International Growth Centre

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Housing need in Kigali: Findings and policy reflections

In brief

- This study estimates that to meet Kigali's housing need, around 373,000 additional households will need to be accommodated in at least 310,000 houses from 2017-2032. This represents an addition of 18,000 households per year in 2017 rising up to 32,000, to be accommodated in at least 15,000 houses rising up to at least 26,000 new houses per year in 2032. A backlog of 137,000 houses also need to be replaced according to current planning standards.

- Households have low purchasing power. The median household earned 2 million RWF per year in 2018, and could rent a house worth 10.3 million RWF or a mortgage of 4 million RWF assuming a 20% down payment, at currently available mortgage terms of 17.3% over 15 years.

- The scale of the need, combined with the low purchasing power of most households, implies a strong need to make formal housing accessible on the market to lower income households. This can be accomplished by strengthening market-enabling factors that can unlock the financial and labour contributions of households and the private sector.

- These factors include: facilitating the scaling up of existing affordable housing models (including Skat's model and others); increasing the affordability and scale of housing finance; ensuring Master Plan zoning does not unnecessarily increase cost; and encouraging and incentivising incremental approaches in which households improve housing quality and increase density according to their purchasing power.

- Infrastructure will unlock private investment in housing, and well-placed sites and services projects have shown positive results. However, given its high cost, government resources should focus on the cost effectiveness of infrastructure, providing it in advance of new settlement where possible. Any government resources spent on housing should focus on housing units costing less than 10 million RWF, and potentially on other evidence-based, cost-effective, and welfare-enhancing approaches that achieve cost-effective impact in terms of household welfare.

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Background

Rwanda is urbanising fast, from a low level of 17%, according to the 2012 Census. Kigali's population was 1.1 million in 2012, and we project that it will reach 2.5 million by 2032 – this growth rate has led to efforts among senior policymakers to reduce pressure on the city's infrastructure. Therefore, housing need and demand will increase dramatically in coming years. Satisfying that demand will be important not only for the city's functioning and the well-being of the city's citizens, but will have significant implications for the country's economic growth. It follows that the steps taken to accommodate this demand through the provision of infrastructure and the regulations that relate to housing supply are key policy measures.

According to our projections in this study, there will be a need for at least 15,000 houses per year, growing to at least 26,000 houses per year in 2032. These annual increases are not being met by supply of formal or informal housing. Kigali also has a large backlog of houses that would ideally be upgraded according to current standards. Most households have low purchasing power and cannot afford formal housing as it is currently priced and financed, resulting in informal settlements taking up some of the supply gap. From a global perspective, this is normal for a rapidly developing and expanding country such as Rwanda, and in 17th to 19th century Europe, slums were far worse than those in today's Global South (UN Human Settlement Programme 2003). Kigali's unplanned settlements are in good condition compared to the region.

However, the escalating housing need in the face of resource scarcity presents a daunting challenge that significantly affects the welfare of the people of Kigali and the life of the city. There may be a role for publicly funded social housing for the lowest income group. However, taking direct control of the issue by securing land, financing, and overseeing construction to fully address the gap between housing need and supply, without focusing on households with the lowest incomes, would be prohibitively expensive and may not have the intended result of eradicating informal settlements. It will therefore be important to focus on enabling the market and creating a conducive environment to unlock resources from households and firms in the private sector.

The National Housing Policy is a comprehensive document that eloquently recognises the challenges inherent in housing and the range of solutions required. An effective approach to implementing the policy must take account of the most efficient and impactful use of public money, focus primarily on public goods such as roads and other infrastructure, and respond to an accurate picture of household purchasing power to provide an environment in which market conditions facilitate the private sector to turn this need into an economic demand for decent housing. The exception to this is the direct upgrading and provision of housing to the most vulnerable of Kigali.

Findings on housing need and household purchasing power

This study aims to contribute to an understanding of the demand for housing in Kigali, Rwanda, updating projections of future numbers of households in Kigali from an EU-funded 2012 study by Planet Consortium, *Housing market demand, housing finance, and housing preferences for the City of Kigali*. The researchers attempt to quantify:

1. housing need[1], or in other words, how many new dwelling units will need to be built in from 2017-2032 to provide housing units of adequate standard to all households in Kigali, and
2. the affordable value of property to rent and to own with a mortgage at prevailing market rates.

Our analysis suggests the following:

- **Between 2017-2032, the number of households in Kigali is likely to almost double, increasing from around 367,000 households to around 721,000**.

- To provide one dwelling unit for each new household projected, Kigali will need **around 15,000 new dwelling units per year in 2018, rising steadily to around 26,000 in the period up to 2032.**

- In addition, if the recommendations made by the City of Kigali are to be followed, up to **137,000 new houses will be needed to clear the backlog of housing deemed unsuitable by current standards.** However, given that this number represents a high proportion of the current housing stock, around two-fifths, we recommend careful thought and analysis be given to housing standards considered acceptable in Kigali, in order to focus resources on the worst cases.

- The median household earned 2 million RWF in 2018. Assuming they spent 25% of income on rent, they were able to **afford to rent a property (house and land) worth a maximum of 10.3 million RWF in 2018** (all prices are in constant 2017 RWF). This rises to a maximum of 12.3 million RWF in 2032, assuming the maximum affordable proportion of income that can be spent on rent is 25%.

- **The median household that can afford a mortgage with a 20% down payment will be able to afford to own a property** (house and land, if bought outright; cost of constructing house if they own the land) **costing a maximum of 4 million RWF in 2018**, rising to 4.8 million in 2032, assuming a 17.3% interest rate and a 15-year mortgage term that is fairly standard for Rwanda.

- **The ratio of the maximum affordable rental property value to the maximum affordable purchased property value is 2.1, assuming a 17.3% interest rate and a 15-year mortgage term**. A 12% interest rate over 20 years, if available, would reduce this ratio to 1.7.

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[1] Housing need is sometimes referred to housing demand in this study; however, the following is a helpful distinction: "Housing 'need' is an indicator of existing deficit: the number of households that do not have access to accommodation that meets certain normative standards" whereas "Housing 'demand' is a market driven concept and relates to the type and number of houses that households will choose to occupy based on preference and ability to pay. Heath, S, (2014), "Housing demand and need (England)", Standard Note SN06921, Social Policy Section, Library of the House of Commons.

Policy discussion

Having presented the scale of the need and the level of household purchasing power, here we present a range of considerations and recommendations that aim to match supply to demand and comment on the market-enabling role the government might play in this. These comments draw on this study, past IGC literature, and other studies referring to regional and international experience:

- **Infrastructure will take a large amount of public investment. For cost effectiveness, where possible, it should be planned and built before housing, and should include well-designed 'sites and services' projects.** Off-site and on-site infrastructure constitute a substantial share of the total cost of new housing developments (Kopanyi 2015). The reformed 'Law determining the sources of revenue and property of decentralized entities', passed in 2018, will help recuperate the cost as land values, and thus tax revenues, will increase**.** Changing the order (building infrastructure first before settlement) could reap potentially enormous gains by keeping Kigali one of the most liveable cities on the continent (Collier 2015; Abiko et al 2007). One or more sites and services pilots could be combined with an incremental housing approach and should consider the important design principles highlighted in Wainer et al. (2016) with respect to land, infrastructure, house architecture, and building materials. Proximity to main roads, jobs, cost effectiveness, and efficiency should be primary concerns when building road grids; cost is enormously affected by plot size as well as road and path width (Wainer et al. 2016).

- **An incremental approach takes time but is a financially manageable way to upgrade housing.** Urban planning can most effectively support households to develop their houses, and neighbourhoods, incrementally, in combination with a sites and services approach described in the previous point. The principle that households can undertake incremental construction in ways that match their resources makes the financial burden of upgrading poor quality housing manageable, but households usually need formal ownership and decent infrastructure provision to incentivise them to invest this way, and the process would benefit from incentives such as subsidies or credit (Wainer et al. 2016).

- **Public money should be spent on social housing for the most vulnerable in locations sufficiently close to jobs, but thought must go into choosing evidence-based, innovative, and cost-effective ways to enhance social welfare.** The principle of providing housing for the most vulnerable is enshrined in the National Housing Policy (2015) and is a very important consideration for economic justice and fairness. It is important that any social housing is built close enough to jobs, which may mean not necessarily building on the cheapest land. However, other investments that might also be greatly welfare enhancing are pouring hard floors for the 26% of housing units that remain with dirt floors, or improving sanitation in the city.

- **Affordable housing should be affordable to households below the top two quintiles.** The median household in Kigali in 2018 is projected to earn around 165,000 RWF per month, or 2 million RWF per year; thus their purchasing power is limited. The poorest two quintiles, quintile two and quintile one, are projected to earn 100,000 RWF and 56,000 RWF per month respectively. Building housing units that cost more than even 10 million RWF will do little to accommodate the affordable housing shortage. As noted by Kopanyi (2015) in relation to a potential Urban Development Fund: "Providing

large-scale housing to the lower income household categories requires a combination of the supply- and demand-side subsidies. Any sole subsidy instrument would just narrowly broaden the affordability and would fail to reach the lower income categories". Kopanyi's IGC policy note *Supporting affordable housing in Rwanda: Plans and options* expands on the options available.

- **If possible, the cost of construction should be reduced in ways that can be scaled up in the construction industry in Rwanda.** Innovative work by SKAT on cheaper and better quality bricks that require less cement (which is expensive) during house construction and Strawtec on using alternative locally available straw exists, but these kinds of solutions need to be scaled up. Research might focus on ways to reduce costs for the construction industry as it currently is, on alternative locally available materials, and on barriers to scaling up solutions that work and how to overcome them.

- **Master Plan zoning should be flexible and respond to market conditions and should be cognisant of the effects that it can have on housing affordability.** The 2013 version of the Master Plan was criticised for enforcing regulations that make housing more expensive, such as high minimum plot sizes, large building setbacks, and others. Our understanding is that the 2018 Master Plan Review, taking place at the time of writing, is seeking to address this with a more flexible zoning system.

- **Inclusive densification should be pursued.** Buckley (2014) recommends that a good strategy is to begin by encouraging and incentivising the families that already own single storey units to make their houses taller – ground plus two or three floors, as in Nairobi. However, international experience strongly suggests that communities should be involved, and the process should begin with situations in which current residents gain. Treating community members as passive recipients will increase costs and not tap their efforts as an input.

- **Housing finance should be made more affordable on a self-sustaining basis.** It will be important to find ways to reduce the high mortgage interest rate and make formal finance available to households below the high-income category. A full discussion is beyond the scope of this paper, but solving the issue is vital to unleash the power of land collateral to fund housing. Ghana created a Housing Finance Company Bank which became one of the most successful commercial banks in the country, and Building Societies have worked in Zimbabwe, Jamaica, and 18th and 19th century Britain (Collier et al 2017).

- **The definition of housing backlog in this study needs discussion and refinement.** If the government is to focus on upgrading housing, it must prioritise. To upgrade almost half the building stock is prohibitively expensive for either the public or the private sector. Therefore, the definitions provided in this study, overcrowding, low build quality, temporary homes, and homes in high-risk locations, should be discussed and prioritised. The definitions of acceptable building materials, which currently exclude mud brick covered in cement, as well as the definition of overcrowding, might be reconsidered.

- **An Affordable Housing Working Group could be instrumental**. As noted by Kopanyi (2015), establishing an affordable housing working group "would be instrumental in leading vital policy dialogue and advising policy decisions on the overarching objectives, institutional framework, and instruments towards scaling up the affordable housing market in Rwanda".