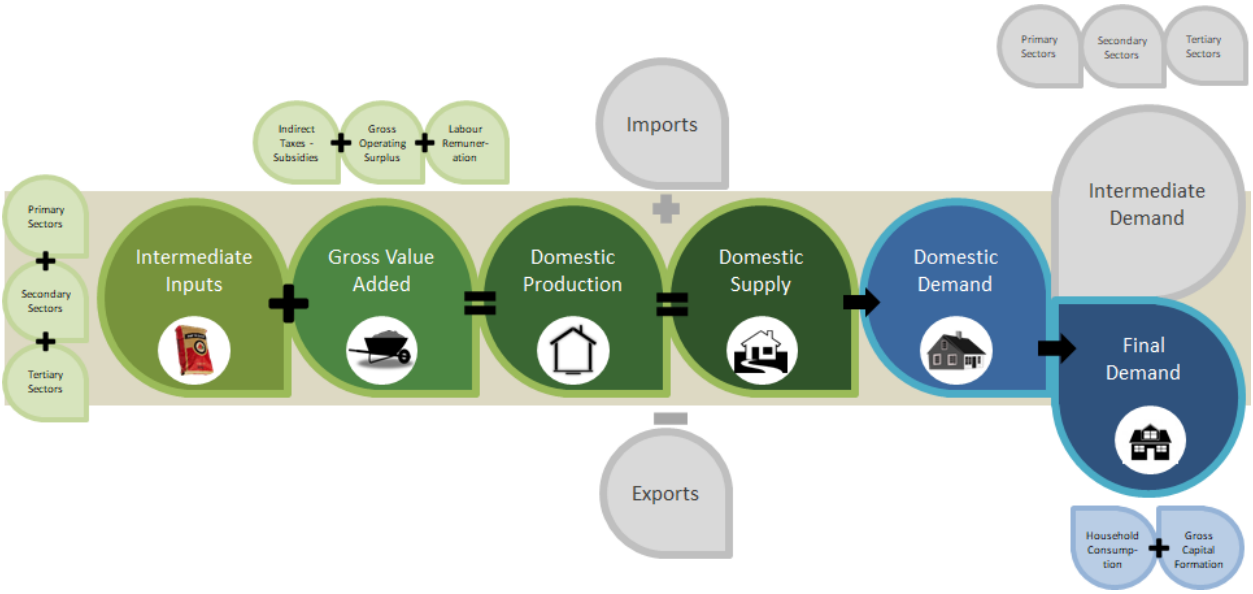
The sum of the value of intermediate inputs purchased from upstream sectors and the value added in the housing construction and housing rental sectors, adjusted to include the net value of any indirect taxes imposed on these activities less any subsidies provided, represents the value of domestic production (output) of new housing stock and housing rental services in a particular period. In other value chains, the value of domestic production may be supplemented by imports of those products and reduced by exports. However, the nature of the products in the HEVC means that they are generally not internationally tradeable and must be supplied in the same location as they are "consumed", i.e. in Uganda.

The output of the HEVC is used to meet the demand from different consumer groups. The value of constructed houses is classified as gross fixed capital formation because houses form part of the fixed capital stock of the country. Payments for the renting of housing are classed as household consumption expenditure. Both gross fixed capital formation and final consumption expenditure by households constitute parts of final demand in the economy.[18] If – on a common pricing basis – the value of additional housing constructed in a particular period exceeds that which is "consumed" through use or destroyed, then the value of the country's housing stock increases, implying more households can be housed, and/or that there are qualitative improvements in the housing that people are already accommodated in. All other things remaining the same, this should contribute to an increase in the productive capacity of the economy as a whole.

Figure 10 outlines an indicative or typical housing economic value chain. It shows the upstream intermediate inputs required to support the processes through which the housing sector adds value to these inputs to create housing stock that can be used to meet the cross section of housing needs in Uganda.

[18] In many value chains, varying portions of the production available to satisfy domestic demand may be purchased as intermediate inputs into other value chains and production processes. This is regarded as intermediate demand. All of the output of the HEVC is used to satisfy final demand.

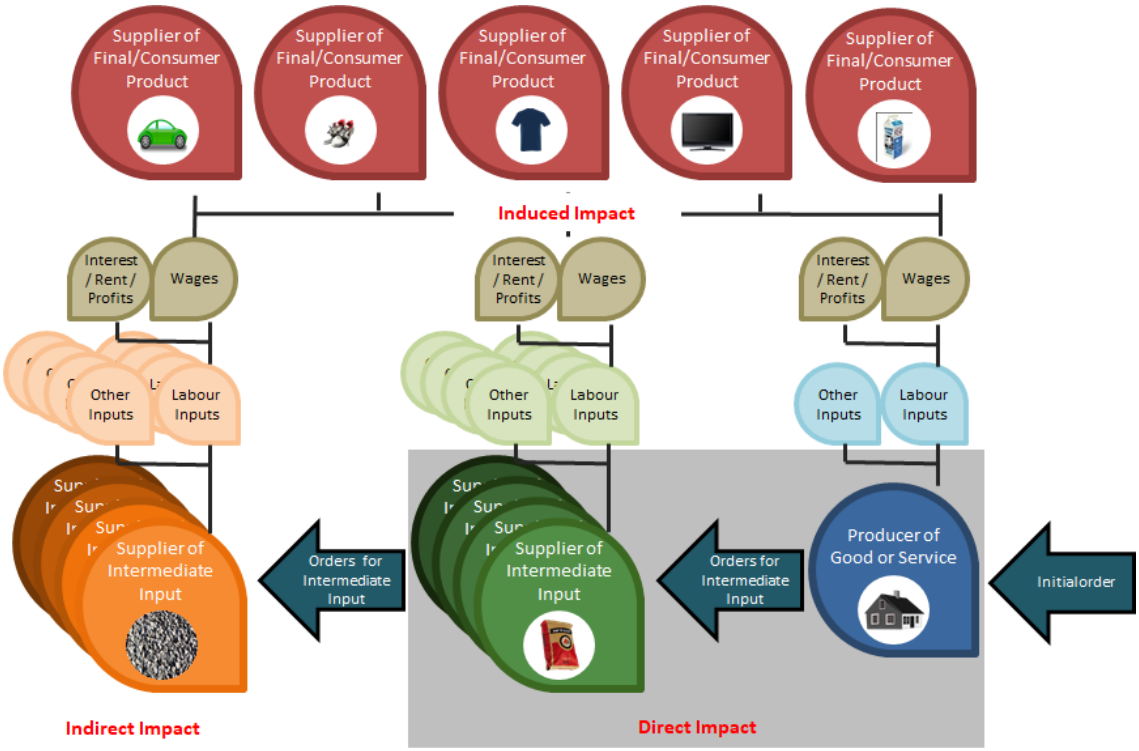
Figure 10: The Housing Economic Value Chain



Source: Gardner, D. and Lockwood, K. (2019). Comparing Housing Economic Value Chains in Four African Countries. Pg. 9. 25 March 2019.

The suppliers of intermediate inputs into the housing construction and housing rental value chains each have their own unique value chains that support the production of those inputs. The activity stimulated in these other "upstream" sectors as a result of the activities within the HEVC constitute the indirect impact of those housing construction and rental activities. However, this is not the end of the impact that residential construction and rental have on an economy. The direct and indirect impacts of the HEVC generate factor incomes for the owners of the production factors that are used in these activities. This consists of the labour remuneration, interest and rental payments made by the production entities, and any profits generated through these direct and indirect activities. These income streams form part of household incomes and when they are spent on products that households typically consume (such as food, clothing, household appliances, education, health care, personal services and even housing itself), they generate an **induced impact** in value chains that may have no discernible link to either housing construction or housing rental. The sum of the direct, indirect and induced impacts of housing construction and rental activities in an economy constitute the economy-wide impact of those activities as reflected in **Figure 11** below.

Figure 11: The different impacts of a sales stimulus on the economy



Source: Keith Lockwood.

3.2 Data required to analyse Housing Economic Value Chains

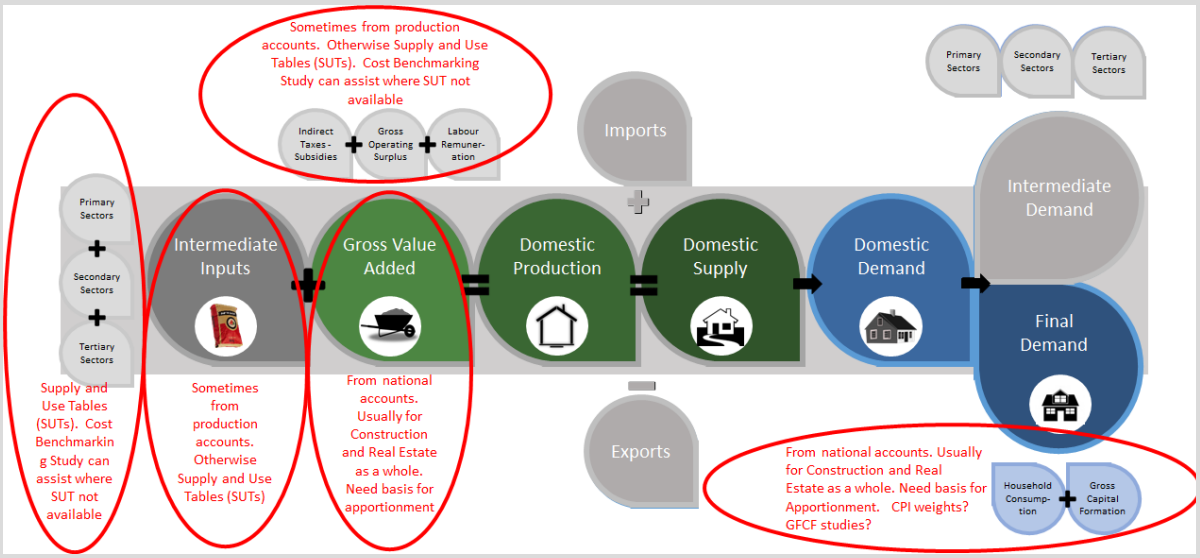
The ability to estimate these various impacts in any economy with some degree of accuracy depends largely on the accuracy and availability of relevant data. The linkages between the production of a particular product (such as a house) and other industries in an economy is usually captured in a supply and use table (SUT). While some countries have the necessary data to construct quite detailed SUTs, in other countries data availability is limited and/or quality is poor and SUTs have either not been constructed at all or exist only at a very high level with limited disaggregation into a range of products.

Uganda has a relatively recent SUT for 2016/17. However, we have only found references to this SUT in a Uganda Bureau of Statistics (UBOS) publication dealing with the rebasing of the national accounts that refers to highly aggregated elements, and which is primarily focused on the impact of the re-basing of the national accounts.[19] We have been unable to source a detailed version of this SUT,[20] and have, instead, relied on an International Monetary Fund technical assistance report that indicates the intermediate input and gross value added contributions to the output of each sector.[21] However the IMF report does not provide an indication of the sector composition of intermediate inputs, or the factor income composition of gross value added in either the construction or the real estate sector. **Box 1** below describes the data sources used in this report to calculate the housing economic value chains for Uganda, as well as the assumptions that were made, or alternative sources used, when data could not be obtained from expected sources – such as the SUT .

[19] Uganda Bureau of Statistics (2019). The Rebased Gross Domestic Product Estimates to 2016/17 Base Year. 10 October 2019.
[20] The Tables of Contents of the various Excel workbooks containing the national accounts includes reference to tables detailing gross output and intermediate consumption, but these are not included in the data that is published. It is likely that the data exists but is not publicly available.
[21] International Monetary Fund (2017). Uganda Technical Assistance Report – Report on the Quarterly National Accounts Statistics Mission, IMF Country Report No. 17/297, September 2017.

BOX 1: DATA REQUIREMENTS FOR HOUSING ECONOMIC VALUE CHAINS

Analysing the scale and composition of the housing construction and rental markets requires data. The composition of intermediate inputs, gross value added, and the gross output of a particular activity can usually be derived from a relatively comprehensive Supply and Use Table (SUT). This typically provides an indication of the split between intermediate inputs and GVA, the sector composition of intermediate inputs, and the value added by labour and capital at the level of the whole construction and real estate sectors. The scale of investment in housing and of household spending on rents is typically derived from the national accounts. The former may be expressly stipulated as a component of gross fixed capital formation, while the latter is usually derived by applying a spending weight from the Consumer Price Index to the aggregate for final consumption expenditure by households. The figure below shows the various elements of the HEVCs and the typical sources of data used in their construction.



The Uganda Bureau of Statistics (UBOS) publishes estimates of aggregate spending on housing as part of gross fixed capital formation, and the IMF SUT indicates the contribution of intermediate inputs and gross value added for construction as a whole. However, neither the SUT (as published in the IMF report), nor other UBOS published documents provide an indication of the sector composition of intermediate inputs into construction, or the factor income composition of gross value added in construction. We have therefore used the average results of CAHF's Housing Cost Benchmarking study for Uganda to estimate the share of intermediate inputs contributed by the primary, secondary and tertiary sectors, and the contribution of labour remuneration, the gross operating surplus (interest, rent and profits), and net indirect taxes less subsidies to the GVA at market prices.

In relation to the housing rental value chain, UBOS publishes detailed weights for its CPI that include the weight for actual rentals paid by households. These amount to 5.234 percent of total household consumption expenditure. We have used this to calculate estimated expenditure on housing-related real estate activities by multiplying this percentage by the total value of household consumption expenditure at current prices in 2018. Neither the IMF SUT or other UBOS publications include any indication of the sector composition of intermediate inputs, or the factor income composition of gross value added in the real estate sector. We have therefore estimated these as the simple average of other East African countries that we have studied (Rwanda, Kenya and Tanzania).

If housing construction's and housing rental's potential to contribute to Uganda's economy is to be realised – as outlined in this paper - then tracking their respective contributions to the economy over time should be a priority. This will require that published national accounts estimates of gross fixed capital formation continue to include a breakdown by type of asset so that national expenditure on residential buildings is shown separately, and that the weight reflecting household expenditure on housing rents also continues to be published. It will also be necessary to improve understanding of the linkages that exist between these activities and other sectors of the economy by publishing data on the composition of intermediate inputs and GVA, as well as the respective contributions of intermediate inputs and gross value added to gross output. Ideally, this can all be accomplished through the publication of Uganda's detailed SUT.

It is also necessary to recognise that the pace of structural change in the Ugandan economy is accelerating. In order to inform decision-making and policy formulation, official data needs to reflect these changes. To do so accurately and timeously will require more frequent iterations of surveys aimed at identifying and quantifying the extent of these shifts, the rapid analysis of the data that arises from such processes, and the publication of the results. Specifically, Uganda needs to develop and publish a comprehensive SUT and undertake regular household income and expenditure surveys in order to improve the quality of their data and the accuracy of their national accounts, and more effectively monitor developments in the housing sectors. As housing ownership patterns change, it will also be useful to include estimates of imputed rents in the CPI weights.

3.3 The Housing Construction Value Chain in Uganda

Producing residential housing involves construction value-adding activities that are typically coordinated and undertaken by construction developers and contractors, who may be formal or informal entities. As indicated above, the growth in urban populations in Uganda and average household size suggests that the country will need to produce in excess of 160 000 dwelling units a year in urban areas – just to accommodate these new households -and more if the backlog that already exists in Uganda's urban areas is to be reduced over time. Due to inadequate data on housing production in the country, it is not clear what proportion of houses constructed will be produced formally, but this seems likely to be low. UBOS data reflecting construction activity indicates that almost 58 percent of building plans approved in selected urban councils were for residential housing, but that less than 8 percent of occupation certificates issued applied to dwellings.[22] However, as has already been noted, this data does not provide any sense of the overall scale of the number of dwelling units involved, nor on the total scale of dwellings produced outside of the formal, permitted system. The geographical coverage of this data is also limited.

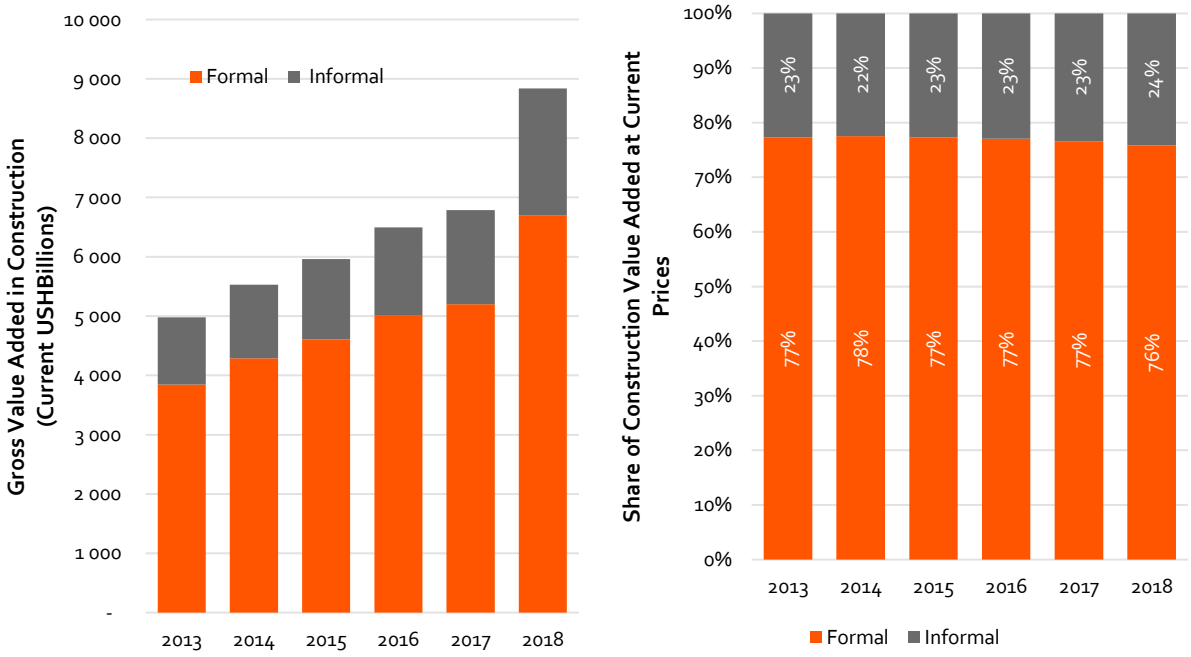
UBOS data also indicates that 24 percent of construction value added is informal, and that 29 percent of gross fixed capital formation is spent on dwellings. It seems likely that most informal construction activity will be directed at housing construction (as opposed to other building construction and civil construction which are more likely to require formalised businesses and legally compliant construction). However, in all cases, those undertaking the construction activity will need to procure material and service inputs from other sectors of the economy.

The intermediate inputs needed for building housing are sourced from many different sectors of the economy. Some inputs, such as timber, sand, stone and lime are sourced from the primary economic sectors, while others such as window frames, doors, roof trusses, cement, bricks, ceiling boards, roof sheeting, reinforcing bar, nails, screws, plumbing fittings etc. are procured from secondary economic sectors. In addition, a number of tertiary sector service inputs such as transport, financial services, architectural and legal services also need to be purchased by those engaged in constructing a house.

Figure 12 reflects the value and contribution of formal and informal activity to construction value added in Uganda between 2013 and 2018. UBOS estimated that informal activity contributed 24 percent of construction value added in 2018 – up from 22 percent in 2014.

[22] Uganda Bureau of Statistics (2019). 2019 Statistical Abstract.

Figure 12: The composition of construction value added and contribution of formal and informal activity (2013-2018)



Source: Uganda Bureau of Statistics (2019). Annual GDP Publication Tables.

Table 1 shows the composition of Uganda's gross fixed capital formation from 2013 to 2018 in terms of the type of asset invested in.[23] Housing as a share of total investment (gross fixed capital formation) increased over this period from 27 percent in 2013 to 29 percent in 2016, 2017 and 2018. This contrasts with investment in other buildings (40 percent in 2018) and investment in other structures (roads, dams and other civil construction works) of 5 percent in 2018. According to this data, there was no discernible investment in R&D.

Table 1: Composition of gross fixed capital formation by type of asset (2013-2018)

Category of Spending	Share of Total Gross Fixed Capital Formation					
	2013	2014	2015	2016	2017	2018
Dwellings	27%	29%	28%	29%	29%	29%
Other Buildings	37%	40%	38%	40%	39%	40%
Other Structures	5%	6%	6%	6%	6%	5%
Transport Equipment	9%	8%	7%	6%	5%	5%
ICT Equipment	4%	3%	3%	2%	2%	2%
Other Machinery and Equipment	16%	13%	17%	15%	17%	17%
Biological Resources	1%	1%	1%	1%	1%	1%
Reasearch and Development	0%	0%	0%	0%	0%	0%
Mineral and Petroleum Exploration	1%	1%	0%	1%	1%	1%
Total Gross Fixed Capital Formation	100%	100%	100%	100%	100%	100%

Source: Uganda Bureau of Statistics (2019). GDP Expenditure – 18/19. 19 June 2019.

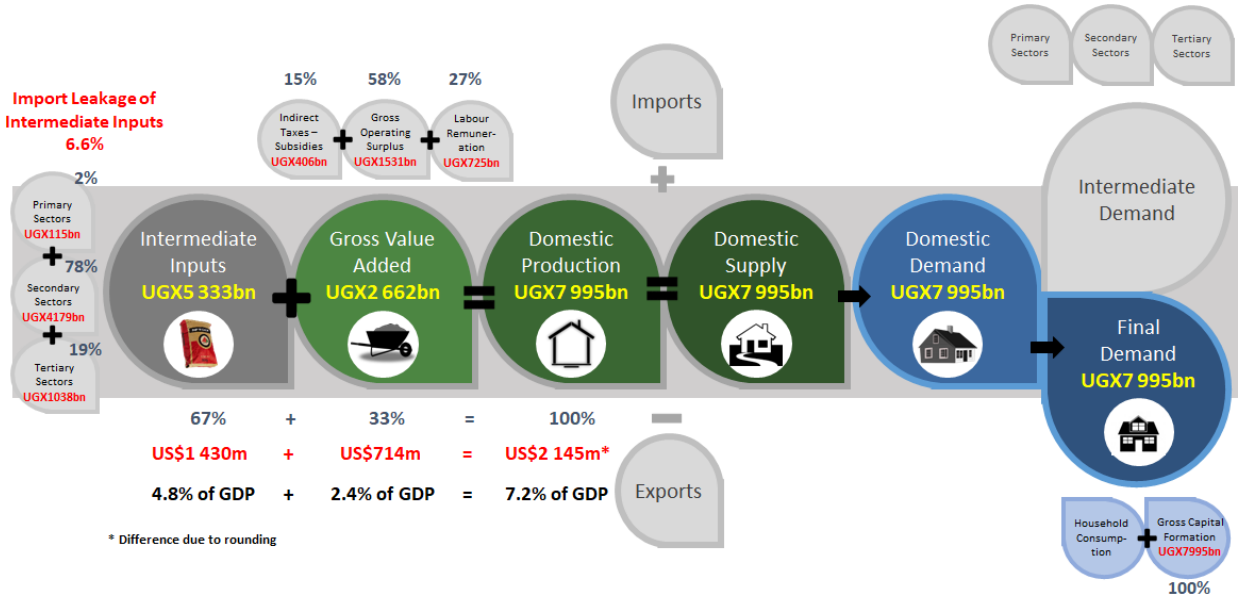
The Housing Construction Economic Value Chain for Uganda is shown in **Figure 13**. It indicates an output of approximatelyUGX7 995 billion (US$2 145 million) in 2018, of which 33 percent (UGX2 662 billion/ US$714 million) was made up of value added during the house construction process, and two-thirds (UGX5 333 billion/US$1 430 million) was intermediate inputs purchased from other sectors of the economy.

[23] Uganda Bureau of Statistics (2019). GDP Expenditure – 18/19. 19 June 2019.

The intermediate inputs were sourced from primary sectors (2 percent), secondary sectors (78 percent) and tertiary sectors (19 percent). It is estimated that 6.6 percent of the value of intermediate inputs were imported – which is relatively low.[24] This suggests that more than 90 percent of the building materials used in housing construction in Uganda are locally sourced. It is very likely that the limited number of formally constructed housing estates have a much higher proportion of imported materials (and possibly also labour). However, the very low levels of formal housing construction dilutes this in the aggregated national statistics. A detailed analysis of the trade relating to building material inputs is included later in this report.

The value added during construction was estimated to comprise labour remuneration (27 percent), gross operating surplus (58 percent) and net indirect taxes less subsidies (15 percent). All of this output is classified as gross fixed capital formation.[25]

Figure 13: Estimated economic value chain for housing construction in Uganda in 2018



Source: Calculations by Keith Lockwood based on information from UBOS (2019), IMF (2017), and other assumptions.

The value of intermediate inputs into housing construction was equivalent to 4.8 percent of Uganda's GDP in 2018, while the direct contribution to GDP arising from construction related activities was 2.4 percent. This means that the value of housing construction output was equivalent to 7.2 percent of GDP in 2018. We note here that Uganda's 2016 Housing Policy stated that the "[c]urrent contribution of housing to Uganda's economy and GDP is estimated at an annual average of 5 percent of GDP over the last decade."[26] Our analysis shows that, even at its current low levels of development, Uganda's construction sector alone contributes significantly more to GDP than this estimate indicates, and that there is significant potential for this number to be increased.

The ratio of intermediate inputs to value added gives rise to a direct impact multiplier of 3.00, which implies that for every Ugandan shilling spent of construction activities, a further two shillings will be spent on purchases from "upstream" suppliers. When the leakage associated with imported intermediate inputs is taken into

[24] An analysis was conducted of Uganda's international trade in 44 building material product categories using UN Comtrade data. The total value of imports for these categories in 2018 was apportioned to housing construction using the ratio of the value of dwelling construction to total construction reflected in the national accounts. In 2018, 39 percent of spending on construction-related assets was for dwellings. This approach is likely to significantly understate the extent to which intermediate inputs are imported as it only takes account of imported building materials. There are a number of other inputs – such as capital equipment, finance and professional services – that probably have a significant imported component.

[25] It has been assumed that net inventory changes reflecting work in progress at year end are not significant.

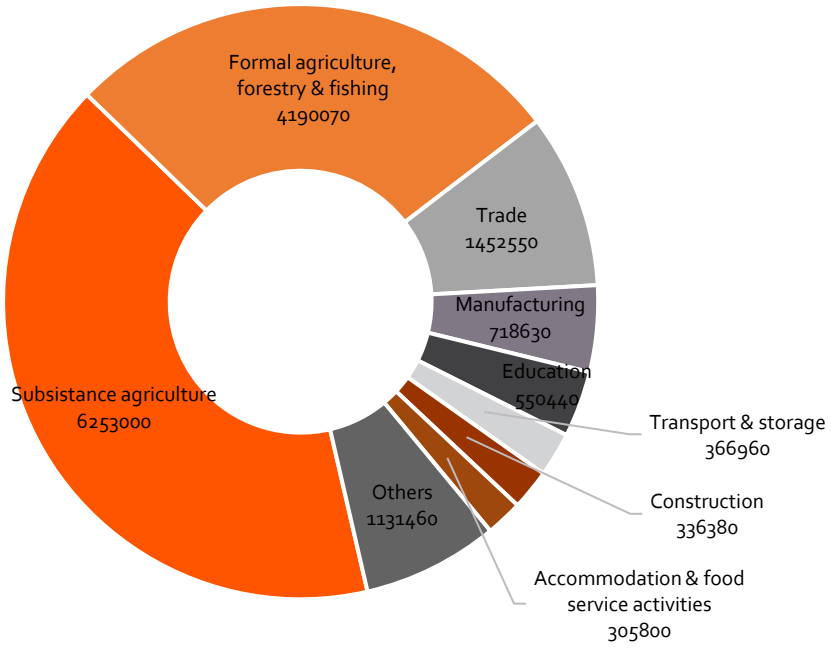
[26] Ministry of Lands, Housing and Urban Development (2016). The Uganda National Housing Policy.

account, the direct impact multiplier drops to 2.87.[27] These figures indicate that housing construction provides a substantial stimulus to numerous other sectors of the local economy. This impact would be even greater if the indirect and induced impacts associated with the housing construction activity were taken into account.

3.3.1 Employment in housing construction in Uganda

The results of UBOS' Manpower Survey Uganda 2016/17 do not specifically address labour and employment in the construction sector,[28] however, the National Labour Force Survey for 2016/17 indicates that 2.2 percent of those employed were in construction. This translates into just over 336 000 people out of a total number employed of 15.3 million. **Figure 14** indicates the sector composition of employment in 2016/17. Agriculture (both subsistence and formal) accounted for 68.3 percent of total employment (10.4 million). More than 6.2 million of these employed people were subsistence farmers. Other sectors responsible for significant employment were trade (1.45 million), manufacturing (719 000), and education (550 000). Collectively, the other sectors not specified accounted for 1.1 million of total employment of 15.3 million.

Figure 14: Sector composition of total employment and number employed in 2016/17



Source: Uganda Bureau of Statistics (2018). The National Labour Force Survey 2016/17 – Main Report.

Assuming employment in housing construction was equivalent to the share of housing construction of total construction as reflected in the national accounts (i.e. 39 percent), it would imply that more than 131 000 people were employed in housing construction. However, given that a significant proportion of housing construction is informal, this number is likely to understate the true position.

3.3.2 Uganda's international trade in building materials

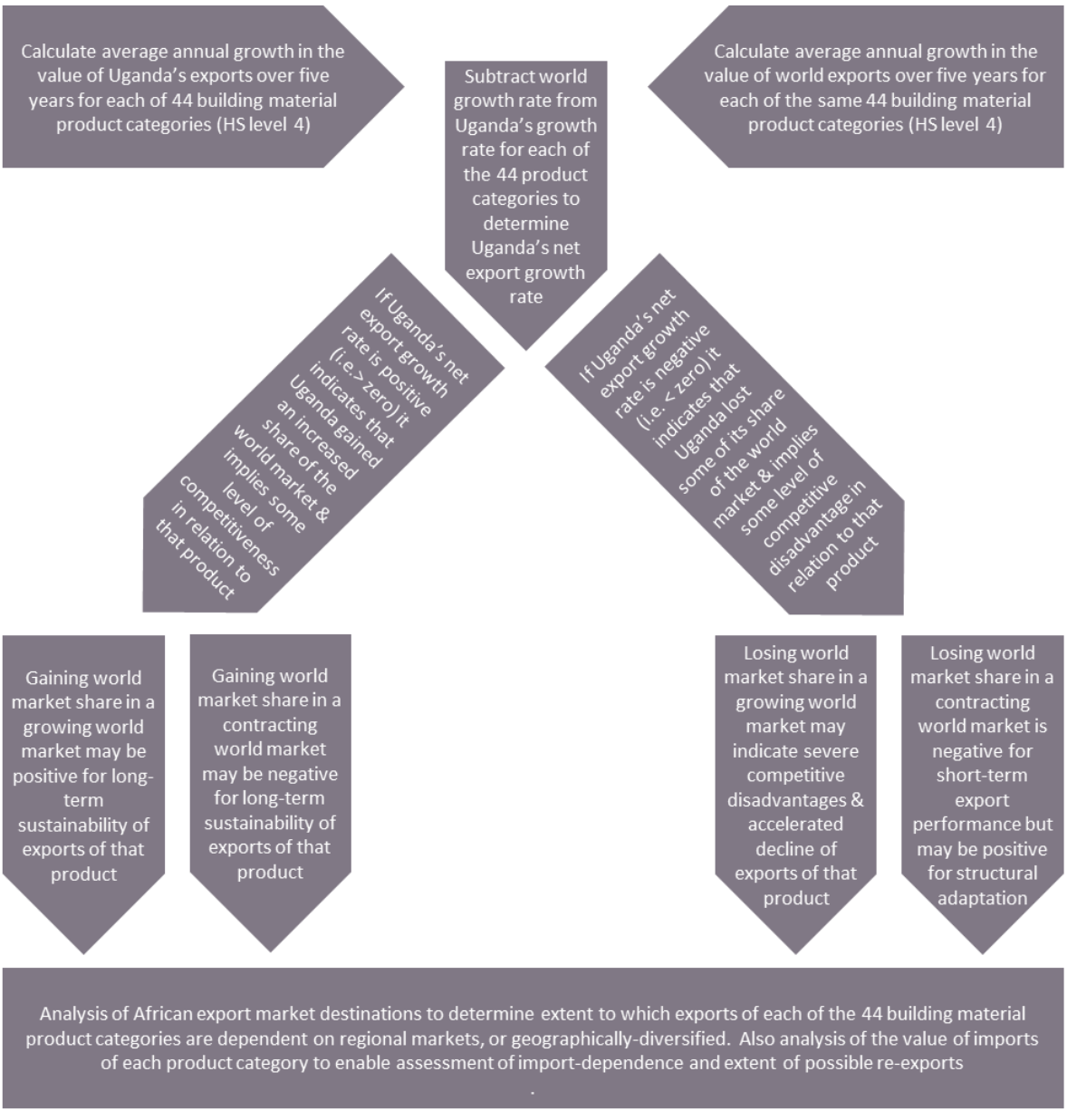
Figure 13 indicates that two-thirds of the costs of new housing construction in Uganda in 2018 comprised intermediate inputs. In order to optimise the development potential of housing construction and its impact on the broader economy, it is necessary to focus attention on these upstream supplier industries as well as the housing construction sector itself. This will benefit not just housing construction, but construction generally – since many of the inputs used in housing construction – such as cement, steel and electrical and plumbing materials – are also inputs into other types of construction activity. This includes the construction of bulk

[27] As noted above, the actual value of imports is likely to represent a significantly higher share of intermediate inputs than our estimates suggest. To the extent that this is the case, the import-adjusted output multiplier that we calculated will tend to overstate the true direct impact on Uganda's economy.
[28] Uganda Bureau of Statistics (2018). Manpower Survey Uganda (MAPU) 2016/17 Report. July 2018.

housing infrastructure such as electricity and water supply, storm water management systems, sewerage systems and road infrastructure – so interventions that enhance the competitiveness of the local building materials sectors will not only reduce import leakages from the economy, but also reduce public sector costs associated with the development of human settlements.

Because of the importance of "upstream" intermediate inputs to the housing sector, we conducted a revealed competitiveness advantage analysis of Uganda's international trade in building materials. The analysis contrasts Uganda's average export growth between 2013 and 2018 in each of 44 building material product categories with average growth in world exports of the same category over the same period. The process undertaken in the competitiveness advantage analysis is summarised in **Figure 15**.

Figure 15: High-level overview of revealed competitiveness analysis of Uganda's trade in building materials



Source: Keith Lockwood.

The results of the analysis are summarised in **Table 2** below.

Table 2: Revealed competitive advantage of Uganda's exports of building materials

Nature of Uganda's Export Performance Between 2013 and 2018	Number of Product Categories
Product categories in which Uganda had no exports	6
Product categories in which Uganda gained world market share between 2013 and 2018	12
In a growing world market	4
In a declining world market	8
Product categories in which Uganda lost world market share between 2013 and 2018	26
In a growing world market	18
In a declining world market	8
Total building material product categories	44

Source: United Nations (2020). www.trademap.org (using COMTRADE data).

The analysis reveals 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 (i.e. world export growth is negative). This calls into question the sustainability of those export markets over the longer-term. Similarly, 18 of the product categories where Uganda's exports lost world market share experienced growth in world demand over the five-year period – suggesting that Ugandan producers may be faced with severe competitive disadvantages.

Table 3 indicates consolidated export and import values, trade balances and average import tariff levels for each of the different performance categories in 2018. The trade deficit on building material product categories widened from US$27.4 million in 2013 to US$144.8 million in 2018. The data indicates that all of Uganda's exports of building materials in 2018 were to other COMESA (Common Market for Eastern and Southern Africa) states—suggesting that the country is entirely dependent on neighbouring export markets and has been unable to diversify into markets that are farther afield. This could be an indication that transport and logistics act as a fundamental barrier to enhanced export performance.

Table 3: Uganda's trade in building materials in 2018

Nature of Uganda's Export Performance Between 2013 and 2018	Number of Product Categories	Value of Exports in 2018 US$ m	Value of Imports in 2018 US$ m	Trade Balance in 2018 US$ m	Average Import Tariff in 2018 (%)
Product categories in which Uganda gained global market share between 2013 and 2018	12	18	127	-109	14.75
In a growing global market	4	7	7	0	20.75
In a declining global market	8	11	120	-109	11.75
Product categories in which Uganda lost global market share between 2013 and 2018	26	90	108	-18	16.52
In a growing global market	18	82	92	-10	16.55

In a declining global market	8	1	8	-7	16.61
Total for building material product categories in which Uganda engaged in exports in 2018	44	101	227	-126*	16.20

** This does not reflect the deficit on product categories in which Uganda had no exports in 2018. The deficit on these product categories amounted to a further US$18 million.*

Source: United Nations (2020). www.trademap.org (using COMTRADE data).

The detailed results of the trade analysis are reflected in **Annexure B**. In 2018, building material exports only accounted for 1.76 percent of total merchandise exports, while building material imports accounted for 3.4 percent of total merchandise imports. The average import tariff on building materials was 16.2 percent and was generally higher in product categories in which Uganda lost global market share (16.52 percent) and lower in product categories in which the country gained global market share (14.75 percent).

3.4 Economic activities arising from the letting of residential housing in Uganda

The economic impact of the construction activity that arises when a house is built only lasts until the house is completed. By contrast, the activities associated with the renting of that house (assuming that it is not occupied by the owner) persist for the lifespan of the building – which will usually be a number of decades. As the stock of housing in an economy increases to accommodate a growing number of households, so the potential scale[29] of economic activity associated with the renting of residential property also increases.

As noted above, Uganda's detailed CPI weights indicate that, on average, Ugandan households spend 5.23 percent of total household expenditure on actual rents for housing. This compares with 3.17 percent in South Africa.[30] Multiplying this weight by annual household consumption expenditure makes it possible to quantify total household expenditure on rent in a particular year. Applying these values to the IMF SUT values for the Real estate sector make it possible to estimate the relative contribution of intermediate inputs and gross value added to the output of residential real estate. The results are reflected in **Table 4**.

Table 4: The value of housing real estate output and its composition

Component	Value of Spending on Housing Rents and Composition of Output (UGX billions)					
	2013	2014	2015	2016	2017	2018
Total Household Consumption Expenditure	48 091	53 696	61 923	63 201	71 813	79 108
Total Spending on Actual Rents	2 517	2 810	3 241	3 308	3 759	4 141
GVA of Housing Rental and Related Activities	2 291	2 558	2 949	3 010	3 420	3 767
Intermediate Inputs to Support Housing Rental	227	253	292	298	338	373

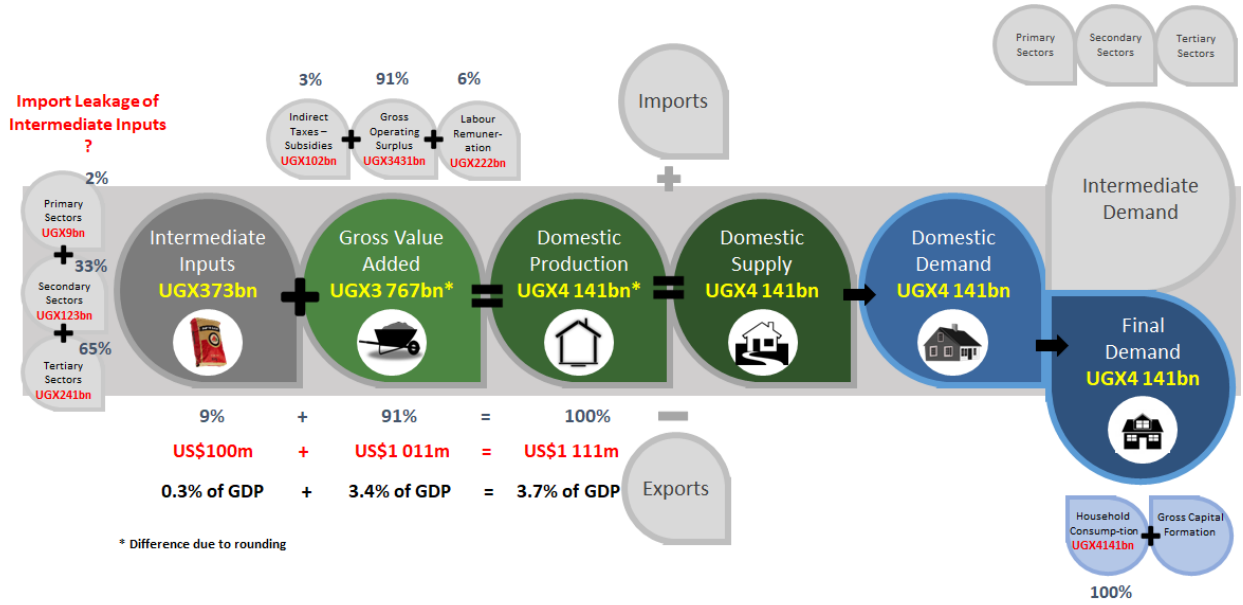
Source: Uganda Bureau of Statistics (2020), Uganda Consumer Price Index, May 2020; own calculations.

Figure 16 shows the estimated value chain for housing rental activities in Uganda in 2018. It reflects output of residential rental services of UGX4 141 billion (US$1 111 million), which was made up of intermediate inputs of only UGX373 billion (US$100 million) and gross value added of UGX3 767 billion (US$1 011 million). All of this output was used to satisfy household demand for rental housing. Intermediate inputs accounted for just 9 percent of the value of domestic production and GVA the remaining 91 percent.

[29] This depends on the relative proportions of home ownership versus renting.

[30] The other countries that we have studied do not explicitly account for rents paid in their CPI weights.

Figure 16: Estimated economic value chain for housing rental activities in Uganda in 2018



NOTE: Available data does not make it possible to estimate the import leakage associated with intermediate inputs.

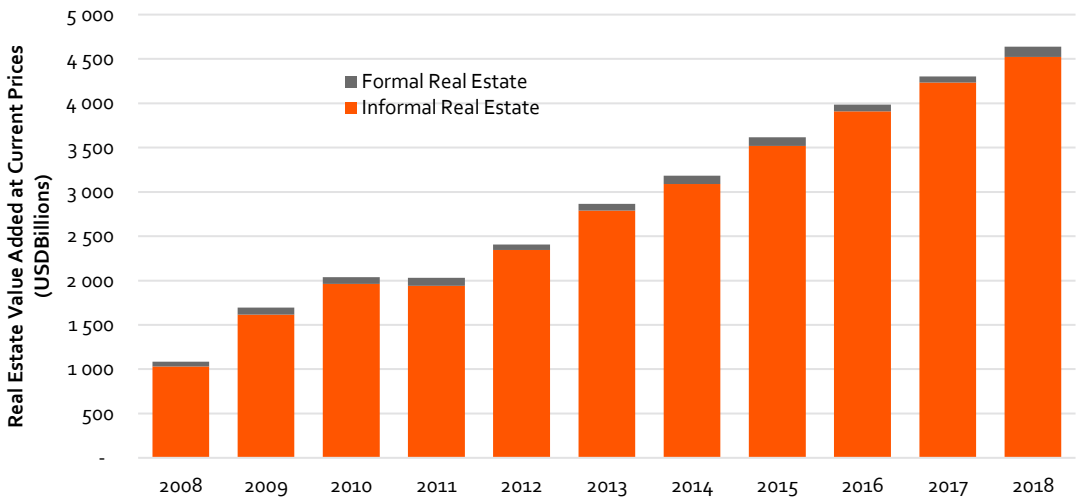
Source: Calculations by Keith Lockwood based on information from UBOS (2019) Annual GDP Publication Tables, IMF (2017).

In the absence of any published information that reflects the sector composition of intermediate inputs, or the factor income composition of the gross value added, we have assumed that the composition of these two elements was equivalent to the average for three other East African countries for which we have constructed housing rental value chains, namely Kenya, Rwanda and Tanzania. This suggests that only 2 percent of intermediate inputs were sourced from the primary sectors, 33 percent from secondary sectors and 65 percent from tertiary sectors.

With regards to the value added by letting and related activities, the gross operating surplus was estimated to account for 91 percent, labour remuneration 6 percent, and indirect taxes less subsidies for the remaining 3 percent. These estimates represent the average of equivalent contributions in Kenya, Rwanda and Tanzania. The very significant share of the gross operating surplus and the comparatively small share of indirect taxes is consistent with an activity that is almost exclusively informal. As **Figure 17** shows, real estate as a whole in Uganda is almost entirely informal, with formal activity only contributing 2 percent of total GVA in 2018.

Given the very small contribution of intermediate inputs to the output of housing rental activities, it is not surprising that the direct output multiplier is small (1.10), which implies that for every ten shillings spent on rental, only 1 is spent in other sectors.

Figure 17: Formal and informal contribution to real estate gross value added (2008-2018)



Source: Uganda Bureau of Statistics (2019). Annual GDP Publication Tables.

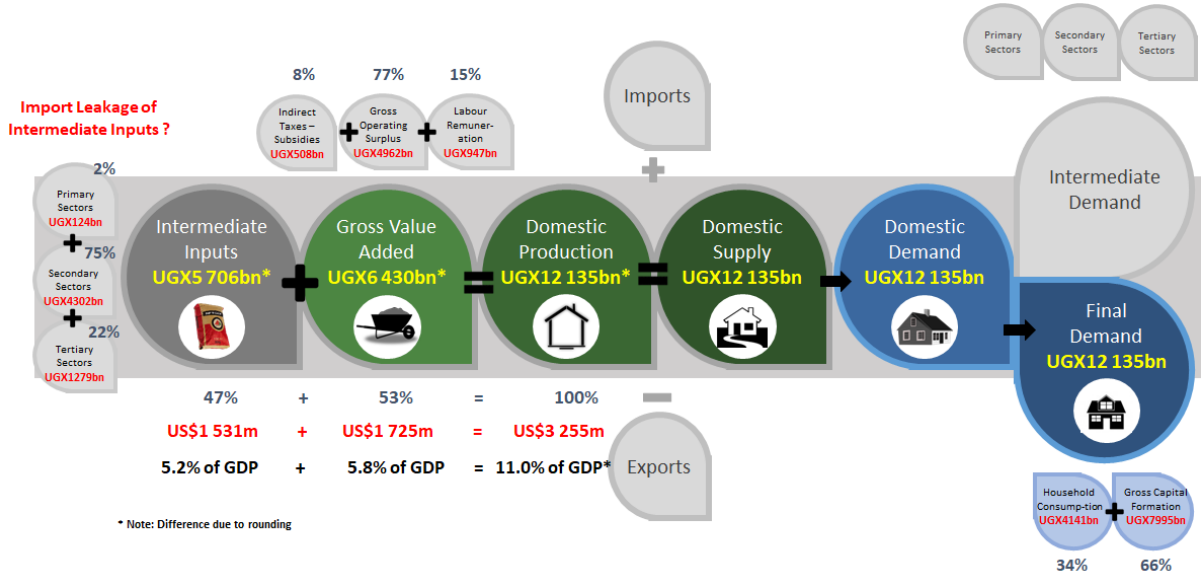
3.4.1 Employment in housing rental and related activities

UBOS does not quantify employment in real estate separately. In the published results for the National Labour Force Survey 2016/17, real estate employment is lumped together with a number of other sectors (finance, insurance, personal services, public administration and communication), which collectively accounted for total employment of 1.13 million in 2016/17 (see Figure 13 above) but there is no indication of individual employment levels in any of these sectors. Nevertheless, given the informal nature of housing rental activities, employment is likely to be low. Notably, most informal rental activity is undertaken by household landlords or small-scale (owner-managed) landlords. This means that informal landlords are regarded as business owners, rather than employees, and the income they derive from letting and related activities is treated as profits (part of the gross operating surplus) rather than wage income.

3.5 The combined contribution of housing construction and housing rental-related activities to Uganda's economy

We now consider the combined economic contribution of the above economic value chains for housing construction and rental. **Figure 18** reflects the estimated combined economic value chain for Uganda's housing construction and housing rental and related activities in 2018. It indicates GVA of UGX6 430 billion (US$1 725 million) and intermediate inputs of UGX5 706 billion (US$1 531 million) giving rise to combined output of UGX12 135 billion (US$3 255 million). Seventy-five percent of the intermediate inputs were sourced from secondary sectors, 22 percent from tertiary sectors and only 2 percent from primary sectors. Total intermediate inputs were equivalent in value to 5.2 percent of Uganda's GDP in 2018, while the direct GVA contribution was 5.8 percent, giving rise to combined output equivalent to 11.0 percent of GDP. This is significant, and substantially more than South Africa's 3.7 percent and Nigeria's 7.2 percent.

Figure 18: Estimated combined impact of housing construction and housing rental and related activities on the Ugandan economy in 2018



NOTE: It is not possible to estimate the import leakage associated with intermediate inputs for the housing rental value chain. Since this value chain represents a consolidation of the housing construction and housing rental value chains, it is also not possible to estimate the combined leakage. However, since intermediate inputs constitute a relatively small share of housing rental output, the combined import leakage will be closer to that of housing construction.

Source: Calculations by Keith Lockwood based on available information from Uganda Bureau of Statistics and the IMF and other assumptions.

3.6 Comparing the impact of housing on selected sub-Saharan economies

It is interesting to compare the levels of spending on housing construction and housing rental across different countries. **Table 5** shows average per capita GDP (an indication of average incomes before taxes and transfers) at purchasing power parity, as well as per capita spending on housing construction and housing rental (also in purchasing power parity terms). It indicates that while the average income of South Africa's was substantially higher than the other countries in the analysis, spending on housing construction and rental exhibited much less variation. In total, per capita spending on housing construction and rental ranged from PPP$500 in South Africa, to PPP$483 in Tanzania, and PPP$426 in Nigeria. In absolute terms, Rwanda (PPP$206) spent the least, followed by Kenya (PPP$234) and Uganda (PPP$288).

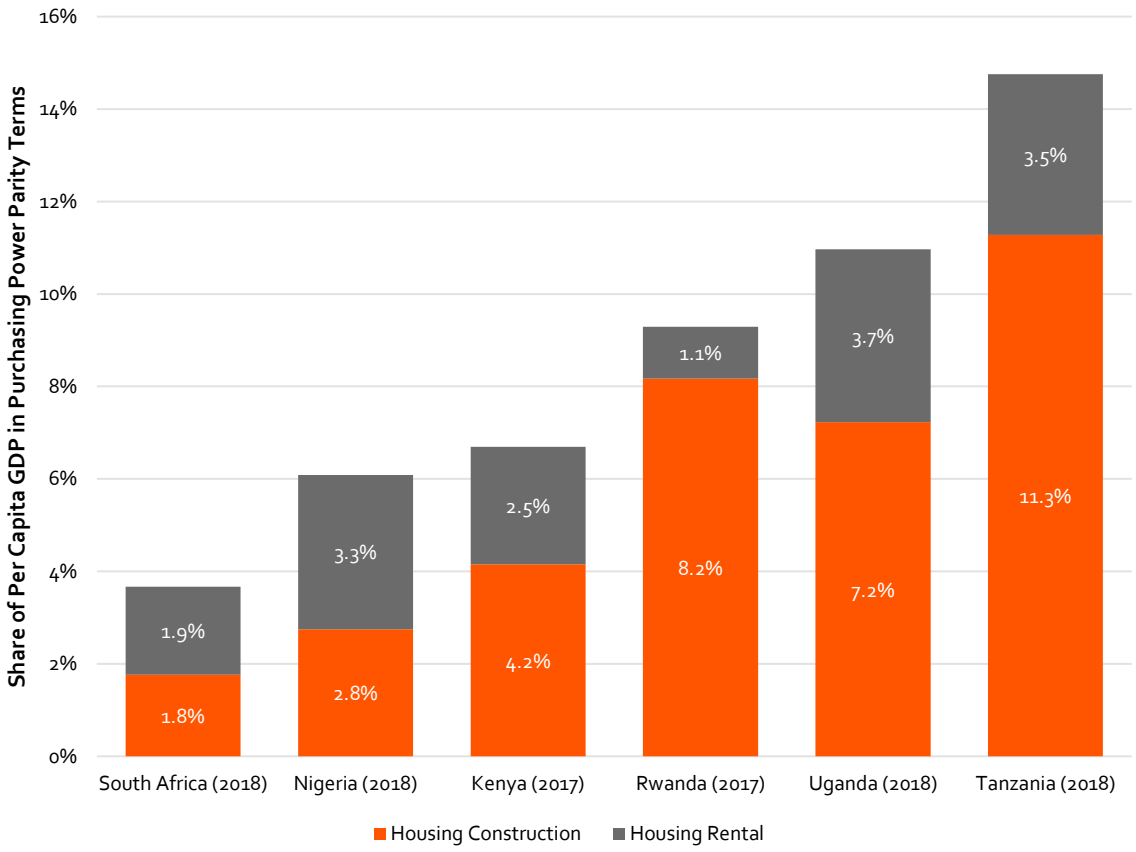
Table 5: Per capita GDP at PPP and per capita spending on housing construction and housing rental at PPP

Measure	South Africa (2018)	Nigeria (2018)	Kenya (2017)	Rwanda (2017)	Uganda (2018)	Tanzania (2018)
Per Capita GDP at PPP (PPP$)	13 625	7 004	3 502	2 216	2 625	3 273
Per Capita Spending on Housing Construction (PPP$)	241	193	146	181	190	369
Per Capita Spending on Housing Rental (PPP$)	259	234	89	25	98	114
Per Capita Spending on Housing Construction & Rental (PPP$)	500	426	234	206	288	483

Source: IMF WEO, country statistics offices and own calculations.

However, a very different picture emerges when these spending levels are expressed as a percentage of average per capita GDP at PPP, as shown in **Figure 19**. On this basis, South Africa spent the least (3.7 percent) and Tanzania spent the most (14.8 percent). Uganda's spending was equivalent to 10.9 percent of per capita GDP in purchasing power parity terms. There are also substantial differences in spending on housing construction relative to housing rental. In South Africa and Nigeria, spending on housing rental is greater than on housing construction, but in the other countries included in this analysis, the position is reversed. Rwanda spent the equivalent of 8.2 percent of per capita GDP on housing construction, but only 1.1 percent on housing rental.

Figure 19: Per capita spending on housing construction and housing rental at PPP expressed as a percentage of GDP per capita at PPP



Source: IMF WEO, country statistics offices, own calculations.

These results are almost certainly influenced by the levels of urbanisation and the relative growth rates in urban and rural populations as well as by relative levels of rental and ownership of housing in urban areas. A substantially higher proportion of South Africa's population is already urbanised (and with much greater levels of formal economic housing activities), while in the East African countries in particular, urbanisation rates are much lower, but urban populations are growing at a faster rate (but currently still with lower rates of formal construction activity). Levels of overall economic development and formalisation also play a role. Countries with more diversified, developed and formal economies may need to spend relatively smaller proportions of their incomes on housing because of significant, cumulative past investments in the housing stock, and because the adequacy of their existing housing circumstance frees up income to spend on other things.

4 Analysing Uganda's housing market

Having considered the macro-economic impact of housing on Uganda's economy, we now assess the housing market at a more micro-scale. Taking the demographic trends and socio-economic issues that are influencing Uganda's housing sector in Section 2 into account, this section analyses the demand-side and supply-side housing activity in Uganda's housing market. This approach uses available demographic and housing market statistics to build a picture of the housing market structure, tenure, key housing typologies and housing affordability.

CAHF acknowledges that this approach does not provide a fully comprehensive statistical analysis of Uganda's housing market, but rather sets out complex information in an easy to understand way based on available data and assumptions regarding important housing market data that is not readily available in a consolidated form.

In an ideal situation, national demographic, income and housing data would provide sufficient statistical datasets to generate more accurate and current profiles of household distribution in rural and urban areas and in the large cities and metropolitan areas. These datasets could also provide information on income distribution, tenure and housing conditions. Ordinarily, this information is collected by the national statistical bureau, and published for public access. However, this data is often published thematically, and in an aggregated format, and does not allow cross-tabulation across various themes, sectors, or geographic areas.

4.1 Household income distribution

A useful way of analysing the demand profile of a country's households is to divide those households into income or affordability categories. While housing affordability is not necessarily directly proportional to household income, in the absence of detailed disaggregated statistics on levels of housing expenditure, household income distributions offer a proxy.

Table 6 below shows the distribution of Uganda's households by household income group in urban and rural areas for 2019. Due to anomalies in the main datasets that CAHF uses for population estimates and income distributions this data has been modelled from two sources.[31] The urban-rural population and household distribution and total numbers of households is based on Uganda's 2016-2017 Census.[32] These household numbers have then been distributed between income classes according to CGIDD household income data for urban and rural areas.[33]

Table 6 below shows monthly household incomes grouped into six general bands for ease of analysis. The total number of households is then presented according to this monthly income and split into urban households (representing all urban areas and the large cities), rural households, and total households.

[31] The Census 2016-2017 calculates that 24.5 percent of Uganda's population is urbanised, yet CGIDD data (adjusted for household size) indicates an urbanisation rate of 15 percent. This 9.5 percent difference is very significant, constituting 896 000 households (using the total number of households calculated for 2019 from the Census 2016-2017). We consider the rate of urbanisation, population numbers and number of households from the Census to be sound benchmarks to base this analysis on.

[32] Uganda Bureau of Statistics (2018). Uganda National Household Survey 2016/2017 Report. 2018.

[33] Canback Consulting (2019). Canback Global Income Distribution Database.

Table 6: Uganda's rural and urban population by income group (2019)

$ PPP/month (Low)	$ PPP/month (High)	Local Currency (UGX/month)	Rural (Households)	Rural (% of Households)	Urban (Households)	Urban (% of Households)	Total (Households)	Total (% of Households)
$3000+	$3000+	3 321 000	46 281	0,7%	92 697	3,9%	138 978	1,5%
$2 001	$3 000	3 321 000	132 873	1,9%	176 929	7,5%	309 801	3,3%
$1 001	$2 000	2 214 000	439 086	6,2%	468 716	19,9%	907 802	9,6%
$501	$1 000	1 107 000	1 521 805	21,5%	720 970	30,6%	2 242 775	23,8%
$251	$500	553 500	3 070 163	43,4%	705 588	29,9%	3 775 751	40,0%
$0	$250	276 750	1 868 074	26,4%	194 527	8,2%	2 062 601	21,9%
Grand Total			7 078 282	100,0%	2 359 427	100,0%	9 437 709	100,0%

Source: Urban-rural household distribution calculated from Uganda's 2016-2017 National Household Survey and population growth rates. Household income distribution based on CGIDD (2019) PPP$ household income distribution.

The table shows the much larger and lower-income household distribution in Uganda's rural areas, and the smaller, yet relatively higher-income household distribution of urban households. It is important to note that within urban areas, there are two very different income distributions: one for large cities (Kampala and Entebbe), and another for (smaller) urban areas. While the focus of housing interventions tends to be on the largest cities (such as Kampala and Entebbe), the significant housing needs and lower incomes of households in other urban areas across the country must also be considered.

Next, we consider the growth of new households in Uganda. **Table 7** shows the rural-urban and income category breakdown of the estimated 348 000 new households that were formed during 2018 in Uganda. Since we do not have specific disaggregated data on the incomes of new households formed, these figures are based on the calculated number of new households formed annually using Census 2016-2017 data[34] divided across household income categories in proportion to CGIDD's proportionate distributions

Table 7: Uganda rural and urban population growth per income group (during 2018)

$ PPP/month (Low)	$ PPP/month (High)	Local Currency (UGX/month)	Rural (Households)	Rural (% of Households)	Urban (Households)	Urban (% of Households)	Total (Households)	Rural Growth (2018)	Urban Growth (2018)	Total Growth (2018)
$3000+	$3000+	3 321 000	46,281	0.7%	92,697	3.9%	138,978	1,269	6,034	7,303
$2 001	$3 000	3 321 000	132,873	1.9%	176,929	7.5%	309,801	3,643	11,518	15,161
$1 001	$2 000	2 214 000	439,086	6.2%	468,716	19.9%	907,802	12,040	30,512	42,552
$501	$1 000	1 107 000	1,521,805	21.5%	720,970	30.6%	2,242,775	41,728	46,934	88,661
$251	$500	553 500	3,070,163	43.4%	705,588	29.9%	3,775,751	84,184	45,932	130,116
$0	$250	276 750	1,868,074	26.4%	194,527	8.2%	2,062,601	51,223	12,663	63,886
Grand Total			7,078,282	100.0%	2,359,427	100.0%	9,437,709	194,086	153,594	347,680

Source: Urban-rural household distribution calculated from Uganda's 2016-2017 Census (National Household Survey 2016/17 Report) and population growth rates. Household income distribution based on CGIDD (2019) PPP$ household income distribution and our own calculations. Note that certain income categories differ from CGIDD original data so proportionate allocations between income categories have been used.

It is important to note that at this stage, even though Uganda's level of urbanisation is only 25 percent, 44 percent of the new households formed are in urban areas due to the significantly higher urban population growth rates. Uganda's housing demands will be increasingly urban-focused, as urbanisation accelerates and household sizes decrease over time. Further, as with the overall household income distribution, new households formed will be predominantly in the lower household income bands. Just under 70 percent of new households are projected to have household incomes below PPP$ 1 000 per month.

[34] Uganda Bureau of Statistics, (2018). Uganda National Household Survey 2016/2017 Report. 2018.

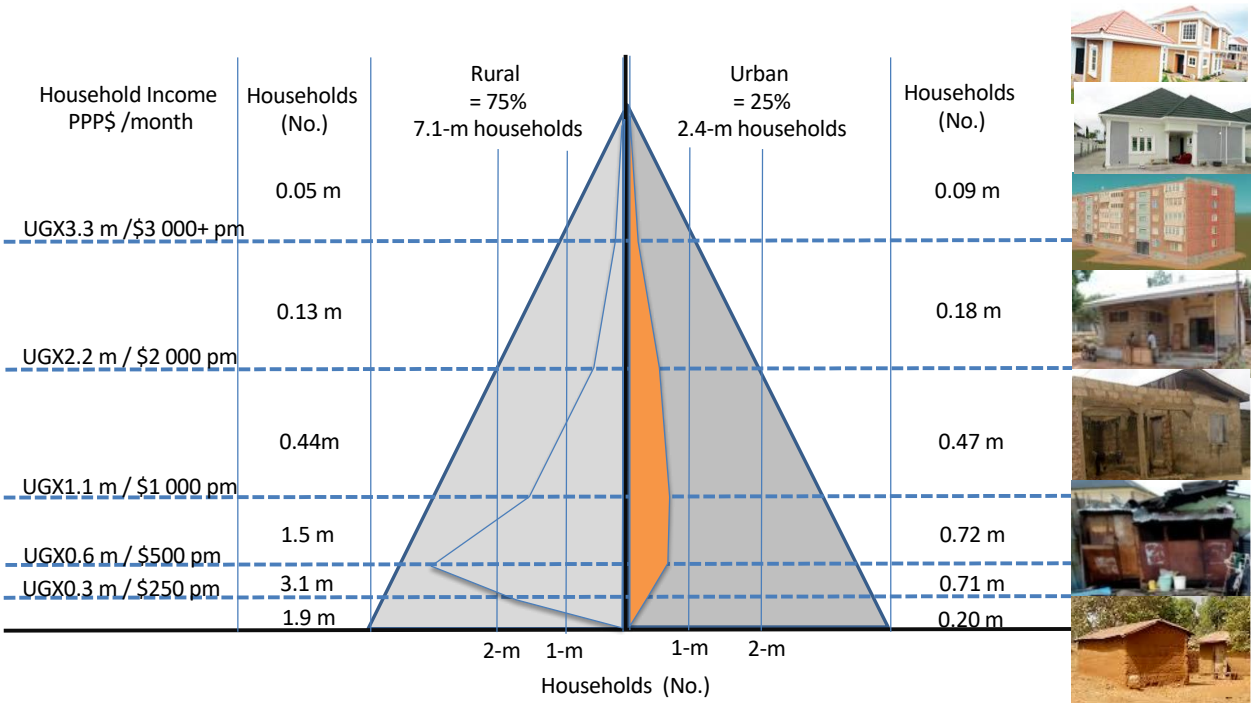
4.2 Housing market 'pyramid'

We now use this data to provide a clearer illustration of Uganda's household distribution. Understanding the proportions of households in urban and rural areas in different income categories and tenure arrangements assists to focus attention on the households facing the worst housing conditions, and what types of housing may meet their specific demand profiles or needs. **Figure 20** below shows a notional pyramid representation of household incomes in Uganda in grey, showing that generally there are a greater proportion of lower-income households than higher-income households in a developing country's population distribution. Superimposed over this is a graphic representation of the actual proportions of households per income group (in PPP$ and UGX per month)[35] in Uganda's rural and urban areas, modelled on the income data in Table 6 above.

Using these statistical baselines, a household income profile is illustrated in Figure 19. This shows that rural households (in blue on the left) are more than urban households, and that majority of these households are low income households. Conversely, urban households (in orange on the right) have a higher income profile than rural households. An estimated distribution of household numbers in different income categories is provided as well.

The rural/urban population pyramid also indicates the notional distribution of households per household income category according to CGIDD (2019). The images on the right present pictures outlining indicative house types that may be affordable to households with such household incomes. Considering the estimated number of households in each income band, it is clear that there are very few households in the upper-income categories (only 270 000 urban households with incomes of over PPP$2 000 per month) who can possibly afford conventionally developed, mortgage financed housing. This has important implications for overall housing affordability and the types and values of houses developed in urban areas.

Figure 20: Notional household income pyramid versus actual income distribution for 2019



Source: Urban-rural household distribution calculated from Uganda's 2016-2017 Census (National Household Survey 2016/17 Report) and population growth rates. Household income distribution based on CGIDD (2019) PPP$ household income distribution. CGIDD PPP$ income bands are converted to Ugandan Shillings using the IFC's international PPP conversion rate for 2019.

[35] CGIDD's PPP$ income categories are converted into Ugandan Shillings in PPP equivalents using the IFC's local currency PPP conversion table for 2018 (PPP$1 is equivalent to UGX1 107 in 2019). See **Note on exchange rates,** above.

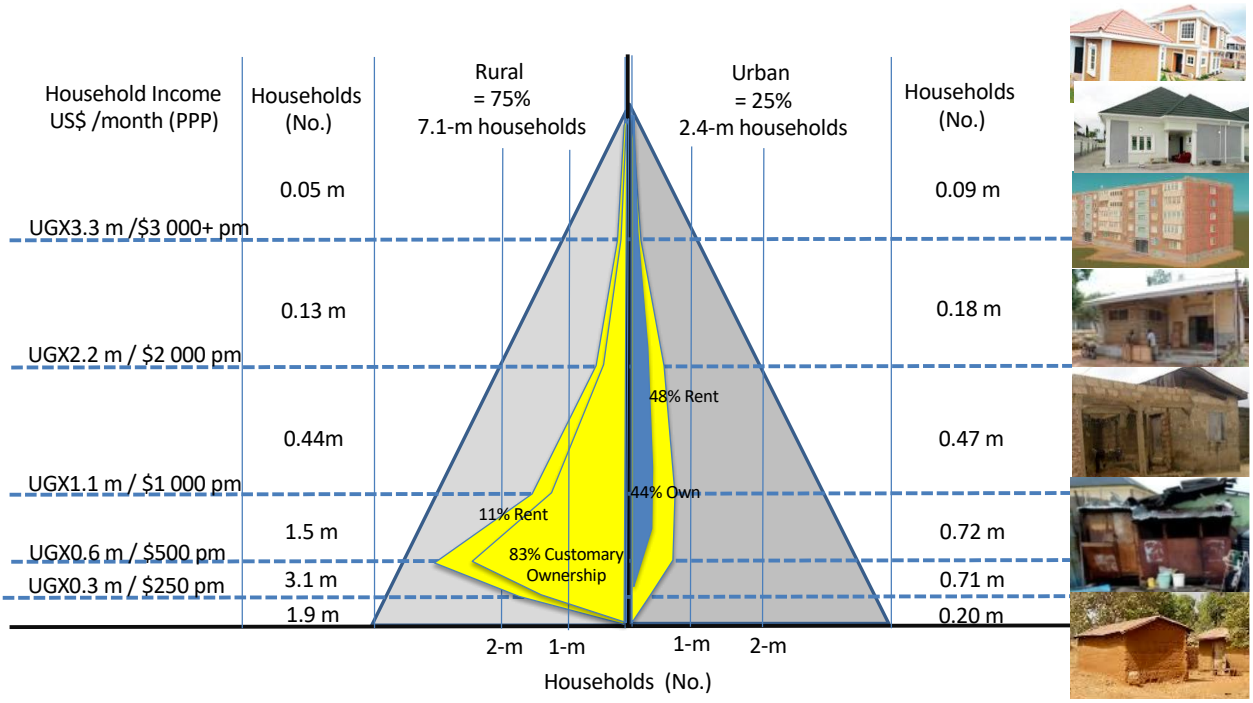
4.3 Housing tenure

The 2016/17 Uganda National Household Survey indicates that across the country, 47.7 percent of urban households rented their housing, while only 43.9 percent owned their dwellings. However, it is important to note that in Kampala, the proportion renting was much higher at 70.9 percent, while only 21.8 percent of households owned their dwelling. In rural areas, owner-occupation is the dominant form of tenure, with 82.7 percent of households owning their dwellings and only 11.4 percent renting.

The World Bank records four key types of land rights in Uganda:[36] Freehold Tenure (4 percent); Leasehold Tenure (2 percent); Mailo Tenure[37] (14 percent) and Customary Land Tenure (80 percent). All of these confer a level of ownership rights, but the areas in which they occur and the length and security of tenure that they confer varies. In the figure below, these are all classified as 'owned'. Considering households who rent, 72 percent of urban renters rent privately and 8 percent rent from public institutions. The balance of households occupy free or subsidised publicly or privately provided houses.[38]

Based on these notional household distributions by rural / urban and income categories above, it is now possible to superimpose on this figure the estimated tenure conditions of households in Uganda. **Figure 21** overlays the above tenure statistics on the household income distribution pyramid in Figure 19. Note that it is assumed for this graphic (in the absence of any available statistical information) that Uganda's urban areas follow trends in other developing countries where generally the proportion of households who rent are greater in the lower income categories, as it is generally higher-income households who are able to secure rights to land, especially in urban areas.

Figure 21: Notional household tenure distribution in Uganda for 2019



Source: Urban-rural household distribution and tenure splits are estimated from Uganda's 2016-2017 Census (National Household Survey 2016/17 Report) and population growth rates. Household income distribution based on CGIDD (2019) PPP$ household income distribution. CGIDD PPP$ income bands are converted to Ugandan Shillings using the IFC's international PPP conversion rate for 2019.

[36] World Bank Group (2015). Uganda Economic Update - Searching for the "Grail": Can Uganda's Land Support it's Prosperity Drive?

[37] Mailo tenure is unique to Uganda (mostly in the Central District), and confers indefinite land ownership rights, very similar to freehold, yet conferred to tenants of land. In rural areas, a high proportion (83 percent) access land through customary and Mailo tenure systems, with a relatively small proportion of rural households (11 percent) renting.

[38] Uganda Bureau of Statistics (2017). Uganda National Panel Survey, 2013/14.

Currently, Uganda's urban areas have a roughly equal balance between rental (48 percent) and ownership (44 percent).[39] It is important for there to be a mix of ownership and rental in any housing market, and ratios of rental to ownership vary significantly across the world. While rental markets in developing countries offer an important first foothold for new urban migrants and newly-formed households that offers more locational and income flexibility, rental is also often the default choice out of desperation for many households who cannot purchase urban housing. Therefore, housing markets in developing countries in which rental markets (and specifically informal rental markets) dominate are often more an indicator of a faltering housing development sector than the expressed tenure choices of households.

Uganda's tenure situation is rapidly changing. Between the 2012/2013 census and the 2017/2018 census, owner occupation in urban areas has decreased by 4 percent, living 'free' has decreased from 44 percent to 8 percent, and rental has increased substantially from 8 percent to 48 percent.[40] This rapid increase in rental is likely due to a shift from many urban households sharing with family and friends a decade ago, who are now facing the consequences of an increasing monetization of urban housing as options decrease and rental prices increase.

As indicated by the significant differences in housing tenure between Kampala and the rest of urban Uganda, rapid urbanisation will put increasing pressure on housing markets, with many more households seeking ever-fewer housing opportunities. Unless Uganda's ability to produce more affordable housing improves rapidly, higher proportions of urban households will be forced to rent basic housing due to the absence of affordable ownership opportunities. Also, given that the vast majority of households that rent are already renting small, informally constructed rooms with shared ablutions, there will be a need to facilitate the development of alternative typologies and affordability of housing to accommodate the envisaged rapidly urbanising population.

Therefore, while Uganda's high rate of urbanisation is roughly keeping pace with its currently high rates of economic growth, the country faces a critical time during which it may be able to implement programmes that offer urban housing alternatives to rental that are affordable for its rapidly urbanizing society.

Even the high proportion of Uganda's households that currently own (mostly Mailo) land in rural areas may also be under pressure with the projected high population growth rates in rural areas. It was indicated above that more new households will be formed in rural areas than in urban areas, and this will place significant pressure on rural tenure systems to continue to equitably allocate land, and for households to continue to produce housing in rural areas at the scale and quality required.

4.4 Housing affordability

Having considered the household income distribution of Ugandan households in urban and rural areas, as well as the tenure conditions under which they currently occupy their accommodation, we now consider the affordability of these households for housing.

Table 8 below outlines the estimated housing affordability of Ugandan households. It begins by calculating the maximum amounts that households in different income categories could potentially afford to pay for rent or as regular finance repayments. In the absence of detailed affordability studies, we have applied an average proxy figure of 25 percent of household income spent on housing. This amount is then used to calculate the approximate house price affordable under prevailing mortgage finance terms in Uganda (using CAHF's Housing Affordability Calculator[41]). For Uganda, these assume a 20 percent down payment, 25 percent of gross income spent on mortgage repayments, and a prevailing mortgage interest rate of 20 percent over 20 years.[42]

[39] Consider in comparison many other African cities where rental exceeds 50 percent of households, and some (such as Lagos, Nigeria) where rental is already reaching 80 percent.
[40] Uganda Bureau of Statistics (2017). Uganda National Panel Survey, 2013/14.
[41] CAHF Housing Affordability Calculator. Accessed at http://housingfinanceafrica.org/documents/calculating-mortgage-and-housing-affordability-in-africa/
[42] Note that CAHF (2019) indicates that certain banks in Uganda are offering interest rates below this level (17 percent to 18 percent), due to improved macroeconomic conditions and greater competition.

Table 8: Estimated housing affordability in Uganda (2018)

$PPP/ month (Low)	$PPP/ month (High)	Local Currency (UGX/month)	Rural (% of Households)	Urban (% of Households)	Max Monthly Affordability @ 25% (PPP$)	Max Monthly Affordability @ 25% (UGX)	Max House Price (PPP$)	Max House Price (UGX)
$3000+	$3000+	3 321 000	0.7%	3.9%	$751	TZS830,251	$55,187	UGX61,090,903
$2 001	$3 000	3 321 000	1.9%	7.5%	$750	TZS830,250	$55,186	UGX61,090,902
$1 001	$2 000	2 214 000	6.2%	19.9%	$500	TZS553,500	$36,790	UGX40,726,530
$501	$1 000	1 107 000	21.5%	30.6%	$250	TZS276,750	$18,395	UGX20,363,265
$251	$500	553 500	43.4%	29.9%	$125	TZS138,375	$9,198	UGX10,182,186
$0	$250	276 750	26.4%	8.2%	$63	TZS69,188	$4,599	UGX5,091,093

Source: CGIDD (2019), CAHF Housing Affordability Calculator and own calculations.

It is important to note that the above calculations assume that the following conditions enabling effective housing demand are available to households in Uganda:

- First, that a household would be able to afford at least 25 percent of gross income for housing rent or mortgage payments;
- Second, that the household could secure a mortgage at prevailing terms and conditions from a local mortgage bank and for housing products costing as little as indicated in the table;
- Third, that the forms of title available for land and housing provided sufficient security for a financial institution to be able to use the house as mortgage security; and
- Fourth, that a product of this price is easily available in the market to purchase or rent.

Clearly, for a vast majority of Ugandan households, one or more of these parameters of effective housing demand are difficult to achieve. In addition, the lower a household's income, the less likely they are to be able to secure mortgage finance, and other (unsecured) credit instruments are generally over shorter terms with higher interest rates, which would reduce total housing affordability further.

Notwithstanding these factors, the housing affordability segmentation above indicates that 3.9 percent of urban households earn above UGX3.3 m (PPP$3 000) per month, many of whom already own housing. These households could afford housing products costing from UGX61 m / PPP$55 000 and upwards using mortgage finance. Generally, even such high-priced housing does not regularly get constructed in Uganda, although limited developments are under way, or houses are constructed on a bespoke basis by higher-income households.

Importantly, around 20 percent of urban households earn between UGX 1.1 m (PPP$1 000) and UGX 2.2- m (PPP$2 000) per month, meaning that their housing affordability is realistically for housing products costing between UGX20 m (PPP$18 000) and UGX 41 m (PPP$37 000). While limited supply of such priced housing is produced, there are not enough products in this price range to meet this household demand.

Then, 68 percent of urban households earn less than UGX1.1 m (PPP$1 000) per month, implying that they require significantly more affordable housing solutions costing below UGX 20 m (PPP$18 000). Further, 38 percent of urban households can only afford products costing UGX10 m (PPP$9 000) and less – and even that is assuming they are able to access housing finance of some sort.

4.5 Housing supply

Having established the affordability profile of Uganda's households, we now look at the prevailing housing supply environment in Uganda. Historically, formal housing provision in urban Uganda was controlled by the public sector mainly through the National Housing Corporation.[43] This is still evident through the 8 percent of urban households that still live in public rental housing. However, more recently Uganda pledged to follow a private sector housing delivery process,[44] although the National Housing and Construction Company (NHCC) is still perhaps the largest developer of housing in Uganda, both for rental and for sale. However, even as one of

[43] Ministry of Lands, Housing and Urban Development (2016). The Uganda National Housing Policy.
[44] Ibid.

the largest developers, the NHCC still only delivers a limited number of units per year, most of which are two to four-bedroom medium-rise apartments unaffordable to the majority of Ugandan households.

With an annual growth of over 150 000 households in Uganda's urban areas and 194 000 households in rural areas, these newly-formed households will seek housing, leading to increased demand which must be met in one of five possible ways.

I. **Informal market rental:** Households may access small housing units (such as single rooms with shared ablutions), or similar small, mostly informally-constructed rental units from landlords. This is the most prevalent form of housing delivery in urban Uganda. Much of this housing is in areas identified as slums due to poor access to infrastructure and relatively low standards of construction.
II. **Increased population densities in developed areas:** Increases in average household sizes in existing owned and rented basic housing (such as detached or semi-detached housing) and informal market rental housing (rooms with shared washing facilities and other small dwellings). This results in multiple households co-living in single units (detached, semi-detached or attached house).
III. **Extending existing housing:** Incremental expansion of existing housing units through the construction of additional bedrooms and other facilities is a significant delivery system in Uganda. In rural areas new housing units are created (mostly in the form of basic traditionally constructed housing, basic formal housing units or the expansion of existing units). In urban areas, where households can get access to land, this would often take the form of expansions to existing basic housing units over time by their owners.
IV. **Informal incremental owner-building:** Owner-building of housing using either formal or informal sub-contractors, or their own labour. This would require such households to obtain title to land, or alternatively to build on land over which title is not held. Such housing is normally developed incrementally over an extended period.
V. **Formal housing rental or purchase:** The purchase or rental of formally constructed housing stock from public and private developers and building contractors. This would also include rental or purchase of housing from employer housing programmes. Finally, this would also include formally constructed apartments being released (mostly for rental) by formal developers and landlords. This outcome is highly unlikely given the very small number of conventionally constructed units in Uganda.

The National Housing Policy states that 60 000 housing units are produced per year, but no specific reference for this data is given.[45] Uganda's housing construction sector is dominated by informal construction, with a very small proportion of formal housing estate development activity.

Formally constructed housing is very limited, and generally only produces houses for sale at the top end of the market. CAHF indicates that the price of the cheapest, newly built house by a formal developer or contractor in an urban area in Uganda in 2019 was UGX 125 million (US$33 719)[46] which is affordable to less than 4 percent of Uganda's urban households.[47] Unfortunately, none of the building-related statistics published by UBOS (buildings completed, plans passed, occupational permits issued, plans deferred, plans rejected) provide any indication of the scale of formal new housing production in the country.[48] These statistics only reflect percentage distributions arising from selected town councils and municipalities for the period of 2015 to 2018. CAHF's 2019 Housing Yearbook quotes Comfort Homes with a total figure of formal housing produced in Uganda of 120 units in the past year.[49] A limited number of formal affordable housing projects are under development in Uganda. Habitat for Humanity and some other no-for-profit programmes produce limited numbers of affordable houses annually. These developers do not however operate at scale, and often rely on donations or other non-commercial sources of funding for their developments.

Very few Ugandan households have secured mortgage finance, although there are a number of mortgage finance institutions. At present, few statistics are available regarding Uganda's housing mortgage portfolio.

[45] Ibid.
[46] CAHF (2019). Housing Finance Yearbook. http://housingfinanceafrica.org/documents/2019-housing-finance-yearbook-uganda-profile/ Exchange rate at the time of Yearbook publication was US$1 = UGX3 707.
[47] CAHF (2020). Housing Affordability Calculator.
[48] Uganda Bureau of Statistics, 2019. 2019 Statistical Abstract.
[49] CAHF (2019). Housing Finance Yearbook. http://housingfinanceafrica.org/documents/2019-housing-finance-yearbook-uganda-profile/

The vast majority of housing units developed in Uganda are therefore built by individuals themselves or through the services of small builders working for individual households. Almost all houses are incrementally built over a number of years. Either where households have access to secure tenure, this incremental construction creates housing stock both for primary occupation but increasingly also to produce basic housing for rent to the increasing market for affordable urban housing. The development and rental of rented rooms and small housing units with basic shared or private ablutions is the largest residential market in the country, supplying most of the required accommodation in urban areas.

4.6 Matching supply and demand

The rapidly increasing urban growth of mostly lower to middle income households, when compared to the very limited and very expensive formal housing development outlined above in Uganda, results in a considerable mismatch between housing supply and housing demand. This raises three important issues for Uganda's future housing approach.

First, the development of housing finance markets are a critical starting point for broadening and deepening access to housing using financial markets, and while it is always necessary to start to develop a housing finance market amongst those more likely to be able to afford formally constructed housing, Uganda has much more work to do to extend access to mortgage and other types of housing finance to its population.

Second, formal housing development must be stimulated if Uganda's households are going to be able to access improved accommodation over time. While the informal housing market continues to develop large numbers of basic housing units for rental (most of which are simple rooms with private or shared ablution facilities), currently the formal housing development sector is not meeting the vast majority of housing demand in Uganda's urban areas.

Third, it is inevitable that Uganda's informal housing delivery sector will remain the most important housing delivery system and must be supported to improve the volume and quality of the housing units it produces, both by owners for their own occupation as well as by landlords for the rental market

This supply-demand mismatch will have increasingly dire consequences for Uganda's housing sector, with projected urbanisation rates. Formal developers will find it increasingly difficult to sell housing products that are too expensive for any significant proportion of the market. Households, increasingly frustrated with the lack of housing options, will either struggle to find land on which to construct their own housing incrementally over a number of years, or will resort to renting housing. But most importantly, the vast majority of lower-income households will be forced into slums, and/or renting basic housing with poor access to services due to the lack of available and affordable housing options.

5 Housing cost benchmarking

The above discussion indicates the dire mismatch between what households can afford for housing, and what is being provided by formal developers in Uganda's housing market. We now turn our attention to understanding the cost composition of new housing construction in Uganda in order to compare it to other sub-Saharan African countries, and to identify ways in which formal housing could be made more affordable to a greater proportion of households.

CAHF's Housing Cost Benchmarking methodology enables the calculation and comparison of the costs of a standard design and specification house across Africa. The methodology identifies key housing typologies in a country, defines their design specifications, and then develops a detailed cost breakdown comprising up to 300 discrete cost elements that are in line with construction conventions across Africa. Five levels of cost breakdown are used to ensure that every aspect of construction that contributes to the cost of a house is defined and captured. This costing is done in a controlled way with clear assumptions, in order that different elements of the units costed can be compared against each other, as well as across cities and countries. This costing framework is then populated with data for a specific city in each country, in order to compare overall costs of different typologies and of specific cost elements or products.

5.1 Overview of housing cost benchmarking

CAHF's intent in undertaking housing cost benchmarking is to provide clear data on housing development costs within and between African countries. This supports a more detailed analysis of the composition of housing costs, and which aspects of development are relatively more or less expensive than in other countries. This cost benchmarking framework can then be used to analyse the differences in costs of alternative typologies and sizes of housing, which is a critical aspect of any successful housing development programme. A more detailed explanation of the housing cost benchmarking methodology is outlined in another CAHF publication.[50]

CAHF has selected Kampala as the city for the housing cost benchmarking, given that it is the largest urban complex in Uganda. Six housing typologies have been selected for benchmarking in Uganda. These include four different sizes of detached housing units (35m², 45m², 55m² and 65m² units) and a 40m² unit in a medium (five-story) and higher-rise (eight storey) apartment block. A brief description of each one is provided below:

- G1: KAMPALA 55m² CAHF House – 46 m² two-bedroom, one bath house with 9m² veranda = total 55m² (2019 prices), on 120m² plot
- G2: KAMPALA 45m² Bungalow – 40 m² two-bedroom, one bath house with 5m² veranda = total 45m² (2019 prices), on 120m² plot
- G3: KAMPALA 35m² Bungalow – 30 m² one-bedroom, one bath house with 5m² veranda = total 35m² (2019 prices), on 120m² plot
- G4: KAMPALA 240 x 40 m² two-bedroom apartments in 2 x 5-storey walk-up blocks (2019 prices), on 6000m² plot
- G5: KAMPALA 240 x 40 m² two-bedroom apartments in 2 x 8-storey blocks with lifts (2019 prices), on 4800 m² plot
- G6: KAMPALA 500 x 65 m² Bungalow – three-bedroom, 1.5 bath house on 250m² plot. Built to normal mortgage finance standards

These specific typologies have not been selected because they are the best, or the only types of affordable housing that are required in Uganda. Instead, a variety of different-sized housing units (and most of which are smaller than the few formally developed mortgageable housing units in Uganda) have been selected in order to provide an indication of the types, sizes and costs of housing that could be formally constructed, and mortgage financed in the country. The need to make more affordable, financeable housing available in Uganda will be a sustained effort, and we aim to support this process by indicating how formal development may begin to develop formal, financeable housing that is affordable to a greater proportion of households. While these six typologies offer a good start to this process, CAHF notes that our ambition is to drive acceptance of units that are even smaller, are of different typologies and can be formally developed and financed.

One of these six typologies for Uganda is the "55m² CAHF House". This is a standardised two-bedroom free-standing bungalow-style house design and specification that CAHF uses to compare housing costs across Africa. By using exactly the same specifications and quantities for analysing its construction cost in each country, we are able to compare components of the construction cost across countries and cities in Africa. The detailed specifications of this "CAHF House" are given in **Annexure A**.

Table 9 provides a brief description of the six 'CAHF housing typologies' used for the Uganda Housing Cost Benchmarking exercise, along with the total costs of each one in US Dollars (USD) and Uganda Shillings (UGX).

[50] Gardner, D. and Pienaar, J. (2019). Using CAHF's Housing Cost Benchmarking Methodology to Analyse Housing Costs in Fifteen African Countries. CAHF. 19 May 2019.

Table 9: Housing cost benchmarking of six housing typologies and total costs (2019)

House Type	Cost per accommodation unit (USD)	Cost per accommodation unit (Local Currency)
G1.KAMPALA CAHF 55m2 2019	$58,596	UGX216,423,529
G2.KAMPALA formal 45m2 2019	$54,920	UGX202,844,252
G3.KAMPALA formal 35m2 2019	$47,927	UGX177,018,258
G4.KAMPALA 5 storey 2019	$51,710	UGX190,989,614
G5.KAMPALA 8 storey 2019	$59,302	UGX219,029,806
G6.KAMPALA 65m2 market 2019	$65,034	UGX240,199,129

Source: Own calculations from CAHF Housing Cost Benchmarking model. The dollar prices are calculated from the local currency (UGX) input costs collated, based on the prevailing exchange rate at the time of the cost benchmarking ($1 = UGX 3 693).

These total costs of the six typologies are aggregated from the detailed country-specific cost inputs entered into the standardised Bill of Quantities for each defined housing typology. The table above shows that the development costs range from the most affordable (the 35m² unit costing US$47 927 to the most expensive, the 65m² unit costing US$65 034. These costs are analysed further below.

The total development costs are a combined figure obtained by adding the total costs of seven Level One cost categories: A. Land Costs; B. Infrastructure Costs; C. Compliance Costs; D. Construction Costs; E. Other Development Costs; F. Developer Overhead and G. VAT / Sales Tax. Level Two categories break these down further into discrete cost categories. These two levels are outlined in **Table 10** below, along with their calculated costs in US Dollars for the six typologies in Kampala, Uganda.

Table 10: Level 1 and Level 2 costing categories

Level 1	Level 2	G1. KAMPALA CAHF 55m2 2019	G2. KAMPALA formal 45m2 2019	G3. KAMPALA formal 35m2 2019	G4. KAMPALA 5 storey 2019	G5. KAMPALA 8 storey 2019	G6. KAMPALA 65m2 market 2019	Total
A. LAND COSTS	A.1 Land Acquisition	$2,989	$2,989	$2,989	$1,100	$1,021	$2,437	$13,524
	A.2 Stat & Prof Fees	$176	$176	$176	$48	$47	$292	$916
	Total	$3,165	$3,165	$3,165	$1,148	$1,068	$2,729	$14,440
B. INFRASTRUCTURE COSTS	B.1 Bulk, Link, Connector Infrastructure	$2,018	$2,018	$2,018	$981	$1,073	$2,198	$10,308
	B.2 Internal Infrastructure	$6,084	$6,084	$6,084	$644	$621	$7,261	$26,776
	B.3 Common Services & Facilities	$0	$0	$0	$0	$0	$0	$0
	Total	$8,102	$8,102	$8,102	$1,625	$1,694	$9,459	$37,085
C. COMPLIANCE COSTS	C.1 Compliance & Approvals	$929	$929	$929	$27	$27	$829	$3,669
	C.2 Social Facilitation	$0	$0	$0	$0	$0	$0	$0
	C.3 Prof Fees & Specialist Studies	$2,892	$2,663	$2,213	$2,844	$4,046	$2,258	$16,915
	C.4 Project Management Fees	$0	$0	$0	$733	$794	$941	$2,468
	Total	$3,820	$3,591	$3,142	$3,604	$4,867	$4,028	$23,052
D. CONSTRUCTION COSTS	D.1. Construction - Labour	$4,447	$3,441	$2,536	$5,405	$7,082	$5,681	$28,592
	D.2. Construction - Materials	$15,672	$14,888	$12,219	$16,553	$18,120	$18,464	$95,916
	D.3 Indirect Costs - Contractor	$4,973	$4,522	$3,637	$5,717	$6,552	$3,993	$29,395
	Total	$25,092	$22,852	$18,392	$27,675	$31,754	$28,138	$153,903
	E.1 Marketing, Selling, Letting	$1,397	$1,316	$1,221	$1,597	$1,597	$1,402	$8,531

E. OTHER DEVELOPMENT COSTS	E.2 Finance & Holding Costs	$2,781	$2,586	$2,356	$2,284	$2,532	$2,943	$15,481
	Total	$4,178	$3,902	$3,577	$3,881	$4,129	$4,346	$24,012
F. DEVELOPER OVERHEAD	F.1. Developer Overhead, Mngt Fee & Profit	$5,790	$5,426	$4,741	$5,884	$6,744	$6,826	$35,411
	Total	$5,790	$5,426	$4,741	$5,884	$6,744	$6,826	$35,411
G. VALUE ADDED / SALES TAX	G.1 Value Added / Sales Taxes	$8,450	$7,882	$6,809	$7,893	$9,046	$9,507	$49,587
	Total	$8,450	$7,882	$6,809	$7,893	$9,046	$9,507	$49,587
Grand Total		$58,596	$54,920	$47,927	$51,710	$59,302	$65,034	$337,490

Source: Own calculations from CAHF Housing Cost Benchmarking model. The dollar prices are calculated from the local currency (UGX) input costs collated, based on the prevailing exchange rate at the time of the cost benchmarking ($1 = UGX 3 693).

Table 10 shows the significant inputs that comprise total housing development costs. Often, debates on affordable housing face the difficulty of not having comprehensive costs included in calculations and CAHF believes having a standardised format and set of costing assumptions for determining and presenting housing costs offers a solution to this. The specific cost breakdowns are discussed further in Section 5.5 below.

Level 2 to Level 5 cost categories disaggregate the development cost data down to the level of individual inputs (such as window frames, geysers, cement, blocks, individual plumbing or electrical components). In addition to the building materials costs, other costs are also included, such as labour costs, fees and licensing and finance costs. **Table 11** shows an indicative breakdown from Level 1 to Level 5 for finishing products on the CAHF 55m² house in Kampala, Uganda in relation to construction labour and materials costs related to general finishes.

Table 11: Example of five level cost breakdown – finishing, labour and materials

Level 1	Level 2	Level 3	Level 4	Level 5	Cost per accommodation unit (USD)	Total cost (local currency)
D. CONSTRUCTION COSTS	D.1. Construction - Labour	D.1.2 Building Finishes - Labour	D.1.2.1 General Finishes - Labour	D.1.2.1.1 Plastering	$246	907,200
				D.1.2.1.2 Floor Screed / Topping	$46	170,100
				D.1.2.1.3 Float Concrete Floors	$0	0
				D.1.2.1.4 Fit Window Glass	$72	265,896
				D.1.2.1.5 Fit Ceilings, Insulation, Ect	$785	2,898,000
				D.1.2.1.6 Lay Tiling & Splashbacks	$11	42,000
				D.1.2.1.7 Lay Ceramic Floor Tiles	$123	453,600
				D.1.2.1.8 Painting	$150	554,688
				D.1.2.1.9 Alternations: Finish & Fittings	$0	0
				L4 Total	$1,433	5,291,484
	D.2. Construction - Materials	D.2.2 Building Finishes - Materials	D.2.2.1 Plaster & Screeds - Materials	D.2.2.1 Cement	$536	1,980,000
				D.2.2.2 Sand - River	$49	180,000
				D.2.2.3 Sand - Plaster	$136	504,000
				L4 Total	$721	2,664,000
			D.2.2.2 Ceilings - Materials	D.2.2.2.1 Fibre Cement, Gypsum Board	$204	754,768
				D.2.2.2.2 Steel - Pressed H Sec	$199	734,988
				D.2.2.2.3 Timber - Brandering	$0	0
				D.2.2.2.4 Timber - Battens	$111	409,240
				L4 Total	$514	1,898,996
			D.2.2.3 Wall Tiling - Materials	D.2.2.3.1 Ceramics - Wall Tiles	$65	241,404
				D.2.2.3.2 Tiling Sundries	$17	64,000
				L4 Total	$83	305,404

			D.2.2.4 Painting - Materials	D.2.2.4.1 Paint & Timber Preserves	$640	2,362,500
				L4 Total	$640	2,362,500
			D.2.2.5 Floor Finishes - Materials	D.2.2.5.1 Tiles - Floor	$616	2,274,480
				D.2.2.5.2 Tiling Sundries	$164	607,392
				D.2.2.5.4 Other (Specify)	$0	0
				D.2.2.5.5 Other (Specify)	$0	0
				D.2.2.5.6 Other (Specify)	$0	0
				L4 Total	$780	2,881,872
			D.2.2.6 Finishing Carpentry - Materials	D.2.2.6.1 Doors - Total	$0	0
				D.2.2.6.2 Timber - Doors Sgl	$292	1,080,000
				D.2.2.6.3 Timber - Doors Dbl	$0	0
				D.2.2.6.4 Timber - Doors Internal	$299	1,102,500
				D.2.2.6.5 Ironmongery	$284	1,048,000
				D.2.2.6.6 Fixtures & Finishes	$422	1,560,000
				D.2.2.6.7 Timber - Balustrade	$0	0
				D.2.2.6.8 Timber - Skirtings & Fixings	$36	133,560
				L4 Total	$1,333	4,924,060
			D.2.2.7 Fittings & Equip - Materials	D.2.2.7.1 Timber - Kitchen Units	$861	3,180,000
				D.2.2.7.2 Timber BIC	$1,421	5,250,000
				D.2.2.7.3 Shower Cubicle	$24	88,632
				D.2.2.7.4 Sundries	$0	0
				D.2.2.7.6 Other (Specify)	$0	0
				D.2.2.7.7 Other (Specify)	$0	0
				L4 Total	$2,306	8,518,632
			D.2.2.8 Glazing - Materials	D.2.2.8.1 Glass - Supply & Fit	$228	842,040
				D.2.2.9.1 Alterations to Finishes	$0	0
				L4 Total	$228	842,040

Source: Own calculations from CAHF Housing Cost Benchmarking model. The dollar prices are calculated from the local currency (UGX) input costs collated, based on the prevailing exchange rate at the time of the cost benchmarking ($1 = UGX 3 693).

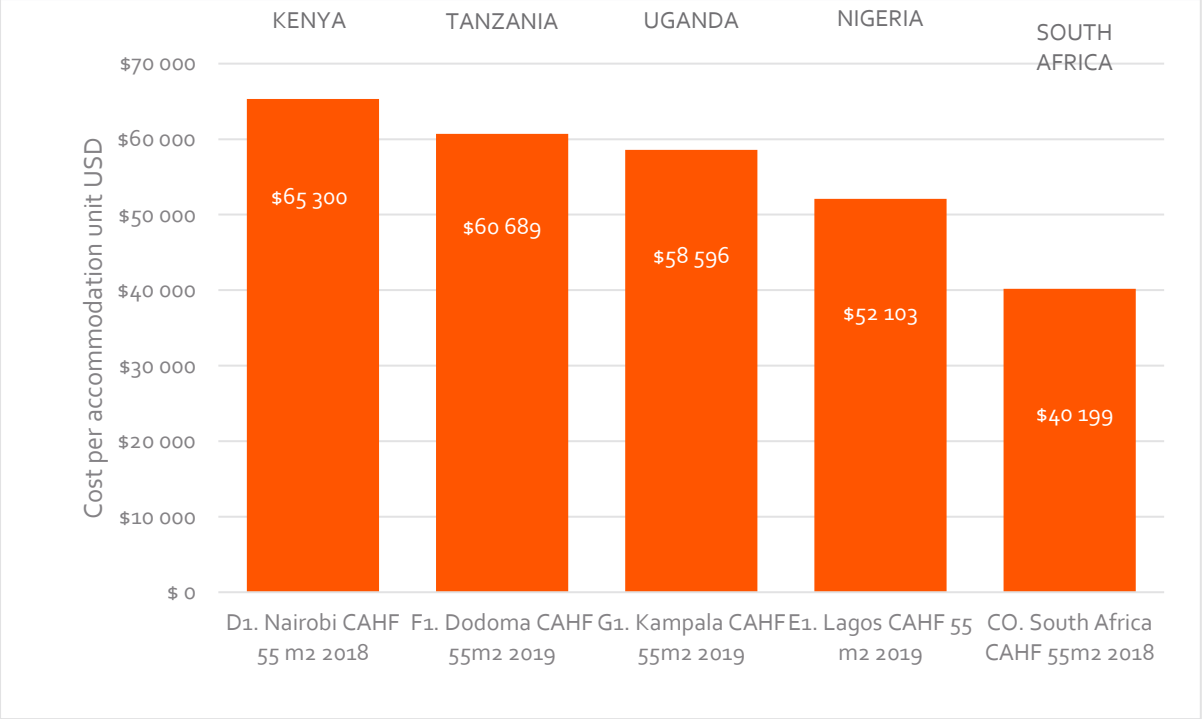
Table 11 demonstrates the high-level detail of CAHF's housing cost benchmarking approach. Having this data means too that developers and policymakers are able to test specific cost assumptions, and all inputs to this model are changeable based on better or newer data availability.

5.2 Benchmarking housing development costs for Kampala, Uganda

Figure 22 shows the wide variation in the total costs of the standard 55m² CAHF house across the major cities in five African countries, from lowest to highest estimated cost. The cities selected for comparison are Pretoria in South Africa, Lagos in Nigeria, Kampala in Uganda, Dodoma in Tanzania and Nairobi in Kenya.

This comparison shows that the cost of building this basic 55m² mortgageable house in Kampala is the third highest of the five countries at US$58 596. This is followed by Pretoria in South Africa at US$40 199 and Lagos in Nigeria, at US$52 103. Building the standard house in Kampala is therefore 46 percent more expensive than in Pretoria, while in Nairobi (the most expensive of the five cities) it is 11 percent more expensive than in Kampala and 62 percent more expensive than Pretoria.

Figure 22: Cost comparison of the standard CAHF house (2019)



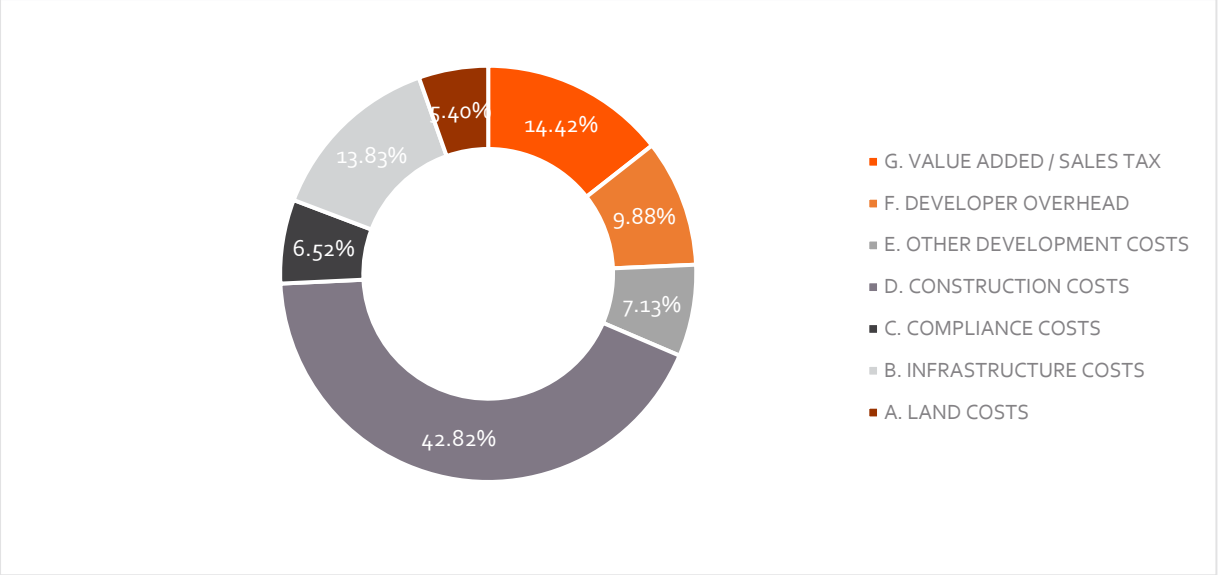
Source: Own calculations from Housing Cost Benchmarking model. The dollar prices are calculated from the local currency input costs collated, based on the prevailing exchange rate to the US Dollar at the time of the cost benchmarking for each country.

This analysis indicates that - relatively speaking – Uganda's aggregate housing costs are the third highest (at the mid-point) in the sample of five countries in sub-Saharan Africa. This therefore indicates that, while not the most expensive country, significant potential exists to reduce housing construction costs in Uganda closer to those in South Africa. Specific instances of such savings are analysed in Section 5.3 and 5.4 below.

5.3 Housing cost breakdown for Kampala, Uganda

We now analyse the breakdown of the housing costs in Kampala, Uganda further. **Figure 23** shows the cost breakdown into the Level 1 cost categories in Kampala, Uganda (A. Land Costs; B. Infrastructure Costs; C. Compliance Costs; D. Construction Costs; E. Other Development Costs; F. Developer Overhead and G. VAT / Sales Tax). The cost breakdown shows that the majority of the total cost is for construction-related inputs, but these only comprise 43 percent ($25 092) of the total house cost. The next largest cost categories are infrastructure (14 percent / $8 102); VAT (14 percent / $8 450); developer overhead (10 percent / $5 790); other development costs (7 percent / $4 178); compliance costs (7 percent / $3 820) and then land cost (5 percent / $3 165).

Figure 23: Cost breakdown of the standard CAHF house in Kampala, Uganda (2019)



Source: Own calculations from Housing Cost Benchmarking model.

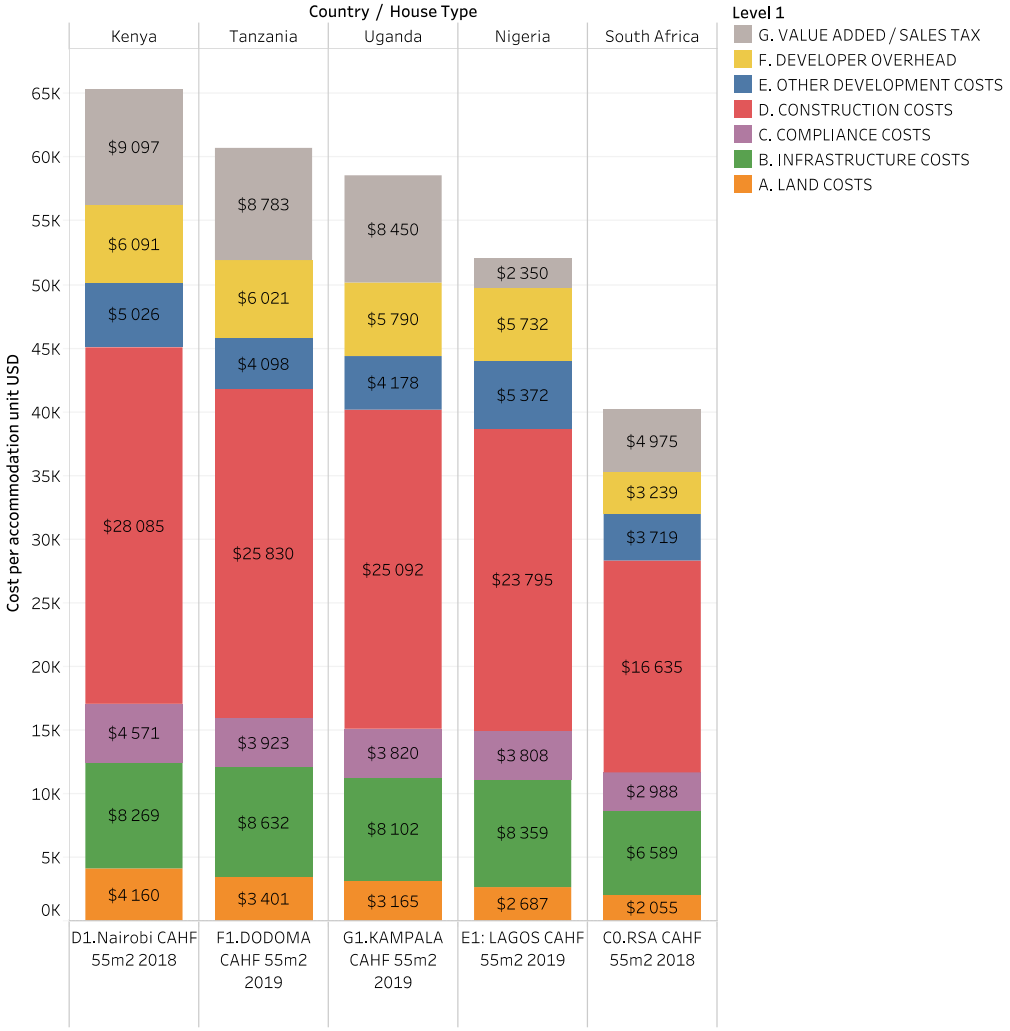
This figure shows that overall direct construction costs comprise only 43 percent of total housing development costs, with other cost inputs comprising the bulk (57 percent) of the total cost.

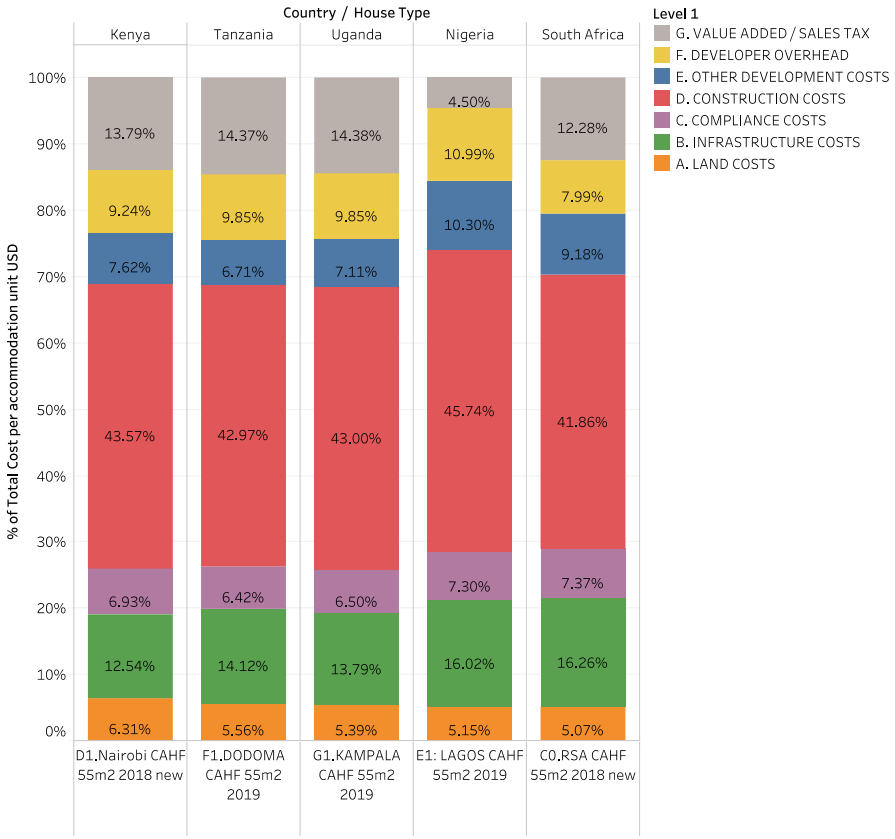
5.4 Comparing housing cost components across five countries

We now compare the Level 1 cost breakdown across the five benchmarked African countries. **Figure 24** compares the Level 1 costs of the standard CAHF house across the five cities (A. Land Costs, B. Infrastructure Costs, C. Compliance Costs, D. Construction Costs; E. Other Development Costs; F. Developer Overhead and G. VAT / Sales Tax). Costs are compared in monetary terms, and below that as a percentage of total development cost.

When comparing costs in Kampala, Uganda to the other countries land costs, compliance costs, construction costs, developer overheads and VAT are all second highest across the five benchmarked countries, close to Kampala's overall development cost ranking of third among the five countries. However, infrastructure costs in Kampala are calculated to be second lowest across the five countries. Other development costs (which include for instance holding costs) are fourth highest among the five countries.

Figure 24: Comparison of cost of standard CAHF house between countries (2019)





Source: Own calculations from Housing Cost Benchmarking model. The dollar prices are calculated from the local currency input costs collated, based on the prevailing exchange rate to the US Dollar at the time of the cost benchmarking for each country.

Critically, interventions aimed at reducing construction costs (comprising materials and labour) offer significant potential for lowering overall development costs given that they are calculated to be 51 percent higher than South Africa's and comprise the majority (43 percent) of Kampala's total housing cost. Interventions to reduce overall construction costs should include a review of import tariffs, as well as stimulation of local manufacturing and services sectors that are responsible for the local production of building inputs.

Even in cost categories in which Kampala is not necessarily the most expensive (such as servicing of land) there is still scope for significant cost reductions, as they remain 23 percent higher than South Africa - which itself could also reduce its infrastructure provision costs. Cost reductions should also be considered possible in other categories such as other costs and compliance costs, where financing availability, financing costs and the impact of delays in permitting and construction can significantly increase overall housing costs.

It is further important to note that while this benchmarking analysis compares the standard CAHF 55m² house, less expensive housing products will cost less to construct, but generally require similar inputs for land, servicing and other non-construction costs. Therefore, streamlining processes in order to speed up land planning and titling and reduce delays in construction will improve lower-cost houses relatively more than higher-cost houses.

Initiatives that reduce development costs will also benefit all construction activity in Uganda, including civil works, social facilities, office and industrial development. Given the amount of shared inputs in the construction sector generally (such as sand, cement and steel, skilled labour), moderating or reducing housing development input costs would benefit all types of construction. Furthermore, it is always important to remember that to a large extent key housing inputs are similar whether housing is conventionally built or built informally. Therefore, initiatives to reduce general input costs into formal housing construction will also benefit the vast majority of households who construct housing informally and incrementally.

5.5 Comparing costs of six housing typologies in Kampala, Uganda

To further deepen the cost benchmarking research, CAHF compared the costs of six alternative housing typologies and sizes in Kampala.

Table 9 above specifies the six types (G1 to G6) and shows the Uganda Shillings and US Dollar costs. These typologies are chosen to indicate the relative costs of smaller detached houses (55 m², 45 m² and 35 m²), as well as cost comparisons with alternative built forms (detached single storey bungalows, four storey medium-rise walk-up apartments and eight storey high-rise apartments). **Figure 25** illustrates the different prices of these six typologies.

It is important to note that the highest-specification house here (a 65m² detached house) costs just over US$65 000. We note that the price of the cheapest, newly built house by a formal developer or contractor in an urban area in Uganda in 2019 was UGX 125 million (US$33 719).[51]

Figure 25: Comparative unit costs (US$) of six housing typologies in Kampala, Uganda (2019)

Source: Own calculations from Housing Cost Benchmarking model. The dollar prices are calculated from the local currency (UGX) input costs collated, based on the prevailing exchange rate at the time of the cost benchmarking ($1 = UGX 3 693). Illustrations show generic housing sizes and designs of this specification.

The cost of the smallest unit costed (35 m² bungalow) is US$47 927 (UGX 177 million). The 45 m² bungalow costs US$6 993 more than this, implying a 14.5 percent cost increment for a 33 percent increase in house area, noting that land and infrastructure specifications (and therefore costs) are similar for both units. Further, the 55 m² bungalow costs an additional US$3 676, or 7 percent more for an additional 22 percent house size over the 45 m² bungalow. The reasons for these relatively smaller incremental changes in cost are that the costs of the land, infrastructure, compliance and overhead costs are roughly similar across the three units. It is only the construction element of the cost that benefits from reduced sizes, and this component comprises less than half of the total housing cost. However, it is important to note that decreases in unit sizes does facilitate important cost reductions that significantly improve the affordability of these products. Also, while we have assumed similar property sizes and infrastructure standards, in reality smaller properties and reduced specification services and products could further reduce these costs.

Comparing the costs of the 40 m² multi-storey apartments with the similar sized (45m²) bungalow shows that the five- storey walk-up typology costs Us$3 210 (6 percent) more, and the eight storey apartment typology

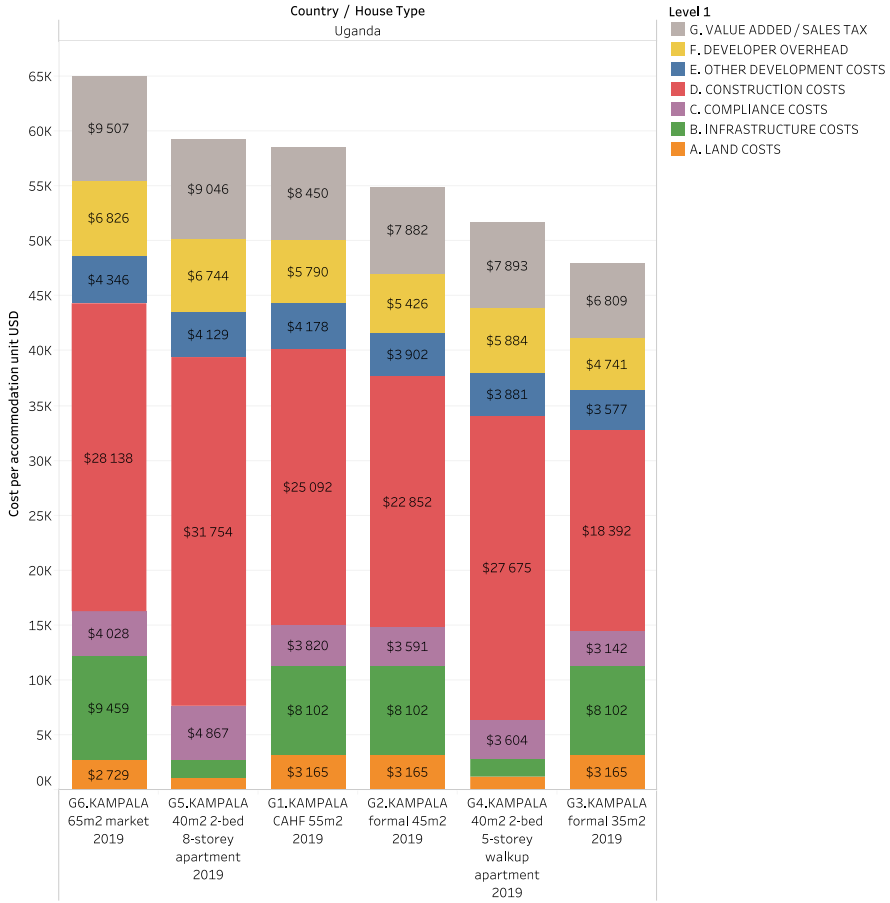
[51] CAHF (2019). Housing Finance in Africa Yearbook (10th edition). http://housingfinanceafrica.org/documents/2019-housing-finance-yearbook-uganda-profile/. Exchange rate at the time of Yearbook publication was US$1 = UGX3 707.

costs US$4 382 (8 percent) more than the similar sized (45 m²) bungalow. This shows the relatively small price increments for vertical construction, which can also yield significant efficiency improvements in city structure in the longer term. For an additional upfront expenditure of 6 to 8 percent, higher-density housing can ensure households are able to afford better access to central city areas which significant changes commuting costs and times, which is an important outcome in a traffic-congested city such as Kampala.

Figure 26 shows the comparative Level 1 costs of these six benchmarked housing typologies in Uganda. From this breakdown it is clear that the higher-density multi-storey configurations increase average construction costs, as higher buildings require higher-specifications for design and construction. For instance, structural building generally requires greater amounts of structural materials (steel and concrete), and building codes also specify more expensive components such as elevators and emergency exits. However, there are significant savings on infrastructure and land costs that substantially offset the construction cost increase. Consider for instance the combined costs of land and infrastructure for the five-storey apartment (US$2 749) versus the cost for the 55m² house (US$12 033), which is less than one quarter of the cost. The much lower contribution to total costs of land to total development costs (for instance, calculated at only 2.5 percent of the cost of the 5-storey apartment) also means that developers can afford to purchase better located land with less impact on total housing cost.

It must be noted that this analysis only considers the initial development cost of such units and assumes availability of suitable land and bulk infrastructure capacity to link to. In addition, there are many other life-cycle cost benefits of multi-storey construction, including the benefits of denser city form and its impact on transport costs, accessibility to urban service, the ability to provide and maintain infrastructure networks, and maintenance costs over time.

Figure 26: Comparative costs of different housing typologies in Kampala, Uganda (2019)



Source: CAHF Housing Cost Benchmarking analysis.

6 Conclusions and recommendations

In this section, key findings from the above analysis of Uganda's housing market, the Housing Economic Value Chain assessment and Housing Cost Benchmarking outcomes are outlined, and strategies for the growth and development of Uganda's housing market are put forward.

6.1 Key conclusions

This analysis identifies eight key conclusions relating to Uganda's housing economy.

i) **Uganda has the opportunity to create a more orderly response to the rapid urbanization it will face in the future.** Uganda is still in an early stage of urbanisation, with only a quarter of its population living in urban areas. Further, its current housing conditions indicate a reasonable balance between ownership and rental. This places Uganda in an important position to influence and better manage the projected rapid increase to urbanisation it will face in the future. Even though Uganda is in the early phases of urbanisation, it is clear that significant challenges are blocking a more pro-active response to urban growth and development. Critically, land tenure uncertainties, planning constraints, a lack of land identification and servicing of land for housing development, a mismatch between housing supply and demand, and an under-developed housing finance market limit the extent to which pro-active responses can be implemented.

ii) **The rapid urbanization in Uganda's urban centers will result in important shifts in the housing sector.** This will result in increasing pressure on existing housing stock, increased informal housing construction by households that can access secure tenure, and a new wave of development of small, owner-occupied housing and apartments for rent to households unable to access or afford housing to buy. The current trend in Kampala, where already almost half of all households rent, will be exacerbated as a lack of alternatives force the majority of Uganda's urban residents into rental housing.

iii) **Uganda's urban housing challenge will require different responses to what has been implemented in the past.** Currently, there are very low levels of formal housing construction, most of which are only affordable to a small proportion of Uganda's households. The projected rapid rates of urbanization of smaller households, many of which have relatively lower incomes will require pro-active steps to be taken urgently to provide for these households in all urban areas. This will require strategies that significantly enhance the depth (affordability) and breadth (scale of development) of housing options open to urban households.

iv) Uganda's housing market already plays a critical and substantial role in Uganda's economic growth and sectoral diversification, but this can be increased. The Housing Economic Value Chain shows that housing construction output (GVA plus intermediate inputs) contributes 7.2 percent to GDP, and housing rental output contributes 3.7 percent to GDP. Together, the output of the two housing-related activities currently contribute 11 percent of Uganda's GDP, making it economically-significant - even in its currently under-developed state. It is also likely that fully quantifying informal housing economy activity would increase this total contribution. The formal housing construction sector contributes an estimated 131 000 jobs to the economy, and although no statistics on housing rental exist it is likely that the number of informal sector landlords that earn all or part of their income from rentals is substantially higher than this. Further, this analysis only considers direct economic impacts. To estimate the economy-wide impact of housing construction and housing rental activities requires that the indirect and induced impacts of these activities are also taken into account.

v) **Uganda's housing economy provides an excellent, sustainable market for locally manufactured goods and local services.** A significant portion (probably above 85 percent) of intermediate inputs into Uganda's housing economy are produced locally. Therefore, a growing housing sector automatically develops Uganda's manufacturing and services sectors simultaneously. As long as housing development activity is sustained and growing, and local producers of intermediate inputs remain competitive, many other sectors and the economy as a whole will benefit. Importantly, the majority of demand for locally produced goods and services as inputs into construction are purchased by small-

scale, informal developers and contractors, either building their own housing or constructing basic housing units for rental.

vi) **Uganda's manufacturing sector inputs into housing construction are losing international competitiveness.** This critical finding indicates that Uganda still has a significant trade deficit in relation to building material inputs, and where it currently produces materials for export, it is often in product categories where Uganda's international competitiveness is in decline. This requires a significant shift in industrial strategy in Uganda, as the continuation of these trends will result in a progressive worsening in Uganda's terms of trade and serve to limit the economic impact of housing-related activities.

vii) The current cost of formal housing construction in Uganda is in the mid-range of five benchmarked countries in Sub-Saharan Africa. Therefore, while overall housing costs are not as high as certain countries (Kenya and Nigeria), there is still significant opportunity to reduce housing development costs in Uganda. Analysis indicates that construction costs themselves are still 51 percent higher than in South Africa, and other inputs (infrastructure and other costs) are around 24 percent higher than South Africa. This suggests that housing construction costs can be substantially decreased in Uganda, and that this would significantly assist households to afford or construct better housing.

viii) **A well-functioning housing sector creates significant benefits for government.** Sustained, increasingly formalized construction and rental activities are a critical source of revenue for local and national government through, for instance, taxation and fee income (e.g. VAT and permitting fees), sustained property rates and services income, and greater demand for core infrastructure (including transport, power and water consumption). However, in order to capture this value, government at all levels must improve its ability to implement and manage revenue-generating activity in the form of planned neighborhoods, property titles and Deeds Registries, implementation and management of infrastructure services, and rates, services and permitting systems.

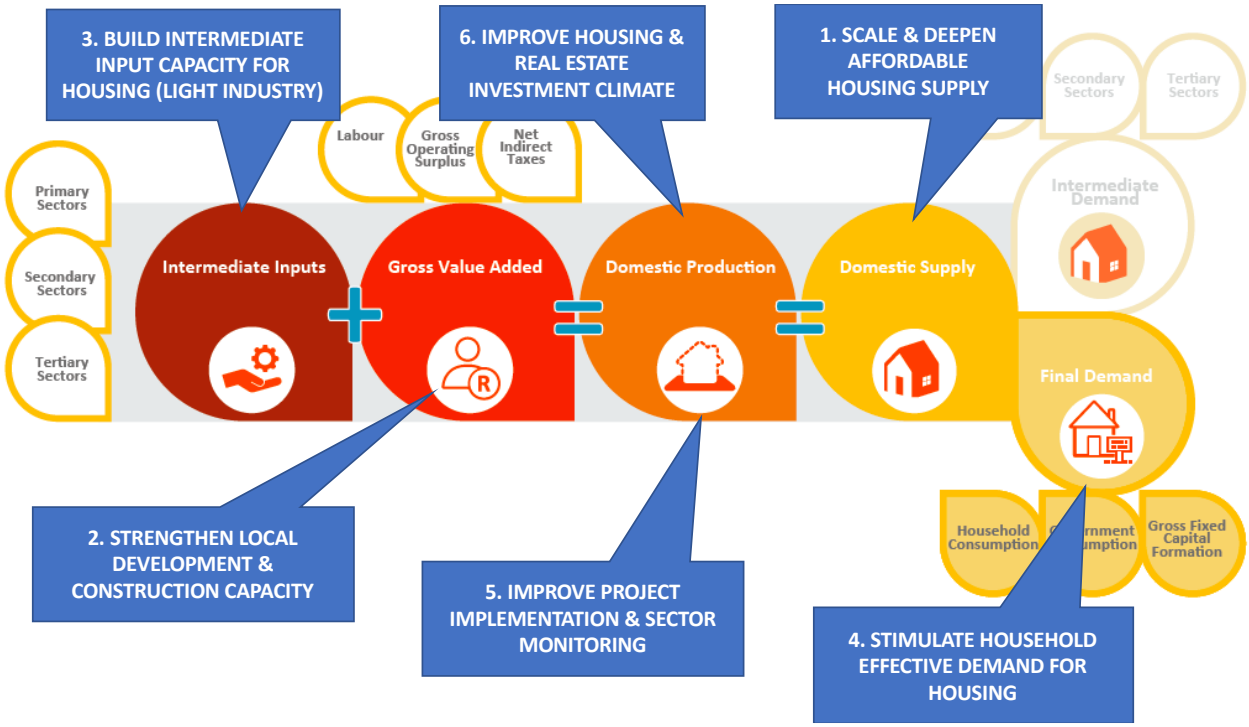
6.2 Recommendations

Understanding the economic contribution of a particular sector and its links with other sectors of the economy in relation to both its "upstream" intermediate input suppliers and "downstream" customers is a useful tool for identifying and quantifying key dependencies, risks, threats and opportunities facing that sector. This enhanced understanding assists in formulating more effective policies. The in-depth analysis of Uganda's housing economy and market through CAHF's Housing Economic Value Chain and Housing Cost Benchmarking methodologies enables us to propose interventions that will assist to unleash the power and potential of its housing economy.

It will not be sufficient to rely only on publicly controlled programmes and projects to tackle the coming urban and housing challenge. Rather, the above analysis of Uganda's Housing Economic Value Chain enables us to isolate different components of the housing economic process that require strategic and/or policy shifts. **Figure 27** below illustrates six strategic areas of Uganda's housing economic value chain that must be targeted by future strategy in order to shift the current trajectory of housing delivery. These six generic areas of intervention are useful in the development of more effective housing construction and real estate sectors in any country, but specific issues relating to Uganda's housing market are highlighted for specific attention under each one.

- Strategy 1: Scale and deepen affordable housing supply
- Strategy 2: Strengthen local development and construction capacity
- Strategy 3: Build intermediate input capacity into the housing sector
- Strategy 4: Stimulate household effective demand for housing
- Strategy 5: Improve programme and project implementation and sector monitoring
- Strategy 6: Improve the housing and real estate investment climate.

Figure 27: Strengthening Uganda's Housing Economic Value Chain – six focus areas



Together, these interventions can boost Uganda's ability to unleash the public and private sector constraints that currently create the mismatch between housing supply and demand.

6.2.1 Strategy 1: Scale and deepen affordable housing supply

A better match between housing supply and demand is required. The above analysis shows very low levels of formal housing production and relatively high formal housing costs. This means that most of Ugandan households rely on informal building processes, or the rapidly increasing informal rental market to secure housing. Public and private developers of housing in Uganda must re-focus products on the real affordability pyramid of households. This means focusing on greater depth (more affordable housing) and breadth (greater numbers) of housing supply in the market. Greater depth is required to ensure the delivery and financing of houses costing much less than the current minimum cost conventional product. The cost benchmarking indicates that, even with Uganda's relatively costly housing construction sector, formally constructed and mortgageable products can be developed costing much less than US$50 000. In fact, given that the affordability analysis indicates that just under one third (31 percent) of Uganda's urban households could afford more than US$37 000 for a house, CAHF advocates for basic formally constructed housing units costing as little as US$10 000 in order to provide formally produced housing options for the other two-thirds of urban households. This can be achieved through a combination of intelligent design, streamlined development and a market that strives to generate greater scale in housing production.

Alternatives to conventionally constructed housing will be required to meet the housing supply-demand mismatch. Until Uganda's urban policy influences the access to land and housing choices of a majority of urban households, its urban areas will be developed by default through unplanned settlement and unregulated development. Due to constraints on effective demand for housing (the ability to afford housing, the availability of appropriate products to buy, and the ability to secure housing finance), many Ugandan households will still not be able to access conventionally constructed and financed housing. Therefore, alternatives such as the orderly provision of serviced sites and core houses can create more accessible and affordable alternatives. Given the vast majority of houses currently constructed by households themselves, access to securely titled land is perhaps the greatest constraint standing between most households and their ability to develop their own houses. Furthermore, Uganda's large informal housing construction sector will continue to provide important capacity to meet the housing challenge into the future and must be considered as a critical player in housing production that can also benefit from the suggested reforms in this section.

The use of Uganda's limited budgetary resources for housing-related expenditure must be used to greatest effect to influence urban development and growth.[52] The focus of government's investment in housing must be on aspects of housing that promote scale development. Where public resources are to be invested in housing, this must be done in ways that facilitate much greater rate of delivery that is sustainable over the long term. The most important areas for government to focus upon include: systems that facilitate land identification, planning, subdivision and allocation or sale to individuals or developers; access to basic infrastructure; and improved housing and financial market development. Uganda must learn from the many successful developments across Africa that have delivered smaller and more affordable housing units, as well as offering ordered access to serviced, titled land on which households can incrementally self-fund the construction of housing.

Reducing the overall development cost of housing (whether formally or informally developed) is critical to improve Uganda's housing affordability. There is scope to significantly reduce Uganda's housing development costs, which are calculated to be 46 percent higher than in South Africa. Decreasing the costs of construction are an important target for cost reduction, as construction costs currently comprise 43 percent of total housing development costs. Cost reductions automatically increase the number of households that are able to afford a given housing product, as well as improve the size and quality of housing units affordable to households. Therefore, approaches that reduce housing costs are critical. These include facilitating the planning and implementation of larger scale formal housing developments and ensuring development processes are streamlined to minimise wasted time and costs during development. Reduction of important input costs such as access to affordable land and access to bulk infrastructure (see below) are also important.

6.2.2 Strategy 2: Strengthen local development and construction capacity

Creating stability and growth in the local housing sector is important to ensure sustainable housing development. The analysis above shows the very low levels of formal housing development in Uganda. To ensure economic sustainability and growth, companies engaged in construction require certainty and consistency in policy and investment. Therefore, it is important that a clear policy message regarding the need for housing development, and the nature of this development in Uganda is disseminated. While dissemination and implementation of the new Housing Policy has started, it requires resourcing as it is currently an unfunded item in the Lands, Housing and Urban Development budget.[53] Government must ensure a stable policy framework in which housing investors and developers can take a long-term view on engaging in the sector. A housing development can take many years to investigate, plan, obtain approvals, develop and sell. It is only in a context of multi-year stability and security that contractors and developers will view Uganda's housing and construction sector as a safe place to operate.

Support and development of Uganda's local development and construction sector is needed. This nascent sector requires capacitation to develop the confidence of local entities to engage in development. The success of Uganda's housing development market will also be reliant on the participation of many actors in housing development, both formal and informal in nature. A clear message regarding the approach to be adopted to private sector development and public-private partnership engagement strategy in the new Housing Policy will be important for local developers and contractors to engage in more, larger scale housing development. This requires improvements to local professional and technical skills required in the construction sector, as well as a clear understanding of the housing market and where latent demand exists for housing. Given that the majority of development will continue to be undertaken by small scale contractors and household level developers, attention should also be given to how to encourage these actors to become more efficient and able to develop at greater scale.

Providing certainty in the development process will encourage participation of expatriate and local developers in housing. Improved city planning, tenure arrangements and strategic infrastructure investments will create a framework against which developers will better be able to invest their own resources. Solid tenure rights and property transactions, as well as the ability to obtain approval for developments will further enhance

[52] According to the Ministry of Finance, Planning and Economic Development (2018), Uganda's Lands, Housing and Urban Development sector's Medium-Term Expenditure Framework budget ceiling for 2018/19 is UGX 147.7 billion (US$39.9 m). This includes wages and capital expenditure.

[53] Ministry of Finance, Planning and Economic Development (2018). Uganda's Lands, Housing and Urban Development sector's Medium-Term Expenditure Framework budget ceiling for 2018/19.

the ability of developers to identify land for development and for individual households to find, access and develop land.

6.2.3 Strategy 3: Build intermediate input capacity for the housing sector

Building a strong local building materials manufacturing base is critical to a sustainable housing construction sector. The housing economic value chain analysis shows that around 35 percent of the total housing economy is generated in upstream locally manufactured intermediate inputs. A further 11 percent originates from upstream services sectors (such as real estate, finance and legal services). A growing housing economy in Uganda will create sustained local demand for locally manufactured goods and locally produced services. Simultaneously, a more productive local manufacturing and services sector will reduce input and operating costs in the housing construction and rental sectors and therefore reduce the costs of construction. Local manufacturing growth and import replacement strategies therefore play an important role in reducing overall housing costs and retaining maximum economic value from housing in the local economy.

A construction intermediate input development strategy is required for Uganda. The revealed competitiveness analysis indicates that Uganda's local manufacturing sector is generally becoming less competitive in the production of building materials: over the five-year period from 2013 to 2018 Uganda 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. A concrete plan to use the Housing Economic Value Chain analysis to identify and develop the local manufacturing sub-sectors that directly provide intermediate inputs into housing and general construction activity is urgently needed. The core focus should be on the major inputs to housing construction such as cement, steel, augmented cement products, plumbing and electrical supplies as well as on the sectors identified in the revealed competitiveness analysis that are currently losing ground regionally and internationally.

6.2.4 Strategy 4: Stimulate household effective demand for housing

Uganda's overall economic growth trajectory will be the greatest boost to housing demand. Between 2005 and 2019, Uganda's per capita GDP at purchasing power parity increased by 89 percent. Constant economic growth will ripple down into household income improvements, and given the relatively high levels of housing investment, will directly impact on levels of household investment on housing. Solid economic performance across the economy is therefore very important to the successful growth and development of the housing sector as its own economic driver in Uganda. The less the economy depends on a single sector, the better its average economic performance is likely to be, and Uganda's economy is currently heavily reliant on agriculture. Diversification and expansion of the housing economy would also stimulate upstream manufacturing and service sector growth and continue to diversify Uganda's economy to include strong manufacturing and services sectors.

Uganda's housing finance sector must be developed to serve the needs of many more Ugandan households. A major factor of effective demand for housing is the ability of households to gear their affordability through the use of financial products such as mortgages, small loans and SACCO loans. In addition, a strong financial sector results in a stronger base for more complex financially engineered housing products that improve housing affordability and access. While Uganda has a relatively large number of formal financial institutions, the range of housing finance products and amount of finance for housing is limited. Improved financial services sectors and product offerings that lead to more, affordable housing finance products will be an important development for Uganda's future housing sector growth.

Uganda's rental market must be developed to enhance the impact that it has on the formal economy and the housing it makes available to households. Currently, Uganda's rental market is limited and contributes 3.7 percent to GDP although it provides 48 percent of urban households with accommodation. Household rental provision is dominated by many small informal rental landlords who provide the majority of rental units in the informal housing market. There is currently a very limited formal real estate rental market that will need to expand its presence in the housing market in the future. The ability to provide more, affordable rental products will enable this market to attract greater investment for rental housing development.

State engagement in the housing sector will be important to broaden access to housing. With limited available capital to invest in housing, Uganda's investments in housing must strive to deepen access to basic housing for as many households as possible. Therefore, a focus on access to land and basic services is a

fundamental requirement. Outside of direct investment, it is incumbent on government to ensure that as far as possible the impediments to access to housing faced by households are removed.

6.2.5 Strategy 5: Improve programme and project implementation and sector monitoring

The development of a coherent, inclusive programme for housing development in Uganda will enhance housing development outcomes. A well-considered housing programme that gives effect to the intents of the Uganda National Housing Policy[54] is required. This should address the overall factors for success in housing implementation (many discussed above), as well as clarifying the programmes and projects that government is supporting and implementing in the sector.

Housing data, information and analysis is critical to the growth of Uganda's housing sector. While Uganda has some of the best housing-related macroeconomic datasets that have been accessed for this analysis, the data environment should continue to be built and improved in the spirit of improving the overall understanding of Uganda's housing market. For instance, more nuanced information on the profile of household housing demand and the types and volumes of housing supply in Uganda's market is required, as well as information on the key inputs into housing development (such as land availability, planning, infrastructure investments and other public resources invested in housing) would enhance the ability of actors to identify and plan opportunities for exploitation in the housing sector. Further, the financial sector information must be improved to better analyse the number, sizes and performance of housing-related loans and other investments.

Investment follows information. Continuing to improve Uganda's data and information on the housing and housing finance sectors will be important factors that assist to encourage investment in the sector by local and expatriate entities. Increasing knowledge creates more certainty, and greater ability to manage for risks in a market.

6.2.6 Strategy 6: Improve the housing and real estate investment climate

Continuing to strengthen Uganda's economic fundamentals and investment climate will increase interest and investment in housing. Uganda has generally seen a solid period of economic growth, and significant improvement in many of its economic fundamentals. However, there are concerns that continue to create doubt in the country as a base for housing investment. Levels of government debt, high interest rates and under-developed capital markets inhibit the flow of foreign and local investment into the housing sector. While Uganda's housing market is relatively small in comparison to other regional markets, it may be important to investigate potential capital market and housing finance enhancement programmes that are being undertaken in the region, such as the implementation of mortgage refinance corporations and capital market development programmes.

6.3 Conclusion: Using housing to drive Uganda's social and economic growth

This report provides a deeper understanding of Uganda's housing demand and supply profile. Using CAHF's Housing Economic Value Chain assessment, it indicates the importance of housing construction and rental to Uganda's current economy as well as the potential that housing has to stimulate upstream secondary and tertiary sectors of Uganda's diversifying economy. Using CAHF's Housing Cost Benchmarking methodologies, the relative competitiveness of Uganda's housing development sector in relation to four other sub-Saharan African countries is shown, along with a deeper analysis of the potential to reduce housing development costs in Uganda.

A well-functioning housing sector has diverse and interlinked benefits. It focuses household expenditure on investment-oriented activities rather than expenditure, or even debt-focused expenses. The payments households make towards housing assist to create long-term investments in the economy by ordinary households. Investments in housing by households and small landlords create housing stock that meets the needs of households. This in turn creates housing assets that generate regular income streams or free up household income that would otherwise be spent on rent.

Having housing planned and constructed creates significant value-added economic activity that reaches deeply into Uganda's upstream secondary (manufacturing and construction) and tertiary (services) economic sectors. Because most of the inputs to housing construction are - or can be - locally manufactured, housing development

[54] Ministry of Lands, Housing and Urban Development (2016). Uganda National Housing Policy.

returns economic value upstream in Uganda's economy. Regular, increasing stimulation of upstream economic sectors continues, as housing development is seldom complete. Most households improve housing incrementally, or upgrade to better housing when they can afford to.

This housing development grows Uganda's gross fixed capital formation – the economy's production engine - both in real estate and manufacturing sectors. Houses are used to produce rental income, and also stimulate regular consumption of other goods and services. The extended economic activities from a healthy and growing housing sector in turn support investment in factories, skills and financial systems that further grow the economy's ability to produce wealth.

But this is not where the economic impact of housing ends. The demand for more and better housing as well as demand for other goods and services in the economy are also enhanced through the growth in incomes of developers, landlords and the high number of employees that receive wages and profits from the construction and rental of housing. Finally, a well-managed housing sector yields important increases in government revenue from taxation, levies and regular service charges and property rates.

If all these interrelated economic benefits from a growing housing sector are realised, they offer an opportunity for economic and social development unsurpassed by any other economic sector. Uganda's early-stage urbanisation and new housing policy offer an important point at which strategies and sectoral interventions can be developed and implemented at scale to influence Uganda's housing future. Such an opportunity must not be lost.

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Annexure A: Housing cost benchmarking CAHF house specification

An analysis of housing costs in Uganda has been undertaken using CAHF's Housing Cost Benchmarking (HCB) methodology. More detail on the Housing Cost Benchmarking methodology can be found in another report on CAHF's website.[55]

Six housing products have been costed in Kampala, Uganda. These products are deemed to offer a cross-section of the 'affordable' housing market in Uganda. These include three detached houses (on their own properties), and two multi-storey apartments (one in a five-storey building and the other in an eight-storey building). The six typologies are outlined below.

- G1: KAMPALA- 55m² CAHF House – 46 m² Two-bedroom, one bath house with 9m² veranda = total 55m² (2019 prices), on 120m² plot
- G2: KAMPALA- 45m² Bungalow – 40 m² Two-bedroom, one bath house with 5m² veranda = total 45m² (2019 prices), on 120m² plot
- G3: KAMPALA- 35m² Bungalow – 30 m² One-bedroom, one bath house with 5m² veranda = total 35m² (2019 prices), on 120m² plot
- G4: KAMPALA- 240 x 40 m² two-bedroom apartments in 2 x 5-storey walk-up blocks (2019 prices), on 6000m² plot
- G5: KAMPALA- 240 x 40 m² two-bedroom apartments in 2 x 8-storey blocks with lifts (2019 prices), on 4800m² plot
- G6: KAMPALA- 500 x 65 m² Bungalow – three-bedroom, 1.5 bath house on 250m2 plot. Built to normal mortgage finance standards.

One of these products (G1 above) is the standard 55m² "CAHF house" that has been costed in eighteen countries across Africa and is used to compare cost components across cities and countries where housing cost benchmarking has been undertaken. Detailed specifications and plans for this standard CAHF House are given overleaf. Similar details of all six products are available from CAHF if required.

[55] See CAHF (2019): Benchmarking housing costs in fifteen African countries.

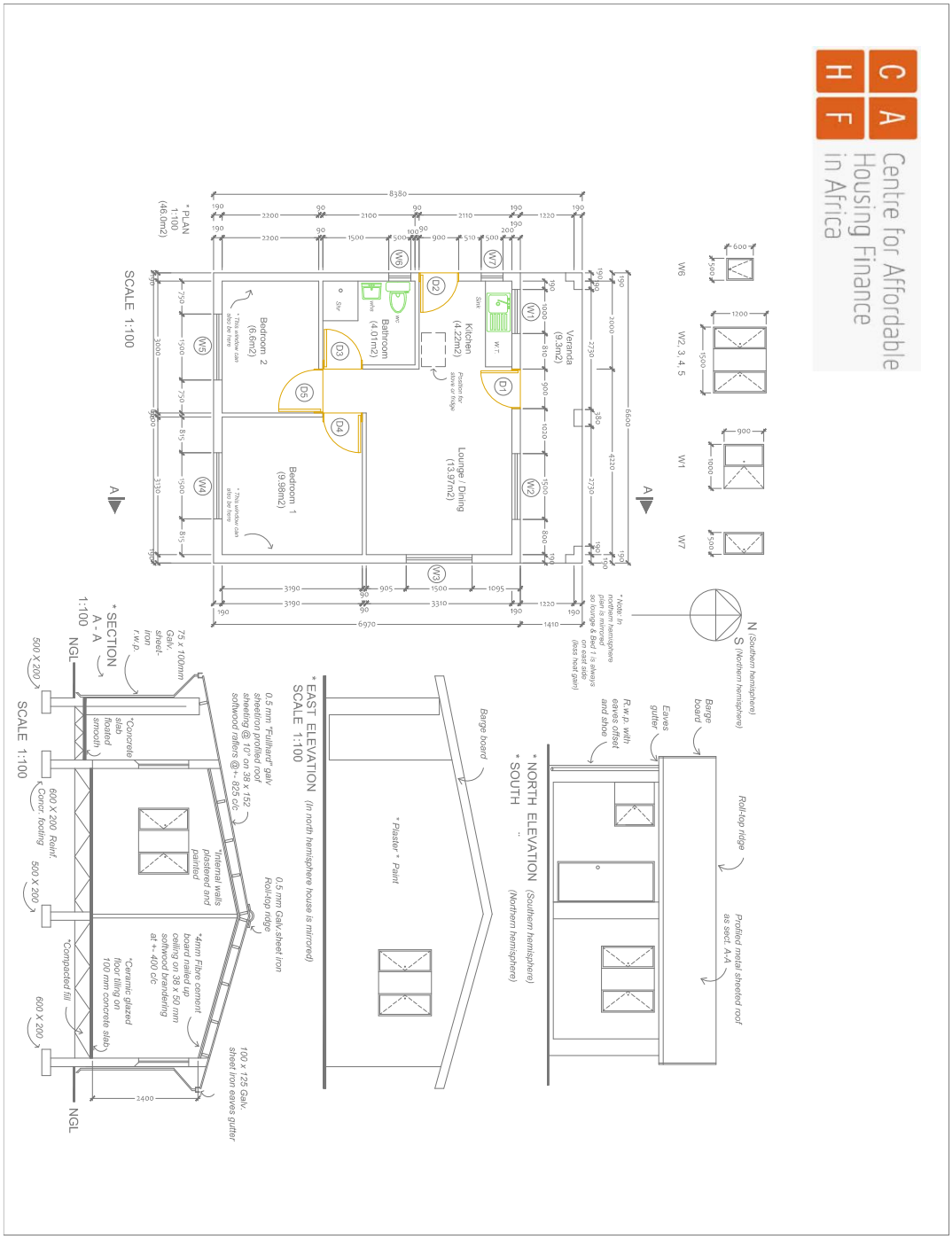
CAHF HOUSING ECONOMIC VALUE CHAIN – SUMMARY SPECIFICATIONS FOR PRODUCTS COSTED							
COUNTRY	RSA	CITY	JOHANNESBURG	VERSION	V01	DATE	20190327

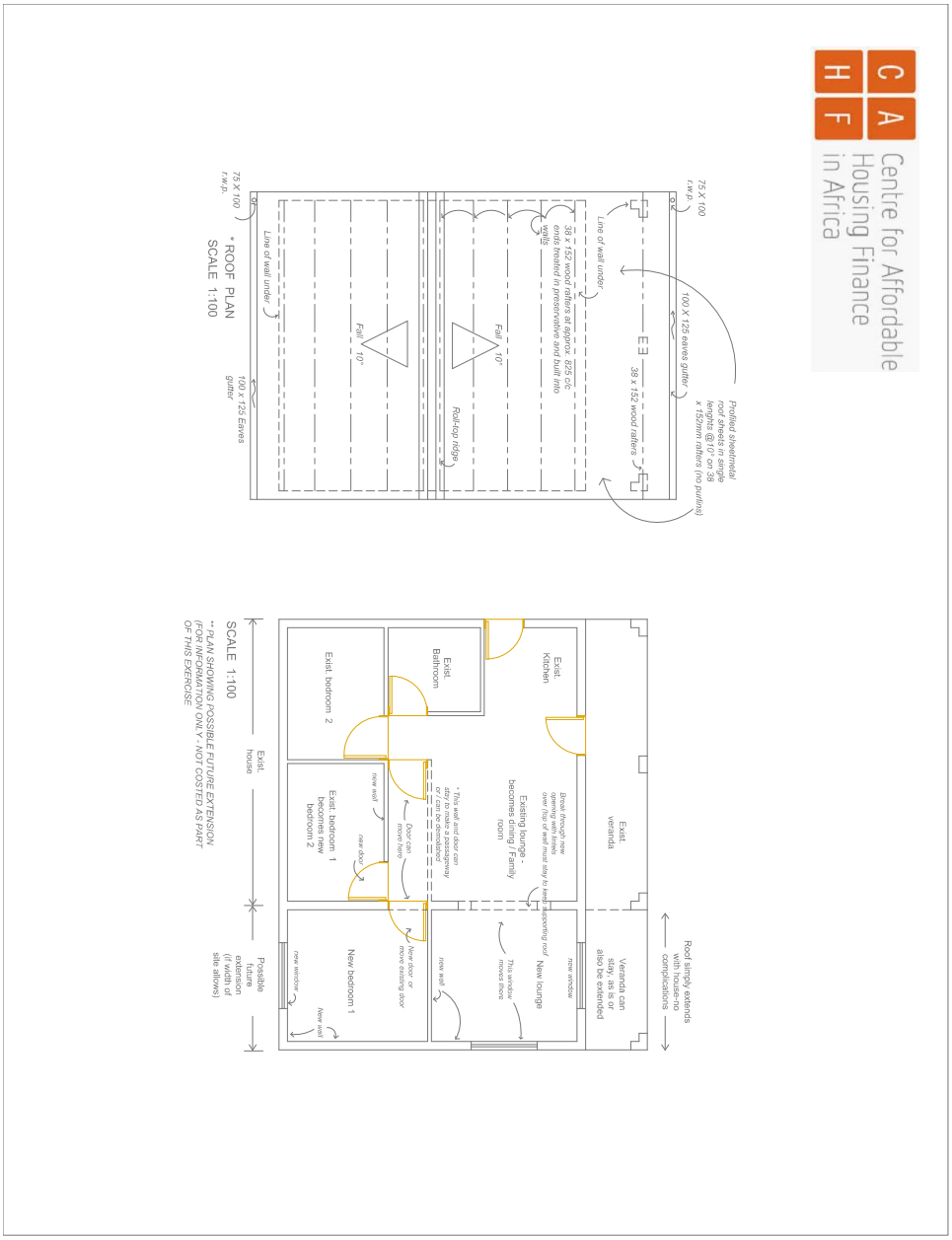
PRODUCT	C0	CAHF RSA GENERIC 55M2 HOUSE IN FORMAL SERVICED AREA (46m2 Two bed, one bath house with 9m2 veranda = total 55m2)

REF TO COST SHEET	ELEMENT/COMPONENT	BRIEF SPECIFICATION
A	LAND – PLOT SIZE	120m2
B1	BULK/TRUNK INFRASTRUCTURE	Fully connected to all bulk services: Water, sewer, electricity, roads, transportation and solid waste removal
B2	INTERNAL INFRASTRUCTURE:	Full reticulation of all services as below by developer
B2.1	Water	Full supply and reticulation by developer
B2.2	Sanitation	Full reticulation and connection to bulk by developer
B2.3	Energy	Full electrical supply and reticulation by developer
B2.4	Access and internal roads	Paved roads and sidewalks with street lighting by developer
B2.5	Stormwater disposal and sediment control	Kerb inlets and piped storm water disposal system connected to bulk by developer
B3	Common facilities provided by developer on site for all users	N/a
D1, D2	BUILDINGS	46m2 Dwelling with 9m2 covered veranda
	Informal shack by owner	N/a
	Toilet structure on serviced site	N/a
	Foundations	Reinforced concrete strip footings under walls
	Ground floor construction	100mm Thick concrete surface bed wood floated to receive cement plaster screed, steel mesh reinforced, on damp course membrane on insect-proofed compacted fill
	Structural elements	N/a
	Superstructure (walls, etc)	External: 200mm thick load bearing walls of cement maxi blocks; Internal: 100mm thick non-load bearing walls of cement maxi blocks
	Windows	Frames: Steel residential profile, painted, with solid brass fittings Glazing: 3mm and 4mm clear and textured obscure glass (bathroom) as per National Building Codes, fixed with putty
	Doors	Frames: Pressed steel rebated frames, painted External doors: 44mm Thick Solid hardwood single door, varnished or oiled, with 4-lever mortice locks and chrome plated door furniture Internal doors: 40mm Thick hollow-core, hardboard door, painted, with two-lever mortice lock and chrome-plated door furniture

	Roofs – construction and covering	0.5mm Thick "Fullhard" galvanised steel S-rib (corrugated) long sheets, unpainted, double pitched roof fixed at 10 degrees on 38 x 152mm timber rafters with ends built into walls.
	Roofs – eaves, verges, rain water goods	Eaves/verges: 10 x 200mm Fibre cement fascias and barge boards, painted Rainwater goods: Galvanised sheet iron eaves gutters and downpipes, painted with precast concrete rainwater channel to each downpipe
	Ceilings	Nailed up ceiling of 4mm Thick fibre cement boards, painted, fixed on timber brandering, and with glass or mineral wool blanket insulation as required by NBR for applicable climatic region
	External finishes	One coat cement plaster and exterior quality acrylic paint
	Internal finishes	One coat cement plaster and interior quality PVA paint. Glazed ceramic wall tiling in showers and splashbacks above basins and sinks
	Floor finishes	Glazed ceramic tiling fixed with adhesive on cement plaster screeds
	Fittings - kitchen	One 1200mm long enamelled steel floor cabinet, with doors, shelves, one drawer, and single bowl stainless steel sink top
	Fittings – built-in bedroom cupboards/wardrobes	Main bedroom: Melamine-surfaced chipboard three-door built-in cupboard with doors, shelves and hanging rail Second bedroom: As above but two-door
	Fittings - general	Curtain tracks to windows, toilet paper holder, towel rail, glazed aluminium shower side panel and door
	Plumbing and drainage	Sanitary fittings, taps: One WC suite with flushing cistern and seat, one basin on pedestal with hot and cold pillar cocks, one shower set, one kitchen sink mixer, one kitchen wall-mounted stainless steel wash trough with bib taps Water supply: 22mm Incoming main, metered, 22 and 13mm copper tubing to fittings, with all necessary valves, etc Sanitary waste: 50mmPVC waste pipes, 110mm UVPVC soil stacks and 110mm PVC underground soil drains with all necessary inspection and rodding eyes. PVC gulley trap in precast concrete encasing, with PVC grating
	Domestic hot water	Evacuated tube thermo-syphon solar hot water geyser with integrated 100 litre storage tank, mounted at 26 degrees on steel stand on roof, with gravity feed
	Fire protection	N/a
	Electrical installation and lighting	Wall-mounted distribution board with 60A main circuit breaker, earth leakage, overload trip switch, stove isolator, 10A and 15A circuit breakers, pre-paid meter, one single socket power outlet per bedroom (double in kitchen and living room), one light per room and one outside light at front and back door
	Perimeter security and access control	N/a (to be provided by owner for own account)
	Lifts	N/a
	Other	N/a

UNIT PLANS:


Centre for Affordable Housing Finance in Africa
* PLAN 1:100 (46.0m2)
SCALE 1:100
Bedroom 2 (6.6m2)
Bathroom (4.01m2)
Kitchen (4.22m2)
Veranda (9.3m2)
Bedroom 1 (9.98m2)
Lounge / Dining (13.9m2)
8380
6970
6600
* SECTION A - A 1:100
SCALE 1:100
NGL
* EAST ELEVATION SCALE 1:100 (In north hemisphere house is mirrored)
Barge board
* Plaster * Paint
* NORTH ELEVATION (Southern hemisphere)
* SOUTH (Northern hemisphere)
Barge board
Eaves gutter
R.w.p. with eaves offset and shoe
Roll-top ridge
Profiled metal sheeted roof as sect. A-A
N (Southern hemisphere)
S (Northern hemisphere)
75 x 100mm Galv. sheet-iron r.w.p.
0.5 mm "Fullhard" galv. sheetiron profiled roof sheeting @ 10° on 38 x 152 softwood rafters @ +- 825 c/c
0.5 mm Galv. sheet iron Roll-top ridge
*Internal walls plastered and painted
*4mm Fibre cement board nailed up ceiling on 38 x 50 mm softwood brandering at +- 400 c/c
*Ceramic glazed floor tiling on 100 mm concrete slab
*Compacted fill
600 X 200
500 X 200
600 X 200 Reinf. Concr. footing
100 x 125 Galv. sheet iron eaves gutter
2400


Centre for Affordable Housing Finance in Africa
* ROOF PLAN
SCALE 1:100
75 X 100 r.w.p.
100 X 125 eaves gutter
38 x 152 wood rafters
Profiled sheetmetal roof sheets in single length (3.5m) on 38 x 152mm rafters (no purlins)
Line of wall under
38 x 152 wood rafters at approx. 825 c/c ends fixtailed in preservative and built into gable
Fall 10°
Roll-top ridge
100 x 125 Eaves gutter
SCALE 1:100
Exist. house
Possible future extension (if required and site allows)
Exist. bedroom 2
Exist. Bathroom
Exist. kitchen
Exist. veranda
Exist. bedroom 1 becomes new bedroom 2
new wall
new door
Door can move here
* This wall and door can easily be removed and/or can be demolished
Existing lounge - becomes dining / Family room
Break through new opening with lintels over (top of wall must stay to keep supporting roof
New lounge
new window
This window moves there
Veranda can stay as is or also be extended
Roof simply extends with house-no complications
New bedroom 1
new window
New wall
New door or move existing door
** PLAN SHOWING POSSIBLE FUTURE EXTENSION FOR INFORMATION ONLY - NOT COSTED AS PART OF THIS EXERCISE

Annexure B: Detailed results of revealed competitive advantage analysis of Uganda's exports of building materials

HS Code	Product Description	Uganda Average Annual Export Growth: 2013 to 2018	World Average Annual Export Growth: 2013 to 2018	Uganda Net Average Annual Export Growth: 2013 to 2018	Uganda Trade Balance in 2013 (US$ '000)	Uganda Trade Balance in 2018 (US$ '000)	Uganda Exports in 2018 (US$ '000)	Uganda Imports in 2018 (US$ '000)	Estimated Average Import Tariff in 2018 (%)
'4407	Wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, ...		1.8%		- 796	- 1,187		1,187	9.3
'6910	Ceramic sinks, washbasins, washbasin pedestals, baths, bidets, water closet pans, flushing ...		7.0%		- 2,530	- 3,921		3,921	23.2
'7005	Float glass and surface ground or polished glass, in sheets, whether or not having an absorbent, ...		0.9%		- 5,617	- 8,109		8,109	9.3
'7006	Sheets or profiles of glass, whether or not having an absorbent, reflecting or non-reflecting ...		2.6%		- 44	- 48		48	23.2
'7009	Glass mirrors, whether or not framed, incl. rear-view mirrors (excluding optical mirrors, optically ...		2.7%		- 1,097	- 1,238		1,238	16.8
'7016	Paving blocks, slabs, bricks, squares, tiles and other articles of pressed or moulded glass, ...		-3.4%		- 232	- 70		70	23.2
'6802	Monumental or building stone, natural (excluding slate), worked, and articles; mosaic cubes ...	83.0%	-3.4%	86.4%	- 1,275	- 1,292	615	1,907	23.2

'3922	Baths, shower-baths, sinks, washbasins, bidets, lavatory pans, seats and covers, flushing cisterns ...	82.1%	2.4%	79.6%	- 1,027	- 877	200	1,077	23.2
'2516	Granite, porphyry, basalt, sandstone and other monumental or building stone, whether or not ...	63.3%	-3.1%	66.5%	- 33	- 86	93	179	0
'2523	Cement, incl. cement clinkers, whether or not coloured	40.6%	-2.6%	43.2%	- 84,811	- 97,735	11	97,746	19.7
'7004	Sheets of glass, drawn or blown, whether or not having an absorbent, reflecting or non-reflecting ...	18.6%	-18.4%	37.0%	- 41	141	174	33	9.3
'6908	Glazed ceramic flags and paving, hearth or wall tiles; glazed ceramic mosaic cubes and the ...	-19.0%	-49.6%	30.6%	9,985	- 8,365	9,396	17,761	0
'6810	Articles of cement, concrete or artificial stone, whether or not reinforced	25.4%	6.0%	19.4%	44	34	528	494	20.3
'3209	Paints and varnishes, incl. enamels and lacquers, based on synthetic polymers or chemically ...	17.4%	0.7%	16.7%	- 859	- 3,462	2,041	5,503	23.2
'2517	Pebbles, gravel, broken or crushed stone, for concrete aggregates, for road metalling or for ...	15.6%	-0.8%	16.4%	- 167	- 233	31	264	9.3
'2714	Bitumen and asphalt, natural; bituminous or oil-shale and tar sands; asphaltites and asphaltic ...	-8.9%	-17.3%	8.4%	- 724	- 1,371	47	1,418	9.3
'4418	Builders' joinery and carpentry, of wood, incl. cellular wood panels, assembled flooring panels, ...	2.5%	-2.8%	5.4%	141	15	703	688	23.2
'3210	Paints and varnishes, incl. enamels, lacquers and distempers (excluding those based on synthetic ...	4.9%	0.7%	4.2%	2,877	4,014	4,298	284	16.3

'2515	Marble, travertine, ecaussine and other calcareous monumental or building stone of an apparent ...	-1.0%	-0.2%	-0.8%	160	216	226	10	0
'2505	Natural sands of all kinds, whether or not coloured (excluding gold- and platinum-bearing sands, ...	-0.3%	2.6%	-2.9%	- 52	172	431	259	0
'4411	Fibreboard of wood or other ligneous materials, whether or not agglomerated with resins or ...	-4.6%	0.1%	-4.7%	- 835	788	1,307	519	23.2
'4410	Particle board, oriented strand board "OSB" and similar board "e.g. waferboard" of wood or ...	-1.9%	3.4%	-5.4%	- 149	- 355	146	501	23.2
'3214	Glaziers' putty, grafting putty, resin cements, caulking compounds and other mastics; painters' ...	-3.4%	2.1%	-5.5%	8,558	5,284	8,385	3,101	23.2
'3917	Tubes, pipes and hoses, and fittings therefor, e.g. joints, elbows, flanges, of plastics	-6.6%	1.9%	-8.5%	89,676	61,709	67,076	5,367	8.8
'6905	Roofing tiles, chimney pots, cowls, chimney liners, architectural ornaments and other ceramic ...	-12.8%	-0.9%	-11.9%	840	376	447	71	23.2
'3208	Paints and varnishes, incl. enamels and lacquers, based on synthetic polymers or chemically ...	-12.9%	0.1%	-13.1%	- 2,485	- 5,490	2	5,492	23.2
'7317	Nails, tacks, drawing pins, corrugated nails, staples and similar articles of iron or steel, ...	-14.4%	2.5%	-16.8%	- 1,558	- 1,246	52	1,298	23.2
'4409	Wood, incl. strips and friezes for parquet flooring, not assembled, continuously shaped "tongued, ...	-21.5%	-0.8%	-20.7%	732	214	234	20	23.2
'7318	Screws, bolts, nuts, coach screws, screw hooks, rivets, cotters, cotter pins, washers, incl. ...	-19.5%	2.4%	-21.9%	- 1,835	- 4,383	474	4,857	16.3

'3925	Builders' ware of plastics, n.e.s.	-20.3%	2.7%	-22.9%	- 1,256	- 1,608	49	1,657	23.2
'7216	Angles, shapes and sections of iron or non-alloy steel, n.e.s.	-24.7%	-0.3%	-24.4%	- 9,453	- 7,390	74	7,464	16.9
'7411	Copper tubes and pipes	-25.9%	0.6%	-26.5%	4,463	729	1,025	296	23.2
'4412	Plywood, veneered panel and similar laminated wood (excluding sheets of compressed wood, cellular ...	-25.7%	1.2%	-26.9%	- 572	- 621	114	735	23.2
'6907	Unglazed ceramic flags and paving, hearth or wall tiles; unglazed ceramic mosaic cubes and ...	-7.5%	21.6%	-29.1%	- 1,923	- 5,448	146	5,594	32.5
'6902	Refractory bricks, blocks, tiles and similar refractory ceramic constructional goods (excluding ...	-26.8%	2.5%	-29.2%	- 2,199	- 2,001	8	2,009	0
'7213	Bars and rods of iron or non-alloy steel, hot-rolled, in irregularly wound coils	-25.7%	4.4%	-30.1%	- 36,559	- 60,192	28	60,220	8.3
'7413	Stranded wire, cables, plaited bands and the like, of copper (excluding electrically insulated ...	-28.5%	1.8%	-30.2%	11,198	2,035	2,120	85	23.2
'7412	Copper tube or pipe fittings "e.g., couplings, elbows, sleeves"	-29.8%	1.8%	-31.6%	792	- 17	143	160	23.2
'6803	Worked slate and articles of slate or of agglomerated slate (excluding slate granules, chippings ...	-34.4%	-2.8%	-31.6%	306	36	46	10	23.2
'4403	Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared (excluding ...	-35.0%	0.7%	-35.6%	2,516	243	293	50	0
'2514	Slate, whether or not roughly trimmed or merely cut, by sawing or otherwise, into blocks or ...	-41.0%	-3.9%	-37.1%	56	- 1	4	5	0

'6904	Ceramic building bricks, flooring blocks, support or filler tiles and the like (excluding those ...	-48.3%	-3.0%	-45.3%	- 895	- 9	2	11	23.2
'3805	Gum, wood or sulphate turpentine and other terpenic oils produced by the distillation or other ...	-47.5%	13.2%	-60.7%	- 134	- 3	1	4	0
'6901	Bricks, blocks, tiles and other ceramic goods of siliceous fossil meals, e.g. kieselguhr, tripolite ...	-100.0%	-0.1%	-99.9%	- 576	- 25	-	25	23.2
	Total				**- 27,390**	**- 140,777**	**100,970**	**241,747**	**16.2**

Source: www.trademap.org (using CONTRADE data).