Housing Solutions for Low-Income Urban Communities in Rwanda

Annexes

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Table of Contents

**TABLE OF CONTENTS** .............................................................................................................................................. II
**LIST OF TABLES** .................................................................................................................................................. III
**LIST OF FIGURES** ................................................................................................................................................ III
**LIST OF ABBREVIATIONS AND ACRONYMS** ...................................................................................................... V
**ANNEX A. CONCEPT AND PROCESS OF PLOT SERVICING IN RWANDA** ............................................................ 1

**ANNEX B. LEGAL AND POLICY REVIEW** ........................................................................................................ 3

- **B 1. OVERVIEW OF REVIEW** ......................................................................................................................... 3
  - **B 2. BACKGROUND LAWS: PROPERTY, TENANCY, TAXATION** ................................................................. 3
    - B 2.1. **Property Ownership and Land Reform in Rwanda** ........................................................................... 3
    - B 2.2. **Condominium Law** ....................................................................................................................... 5
    - B 2.3. **Landlord-Tenant Law** .................................................................................................................. 6
    - B 2.4. **Property Tax Regime, Landownership, and the Implications for Infrastructure Financing** ........... 6
    - B 2.5. **Housing Tax and Rental Income Tax** ........................................................................................... 7
- **B 3. LOW-INCOME URBAN HOUSING POLICIES, STRATEGIES, AND ORDERS** .................................... 7
  - B 3.1. **National Urbanization Policy** ........................................................................................................... 7
  - B 3.2. **National Housing Policy** ............................................................................................................... 8
  - B 3.3. **National Informal Urban Settlement Upgrading Strategy** ............................................................... 9
  - B 3.4. Prime Minister’s Instructions for Determining the Conditions and Procedures for Obtaining Government Support for Affordable and High Density Housing .................................................................................... 12
  - B 3.5. **City-wide Unplanned and Underserviced Settlements Upgrading Strategy for Kigali** .................. 15
  - B 3.6. **MININFRA Draft Rental Housing Strategy** ..................................................................................... 16
- **B 4. RWANDA URBAN PLANNING AND BUILDING REGULATIONS** ....................................................... 16
  - B 4.1. **Building Permit Regulations** ........................................................................................................ 17
  - B 4.2. **Urban Planning and Building (UPB) Regulations** ......................................................................... 18
  - B 4.3. **Rwanda Urban Planning Code (RPC)** ............................................................................................ 19
  - B 4.4. **Rwanda Building Code (RBC)** ..................................................................................................... 20
- **B 5. KIGALI MASTER PLAN REVIEW (KMPR) AND ZONING REGULATIONS** ............................................. 21
  - B 5.1. **Zone R2 (Rowhouses and Low-Rise Apartments)** ......................................................................... 21
  - B 5.2. Zone R5 (“Sites and services”), now Zone R3 (“Expansion”) .............................................................. 22
  - B 5.3. **KMPR’s Zoning Regulations** ...................................................................................................... 23

**ANNEX C. PROFILE OF IDENTIFIED SITES IN KIGALI** ................................................................................... 26

- **C 1. UNPLANNED SETTLEMENTS FOR UPGRADING** .............................................................................. 27
  - C 1.1. **Mpazi Unplanned Settlement Profile** ............................................................................................. 27
  - C 1.2. **Gatenga unplanned settlement profile** ......................................................................................... 32
  - C 1.3. **Kimironko unplanned settlement profile** .................................................................................... 35
- **C 2. GREENFIELD SITES FOR SERVICING** ................................................................................................. 38
  - C 2.1. **Gasharu greenfield site profile** ..................................................................................................... 38
  - C 2.2. **Masaka greenfield site profile** ....................................................................................................... 39
  - C 2.3. **Ndera greenfield site profile** ........................................................................................................ 40
- **C 3. SOCIAL HOUSING: KARAMA MODEL VILLAGE** .................................................................................. 41
ANNEX D. PROECCO HOUSING PROJECT ........................................................................43
D 1. CONTEXT AND BACKGROUND ........................................................................43
D 2. DESCRIPTION OF PROECCO MODEL HOUSING AT MPASI ..................................44
   Costs of PROECCO housing ..................................................................................45
D 3. CHALLENGES AND LESSONS LEARNED .................................................................46
D 4. REVIEW OF SKAT’S INFORMAL SETTLEMENT UPGRADE CALCULATOR .................47
ANNEX E. GLOBAL BENCHMARKS .................................................................................51
E 1. SITES AND SERVICES ............................................................................................51
   Case Study from India .............................................................................................51
   Incremental Build Case Studies ..............................................................................54
E 2. UPGRADE OF INFORMAL SETTLEMENTS ...............................................................59
   Toolkit for Settlement Upgrading and Community Development .........................59

List of Tables
Table 1. Features of each upgrading option regarding access to land, infrastructure improvement and home improvement .................................................................11
Table 2: Eligibility criteria for affordable and high density housing projects (Instructions No. 001/03, Art. 5-8). ........................................................................................................12
Table 3. Density requirements in the Urban Planning Code and the Prime Ministers Instructions for Affordable and High-Density Housing ........................................................................13
Table 4: Settlement types and proposed interventions under the Kigali USU Strategy .................................................................15
Table 5: RBC Building Categories (Adapted from Rwanda Building Code, 1.3.3.9, Table 1.3.3-1, p. 116). 17
Table 6: Parameters for residential land use categories (RPC, 1.7 Table 3, Gazette p. 106) ................................................................................19
Table 7: KMPR Zone R2 parameters (KMPR, p. 74). ........................................................22
Table 8: KMPR Zone R5 parameters (KMPR, p. 74). ................................................................23
Table 10: Plot sizes in Gatenga unplanned settlement by percentage (Geoinfo Africa (2017), p. 41). 34
Table 11: Assessment of primary infrastructure status in Gatenga site (Reproduced from Geoinfo Africa 2017, p. 87, as revised). ..............................................................................................35
Table 12: Size, cost, and valuation information for Karama Model Village (RHA official 2019; LivinSpaces 2019). ........................................................................................................41
Table 13 Snapshot of Skat Calculator and Scenario 1 .........................................................47
Table 15. Cost of residential and commercial building and month and annual rental income ........................................................................................................49

List of Figures
Figure 1: PROECCO model housing under construction (KMPR, p. 79). ........................................22
Figure 2: Unplanned settlement and "Site and services" sites in Kigali included in the project brief. ........................................................................................................26
Figure 3: Photograph of Mpazi settlement houses (Credit: Christian Alexander) .........................27
List of Abbreviations and Acronyms

BRD    Rwanda Development Bank
CAHF   Centre for Affordable Housing Finance in Africa
CoK    City of Kigali
CSO    Civil society organisation
Du/ha  Dwelling units per hectare
EICV   Integrated Household Living Conditions survey (Enquête Intégrale sur les Conditions de Vie des ménages)
FAR    Floor area ratio
GIS    Geographical Information System
GoR    Government of Rwanda
IGC    The International Growth Centre
IFC    International Finance Corporation
Kigali USU Strategy City-wide Unplanned and Underserviced Settlements Upgrading Strategy for the City of Kigali
KMP    Kigali Master Plan
KMPR   Kigali Master Plan Update April/May 2019
MININFRA Rwanda Ministry of Infrastructure
MINIRENA Rwanda Ministry of Environment and Natural Resources
NGO    Non-governmental organisation
NHP    National Housing Policy
NISR   Rwanda National Institute of Statistics Research
NIUSUS National Informal Urban Settlement Upgrading Strategy
NUP    National Urban Policy
OSC    One Stop Centre
PROECCO Promoting Climate Responsive Building Material Production and Off-farm Employment in the Great Lakes Region
RBC    Rwanda Building Code
RHA    Rwanda Housing Authority
RLMUA  Rwanda Land Management and Use Authority
RPC    Rwanda Planning Code
RRA    Rwanda Revenue Authority
RUDP   Rwanda Urban Development Program
RwF    Rwandan Franc
Skat   Swiss Resource Centre and Consultancies for Development (Skat Ltd)
SME    Small and medium enterprises
UPB    Urban Building Permit (regulations)
US$    US Dollar
Annex A. Concept and Process of Plot Servicing in Rwanda

Using an example from Kicukiro District, City of Kigali\(^1\), this report describes the concept and process of plot servicing practice in Rwanda. Plot servicing is a practice that has emerged as a land reorganization strategy in which land owners voluntarily agree to pool and re-subdivide their un-serviced and generally undeveloped land (i.e. greenfield) to enable the government to provide basic bulk infrastructure such as roads and drainage efficiently and without the need for expropriation. Overarching government responsibility for plot servicing sits with the Rwanda Housing Authority (RHA) and City of Kigali (CoK) or relevant District Authorities, but the key actors in its implementation are the Site Committee and the City/District One Stop Centre (OSC).

The site in Kicukiro District consists of various contiguous land parcels in a largely undeveloped part of the city. The area is earmarked for residential development in the Kigali Master Plan. The OSC notes that the land is not being optimally used but it does not have the capacity to provide necessary infrastructure up front. Given this, demand for plot servicing is high and at any one time the CoK OSC is running around 10 similar projects, i.e. facilitating the provision of serviced plots in partnership with the landowners.

Land value increase as a result of plot servicing is significant. According to OSC officials the land value at the commencement of the process, i.e. for undeveloped land is RwF 300 per square meter. At the conclusion of the process it is in the region of RwF 16,500 per square meter, indicating a dramatic increase in land value, although a detailed study needs to be carried out to calculate more accurately the increase in land value. In any case, almost all the increased value accrues to the original landowners.

The land development process is governed by the technical guidelines for Kicukiro District, which is based on the Ministerial Order N° 04/Cab.M/015 of 18/05/2015 (Determining Urban Planning and Building Regulations). These guidelines were developed at the initiation of the District.\(^2\) The steps of the plot servicing process are described below.

<table>
<thead>
<tr>
<th>Project initiation: formation of a Site Committee</th>
<th>1. The landowners in the area mobilize themselves to form a Site Committee, generally after consultations with the OSC have shown that the land is developable and that the OSC will support the process provided that the owners initiate re-parcellation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land subdivision</td>
<td>2. The Site Committee, representing the owners, calls for proposals from private sector land surveyors for re-parcellation. The Committee signs a contract with the selected surveyor and establishes a bank account. The contract is counter signed by the Executive Secretary of the Sector to ensure accountability, facilitation and follow up.</td>
</tr>
<tr>
<td></td>
<td>3. The surveyor proposes a subdivision layout, generally aimed at dividing the site into as many parcels of an average size of 300m(^2) and providing space for roads and other</td>
</tr>
</tbody>
</table>

\(^1\) These notes are transcribed from a meeting and site visit held with officials from the Kicukiro One Stop Center (OSC) on 3 September 2019.

\(^2\) The guidelines have six major parts;
1. Categories of people responsible to prepare Physical Detailed Plans through community participation.
2. Categories of responsibilities of groups and institutions. These include; the community, the Site Committee, the surveyors, the contractor, the OSC and the District Council.
3. Responsibilities of the beneficiaries.
4. Implementation of the physical plan approved by the District Council.
5. Paying for physical detailed plans.
public services. Plot sizes can vary slightly from the 300m² norm, due to site conditions and whether the house is single- or double-story.

4. Where a layout results in a landowner losing his or her land to a road reserve, for example, compensation will be paid at the end of the process. Where a landowner has a house already on the site the layout will generally accommodate that house.

5. The proposed layout is submitted to the OSC which assesses the compliance with planning and land survey standards. Once the OSC is satisfied with the layout it submits the plan to District Council to check for compliance with Kigali City Master plan and approval for implementation.

**Servicing**

6. The Committee can now appoint a contractor to mark out the residential sites and grade roads.

7. The OSC installs the necessary infrastructure, mainly water and stormwater, paid for by the government.

**Land reallocation**

8. The original owners of the land are allocated their share of the land, following the principle that the number of 300m² plots allocated to each owner is in direct proportion to the area of land contributed by him or her.

9. After re-parcellation, the District Authorities, in collaboration with Rwanda Land Management and Use Authority (RLMUA), issue new land documents. Old land lease documents are submitted to the District authorities and so there is no duplicate land document for any parcel.

**Sales of land and housing construction**

10. The Committee now begins a marketing and sales process for the new plots. The Committee sets the purchase prices (between Rwf 5 and 10 million).

11. The buyer for each plot pays the original owner of the land the purchase price as well as an additional portion for infrastructure and project costs that is paid to the Committee. This additional portion is a flat rate for each plot, calculated using technical specifications relating to the location and topographical features of the site. It is typically in the region of Rwf 500,000 per plot. Where one of the original landowners has kept his or her own house on the site the additional portion is still payable.

12. The new buyers proceed to construct their own houses on their new plots, in compliance with the applicable building rules.

The Committee must approve each transaction to ensure that all payments are correctly made, including the portions for infrastructure and project costs. The additional payments for infrastructure and project costs are used by the Committee to cover: (i) Survey and beacon costs; (ii) Road construction costs; (iii) Construction permit fee; (iv) Planners and surveyors’ fees; (v) Bank charges; and (vi) Compensation to the original landowners whose land was used for roads and service reserve areas.

Over time the Site Committee absorbs the new landowners and that Committee becomes the driver of ongoing improvement of the site, e.g. the surfacing of roads. The Committee remains an independent entity, not part of the City of Kigali or the District Council. Where, for example, it wishes to surface the roads the Committee will raise the funds to do so, in consultation with the relevant authorities.
Annex B. Legal and Policy Review

B 1. Overview of Review

The provision of urban low-income housing in Rwanda is impacted by the legal regimes governing access to land, urban planning, infrastructure provision, housing and financing. Notably, property laws, which have been impacted by major land reform efforts that privatized most land in Rwanda, as well as condominium and landlord-tenant laws provide the foundation for understanding the basic rights at play in making land available and affordable for low-income households. Property taxes, rental income taxes, and housing taxes provide context for the financial incentive and funding structure supporting land use.

Other government policy and legal documents that seek to guide low-income affordable housing include the National Urbanization Policy, the National Housing Policy, the National Informal urban Settlement Upgrading Strategy, as well as the Prime Minister’s Instructions No. 001/03 of 23/02/2017, which governs infrastructure subsidization for housing. In Kigali, the CoK has likewise published a City-wide Unplanned and Underserviced Settlements Upgrading Strategy for Kigali.

National and metropolitan land use, planning, building and zoning codes and related regulations and plans also deeply impact urban low-income affordable housing by setting the parameters for housing and site development in urban areas. These laws are meant to actualize the government’s broader guides and plans for urban development and must also be read in the context of Rwanda’s background legal context.

These relevant legal and policy documents are reviewed below to better understand the overall framework for urban low-income housing and identify obstacles or challenges for implementing unplanned settlement upgrading and sites and services schemes, in particular.

B 2. Background Laws: Property, Tenancy, Taxation

B 2.1. Property Ownership and Land Reform in Rwanda

In the mid-2000’s, Rwanda underwent a major land reform that transferred property rights for most land in Rwanda from the state ownership to occupants of the land as private landowners (see Sagashya and English 2009). Article 29 of the Constitution of Rwanda, ratified in 2003, and amended in 2015, establishes the “inviolable” right to private property, which “may not be interfered with except in public interest, in circumstances and procedures determined by law and subject to fair and prior compensation.” Under the transition, all land holders under the previous customary tenure system were granted “emphyteutic” or long term leases of varying lengths, subject to payment of lease fees and conditions in the conveyance contract requiring productive exploitation of the land (Organic Law No. 43/2013 of 15/06/2013, Art. 5, 17, 37, 41 (replacing Organic Law No. 08/2005 of 14/11/ 2005); Presidential order No. 30/01 of 29/06/2007; Ministerial Order No. 001/2008 of 01/04/2008; see also Goodfellow 2015).

Leaseholders are eligible to apply for freehold (i.e. permanent) title of their land upon applying to the Registrar of Land Titles that includes a copy of the existing emphyteutic lease contract and approved permits for development of the land, as well as proof of payment of past rent (Ministerial order No. 36 of 05/09/2011, Art. 4, 6). Freehold titles may only be provided for “developed land where infrastructures are erected” (Organic Law No. 43/2013, Art. 6). There is no requirement that
leaseholders must convert to freeholder status, but leaseholds may be subject to termination if the leasehold land is not developed according to plans (Law No. 43/2013, Art. 37, 39, 44). It appears in practice that development permits may be conditioned upon conversion to freehold title.

All officials interviewed agreed that the adverse consequence of Rwanda’s land reform is the need for the government to reacquire land in order to provide amenities and service infrastructure for communities. In practical terms and for political reasons, the allocation of land resulted in highly irregular property boundaries. Other than voluntary negotiated sale, officials cited expropriation as the primary legal tool for the government to access land for infrastructure and service provision. Rwandan law provides that expropriation may be carried out to provide various forms of infrastructure by all levels of government, only in the public interest and with prior and fair compensation (Law No. 32/2015 of 11 June 2015, Art. 3, 5, 9). Expropriation procedures require attempted negotiations with affected property owners, followed by expropriation proceedings and final decision, which is subject to public comment and appeal. (Expropriation Law, Ch. II, Art. 6; Ch. III). Valuation of property is based on the fair market value of the land, activities carried out on the land, and compensation for disruption caused by expropriation. Valuation by the government is subject to counter-assessment by the property owner (Expropriation Law, Ch. II, Art. 6; Ch. IV). Compensation for expropriation must be paid prior to commencing any project activities (Expropriation Law, Ch. II, Art. 6; Ch. IV). The Expropriation Law allows for compensation in kind in lieu of monetary payment if jointly agreed to by the parties (Expropriation Law, Ch. IV, Sec. 2, Art. 39).

In addition to expropriation, there appear to be alternative legal mechanisms to re-acquire leased property, although for practical or political reasons these may not be viable. First, Rwanda’s land law reserves the power of the state to resume ownership of up to 5 percent of any leased property for public purposes such as road infrastructure (Law No. 59/2011, Article 15). The efficacy of this tool will be limited where more than 5 percent of any leasehold property is needed, or where there are no leasehold properties in the targeted area. Second, the government may revoke leases where leased property is not “properly exploited”, including failing to develop land meant for buildings or infrastructure (see Organic Law No. 59/2011, Art. 41-44). These tools did not come up in discussions with government officials. It is possible that these forms of acquisition without agreement or compensation may be deemed politically infeasible.

Land reform in Rwanda has also shifted the dynamics of land provision and urban reforms. First, widespread private property ownership and security of land rights has transferred land wealth and control to private individuals, creating the context for a robust and formal land market, as well as the potential for accumulation of wealth through appreciation of land values. This has important and largely positive implication for land readjustment. The allocation of land to the people has also removed a common impediment to settlement upgrading in other contexts—namely the informality and insecurity of tenure among leaseholders and freeholders. The concern regarding security of tenure has instead shifted to tenants and renters, for whom legal protections remain weak. In addition, the allocation of land to private individuals has removed an important urban redevelopment tool, particularly in the context of sites and services schemes where the absence of government land disables the government’s capacity to leverage infrastructure provision and other public goods (including affordable housing).
B 2.2. Condominium Law

Rwanda’s law providing for condominiums is relatively recent, having come into being in 2010 (Law No. 15/2010 of 07/05/2010). Under the Condominium Law a condominium is defined as (i) a building or buildings with separate entrances each owned by at least two different property owners on land commonly owned between them; or (ii) parts of a multi-apartment block which has separate entrances (Law No. 15/2010 Art. 4). Condominiums do not include buildings with common walls erected on separate plots, which are governed by the joint ownership legislation (Law No. 15/2010 Art. 4).

Condominium associations are established by co-owners or may be established by a public institution in charge of housing promotion and are governed by articles of association. The purpose of the association is to provide maintenance and repair and communal services, and to represent and protect the interests of the members of the association (Law No. 15/2010 Art. 7). Co-shares in an association are determined by the total surface areas of units possessed by each owner, unless agreed to otherwise (Law No. 15/2010 Art. 20). Obligations of the association include management, maintenance and repair of the condominium, ensuring that members fulfil their obligations and comply with the condominium articles of association, including property hygiene (Law No. 15/2010 Art. 11).

The articles of association are drafted by the co-owners and must include (i) allocation of the fraction or percentage of undivided interests in the common elements and expenses of the association, and a portion of the votes in the association for each unit and formula used to determine votes; (ii) maps and plans of the condominium complex, improvements and the plot; (iii) easements, if possible; and (iv) the location and dimension of all common elements (Law No. 15/2010 Art. 6). The Law also sets out the powers of the association such as the power to represent in litigation, issue obligatory fees and penalties for non-payment, and initiate lawsuits for enforcing fee payment or other violations (Law No. 15/2010 Art. 12).

The Condominium Law requires that condominium associations insure their property and the unit owners in a condominium insure their own unit (Law No. 15/2010 Art. 14). Neither the association nor individual owners assume liability for each other’s conduct (Law No. 15/2010 Art. 15). Individual rights in a condominium are freely transferable (Law No. 15/2010 Art. 16). Commercial activities within individual unit are permitted, but associations may limit commercial activities in common areas (Law No. 15/2010 Art. 17). A condominium and each individual unit must be registered, and each unit owner is subject to taxation for his or her unit and share of common elements (Law No. 15/2010 Art. 25, 26). Registration entails a fee determined by Order of the Minister in charge of lands (Law No. 15/2010 Art. 29).

Condominium ownership is relatively rare in Rwanda and so there is relatively little experience of how the law operates in practice. The Condominium Law allows flexibility in organization of condominium associations, and registration of associations and membership seems to be straightforward. However, the government may not have administrative or judicial resources to enforce the formation or registration of condominium associations, and fees associated with registration (and subsequent taxation) may hinder these efforts. Like other formalized community-based residential and tenant associations, condominium associations may serve as a powerful tool for community engagement by providing a platform for input, discussion, and decision-making around local housing needs, but they will also require time and effort to establish, particularly while they are still unfamiliar to people.

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3 Further research is needed to understand the low uptake of the opportunities provided by the Condominium law.
B 2.3. Landlord-Tenant Law
There is apparently no formal law in Rwanda specifically governing the relationship between landlord and tenant or protection of the rights of tenants. Instead, the landlord-tenant relationship is completely governed by the rental agreement (interview with CoK officials 2019). Although there are a few formal legal provisions that require documentation of a formal written lease, most notably for rental tax purposes (Law No. 75/2018, Art. 49), most tenants lack written documentation, an issue that the government has flagged (NIUSUS, 1.4.3, p. 12). The lack of tenant protections and dearth of formal documentation of contractual rights is a serious concern. For instance, during upgrading or land readjustment, tenants may be more easily displaced if they have no formal documentation showing that they were previously residents in the area.

B 2.4. Property Tax Regime, Landownership, and the Implications for Infrastructure Financing
Landownership reforms and simultaneous tax reforms have significantly impacted the government’s ability to generate revenue from property taxation and to use it for funding infrastructure provision. In 2000, Rwanda moved towards decentralization of its tax regime, devolving tax responsibilities for property, trading, and rental income taxation to local governments (see Goodfellow 2015, citing Law No. 17/2002; see also Law No. 75/2018 of 07/09/2018, Art. 3). Reflecting the transition in property ownership, the government also implemented a property tax on freehold owners and lease fees for (emphyteutic) leaseholders (Organic Law No. 43/2013, Art. 6; Presidential Order No. 25/01 of 09/07/2012, Art. 9). The previous property tax rate of 0.1 percent of assessed value, one of the lowest in the region (Goodfellow 2015), has recently been raised to 1 percent of the market value of residential buildings plus a tax rate between zero and RwF 300 per square meter on land determined by District Councils per criteria set by the Ministerial Order (Law No. 75/2018, Art. 16, 18).

Even before most recent property tax increases, the tax rate on freehold properties served as a disincentive to convert property from leasehold to freehold title (Goodfellow 2015). Contrary to the expectations that secure rights might incentivize conversions from leasehold to freehold titles, the prospect of a potentially higher financial burden under the property tax laws has stymied largescale conversion to freehold status. Whereas freehold property must be taxed according to the rate between RwF 0 and 300 per square meter, leaseholders need to pay only the annual leasehold fee which in urban areas ranges from RwF 30 to 80 per square meter (compare Law No. 75/2018, Art. 16, 18, with Presidential Order No. 25/01, Art. 9; see also Goodfellow 2015). This is in the context where the general public is relatively unfamiliar with the concepts of leasehold versus freehold property rights. Currently, 97 percent of property land owners do not have a freehold title (see Kopanyi and Murray 2016, p. 7).

The reluctance of leaseholders to convert to freehold status has hindered efforts to increase tax revenue, which in turn has reduced the capacity of local governments to afford expansion of infrastructure deployment. The recentralization of property tax revenue collection to the Rwanda Revenue Authority further weakens the incentive for the collection of property tax by Kigali and District Revenue Authority.

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4 The Rwandan Constitution provides that custom law governs in the event there is no formal law regarding the matter, and it is not inconsistent with the Constitution, does not violate human rights, and does not prejudice public security or good morals (Constitution of Rwanda 2003, Art. 176). Additional research is needed to identify if any Rwandan customary law deals comprehensively with tenants’ rights.

5 The new Zoning Regulations also expressly require a written agreement for rental of accessory units (Zoning Regulations, Section 4.11.2, p. 38-39),
Councils. Nonetheless, officials hope to increase property tax revenue by tying development permissions to conversion to freeholder status (Interviews with Kigali officials 2019). Land readjustment could be used to further facilitate this conversion by integrating land use and infrastructure service planning into negotiations over service delivery, development, and ownership conversion. Although the prospect of higher property taxes as a condition of participating in land readjustment might dampen the desire to participate, tying these taxes to financing of the infrastructure provision more explicitly might help incentivize landholders to participate (see UN-Habitat 2013). Taxpayer confusion resulting from many changes to the tax regime over the past few years should be clarified for effective land readjustment, however (for more discussion on this, see Goodfellow 2015).

B 2.5. Housing Tax and Rental Income Tax

With respect to housing provision, there are several general property tax reductions and exemptions in Rwanda’s tax laws. Most importantly, the building that a land-owner ‘intends to’ occupy for dwelling purposes and its annex buildings located on a single-family residential plot are exempted from property tax, regardless of whether the owner actually occupies the building (Law No. 75/2018, Art. 12). The language of this exemption suggests that freehold owners must still pay a property tax based on the unbuilt square meterage of his/her property. The exemption for primary dwellings also applies to individual and commonly owned portions of condominium buildings, although they are still liable to pay taxes for commonly owned portions of unbuilt land (Law No. 75/2018, Art. 12). There is also a 50 percent reduction of the tax rate for residential apartments of at least four floors (Law No. 75/2018, Art. 17). Conversely, Rwanda’s tax law assesses an additional 50 percent on land taxes on plots of land that are larger than the standard size of plot meant for construction of buildings, a standard determined by order of the Minister in charge of housing (see Law No. 75/2018, Art. 19). The additional tax only applies to plots acquired after enactment of the Law No. 75/2018. Undeveloped land is taxed at double the applicable land tax rate (Law no. 75/2018, Art. 20).

These tax provisions appear consistent, and even favorable, to land readjustment, since smaller plot sizes would result in lower individual taxes. In-situ landowners also benefit more, which supports urban upgrading and site and services schemes if landowners can build their homes incrementally.

In addition to property taxes or leasehold fees, landowners who rent property to tenants are subject to a rental tax. Landlords who are not subject to the corporate tax must pay a staggered progressive tax rate on 50 percent of gross rental income (Law No. 75/2018, Art. 47-54). Some landlords view this practice as double taxation, which hinders compliance (Goodfellow 2015, p. 18). While the rental income tax is arguably a disincentive for densification and low-income housing provision, it provides an important source of revenue for local municipalities (see Goodfellow 2015). From an objective standpoint it is a legitimately taxable activity. The staggered/progressive nature of rental taxation also promotes lower income housing in theory, since lower rental income is taxed at a lower rate.

B 3. Low-Income Urban Housing Policies, Strategies, and Orders

B 3.1. National Urbanization Policy

The National Urbanization Policy (NUP, 2015) seeks to “promote good urban development that enhances local and national economic growth and ensures good quality of life for everyone.” (NUP, p. 6). The NUP sets out a framework for addressing some of the challenges facing Rwanda’s urbanization, including “land-use disorder and uncontrolled urban sprawl, increasing environmental deterioration, inadequate urban services, urban poverty, informal settlements, . . . [and] inadequate urban investment.
and financing” (NUP, p. 6). The NUP consists of four pillars (coordination, densification, conviviality and economic growth) and ten policy statements addressing actions with respect to those pillars.

Pillar 2’s (Densification) policy statements directly address urban development (NUP, 3.2.1, p. 30):

- Policy Statement 4: Urban development shall reflect the efficient use of land, strategic investment phasing, and be based upon green development principles
- Policy Statement 5: Performance-based guidelines for urban planning and informed decision-making shall support the development of efficiently serviced urban neighborhoods.

Pillar 2 of the NUP calls for an urban planning code that “provides the principles for the sustainable development and management of land use for human settlement” (NUP, 3.2.2, p. 30). It sites incremental methods to promote densification. The implementation plan for Pillar 2 includes development of “operational guidelines for efficient land subdivision and re-plotting” (NUP, p. 2). Pillar 3’s (Conviviality) policy statements address improving quality of life and promoting social inclusion (NUP, 3.3., p. 35). To achieve this, the NUP calls for urban upgrading and the prevention of informal settlements (NUP, 3.3.1, p. 36). The NUP provides the basis for subsequent land use, planning, and development laws, policies and regulations such as the Kigali Master Plan and the City-wide Unplanned and Underserviced Settlements Upgrading Strategy for the City of Kigali (Kigali USU Strategy).

**B 3.2. National Housing Policy**

The National Housing Policy (NHP, 2015) contains pro-poor provisions and identifies a serious gap in housing affordability, including inaccessibility to mortgages for most Rwandan households (NHP, 1.4.2, p.6.; 2.3., p. 12, 3.2.4. p. 15). It also identifies the “informal sector” as the primary form of housing, and renters as the primary occupants of urban housing in Rwanda. (NHP, 1.4.2, p. 8). It states that the government’s focus should be on achieving “basic living standards” (NHP, 3.5.1., p. 20).

With respect to settlement upgrading and incremental development, the NHP identifies self-construction as a “valid and effective way of creating housing in an affordable approach”, and “self-construction may be developed in an incremental approach aiming at high-density housing” (NHP, 3.2.5, p. 15). It further states that “owner-builders should be enabled to build, improve or expand their properties following the principles of compact mixed use, resource efficiency, and basic service delivery” (NHP, 3.3.1. p. 16). It also advocates for “investment into maintenance and upgrading of already existing and adequate housing” to complement new housing stock” (NHP, 3.5.1., p. 20). The NHP states that government should provide infrastructure where feasible and promote “financing and technical implementation mechanisms” to assist private home improvement (NHP, 5.2.5, p. 36). The NHP also envisions a large role for small and medium sized enterprises to aid with incremental development (NHP 5.7.5, p. 42), and for local production of materials (NHP, 6.3, p. 48).

With respect to siting, the NHP states that the “poor should be located in economically and socially viable areas” (NHP, 3.3.2, p. 18). The NHP also envisions high-density development (see NHP, 6.1.1, p. 46). It states that revisions to the urban planning code and building code will “promote mixed use urban design, compact and environmentally sound neighborhood and settlement design” (NHP, 6.3, p. 49).

The NHP also expressly identifies land readjustment as a desirable policy tool to enable “self-driven, voluntary land pooling by individual landholders, or in collaboration with a developer to overcome the constraints of land scarcity and small-holder plot ownership” (NHP, 3.4.1 p. 19; 3.6.2, p. 21; 6.1.1, p. 46).
It views “the appreciation of home value of existing housing stock as a result of neighborhood servicing and market forces [as] an ally in poverty eradication efforts” (NHP, 3.5.2, p. 20). Potential arrangements for land readjustment could be “either a contractual agreement of land holders with a developer, including shareholder schemes and interim accommodation agreements, or cooperative development with individual land holders forming cooperative which acts as a developer itself, and with its members benefitting from individual or condominium homeownership” (NHP, 3.4.1., p. 19). The NHP also calls for owners to form cooperative house management groups to provide rental opportunities to low-income tenants (NHP, 3.4.1., p. 19). It states that “the current legal framework provides the basis and requires operationalization of the concept among civil society and private individuals and legal and administrative complementation” (NHP, 6.2, p. 47). If taken to mean that there are no significant legal obstacles to land readjustment, but that a more definite land readjustment process must be articulated, this assessment appears correct. It is certainly in line with the international experience that land readjustment does not happen organically but needs to be driven by a trusted government authority, acting in terms of its legislative mandate.

The NHP states that the government will financially support housing in several ways, including provision of infrastructure, construction materials, and allocation of tax incentives, some of which could benefit low-income housing (NHP, 5.2.1, p. 34). It also calls for intergovernmental coordination to harmonize land use, zoning, infrastructure planning and private investment in housing (NHP, 5.7.1., p. 41).

Overall, the NHP provides a policy basis for supporting pro-poor urban housing tools, including incremental in-situ upgrading, densification, and land readjustment. Acknowledgement of these tools does not, however, guarantee their attainment. As discussion of applicable regulations, codes, and plans below indicates, these tools have only partially been incorporated into the legal framework.

B 3.3. National Informal Urban Settlement Upgrading Strategy

The National Informal Urban Settlement Upgrading Strategy (NIUSUS, 2017) offers guidance on nationwide implementation of informal urban settlement upgrading. The primary goal of the strategy is “to effectively guide the inclusion of existing, currently informal housing stock as part of the formal stock of housing in support of sustainable settlement, affordable housing, improvement of living conditions and asset value increase” (NIUSUS, 2.1.1, p. 26). Strategic objectives of upgrading are set by NIUSUS as to:

- Take advantage of an established mix of uses and livelihoods in inner urban locations;
- Enhance the socio-economic conditions for urban households;
- Secure and facilitate private investment in the built environments, and assist property owners to capitalize on their property;
- Integrate formerly unplanned neighborhoods into the urban fabric and include the housing units into the formal, affordable housing stock;
- Ensure that the quantity of housing units after urban upgrading would typically increase, depending on the initial conditions, and where necessary, increase densities;
- Provide basic services to formerly unplanned neighborhoods as well as public health and safety;
- Support an urban renewal process that increases livability and socio-economic opportunities; and
- Minimize displacement and provide for adequate re-settlement where it cannot be avoided.

The NIUSUS establishes that “it is the Government’s responsibility to ensure basic infrastructure servicing in all urban neighborhoods, particularly ensuring potable water, waste water treatment and
sanitation, waste management, energy, adequate accessibility, access to health, education and other public and social facilities” (NIUSUS, 2.2.3, p. 27). Private landowners can also lead urban upgrading interventions. In all cases, urban renewal should be inclusive, collaborative and people-driven (NIUSUS, 2.2.3, p. 27; 2.2.4, p. 27-28).

79 percent of people in Kigali live in informal settlements, characterized by unplanned nature, overcrowding, inefficient land use, limited accessibility, and limited access to infrastructure (NIUSUS, 1.2, pp. 8). The NIUSUS highlights that property rights reforms have eliminated a major element—tenure insecurity—that normally constitutes one of the primary features of informal settlements (NIUSUS, 1.6.1, p. 17). Now the only tenure-related informality in Rwanda is based on non-recorded transfers (NIUSUS, 1.8, p. 21). Although informal construction “commendably applies construction methods suitable for manual and incremental construction” (NIUSUS, 1.2, pp. 8-9; see also 1.4.2, p. 11), the lack of planning until recently made such construction informal, something that the implementation of new planning laws aims to correct (see NIUSUS, 1.6.3, pp.17-18).

The NIUSUS notes that building permit requirements and building and construction codes have been revised in a “pro-poor” manner to eliminate “barriers to getting a permit for simple residential houses common in previously informal development (NIUSUS, 1.6.2, p. 17). These same codes have been revised to legalize local handmade building materials and technologies (NIUSUS, 1.6.4, p. 18). District “One Stop Centers” are touted as facilitating compliance with and coordination between land administration and management, planning, permitting, and inspection (NIUSUS, 1.6.6, p.19).

The primary challenges of urban renewal efforts are limited resources for public infrastructure service provision; limited accessibility to financing models for construction and end user finance; limited design, planning and construction quality and skills in the sector; and limited development management proficiency at local government level (NIUSUS, 1.4.1, p. 11). The practical difficulties also arise from challenging physical and environmental conditions, both natural (steep slopes and flooding) and human-made (lack of roads, inadequate sewerage, poorly constructed buildings) (NIUSUS, 1.4.2, p. 12). With respect to socio-economic conditions, challenges include overcrowding, lack of formal employment, absence of written rental agreements for tenants, and lack of social infrastructure and facilities.

The NIUSUS identifies five options for upgrading:

(i) Collaborative area upgrading by landowners (and possibly tenants) through land pooling;
(ii) Real estate investor-driven developments based on land pooling;
(iii) Government-led basic infrastructure provision in underserviced areas;
(iv) A “Social Investment Trust” (a public corporate variant of option (ii)); and
(v) Schemes devised with development partners, NGO/CSOs or lending institutions.

It is expected that option (i) for land-pooling will likely be initiated by mid-range income landowners, while other options would likely be more feasible where owner households have low or very low incomes. The NIUSUS identifies option (i) as having the “highest potential for general rollout with the least complications and preparations needed” (NIUSUS, 2.5.11, p. 41), although this is questionable given the high potential social transactional costs of a land owner-driven negotiation process.

With respect to process, the NIUSUS lays out the following steps (NIUSUS, 2.5.4, pp. 36-37):

- Preparation of feasibility study under the District, if necessary;
• Elaboration of Specific Land Development Plan (Upgrading Plan) by the District in a participatory, community-based process, and of a Land Subdivision Plan elaborated by/or in direct collaboration with the landowners and project owner(s), as far as they are not the same. Any subdivision and re-plotting process to enable basic neighborhood servicing should be accompanied by a communication and mediation facilitator from the District OSC (following the Prime Minister’s Order No. 104/03 of 06/05/2015, regarding procedures for Local Land Development Plans);
• Preparation of detailed engineering designs for complex interventions by the District and financed by the respective project owner(s) if possible;
• Request for Building or Real Estate Development Permit by the project owners (following Ministerial Order No. 06/Cab.M/015 of 08/06/2015 or Prime Minister’s Order No.114/03 of 19/06/2015).
• Infrastructure works (community works or contractual works as applicable); and
• Refurbishment/real estate development by the project owner(s) or any project partner if possible.

The NIUSUS expressly notes that urban upgrading may include re-plotting or plot readjustment, coupled with on-site infrastructure improvements. Under all options, landowners are expected to contribute land, either individually or by land pooling (NIUSUS, 2.5.5, p. 37). Except for option (iii), no involuntary resettlement is expected because these options would be voluntary or community-led. For option (iii), involuntary resettlement may take place but should be “minimized as much as possible” (NIUSUS, 2.5.6, p. 38). Options (ii), (iii), and (v) require Resettlement Action Plans “detailing compensation and resettlement process to exclude any adverse impact of the project through mitigation measures, in particular, against potential impoverishment risks” (NIUSUS, 2.5.7, pp. 38-39). The table below summarizes different features of each option with regards to land acquisition and compensation and infrastructure and home improvement financing.

<table>
<thead>
<tr>
<th>Features</th>
<th>Option (i)</th>
<th>Option (ii)</th>
<th>Option (iii)</th>
<th>Option (vi)</th>
<th>Option (v)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involuntary resettlement</td>
<td>Not expected</td>
<td>Not expected;</td>
<td>Limited resettlement, if required</td>
<td>Not expected</td>
<td>Not expected</td>
</tr>
<tr>
<td>Resettlement Action Plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Needed</td>
</tr>
<tr>
<td>Landowner compensation</td>
<td>From developers</td>
<td>Expected</td>
<td>Expected</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure improvement</td>
<td>Through community works⁶</td>
<td>Contracted out by the investor / project owner commercially</td>
<td>Through community works (See the foot note)</td>
<td>Contracted through the Social Investment Trust</td>
<td>“Auto-financed”, with community labor being paid for</td>
</tr>
<tr>
<td>Home improvement financing</td>
<td>Homeowner savings with micro-finance support⁷</td>
<td>Developer working with finance institute</td>
<td>Collective mortgage, microfinance, or savings</td>
<td>Social investment trust</td>
<td>By NGO or through micro-finance</td>
</tr>
</tbody>
</table>

⁶ Technically complex interventions will be contracted through the District and financed with private contributions or through the sale of land. For Option (iii), they will be paid for by development partners, if available.
⁷ Other options are collective mortgage, sale of property before implementation or sale and rental after implementation.
Potential ownership options available after land readjustment are: individual title with readjustment, condominium titles, and project shares (possibly combined with ownership or tenancy) (NIUSUS, 2.5.12, p. 41). With respect to tenant involvement in the process, the NIUSUS identifies opportunities such as: participation in planning; having a share in the project with financial contribution; rental agreement with the landlord; and preferred-buyer agreement with the project owner (NIUSUS, 2.5.13, p.42.). The NIUSUS also references conformity with existing lease rights and proper notification to affected tenants.

The NIUSUS provides the only government template for implementing upgrading and housing provision with land readjustment as a tool for consolidating land needed for infrastructure and buildings. The different options and modalities suggested by the NIUSUS is valuable in allowing some flexibility for different contexts. However, successful implementation will require more specific designation of roles and responsibilities among stakeholders, clear articulation of the economic benefits for landowner participation, elaboration of financial and legal terms for negotiation between the government and landowners or developers and building capacity and consensus in participating communities.

B 3.4. Prime Minister’s Instructions for Determining the Conditions and Procedures for Obtaining Government Support for Affordable and High Density Housing

In 2017, the Prime Minister issued Instructions No. 001/03 of 23/02/2017 for Determining the Conditions and Procedures for Obtaining Government Support for Affordable and High Density Housing. Under these instructions, private developers or cooperatives of landowners may obtain government support in the form of provision of or full financing for basic infrastructure. The Instructions provide separate eligibility criteria for affordable housing and high density housing projects as below.

Table 2: Eligibility criteria for affordable and high density housing projects (Instructions No. 001/03, Art. 5-8).

<table>
<thead>
<tr>
<th>High density housing project eligibility criteria (Article 6)</th>
<th>1. The number of units contained in a high density housing development shall be determined by separate instructions by Minister in charge of housing at least once every two years;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. The project must exceed a minimum required number of units per hectare as provided for by urban planning code by at least twenty five percent (25%).</td>
</tr>
<tr>
<td>Affordable housing project eligibility criteria (Article 5)</td>
<td>1. The project must offer a variety of housing unit categories and sizes;</td>
</tr>
<tr>
<td></td>
<td>2. The project must exceed the minimum required number of units per hectare as provided for by urban planning code by at least twenty percent (25%);</td>
</tr>
<tr>
<td></td>
<td>3. The housing unit shall not exceed a total floor area of 95 square meters or total floor area that shall be determined by the Ministerial Instructions where necessary;</td>
</tr>
<tr>
<td></td>
<td>4. The building must be constructed using locally mined and produced or locally prefabricated materials as far as possible.</td>
</tr>
<tr>
<td></td>
<td>5. The developer includes a capacity building and on-site training;</td>
</tr>
<tr>
<td></td>
<td>6. The developer contracts local or national small and medium enterprise for more than half of the construction works;</td>
</tr>
<tr>
<td></td>
<td>7. At least one of the following three (3) criteria is fulfilled:</td>
</tr>
<tr>
<td></td>
<td>a. The cost per square meters of one housing unit, excluding the cost of public infrastructure, is below the value set by the Minister in charge of housing once in every two (2) years;</td>
</tr>
</tbody>
</table>

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8 There is a discrepancy under the eligibility for affordable housing between the density thresholds as written in words (“twenty percent”) and in digits (“25%”). In general, the written words govern in case of inconsistency.
b. The developer offers an affordable payment mode to the targeted beneficiaries and enables the beneficiary to purchase or rent one of the offered housing units;
c. The developer is a cooperative formed by individual land holders of the housing planning area. The members of the cooperative must fulfil requirements specified in Article 7 of these instructions.

<table>
<thead>
<tr>
<th>Eligibility to be beneficiaries of affordable housing (Article 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Be a citizen or permanent resident in Rwanda;</td>
</tr>
<tr>
<td>2. Be at least twenty one (21) years old, except if the beneficiary is a full orphan;</td>
</tr>
<tr>
<td>3. Not possess a real estate or a house in an urban area or lessee of such estate with a remaining lease period of above ten (10) years or not to be legally married to a spouse of an owner of such real estate or house;</td>
</tr>
<tr>
<td>4. Not have a net yearly income above a value set by the Minister in charge of housing once every two (2) years;</td>
</tr>
<tr>
<td>5. Commit him/herself not to sell a Government supported Affordable and High density housing unit within a period of at least ten (10) years by signing a declaration. A beneficiary may, however, be permitted to swap units within that housing scheme or rent it during or after full acquisition.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process for selection of beneficiaries (Article 8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. If a real estate developer informs the relevant District of the planned Affordable and High density housing development project, the District shall publicly announces [sic] the project proposal on its notice board, through local authority information meetings, media outlets by providing information on site plans and floor plans of proposed housing units.</td>
</tr>
<tr>
<td>2. Any person interested in benefiting from a housing unit within the Affordable and High density housing development project and who fulfils requirements specified in article 7 of these instructions may register such interest at the District office within twenty one (21) days from the day of announcement of the project proposal.</td>
</tr>
<tr>
<td>3. The concerned District Council shall select the beneficiaries of the proposed project basing [sic] on the following:</td>
</tr>
<tr>
<td>a. If the beneficiary was the original land holder who contributed land to the project and if s/he had registered interest in housing provided that s/he fulfils conditions specified in article 7 of these instructions;</td>
</tr>
<tr>
<td>b. Gender-sensitivity.</td>
</tr>
</tbody>
</table>

Some similarities and differences between the requirements for high density and affordable housing are noteworthy. Both require increases in density measured by dwelling unit (du) per hectare over what is provided for in the Urban Planning Code. For affordable housing, the increase is 20 percent, while for high density housing the increase is 25 percent (which may be a typo as discussed in the footnote). This would increase the required dwelling unit threshold as below (see RPC, 1.7 Table 3, Gazette p. 106).

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Urban Planning Code</th>
<th>Affordable Housing</th>
<th>High-density Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required increase in density</strong></td>
<td>-</td>
<td>20 %</td>
<td>25%</td>
</tr>
<tr>
<td>Urban core mixed use areas</td>
<td>70 du/ha</td>
<td>84 du/ha</td>
<td>87.5 du/ha</td>
</tr>
<tr>
<td>Sub-center residential areas</td>
<td>30 du/ha</td>
<td>36 du/ha</td>
<td>37.5 du/ha</td>
</tr>
<tr>
<td>Off-core residential areas</td>
<td>15 du/ha</td>
<td>18 du/ha</td>
<td>18.75 du/ha</td>
</tr>
</tbody>
</table>

Except for density requirements, affordable housing project eligibility criteria are more extensive and ensure affordability by requiring either (i) the cost per square meter of housing unit to be below a threshold set by the Minister every two years; (ii) an option provided by the developer for affordable
payment for purchase or rent; or (iii) the developers must be a cooperative of land holders (Instructions No. 001/03, Art. 5).

One of the eligibility criteria for high density housing development projects is a minimum number of units set by the Minister at least once every two years. However, published requirements in line with this provision of the Prime Minister’s Instructions No. 001/03 of 23/02/2017 could not be found.

The drafting of provisions in Article 5 and 7 regarding cooperatives seem inconsistent and potentially suggest that there would be no low-income requirements or thresholds for cooperatives. Compare Article 5.7.c. (“The members of the cooperative must fulfil requirements specified in Article 7 of these instructions”) with Article 7, para 2 (“Provisions of Paragraph One [stating pro-poor conditions] do not apply if the developer is a cooperative formed by the individual land holders of the housing planned area.”).

The Instructions provide criteria for the beneficiaries of government-supported affordable housing under the program. Most notably, beneficiaries’ net yearly income must be below a maximum limit set by the Minister in charge of housing once every two years, may not possess real estate or another house in an urban area in fee simple or through long-term (at least 10 year) lease, and may not be married to someone who has the same (Instructions No. 001/03, Art. 7). The beneficiary must also commit not to sell the government supported housing unit for at least ten years, although he or she may swap units or rent it out during that time. The government controls the housing beneficiary selection process through a public notice and application process, although land holders contributing land to the project are given priority (Instructions No. 001/03, Art. 8). Developers are subject to penalties if they do not complete housing, and beneficiaries are liable for penalties in the form of fines after six years (Instructions No. 001/03, Art. 17).

While the concept of conditioning government provision of infrastructure on the development of housing is important, the specific eligibility and beneficiary criteria raise concerns. The prescriptive nature of the eligibility requirements for affordable housing may be difficult to comply with. For example, the requirement that beneficiaries keep the property for 10 years may prove overly burdensome and lead to an informal land market emerging, as has been the case under similar laws in South Africa. In South Africa the free houses provided to low-income households may not be sold for an eight-year period after first transfer. In practice many poor households are forced by circumstance to sell their houses informally. It is estimated that more than one million houses may have been transacted in this way already. This creates a legal, financial and administrative crisis that will only grow exponentially. Another concern is that the government’s tight control over the process of identifying beneficiaries may disincentivize landowners and developers from participating.

Furthermore, that the criteria for “affordable” housing is more stringent than the criteria for “high density” housing makes it likely that developers will opt for the latter over the former. This is concerning because there is no explicit requirement to care for low-income populations for high density housing.

Finally, the Instructions do not a standard for determining affordability, but instead provides that the Housing Minister shall make this determination. While it is understandable that a definition of affordability should be flexible enough to adjust to changing demographic profiles, the lack of a clear standard for affordability here reinforces concerns that the beneficiaries of this program may not actually be low-income.
B 3.5. City-wide Unplanned and Underserviced Settlements Upgrading Strategy for Kigali

The City of Kigali, with technical support by UN-Habitat, is currently finalizing a City-wide Unplanned and Underserviced Settlements Upgrading Strategy for Kigali (Kigali USU Strategy). The Strategy attributes the emergence of unplanned and underserviced settlements to limited developable land because of topography, speculative landlords and vulnerable tenants flocking to the urban center, shortfalls in public infrastructure provision and high home construction material costs. It calls for an integrated, city-wide approach to addressing the issue and proposes a series of interventions for seven settlement types: central overcrowded areas; uphill sloped settlements; downhill settlements; inaccessible area; small-pocket settlements; peri-urban areas; settlements located in highly steep slopes; and settlements located in flood prone areas (Kigali USU Strategy 2019, p. 20). Below is a summary of proposed conceptual approaches (strategies) and interventions (specific actions) for each type.

Table 4: Settlement types and proposed interventions under the Kigali USU Strategy

<table>
<thead>
<tr>
<th>Type of Settlement</th>
<th>Proposed Strategies</th>
<th>Proposed Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overcrowded central areas</strong></td>
<td>Negotiations with landowners to create space for infrastructure, urban expansion, public spaces, etc. E.g. establishment of public-private partnerships between landowners, transport companies and CoK for implementing urban expansion/renewal projects and constructing affordable housing; provision of public subsidies with bank loans, building partnerships between developers, tenants and landowners.</td>
<td>Urban expansion projects; clustering and densification; improving urban basic services provision; public space and green areas.</td>
</tr>
<tr>
<td><strong>Uphill sloped areas</strong></td>
<td>Land pooling to minimize relocation; self-improvement and participatory design; housing cooperatives; injection of public funding and social/subsidized rental housing through [Public Private Partnerships] specifically targeting low-income groups</td>
<td>Connective infrastructural improvements; land negotiation to create space; regulating rental markets (injecting public funding to stimulate investments on housing improvements by landowners) who can then benefit from expanded real estate market business); and erosion control and environmental protection.</td>
</tr>
<tr>
<td><strong>Downhill settlements</strong></td>
<td>Participatory land readjustment; complete urban renewal (only in extreme cases) for flood prone areas, with potential new agricultural use.</td>
<td>Physical demarcation of the settlement boundaries (with roads); improvement of sanitation and environmental protection; subdivision into clusters of 10-20 plots.</td>
</tr>
<tr>
<td><strong>Inaccessible areas</strong></td>
<td>Expropriation or purchasing of plots to open access roads; improved access to water and sanitation and clear settlement’s boundaries; public spaces; re-organize plots and manage densities.</td>
<td></td>
</tr>
<tr>
<td><strong>Small-pocket settlements</strong></td>
<td>Better regulation of illegal plot subdivision for rental purposes; avoid compensating landowners for upgrading these areas.</td>
<td></td>
</tr>
<tr>
<td><strong>Peri-urban areas</strong></td>
<td>Acknowledge transitory purpose of these areas; connect core and peri-urban; promote economic opportunities, particularly agriculture.</td>
<td>Provision of improved irrigation systems; efficient and affordable public transportation services; social facilities; secure land tenure; and agri-business and small industry opportunities.</td>
</tr>
</tbody>
</table>
Because settlements in high risk areas, i.e. steep-sloped and flood prone areas are unsafe, the Kigali USU Strategy states that these areas need to be depopulated and inhabitants relocated, as has happened in the Karama project in Kigali (see Annex C3).

With respect to a city-wide response, the Kigali USU Strategy supports the following interventions: increase the supply of rental housing; encourage land banking; supply key missing infrastructure to ensure full connectivity; increase cooperative housing and upgrade the existing stock; encourage community association; harmonize the master plan and settlement standards, making them more flexible and/or incremental (Kigali USU Strategy 2019, p. 45). For implementation, the Strategy suggests focusing on targeted subsidies to cover basic needs or initial investments, relying on landowners and tenants to also contribute financially or in-kind. In some cases, public-private partnerships for infrastructure development is also proposed. Various means of financing are also proposed, including: government-financed bulk infrastructure; loans or lines of credit for landowners and for tenant associations; credits for tenant or landowner associations; lines of credit for urban renewal joint-ventures, and individual micro-loans (Kigali USU Strategy 2019, p. 47-48).

B 3.6. MININFRA Draft Rental Housing Strategy

In 2019, MININFRA issued a draft Rental Housing Strategy (2019, p. 3) to serve as “an action-oriented framework that guides the country to maintain and create safe, suitable and affordable housing options for low income residents”. It provides a high-level policy view of the context and justification for rental housing, with few specific details regarding implementation.

The Rental Housing Strategy also provides a set of strategic directions and implementing policies to address the lack of affordable housing options in the country. The Rental Housing Strategy defines “affordable rent” as “20% of [an] individual’s income” (Rental Housing Strategy 2019, p. 8), without reference to income brackets or quintiles. The Rental Housing Strategy promotes “a diverse mix of housing types and tenures” and offers a number of policies to create incentives for rental housing production (Rental Housing Strategy 2019, p. 10) such as: (i) use of government land to promote public rental housing; (ii) use of GoR housing finance fund to subsidize interest rates for homeownership; (iii) provide subsidies for social housing (not for rental); (iv) “facilitate massive private or cooperative rental housing construction”; and (v) promote private owner individual investment into affordable rental housing. Zoning regulations are identified as achieving the last of these through incremental construction, but there is no further detail provided on how this policy will be pursued.

The document also notes that the government should seek to educate citizens regarding incremental construction and land pooling (Rental Housing Strategy 2019, p. 12). It also identifies a form of “joint venture” between landowners and private developers in which landowners provide land and developers develop new housing. However, there is no discussion on land value capture mechanism for the developer; in fact, the policy states that the “developer will give housing unit(s) to the landowner proportional to the value of his/her total contribution and the constructed units may be used for renting.” (Rental Housing Strategy 2019, p. 13). While this suggests that the developer will retain surplus land to finance development, it is not clearly stated.

B 4. Rwanda Urban Planning and Building Regulations

A new suite of regulations and codes published in 2019 provide the framework for urban planning and construction standards in Rwanda. Ministerial Order No. 02/CAB.M/019 of 15/04/2019 (Building Permit
Regulations) provides categorization of buildings and procedures for applying for and granting building permits. Ministerial Order No. 03/COB.M/019 of 15/04/2019 (UPB Regulations) provides urban planning and building regulations, attached to which are annexures containing an urban planning code, building code, and green building minimum compliance system.

B 4.1. Building Permit Regulations
The Building Permit Regulations provide for different construction permitting requirements according to the type and scale of proposed development. Permits are required for new building, refurbishment, occupancy, and demolition (Order No. 02/CAB.M/091, Art. 10).

The Building Permit Regulations cover six categories of building. Category 1 covers temporary buildings, and do not require any permitting. Category 2 buildings cover one-story administrative, residential or commercial buildings not exceeding two hundred square meters for which permitting requirements are minimized (Order No. 02/CAB.M/091, Art. 5). These projects do not require certification by an architect or civil engineer, and the permit application only requires a site plan and architectural drawings (Order No. 02/CAB.M/091, Art. 19). Green building standards also do not apply to Category 2 buildings.

One or two story residential and commercial buildings, the floor area of which is less than 1500 square meters on plots not exceeding 1000 square meters, require either an architect or civil engineer to certify the application, accompanied with a project brief, mechanical, electrical, and sanitation plans, and cost estimates. Green building standards however do not apply to this category of building. For larger buildings or buildings with more than two stories (Category 4 and above), additional requirements apply, including certification by both an architect and civil engineer, a geotechnical report, an environmental impact assessment, structural design, and green building minimum compliance report (Order No. 02/CAB.M/091, Art. 19).

Table 5: RBC Building Categories (Adapted from Rwanda Building Code, 1.3.3.9, Table 1.3.3-1, p. 116).

<table>
<thead>
<tr>
<th>Building Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>Structures which can be removed without compensation and it is characterized by the following conditions: (i) It does not require construction permit; (ii) It has a total floor area that does not exceed 1000 m²; (iii) It must be non-storeyed and basement free structure; (iv) It Accommodates not more than 500 people; (v) Its validity cannot be longer than 2 years. (vi) It must not be intended for worship, industries, storage of hazardous and perishable commodities and goods.</td>
</tr>
<tr>
<td>Category 2</td>
<td>Administrative, residential and commercial buildings except industrial buildings, hazardous buildings, health facilities that are characterized by the following: (i) Total floor area not exceeding 200 m²; (ii) Non storeyed and basement-free (G+0); (iii) Capacity to host 15 people or less.</td>
</tr>
<tr>
<td>Category 3</td>
<td>Residential, Commercial buildings including warehouses, except Industrial buildings, hazardous buildings, health facilities, and which are simultaneously characterized by: (i) total floor area not exceeding 1500 m² and plot size not exceeding 1000m²; (ii) not higher than two storied building (G+1); (iii) Capacity to host 50 people or less; (iv) The total height of the building not exceeding 7m.</td>
</tr>
<tr>
<td>Category 4</td>
<td>Towers and antennas, all types of buildings, except industrial buildings and hazardous buildings which are characterized by the following aspects:</td>
</tr>
</tbody>
</table>
(i) buildings with three (3) storeys and above (≥G+2) with or without basements, (ii) buildings with the capacity to host people not exceeding five hundred (≤500);

**Category 5**

(i) Sports facilities, social, cultural, and assembly and religious buildings, health facilities, educational buildings, or other publicly accessible facilities with a capacity to host more than 500 people; (ii) Industrial buildings and hazardous buildings; (iii) Memorial Sites; (iv) All other structures not specified in any other category.

**Category 6**

Category 6 does not require building permit and it comprises (i) specific buildings for national security excluding social, residential and commercial buildings; (ii) Temporary shelter for returnees, refugees and internally displaced people.

Permits are issued by the City of Kigali’s One Stop Centre (or District office if located outside of Kigali), as well as other institutions as applicable, including civil aviation authorities, utilities, police and fire services, and environmental management officials (see Building Regulations, Art. 12; Rwanda Building Code, 1.2.2.1., p. 24 (definition of Building Consent Authority); 1.3.1.2, p. 107, 1.3.3.1.1, p. 113, 1.3.3.6, p. 115). Applications are reviewed for completeness and, if complete, must go through technical assessment and be approved within 30 days, or else the reviewing authority (District of City of Kigali) informs the applicant in writing of the reasons of delay (Order No. 02/CAB.M/091, Art. 27, 28).

Requirements to apply for permits in nearly all cases of permanent development and for many different activities (e.g. building, refurbishment, occupancy, demolition) will strain local government capacity. There can also be barriers for low-cost incremental upgrading. The provision of fewer requirements for smaller projects is very positive for incremental upgrading as it will minimize the burden of compliance. However, it would be impossible to scale this up in the manner (i.e. multi-storey) envisioned in the CoK’s Master Plan, which is discussed below. The more comprehensive development plans would fall into larger category developments requiring professional assistance. Although this is reasonable given the larger technical challenges with building multi-storey and largescale development, it will hinder self-building strategies which can be important for upgrading of unplanned settlements at scale.

**B 4.2. Urban Planning and Building (UPB) Regulations**

The UPB Regulations establish the principles of urban planning and building in Rwanda and include the Rwandan Urban Planning Code (Annex I), Rwandan Building Code (Annex II), and the Green Building Minimum Compliance System (Annex III). The regulations call for “public investment planning based on local land development master plans ... established to guide all public investments in urban development activities” (Order No. 03/COB.M/019, Art. 6). For infrastructure, the UBP Regulations state the principle that “[e]very site proposed for urban settlement must be serviced with at least the following: 1. clean water, sanitation and rainwater management; 2. energy source supply; 3. liquid or solid waste management; 4. access and transport infrastructure; and 5. information and communication technology (Order No. 03/COB.M/019, Art. 9).

The UPB Regulations call for authorized technical supervision for all construction by a certified technical supervisor (Order No. 03/COB.M/019, Art. 18-19). Supervisors must be duly registered, employ qualified and professional staff, and satisfy certain requirements such as access to certified building testing laboratories (Order No. 03/COB.M/019, Art. 21). It is unclear whether these requirements would apply
to Category 2 building activities; if they do, this would likely limit the ability for homeowners to incrementally develop their homes as it would likely involve significant additional costs.

B 4.3. Rwanda Urban Planning Code (RPC)
The Rwanda Urban Planning Code (RPC) elaborates on the principles established in the UPB Regulations by formulating guidelines for urban planning in order to guide development in Rwanda. Importantly, the RPC states that it “may be applied with a degree of flexibility in a way that the community at large will benefit most from any development” (RPC, Gazette p. 93).

Where land subdivision, whether by conventional subdivision, plot restructuring or re-plotting, the RPC states the following guiding principles should be followed (RPC, Gazette p. 97):

- Plots shall be created in the most efficient way of using land and infrastructure.
- The shorter lot width shall face the road.
- Newly planned plots shall be rectangular, or as close as possible to rectangular in shape, depending on the prevailing geographic conditions.
- A plot shall be directly accessible.
- The minimum neighborhood servicing requirements shall be respected, and measures be taken to integrate public open space, facilities, infrastructure and utilities.
- A new building should be located within a properly sub-divided and adequately serviced area.

With respect to zoning, the RPC delineates three types of residential development: urban core mixed use, urban sub-center residential, and off-core residential (RPC, 1.5, Gazette p. 100). The RPC states that infill development of “dilapidated and inefficiently used urban areas shall be prioritized before extending into new settlement areas consuming agricultural land located within the urban boundaries.” For re-plotting purposes, the standard plot area for residential buildings with a height of one story is 300 square meters, while the standard plot area for residential buildings with more than one story is set at between 300-500 square meters.” (RPC Gazette, p. 114).

Table 6: Parameters for residential land use categories (RPC, 1.7 Table 3, Gazette p. 106).

<table>
<thead>
<tr>
<th>Land use category</th>
<th>Max Plot Coverage</th>
<th>Max Floor Area Ratio</th>
<th>Density min units/ha</th>
<th>Min distance between detached buildings</th>
<th>Setbacks</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban core mixed use</td>
<td>0.6</td>
<td>2.4</td>
<td>70</td>
<td>0.4 x height</td>
<td>Front max 6m</td>
<td>Min 20% of units with non-residential use</td>
</tr>
<tr>
<td>Urban sub-center residential</td>
<td>0.5</td>
<td>1.2</td>
<td>30</td>
<td>0.5 x height</td>
<td>Min 10% of units with non-residential use</td>
<td></td>
</tr>
<tr>
<td>Off-core residential</td>
<td>0.4</td>
<td>0.8</td>
<td>15</td>
<td>0.6 x height</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The RPC discusses the appropriate context for implementing “urban renewal”, stating that “An area characterized by functional weaknesses and structural problems and/or economic underutilization of land may be designated as an urban renewal area. A Specific Land Development Plan shall be developed following the provisions of the applicable Ministerial Order” (RPC, Gazette p. 112). During urban renewal, demolition of existing built structures and relocation of residents shall be kept to a minimum; and existing built structures and uses shall be formalized when assessed to be in line with the planning objectives for the area. The following are considered urban renewal strategies (RPC, Gazette, p. 112):
• Replotting or plot readjustment to bring small land tracts into a larger plot;
• On-site improvements such as public infrastructure, facilities and services;
• Contribution of land to public infrastructure, facilities and services provision.
• Building structure improvements to increase densities

The “formalization” of “unplanned” buildings is described as follows: “Existing buildings which were developed prior to urban planning documents, or in any way informally [constructed] may be formalized under the following conditions: 1) Provisions from above article are fulfilled; 2) The building structure is in safe condition; 3) The land use is permissible in the area.”

B 4.4. Rwanda Building Code (RBC)
The Rwanda Building Code (RBC) provides technical detail and specificity to the standards required for buildings in Rwanda. The RBC covers a range of technical specifications covering structure and building materials, fire safety, energy and water performance, construction safety, inspection, and maintenance. While stating preference for “performance-based” standards where possible, the RBC contains a significant number of prescriptive standards regarding construction, ranging from building plan diagram sizes (see RBC, 1.5.3.1) to concrete foundation thickness (see RBC, 2.6.3.3.1.7). However, measures have also been taken to accommodate low-income and traditional building methods and practices. For instance, the RBC expressly provides that “[t]he use of locally produced building materials including adobe bricks that do not compromise the natural ecosystem and which use the least energy for their production and transport must be emphasized in accordance with the Building Code” (RBC, 2.6.5.1.2).

Specifically, with respect to walls, the RBC allows for adobe bricks as an acceptable building material for Category 2 buildings (RBC, 2.6.5.1.3). Similarly, the RBC provides that “[u]sed, secondary and alternative materials shall be encouraged to minimise waste on-site while optimising the use of available materials,” although it adds that such materials must still meet design requirements and are approved by the Building Control Authority” (RBC, 2.7.4.2; see also 6.15.4.1, 6.15.4.4).9 While supportive of local building materials, the RBC will require implementation, with some amount of discretion (for instance with respect to adobe bricks as noted above), by local authorities.

With respect to incremental building, the RBC provides that such building must comply with the permitting requirements in the RBC and Building Permitting Regulations (RBC, 6.15.6.1.1). Furthermore, incremental development applications must contain plans for design and construction of the entire building at its completion, even if a portion of the entire project will be completed (RBC, 6.15.6.1.4, 6.15.6.2.1).10 The above requirements may hinder incremental upgrading because (i) homebuilders may

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9 The RBC defines two entities, the “Building Control Authority” and the “Building Consent Authority”. The “Building Control Authority” is defined under the RBC as “the authority in charge of human settlement meant to efficiently organize and manage the building construction industry” (RBC, 1.2.2.1., p. 24). The RBC defines the “Building Consent Authority” as the “City of Kigali or District One Stop Centre for building construction or any other body permitted by the Building Control Authority to undertake planning and building control including granting building permits and inspect building construction works” (ibid.). Pursuant to Section 1.3.1.2., the Building Control Authority delegates administration activities to the Building Consent Authority that include “enforce[ment] of the provisions of this Code, policies and procedures necessary for the application of this code” as well as receipt and approval of building permits.

10 Note that there is a critical provision in the RBC that is unclear in its wording but may have significant implications depending on its meaning. Section 6.15.6.1.5 states that “Any incremental house shall be in conformity of this Code at any intermediate stage of erection be deemed to be a temporary building.” The
not know what the final designs of their building will be at the start; and (iii) the final project as ultimately designed may trigger building code requirements that are more rigorous than would be required for intermediary stages of building.

There are a few other items of note in the RBC provisions:

- The RBC contains use and occupancy classifications but they do not align with the zoning categories provided in the updated Kigali Master Plan (see below).
- The RBC seems to require supervision of building activities. This may be onerous for self-build homeowners. It is unclear if this applies to Category 2 buildings.
- The form contained in the RBC for issuing an occupancy permit/certificate is entitled “Occupation Permit and Freehold Title”, suggesting that freehold title may be required to seek an occupation permit. This is not discussed as a requirement anywhere in the RBC, however.

B 5. Kigali Master Plan Review (KMPR) and Zoning Regulations
The KMPR is promulgated in terms of Law No. 10/2012 of 02/05/2012 Governing Urban Planning and Building in Rwanda. The KMPR translates an analysis of Kigali’s housing challenges into the promotion of unplanned settlement upgrading, land readjustment and sites and service strategies. The KMPR’s Urban Sustainability Framework identifies challenges linked to unplanned settlements and the expanding need for bulk infrastructure, including (i) environmental impact of urban areas prone to landslides and flooding, and unplanned developments on steep slopes; (ii) sprawling low rise development, expanding urban areas, and increasing need for and pressure on bulk service infrastructure; (iii) high living standard inequality and poor living conditions and lack of infrastructure in unplanned settlements (KMPR, p. 11).

The KMPR also identifies and discusses the urban housing context that are vital to formulating a strategy focused on unplanned settlement upgrading and sites and services schemes. For example, the KMPR acknowledges importance of unplanned settlements serving “more than 60% of Kigali’s population” (KMPR, p. 26), the need for affordable housing as Kigali’s “most pressing issue” (KMPR, p. 46), the general lack of “quality affordable housing” (without specifying income group) (KMPR, p. 71), and the opportunity provided by low density urban areas for increasing density and accommodating “inclusive” (i.e. affordable) housing (KMPR, p. 30). The KMPR identifies incremental development as a key factor in addressing the lack of capacity of the City to provide housing and the practical need for flexibility and support for incremental and self-improvement housing solutions; and offers land pooling and flexible zoning regulations as strategies to support incremental development (KMPR, pp. 26-27, 58-59).

The KMPR’s Vision Framework promotes unplanned settlement upgrading and sites and services schemes through incremental development and land readjustment. These strategies feature most prominently in the updated zoning designations for Zones R2 and R5, discussed further below.

B 5.1. Zone R2 (Rowhouses and Low-Rise Apartments)
The KMPR establishes a zone expressly covering unplanned settlements, Zone R2, for which it proposes upgrading and land readjustment to produce rowhouses and low-rise apartments. Zone R2 residential designation of a building as temporary could place such construction in a category of building that requires no permitting under the Building Permitting Regulations, thereby permitting much more flexibility for incremental building. This would benefit incremental development, which requires flexibility. However, this provision seems to contradict the general impetus of the rest of the regulations. Further clarification should be sought.
zone (Rowhouses and Low-Rise Apartments) is “planned for upgradation of unplanned settlements or redevelopment of the urban renewal areas, whatever feasible, to provide quality living environment and affordable housing and infrastructure upgrade” (KMPR, p. 78). The primary approach to R2 Zone is: “upgradation in short term or redevelopment through land assembly process in long term” with the government to “drive initiatives for land consolidation (where feasible), promote incremental development, and provide incentives to developers for constructing affordable housing” (KMPR, p. 79).

Table 7: KMPR Zone R2 parameters (KMPR, p. 74).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor Area Ratio (FAR)</td>
<td>1.4</td>
</tr>
<tr>
<td>Minimum Plot Size</td>
<td>120 sqm</td>
</tr>
<tr>
<td>Density</td>
<td>70-100 Du/ha</td>
</tr>
<tr>
<td>Typology</td>
<td>Rowhouses, low-rise apartment</td>
</tr>
<tr>
<td>Development Strategies:</td>
<td>Redevelopment and land consolidation</td>
</tr>
</tbody>
</table>

The KMPR anticipates some amount of displacement/resettlement due to urban upgrading and environmental mitigation, which it proposes to address by providing serviced plots in low-density “fringe” areas where transport and other infrastructure are intended to be provided and which have potentials for economic development (KMPR, p. 32, 43). There is no stated commitment to keep people in place where they currently live.

B 5.2. Zone R5 (“Sites and services”), now Zone R3 (“Expansion”)¹¹

KMPR establishes a new zone, Zone R5, for “Sites and services”, under which it proposes for new “incremental” development on greenfield sites on the outskirts of the existing urban edge. Residential Zone R5 (Sites and Services) “is mainly located on greenfield sites for ease of development and close to transport corridors for ease of accessibility” and is meant to provide affordable housing (KMPR, p. 81). Zone R5 is anticipated to be “mixed use” and provide housing opportunities for low income earners near

¹¹ Note that during the completion of the report, Zone R5 had been changed to Zone R3 and had been relabeled “Expansion” zone. The discussion contained herein addresses Zone R5 as described in the KMPR dated April 2019 that was provided by CoK and reviewed for this report. The assumption is that the updated documents would have maintained the key features of Zone R5 for now Zone Re, despite the name change.
sites that the CoK believes will provide economic and income opportunities, such as industrial and manufacturing zones (KMPR, p. 73).

Table 8: KMPR Zone R5 parameters (KMPR, p. 74).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor Area Ratio (FAR)</td>
<td>1.2</td>
</tr>
<tr>
<td>Minimum Plot Size</td>
<td>100 sqm</td>
</tr>
<tr>
<td>Density</td>
<td>70-100 Du/ha</td>
</tr>
<tr>
<td>Typology</td>
<td>Incremental rowhouses</td>
</tr>
<tr>
<td>Development Strategies:</td>
<td>Land consolidation</td>
</tr>
</tbody>
</table>

The KMPR promotes land pooling and consolidation as an implementation tool for Zone R5, and allows for “incremental development of housing, commercial and mixed-use buildings following the investment capacity of investors and developers, but in respect of clear guidelines” (KMPR, p. 82). As noted above, the KMPR anticipates that inhabitants in inner core unplanned settlements on steep slopes or in flood-prone areas “may also be relocated and resettled in these sites and services sites forming the R5 zones” (KMPR, p. 81). Much of the infrastructure, public transport, and economic activity that is expected to support these areas is proposed and expected to be established but does not currently exist.

B 5.3. KMPR’s Zoning Regulations
Along with the KMPR, the City’s Zoning Regulations are updated and contain additional detail regarding the parameters of Zones R2 and R5 and thus are important to understanding the feasibility of incremental upgrading and sites and services schemes.

The Zoning Regulations are in line with upgrading through incrementalism and land readjustment as illustrated by its objectives as below (Zoning Regulations, p. ix).

- Allow incremental development of commercial and mixed-use buildings following the investment capacity of investors and developers but in respect of clear guidelines;
- Facilitate vertical and horizontal incremental development, allowing phased construction of mixed use, residential or commercial buildings;
- Promote upgrading and/or redevelopment in high land value areas where land pooling approach will be effective due to cross financing mechanism;
- Implement extensive Site & Servicing approach to accommodate low income earners”;
- Adopt flexible and adaptive guidelines, allowing incremental low-cost construction, in respect of minimum design guidelines; and
- Promote and incentivize land pooling for providing affordable housing solutions

While the Zoning Regulations’ objectives focus on affordable housing, the definition provided for “affordable” housing under the Regulations may undermine focus on low-income populations. Pursuant to Article 3 of the Zoning Regulations, “Affordable housing unit” is defined as “a habitable unit for which households are presumed to pay thirty percent (30%) or less (UN-Habitat suggests 25%) of their annual income, where such income is less than or equal to that City’s median income. In the case of Rwanda, the percentage of annual income, or the maximum annual cost to be paid to consider a unit affordable

12 Pursuant to Article 9 of Law No. 10/2012 of 02/05/2012, decentralized authorities, such as the City of Kigali, “shall implement provisions of laws governing urban planning and construction.”
shall be established periodically by CoK or GoR, based on EICV data or other official NISR recognised surveys” (Zoning Regulations, Article 3, p. 15). According to EICV Survey data analyzed by International Growth Centre (IGC), in 2018 the median annual income in Kigali was RwF 1,972,382 (US$2,293.47). Applying the Zoning Regulation’s definition of affordability would result in the “affordable” housing threshold to be RwF 591,714.6 (US$688.04) annually, or RwF 49,309.55 (US$57.34) monthly.

This is far out of the range of what low-income households can afford. According to the IGC analysis (Bower and Murray 2019), the median resident in the lowest income quintile (i.e. the bottom 20% income earners) of Kigali could afford to rent a unit for RwF 166,176 (or US$193.23). The definition of affordable housing came up in discussions with CoK officials, who expressed the concern that using a percentage of overall income would not be useful for addressing lower-income households’ housing needs.

The discretion provided to CoK’s One Stop Centre with respect to permitting variances on a case-by-case basis is extremely broad, and allows variances in any case where the “variance for the development is still in line with the overall planning objectives of the Master Plan and will not compromise the overall character, safety, or fabric of the surrounding developments” (Zoning Regulations, p. 27). This wide discretion under the Zoning Regulations for permitting is good for flexibility but may undermine policy goals if decisionmakers (e.g. One Stop Centre officials) do not understand how – or are not sufficiently confident – to use that discretion. Capacity building and training could help assist these officials, as could workshops to discuss housing priorities as well as guidelines or other non-binding practical guidance to help decision-making.

**Incremental development regulations**

The Zoning Regulation’s rules for incremental development contain aspects that may hinder incremental and self-improvement construction by on-site owners. The Regulations demonstrate an intention for incremental development that is “to allow flexibility in the development of the City and housing construction, responding to local conditions, desires, aspirations, and financial capabilities of stakeholders, including the Government” (Zoning Regulations, p. 31). Incremental residential and non-residential construction is permitted, but is subject to the requirement that landowners/developers must submit applications for construction permits that clearly show: (i) intended final design of the building, expected ground floor area fulfilment of parking requirements and minimum density prescriptions where relevant; (ii) phasing plan, clearly showing planned stages of construction and timeframe for development. In addition, intermediate buildings “shall not, in any case, appear incomplete, under construction or have any ‘unfinished like feeling’ that may negatively impact on the aesthetic characteristics of the neighbourhood” (Zoning Regulations, pp.32-33). Additional requirements include: no outdoor storage in any zone; location of outdoor refuse subject to OSC; water tanks, mechanical equipment, and loading docks must be at side or rear of the building. These provisions suggest a formality and rigor at odds with incrementalism as understood in the international context, and even as described in broad terms in the KMPR itself. KMPR (p. 25) discusses the “half of a whole house” model where housing beneficiaries are provided with a partially completed (and thus cheaper)

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13 For non-residential construction, “developers” are allowed to occupy the structure and initiate activities from within a part of a final completed structure.
but structurally sound home which, over time, the owner can complete based on their own preferences and investment capacity.

**Accessory residential units**

“Accessory residential units” are permitted in R2 and R5 zones, but are limited to two per principal dwelling, and must: (i) maintain a consistent outward appearance with the principal dwelling; (ii) contain a min-max of 15-30 square meters living area containing no more than one bedroom; (iii) have at least one separate external door access from the principal dwelling; (iv) maintain a separate kitchen, full bath, and electric panel from the principal dwelling; (v) proportionate off- or on-street parking (Zoning Regulations, p. 38). Either the primary or accessory residential unit must be occupied by the owner at all times. Units must comply with the Rwanda Building Code (including building permit and certificate of occupancy). Tenants must receive written rental agreements (leases) (Zoning Regulations, p. 38-39).

Permission to establish an accessory unit requires filing a request for “Certificate of Use of Accessory Residential Unit”, which requires submission of complete floor plans, elevations, and interior layout drawn to scale; identification of alterations to structure; and photographs of the exterior of the existing dwelling (Zoning Regulations, p. 39). There are no construction permit fees required, but a building inspector must inspect and issue a Certificate of Compliance, and the District OSC and Inspection Unit must sign the permit (Zoning Regulations, p. 39).

**Additional requirements for Zone R2**

Permitted uses for Zone R2 include: row housing, low rise apartments, home occupation, accessory residential units. Prohibited uses include: major industrial uses, major infrastructure, and single family residential developments. The maximum lot size for rowhouses is 200 square meters, and the maximum building coverage is 60 percent; minimum landscaping coverage is 20 percent. One notable inconsistency is that there is no minimum plot size provided in the Zoning Regulations, while there is a minimum provided in the KMPR (120 square meters).

As with the KMPR, the Zoning Regulations identify upgrading through land pooling/regularization as an implementation strategy (Zoning Regulations, p. 62). It also promotes secondary commercial and micro-enterprises encompassing a wide array of small manufacturing and other limited commercial activities.

**Additional requirements for Zone R5**

Permitted uses under Zone R5 include: affordable rowhouses, affordable low-rise apartments, affordable multifamily houses, home occupation. Prohibited uses: industrial, major infrastructure, single family residential, “any development that does not meet affordability criteria suggested in these regulations” (Zoning Regulations, p. 73). As noted above, the Zoning Regulations’ definition of “affordable housing unit” the latest EICV data places the affordability threshold well above what low-income households can afford.14

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14 See main report, Section 2.1.1. Note that the IGC analysis assumed 25% of income as the affordability threshold, whereas the Zoning Regulations assume 30%. Therefore, the cost of constructing an “affordable” home as defined in the Zoning Regulations would be slightly higher than that provided in the IGC analysis.
**Annex C. Profile of Identified Sites in Kigali**

The Rwanda Urban Development Project (RUDP) II that is under preparation continues to support the CoK and secondary cities but pays more attention to Kigali as the primary city and the economic engine of the country. For consideration under RUDP II, the CoK has identified three unplanned settlements for upgrading—Mpazi, Gatenga, and Kimironko—and three largely greenfield sites on the periphery for development—Gasharu, Masaka, and Ndera (Figure 2). Feasibility studies have been or are being conducted for three unplanned settlements and this report relies on these studies as the basis for identifying challenges and opportunities to implementing an area-based upgrading in these settlements, including land readjustment and incremental housing improvements. Assessment of greenfield sites is based largely on the fieldwork during June 2019, which included site visits and interviews with officials. General information regarding urban development, demographics, and economic information also supports the analysis. In August 2019, a follow up visit was made to a social housing complex, the Karama Model Village. Information regarding the profiles of Kigali and these selected sites are briefly presented below.

*Figure 2: Unplanned settlement and “Site and services” sites in Kigali included in the project brief.*

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15 These are among the ten such projects proposed by the CoK for support in RUDP II.
C 1. Unplanned Settlements for Upgrading

C 1.1. Mpazi Unplanned Settlement Profile

In 2019, the CoK engaged a consultant company, PRISMA, to conduct a feasibility study to upgrade the unplanned settlements in the Mpazi sub-catchment area. The company has completed its inception report, which provides the information set out hereafter.

The Mpazi settlement is 137.8 ha in size and located within Nyarugenge District, which encompasses all of Gitega Sector as well as small portions of Kimisagara and Rwezamenyo Sectors. The study area is directly south-east of Kigali’s city center (i.e. Nyarugenge Sector) (see, Figure 5). The cadastre for the area reflects irregular plot boundaries and sizes, although most appear to be organized to follow natural topographical lines (see Figure 6). The average plot size of 3,379 plots in total is 407 square meters; however, the median plot size appears much smaller, with a little under half of the total plots being smaller than 300 square meters (PRISMA 2019, p. 54).

Figure 3: Photograph of Mpazi settlement houses (Credit: Christian Alexander)

Much of the area is dominated by steep slopes. Approximately 80 percent of the area is already developed, consisting of clusters or compounds of detached single-story units constructed using adobe bricks or wood and mud, and iron sheet roofing. Most structures (68.2%) have concrete floors but only 7.9 percent use burnt bricks, cement blocks, or concrete for the structure walls (PRISMA 2019, p. 57). The PRISMA inception note characterizes the adobe housing in the area as a “non-durable” and “non-sustainable” construction material (PRISMA 2019, 44-45). Only 3.4 percent of structures have a flush toilet, while 44.1 percent have a private pit latrine and 48.6 percent have a shared pit latrine (Figure 3).

16 Administratively, the City of Kigali consists of three Districts, each of which is made up of Sectors. Sectors are then made up of Cells, which are in tum comprised of Villages.
The eastern side close to the city center contains very high populations primarily consisting of tenants (see Table 9). A strong majority of the population is male (71.4%), and 60 percent are renters, although in some specific areas this proportion is much higher (particularly in Komuhoza and Kabuguru I Cells) (PRISMA 2019, p. 54-56). Most tenants are “young and poor workforce”, suggesting that they are highly mobile and have sought their living locations based on proximity to economic opportunities.

PRISMA states that the “Mpazi sub catchment shows the existence of basic social, economic and commercial infrastructures and facilities” (PRISMA 2019, pp. 42; see also Figure 7). The area is “well connected to the City Centre with footpaths, unpaved roads, stone paved roads and tarmac roads” but most of these roads “are in poor conditions and require regular and periodic maintenance (PRISMA 2019, p. 46). With respect to wastewater, the “vast majority . . . produced is treated to a very minimal degree” and “pit latrines are the typical residential form of excreta removal in the study area” (Ibid.).

Figure 4: Mpazi unplanned settlement’s built environment and infrastructure surveys17.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Situation in 2012</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Type of habitat</td>
<td>Spontaneous squatter housing</td>
<td>76.1%</td>
</tr>
<tr>
<td></td>
<td>Planned urban housing</td>
<td>2.6%</td>
</tr>
<tr>
<td></td>
<td>Other (Umudugudwe=2.8, and ...)</td>
<td>21.3%</td>
</tr>
<tr>
<td>2. Main source of water</td>
<td>Internal pipe born water</td>
<td>2.3%</td>
</tr>
<tr>
<td></td>
<td>Pipe born water in the compound</td>
<td>38.2%</td>
</tr>
<tr>
<td></td>
<td>Public tap out of the compound</td>
<td>43.8%</td>
</tr>
<tr>
<td></td>
<td>Other sources</td>
<td>15.7%</td>
</tr>
<tr>
<td>3. Sanitation/Type of toilet facility</td>
<td>Flush toilet/WC system</td>
<td>3.4%</td>
</tr>
<tr>
<td></td>
<td>Private pit latrine</td>
<td>44.1%</td>
</tr>
<tr>
<td></td>
<td>Shared pit latrine</td>
<td>48.6%</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>3.9%</td>
</tr>
<tr>
<td>7. Housing materials</td>
<td>Iron sheets</td>
<td>96.8%</td>
</tr>
<tr>
<td>7.1. Roof</td>
<td></td>
<td>3.2%</td>
</tr>
<tr>
<td>7.2. Floor</td>
<td>Earth/sand</td>
<td>30.1%</td>
</tr>
<tr>
<td></td>
<td>Concrete</td>
<td>68.2%</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>1.7%</td>
</tr>
<tr>
<td>7.3. Walls</td>
<td>Wood/Mud</td>
<td>25.1%</td>
</tr>
<tr>
<td></td>
<td>Wood/cemented mud</td>
<td>24.0%</td>
</tr>
<tr>
<td></td>
<td>Sundried bricks</td>
<td>42.0%</td>
</tr>
<tr>
<td></td>
<td>Burnt bricks</td>
<td>5.6%</td>
</tr>
<tr>
<td></td>
<td>Cementi-bloc/concrete</td>
<td>2.3%</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>1%</td>
</tr>
</tbody>
</table>

Figure 5: Mpazi unplanned settlement site (PRISMA 2019, p. 35).
Figure 6: Cadastre for Mpazi site (PRISMA 2019, p. 43, referencing RLMUA).
Figure 7: Map of infrastructure in Mpazi site (PRISMA 2019, p. 47).
C 1.2. Gatenga unplanned settlement profile

In 2017, Kicukiro District engaged GeoInfo Africa Ltd to conduct a feasibility and technical study of upgrading informal settlements in Gatenga Sector. The information discussed below is from this study.  

The Gatenga unplanned settlement is in Gatenga Sector of Kicukiro District, covering portions of Karambo, Gatenga and Nyanza Cells (Figure 8). The area is 170.9 hectares containing 2755 households and 10,192 people in 2017 (GeoInfo Africa 2017, pp. 13, 15, 44). Most residents appear to be tenants, with only 17 percent of residents identifying themselves as homeowners (GeoInfo Africa 2017, p. 23).

Figure 8: Gatenga unplanned settlement site (GeoInfo Africa 2017, p. 15).

A visual review of the site map and of the area on Google Maps reveals that development of the area consists mainly of detached single-story housing, and that the area also contains undeveloped forest on steep slopes or non-residential uses (e.g. a major cemetery) (see Figure 10). The cadastre for the area reveals a largely irregular plot boundary pattern, particularly in denser areas such as Rugwiro Village (see Figure 9). According to the study, “[r]esidential zone is the predominant land use in Gatenga Sector even if some small-scale commercial activities especially along Gatenga-Magerwa road and other inner part access roads and footpaths do exist” (GeoInfo Africa 2017, p. 19).

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18 It must be noted that some of the numbers and figures in the study appear to be incorrect, incomplete, or unexplained. There is no explanation of survey techniques. Data quoted in this report should be read with caveat.
Figure 9: Gatenga unplanned settlement site land use map (Geoinfo Africa (2017), p. 21)
The percentage of plots within the administrative Villages within Gatenga that are less than 500 square meters range between 44 and 80 percent (see Table 10). On average only 4 percent of plots are smaller than 100 square meters, although this percentage rises to 11 percent and 12 percent in Rugwiro and Gwiza Villages, respectively. Approximately 60-80 percent of houses in Gatenga are built with permanent construction materials, with the remainder built with adobe bricks or mud.

Table 10: Plot sizes in Gatenga unplanned settlement by percentage (GeoInfo Africa (2017), p. 41).

<table>
<thead>
<tr>
<th>Village</th>
<th>0 to 100</th>
<th>101 to 200</th>
<th>201 to 300</th>
<th>301 to 500</th>
<th>501 to 1000</th>
<th>&gt;1000</th>
<th>Total No. of plots</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gwiza</td>
<td>12%</td>
<td>27%</td>
<td>22%</td>
<td>22%</td>
<td>12%</td>
<td>6%</td>
<td>144</td>
</tr>
<tr>
<td>Kamabuye</td>
<td>4%</td>
<td>20%</td>
<td>16%</td>
<td>25%</td>
<td>24%</td>
<td>11%</td>
<td>350</td>
</tr>
<tr>
<td>Rugwiro</td>
<td>11%</td>
<td>26%</td>
<td>25%</td>
<td>23%</td>
<td>11%</td>
<td>5%</td>
<td>160</td>
</tr>
<tr>
<td>Ruhuka</td>
<td>7%</td>
<td>17%</td>
<td>14%</td>
<td>22%</td>
<td>32%</td>
<td>7%</td>
<td>108</td>
</tr>
<tr>
<td>Gakoki</td>
<td>2%</td>
<td>15%</td>
<td>19%</td>
<td>27%</td>
<td>32%</td>
<td>6%</td>
<td>259</td>
</tr>
<tr>
<td>Murambi</td>
<td>3%</td>
<td>11%</td>
<td>14%</td>
<td>21%</td>
<td>40%</td>
<td>11%</td>
<td>525</td>
</tr>
<tr>
<td>Juru</td>
<td>1%</td>
<td>6%</td>
<td>14%</td>
<td>23%</td>
<td>34%</td>
<td>22%</td>
<td>515</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>2061</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Demographic data for Kucikiro District indicates that 87 percent of the population is less than 40 years old, and 46 percent are younger than 19 years old (GeoInfo Africa 2017, p. 14). GeoInfo Africa’s survey data indicates that 29 percent of residents earn RwF 50,000 (approximately US$60 in 2017) or less per month (Figure 10), squarely within the lowest two income quintiles. The study indicates that some residents of Gatenga have formed savings groups which serve them as benchmark for business start-ups to raise their living conditions and are involved in different economic activities in the area.

Figure 10: Gatenga earning brackets (GeoInfo Africa (2017), p. 19).

Infrastructure access is relatively decent, although poor access to roads and the need for improving road are a major concern identified in the study. Over a third of households can reach the nearest road within 10 minutes, while nearly 20 percent need at least 30 minutes to do so. The most common form of transportation is walking. Damage from fast-flowing stormwater raises a need for green infrastructure. Access to water and electricity are not as much an issue as regular supply and affordability with respect
to electricity. Most households use pit latrines, and there is no general sewage system. The GeoInfo Africa study summarized its assessment of primary infrastructure needs as below.

Table 11: Assessment of primary infrastructure status in Gatenga site (Reproduced from GeoInfo Africa 2017, p. 87, as revised).

<table>
<thead>
<tr>
<th>Item</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Roads</strong></td>
<td>• Poor access roads (improved drainage are used as pathways)</td>
</tr>
<tr>
<td></td>
<td>• Some roads are poorly maintained</td>
</tr>
<tr>
<td></td>
<td>• Residents use narrow pathways to connect to main roads</td>
</tr>
<tr>
<td><strong>Sanitation</strong></td>
<td>• Fairly good solid waste management</td>
</tr>
<tr>
<td></td>
<td>• Fairly good waste water disposal [i.e. through septic tanks and drainage]</td>
</tr>
<tr>
<td></td>
<td>• Some residents deposit waste into storm water drain</td>
</tr>
<tr>
<td></td>
<td>• Residents largely use pit latrines</td>
</tr>
<tr>
<td></td>
<td>• Lack of public toilets</td>
</tr>
<tr>
<td><strong>Houses</strong></td>
<td>• 80 % of houses are “non-durable” (i.e. walls constructed of adobe bricks or mud)</td>
</tr>
<tr>
<td></td>
<td>• House layout on ground is irregular making it difficult to make access roads.</td>
</tr>
<tr>
<td><strong>Drainage</strong></td>
<td>• Most of the drains in the area are natural and un-lined</td>
</tr>
<tr>
<td></td>
<td>• Open drains that leads to accidents and loss of lives</td>
</tr>
<tr>
<td></td>
<td>• Houses adjacent to drainages have been destroyed or swept by heavy rains</td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td>• Schools not enough for the community, especially nursery schools. Only one public school.</td>
</tr>
<tr>
<td><strong>Infrastructure</strong></td>
<td>• Abandoned community market</td>
</tr>
<tr>
<td></td>
<td>• Few small-scale business premises</td>
</tr>
<tr>
<td></td>
<td>• Long distances to health center</td>
</tr>
<tr>
<td><strong>Water and</strong></td>
<td>• About 80% resident connected but face constant water cuts (supply issue)</td>
</tr>
<tr>
<td><strong>Electricity</strong></td>
<td>• Electric black outs appear during peak hours (costs means most use electricity for lighting but not heating)</td>
</tr>
<tr>
<td></td>
<td>• Lack of alternative sources of energy like solar, peat, biogas etc</td>
</tr>
</tbody>
</table>

C 1.3. Kimironko unplanned settlement profile

In 2017, Geo-Survey Intl. Ltd prepared an existing situations analysis, urban design, and infrastructure planning report for three areas in Gasabo District: (i) Nyagatovu site, in Nyagatovu Cell, Kimironko Sector; (ii) Kangondo II and Kibiraro I, in Nyarutarama Cell, Remera Sector; and (iii) Nyabisindu site, in Nyarutarama Cell, Remera Sector. For this report, the Nyagatovu site is reviewed.

The Nyagatovu site is in southern Kimironko, near several major roads and close to the national stadium. The site is 40 hectares predominantly on sloped terrain (see Figure 12). According to a review of Geo-Survey’s maps, most of the area, save for the lowest areas, is developed, and development has spread into some wetland areas. The cadaster reflects generally non-linear plot boundaries that are organized roughly following contour lines, major roads, and informal pathways (Figure 11 and Figure 13). The housing typology appears to be single-story, largely locally constructed.

The site accommodates 2103 people, with 665 households and an assumed net density of 52.6 dwelling units per hectare (Geo-Survey 2017, pp. 30, 79). The site is served by several major roads that generally follow contour paths. A visual review of the maps indicates that most of the upslope-downslope
connections appear to be pathways, many of which also serve as unlined drainage paths. Pit latrines are the most common form of toilet. Sewage and drainage are an issue in the site.

Figure 11: Land Use Map for Nyagatovu site in Kimironko Sector, Gasabo District (Geo-Survey 2017, p. 31).

Figure 12: Kimironko (Nyagatovu site) slope map (Geo-Survey 2017, p. 30).
While the report states that “urban infrastructure and services will be designed to allow for incremental upgrading as poor communities improve their incomes and capacity to pay for services increases” (Geo-Survey 2017, p. 16), the actual planning for the Kimironko site (as well as the Remera sites) reflects a master planning process that envisions high-rise apartments or potentially hotels constructed on amalgamated plots of 2,000-3,000 square meters (Geo-Survey 2017, p. 77). Under the proposed site master plan in the report, 179 properties will be affected by new vehicle roads, while pedestrian pathways will be reduced (Figure 13). A review of the KMPR indicates that this area is designated a combination of low density residential and mixed used medium rise apartments (see KMPR, p. 74).

Figure 13: Proposed roads under site master plan for Nyagatovu unplanned
C 2. Greenfield Sites for Servicing

C 2.1. Gasharu greenfield site profile

The Gasharu greenfield site is in Gasabo District, Nyamirambo Sector, Gasharu Cell, southwest of Kigali. The site was largely rural/agricultural, with some limited residential development, varying from very rudimentary to luxury villa and small condo/apartment buildings (Figure 14). The roads to the site were dirt and eroded in areas. Near the site was an electricity substation. A field visit indicated that a housing development is currently under planning by the developer Remote Group, intended to be “affordable”. Further information must be collected to assess if this housing will cater to low-income households.

*Figure 14: Photographs of Gasharu, Kigali (Credit: Christian Alexander)*
C 2.2. Masaka greenfield site profile

The Masaka greenfield site is in Kicukiro District, Masaka Sector, Cyimo Cell (see Figure 15). Nearby the site is a proposed BRD-Shelter Afrique housing project that will be constructed by the private developer Remote Group. The area is accessed by dirt roads, some of which are in poor condition. The developer Remote Group has a 280-unit residential development planned for the area. Most of the area is undeveloped except largely basic structures along the roads.

Figure 15: Photographs of Masaka, Kigali (Credit: Christian Alexander)
C 2.3. Ndera greenfield site profile
The Ndera greenfield site is in Gasabo District Ndera Sector (Figure 16). The team viewed two locations in Ndera Sector: Kibenga Cell and Cyaruzinge Cell. The Kibenga site is located in general proximity (estimated 1-2 km) to a large industrial area. The Cyaruzinge site is located near a major road and a small government-built commercial center. Both areas are largely agricultural, with dirt road infrastructure for access. Housing is mixed between rudimentary and new villa and apartment housing.

*Figure 16: Photographs of Ndera (Kibenga), Kigali (Credit: Christian Alexander)*
C 3. Social Housing: Karama Model Village

In August 2019, the Karama Model Village was visited, a newly constructed social housing complex in Karama Village, Nyabugogo Cell, Kigali Sector, located in a peri-urban area several kilometers west of the Kigali central business district. The complex consists of several four-story residential blocks containing 120 one- and two-bedroom units complete with electricity, running water and toilet systems, and, eventually, internet connectivity (LivinSpaces 2019). The GoR has also furnished a new day-care center, green houses, and market facilities nearby. The housing beneficiaries of the project are households removed from flood- and landslide-prone areas of Kigali. An RHA official supplied size and cost information for the units (Table 12).

<table>
<thead>
<tr>
<th></th>
<th>One-bedroom unit</th>
<th>Two-bedroom unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (including balconies)</td>
<td>53.5 m$^2$</td>
<td>67.5 m$^2$</td>
</tr>
<tr>
<td>Unit construction cost</td>
<td>RwF 16,700,000 ($19,418.60)$</td>
<td>RwF 19,600,000 ($22,790.70)</td>
</tr>
<tr>
<td>Construction cost per m$^2$</td>
<td>RwF 312,149 ($362.96) /m$^2$</td>
<td>RwF 290,370 ($337.64)</td>
</tr>
<tr>
<td>Unit valuation$^{20}$</td>
<td>RwF 19,000,000 ($22,093.02)</td>
<td>RwF 25,000,000 ($29,069.77)</td>
</tr>
</tbody>
</table>

There are several notable aspects of the Karama Model Village for the purposes of this project. First, the per unit cost of the complex between $19,418.60 and $22,790.70 is roughly in line with the baseline minimum cost of professional developer-built housing, which is approximately $20,000 (CAHF, 2018). This confirms the conclusion that conventional modern professional developer-built housing cannot be realistically delivered for less than this amount. However, the square meterage of the units, 53.5 square meters for one-bedroom unit and 67.5 square meters for two-bedroom unit, is also larger than the mean dwelling unit size in Kigali of 36.46 square meters (see Bower and Murray 2019, p.49), suggesting that standards and practices that allow for smaller units (or subdivision of units) could significantly increase affordability by reducing overall unit prices. For instance, if the construction cost per square meter remains constant, reducing the size of a one-bedroom Karama Model Village unit to 25 square meters would result in a per unit cost to RwF 7,803,725 or roughly $9,074.10. This would put these units within range of affordability for the middle quintile of income earners and suggests that the GoR should consider (i) building social housing with smaller units, and/or (ii) designing social housing units to be subdivided, similarly to the PROECCO model housing discussed in the report.

The Karama Model Village’s design and layout also appears to represent the GoR’s effort to demonstrate the habitability of apartment-style living (Figure 17). Based on information gathered from interviews with many officials, however, the apartment-style living is not familiar to the general public. At the same time, it may reflect government official’s preference for largescale, centrally planned low-income housing, which stands in some contrast to the look and feel of incremental development.

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$^{19}$ US Dollar values are approximate. The rate used, as elsewhere in this report, was RwF 860 = US$1.

$^{20}$ Source: LivinSpaces (2019).
Figure 17: Photographs of Karama Model Village (Credit: Stephen Berrisford).
Annex D. PROECCO Housing Project

D 1. Context and background

The Swiss Resource Centre and Consultancies for Development (Skat Ltd) is a Swiss consultant company that originally formed as an academic centre for research on appropriate technology in the development context. Since 2012 Skat has been implementing a project in the Great Lakes Region (Rwanda, Burundi and Eastern Congo) for the Swiss Agency for Development and Cooperation known as the Promoting Climate Responsive Building Material Production and Off-farm Employment in the Great Lakes Region (PROECCO) program. One of the outcomes of PROECCO in Kigali, Rwanda, has been a demonstration project consisting of construction of a small block of multi-storey rowhouses in the Mpazi unplanned urban settlement.

The Mpazi housing project was meant to demonstrate that by designing for densification, additional houses created can be reserved for low-income renters while landowners with slightly higher means can own improved units. Moreover, the innovative part of the PROECCO project is strategy for planning, constructing, and financing the project. The planning and development process involved expropriation of four plots of land totalling 600 square meters and containing rudimentary “unplanned” housing. Rather than receiving monetary compensation for the expropriated land, the participating property owners received ownership of the newly constructed condominium units according to the value of the land they contributed (Skat representatives said that the owners who had contributed larger land parcels at the outset received multiple units, pro rata). The plot was then merged into one plot, and the apartment-style condominium units were constructed on the land using innovative design and construction techniques and materials (discussed below) by a contractor with technical oversight and funding from Skat. CoK temporarily relocated the participating households to nearby accommodation until construction was completed (Interview with Skat representatives; PRISMA 2019, p. 13). The PROECCO project contributed a small monthly stipend to each family.

Figure 18: Photographs of the PROECCO housing in Mpazi (Credit: Christian Alexander)

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22 See http://skat.ch/portfolio-item/the-proecco-programme/.
D 2. Description of PROECCO model housing at Mpazi

The PROECCO model housing site consists of four amalgamated plots totaling 600 square meters that were previously owned by three individuals. Five existing, rudimentary housing units have been replaced with a 2-3 story back-to-back rowhouse structure consisting of eight units in total, which the former plot owners now occupy. Two more units are in the process of being completed, making the total of 10 units. Units are of several different interior layouts, from studio, one bedroom to three bedrooms, some with an upstairs and a downstairs. Once all 10 units are completed, the total net floor area of the entire housing will be 500 square meters, with unit sizes ranging from 16 square meters (1 unit), to 33 (4 units), 48 (2 units), 66 (2 units) and 108 (1 unit) square meters. There is clearly demarcated outdoor space in front of all the units that is approximately the size of the units themselves. All units include indoor plumbing (combined toilet and shower) as well as kitchen. Interiors are simple and minimal, but with some design features such as folding desks, built-in cabinets and shelves.

Skat’s financing and expansion plan is to initiate a replicable model whereby properties can be amalgamated, and additional land freed up for building additional units. After distributing units to the original landowners, the remaining six units in the Mpazi project were planned to be allocated to six households from nearby properties in exchange for their land. That land will then be made available to construct additional units using the same design and methods. However, Skat will not fund that construction, as its role has been to demonstrate possibilities rather than facilitating the rollout of the model itself. Skat remains available to offer technical assistance to both public and private sector actors, transferring their simple building methods using primarily locally produced construction materials that are produced in a more environmentally appropriate manner.

More broadly, Skat representatives stated that their model could possibly be sustainable without major subsidies if a large enough portion of the property pooled is valued highly enough (generally as commercial property) to attract private purchase, which makes project location a critical factor in determining feasibility of upscaling this model. In the case of Mpazi, if the commercial property facing a main road near to the PROECCO housing were included in the land pooling, Skat officials believe it could theoretically serve to offset the costs of a partial neighborhood-wide housing reconstruction scheme.
Costs of PROECCO housing

The 10 units (total 500 square meters net floor area) cost approximately $109,000 US$. This includes US$17,000 for the foundation and US$79,000 (RWF 68 million at the time) for construction of the structure and ancillary costs, including labor, taxes, and 10 percent profit for the contractor. Overall, the PROECCO model can reduce the cost of local building material down to US$80 per square meters, a threefold reduction from US$220 per square meter cost benchmark for conventional building in Rwanda (Dieye 2019). Skat representatives attribute the cost savings to their innovative building materials and technique (Figure 19 and 20). Bricks made of less cement and manufactured by local companies are arranged in an interlocking pattern with a load-bearing cavity wall that can be filled at some points with reinforced concrete (Figure 21). This requires less bricks and cement for walls as well as less steel, resulting in significant construction cost reductions.

Figure 19: PROECCO housing design cost savings (Dieye, 2019).

Figure 20: PROECCO construction cost savings (Dieye, 2019).

23 This cost excludes infrastructure costs to service the units with piped water and electricity. The total cost for piped water was FWR 2 million, while the cost of moving an electrical pole (which was not necessary but was seen as an improvement) was FWR 500,000. Dirt road infrastructure was already present, as was drainage.

24 Rwandan franc’s rising rate to the US dollar complicates comparisons over even relatively short amounts of time.
D 3. Challenges and lessons learned

There have been some unanticipated issues that have arisen during the project. Allocation of the new units was a notable case. It would have been ideal to test the rental market for new units if one large and one small unit had been allocated to the participating households because smaller units are better for a household to rent out to individuals or small households whose land would be next in line to be pooled for constructing another set of apartment units. However, when the participating landowners were given the option to select their own units, the wealthiest property owner selected the largest units, leaving only small units left for other owners. The wealthiest owner has rented out one of the two largest units (valued at RwF 13,000,000) to a foreign tenant for RwF 200,000 per month. Another household is renting its unit out for RwF 150,000 per month.

Another challenge is pervasive cultural norms regarding housing. While the participating households and other prospective tenants/owners have been very excited about the prospect of internal plumbing, other cultural and social norms such as preferences for outdoor cooking, larger house/plots with open land, separate/private entrances, and entrance configurations that enter another person’s room have been identified as issues hindering the popularity of the units. More generally, Rwandan preferences for detached single unit housing suggests that the equivalent multi-storey net floor area is not valued equivalently, from either a social or economic perspective.

The Skat representatives also note that residents had limited knowledge of condominium laws, which requires a condominium association as a legal entity for distributing new property titles and properly allocating the newly installed utility services. The water agency, for example, does not have a system to create separate accounts for each unit in the condominium and thus one bill has to be split by occupants. Although the expectation is that the tenant/owners will assume this responsibility, perhaps as part of Umuganda, in the long-term, larger maintenance activities should be governed by a condominium association agreement. Skat representatives recommend that the government work with the owner-tenants to properly educate or support them on these aspects of the project.

25 In order to resolve the issue, Skat installed 8 temporary water meters so that tenants could view their consumption and split the bill accordingly.
Notwithstanding the challenges, Skat representatives reported that there was significant interest in its Mpazi project and its model for housing design and construction. In Mpazi settlements, close to Mpazi wetlands and suffering from frequent flooding, residents have become more interested since severe weather events destroyed houses in the neighborhood. Skat noted several other “copycat” projects by unrelated developers and builders who were using elements of their design or construction techniques, a trend that Skat views as positive, although it is not clear how much of the design elements of the PROECCO model are being replicated. In another sign of interest, steeply rising demand for Skat’s innovative brick type had pushed prices for those bricks up by approximately 30 percent, a reversal from earlier when brick makers had complained that there was no demand for such bricks. While problematic in the immediate term for housing costs, the Skat saw this as ultimately another indication of the project’s success, and a challenge that would be overcome as supply capacity improved to meet demand. Indeed, growing the local brick-making industry was one of Skat’s primary goals.

D 4. Review of Skat’s Informal Settlement Upgrading Calculator

A financial model that Skat had developed in conjunction with the PROECCO project (“Informal Settlement Upgrading Calculator”) is reviewed to better understand the potential of the PROECCO model house to offer more affordable housing. The Calculator was designed for inputting numbers/data during a participatory working session with a multitude of stakeholders interested in evaluating the possibilities for financially-solvent settlement transformation. The Calculator provides figures and calculations for acquisition, construction, and financing of a scaled-up PROECCO housing on land in Mpazi. The Calculator allows users to change certain physical and financial assumptions, such as total area included and estimated rental rate increases.

By facilitating financial modelling exercises, the calculator intends to answer important questions:

i. Self-financed settlement upgrading: How much does densification and selling land lower the costs of a new dwelling unit (at a location such as Mpazi)?

ii. Gentrification: How much rent increase would be inevitable (would have to be tolerated), if no direct subsidies would be made available?

iii. How attractive is the business for real estate investors to develop "cleared" areas like Mpazi?

It includes seven pre-set scenarios for the site, based on differing financial assumptions. The inputs to these variations were drawn from Skat’s data gathered during their work in Kigali but should be considered approximations only. A snapshot of the Calculator for Scenario 1 is provided below.

Table 13 Snapshot of Skat Calculator under Scenario 1.

<table>
<thead>
<tr>
<th>CONTROL PANEL</th>
<th>Scenario 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RELOCATION OF CURRENT INHABITANTS</strong></td>
<td></td>
</tr>
<tr>
<td>Net Floor Area of existing houses</td>
<td>m2</td>
</tr>
<tr>
<td>Average monthly rent of an existing 50m2 house</td>
<td>70,000</td>
</tr>
<tr>
<td>Tolerable Rent increase for a new brick duplex instead of a mud house</td>
<td>38%</td>
</tr>
<tr>
<td>Tolerable Rent for a new brick duplex instead of a mud house</td>
<td>RwF 96,600</td>
</tr>
<tr>
<td>Footprint of relocated houses</td>
<td>m2</td>
</tr>
<tr>
<td>Av Numbers of Floors for reconstruction of existing DU</td>
<td>Floors 4.0</td>
</tr>
<tr>
<td>Costs per m2 for rebuilding houses for existing dwellers</td>
<td>US$/m2 220</td>
</tr>
</tbody>
</table>
Existing Floor Area Ratio FAR (plots only excl road) | m²/m² | 0.39
New Floor Area Ratio FAR (plots only excl road) | m²/m³ | 1.56
Net investment require for rebuilding existing houses | RwF | 295,915,096
Equity for Smallholders | % | 20%
Interest Rate for Smallholders | % | 16%
Smallholder’s Debt after 5 years | % | 71%
Smallholder’s Debt after 10 years | % | 0%

INVESTOR’S BUSINESS FIGURES
RESIDENTIAL BUILDINGS
Footprint of residential developer’s buildings | 840
Average number of floors of developer’s residential buildings | Floors | 4
Costs per m² of developer’s new residential buildings | US$/m² | 220
Monthly Rent for developer’s 50m² Dwelling | % | 150,000

COMMERCIAL BUILDING
Footprint of commercial developer’s buildings | m² | 422
Average number of floors of developer’s commercial buildings | Floors | 5
Costs per m² of developer’s new commercial buildings | US$/m² | 235
Floor Area Ratio FAR (plots only excl road) | RwF/m²/m³ | 2,600
Total Density excluding roads etc. | m²/m³ | 1.76
Total cost for new buildings by the developer | RwF | 1,209,533,000
Developer’s Equity | % | 20%
Developer’s Interest rate | % | 10%
Developer’s Debt Year 5 | 66%
Developer’s Debt Year 10 | 0%

Overall Floor Area Ratio FAR incl road | 1.36

Infrastructure cost per m² | RwF/m² | 129,000

Total Government Investment | RwF | 165,636,000

The value of the landowners’ land was expected to more than double from RwF 15,000 per square meter to RwF 35,000 per square meter. Taking the figures provided in the Calculator regarding land allocations before and after readjustment, the total value of the new land for landowners would decrease from RwF 71,820,000 to RwF 49,665,000, due to the greater reduction in total land for relocated plots. A Skat representative explained that the Skat Calculator estimates the increase in value of land and improvements separately, and that when combined for improved relocated units this value will exceed the original value of land and improvements contributed by 20 percent.

The PROECO model housing was serviced with piped water and electricity, and already had road and drainage infrastructure. This could be assumed to be the basic infrastructure provided. To service the new development with infrastructure, the Calculator allocates 1,119 square meters. Assuming infrastructure provision costs of RwF 129,000 per square meter and land prices at RwF 15,000 per
square meter, the total cost of providing infrastructure without land costs, this value would be between RwF 144,351,000, and $162,850. It is assumed that the government would cover this cost.

The cost of constructing all housing for existing dwellers and covering relocation costs for one year ranges between RwF 464,569,840 or US$540,197. Residential housing would average four stories (in order to maintain an average dwelling unit size of 50 square meters). To reduce the total cost of rebuilding existing housing, the Calculator assumes sale of the remaining land after accounting for existing relocated housing and infrastructure. For instance, the new land made available (3,108 square meters) would be used to build 3,360 square meters of net floor area (averaging four stories) on 2,250 square meters of land for new residential units, and 2,110 square meters of commercial net floor area (averaging five stories) on 858 square meters of land. The total value of this land is calculated assuming that the commercial land is worth RwF 80,000 per square meter, and the new improved residential land will be worth RwF 35,000 per square meter. The land price for the existing residential neighborhood is assumed to be RwF 15,000 per square meter. These figures result in valuing the remaining land at RwF 175,365,000, or $203,912.

Offsetting the cost of relocating and rebuilding housing for existing dwellers by the value of the newly available land results in a net cost of rebuilding of around RwF 289,204,840 or US$336,285. Using standard financing parameters, including 20 percent down payment, existing dwellers could take 13 years to pay off the initial debt if they could rent their unit at a level that is 20 percent higher than existing rents in the area. If these dwellers were able to increase rents by 38 percent instead, landowners could reduce their debt to zero within 10 years. Notably, these calculations are premised on dwellers renting their units, rather than living in them.

The Skat Calculator indicates that excess land from the project could be developed by a developer for building residential and commercial properties. The cost of such development and rental income for land owners are summarized in the table below. The total costs for the developer combining both residential and commercial development ranges from RwF 1,209,533,000 to RwF 1,252,877,000, while total annual rental income for land owners ranges from RwF 147,408,000 to RwF 212,112,000. Using a range of interest rates, from 10 percent to 19 percent, the Calculator also estimates the developer’s debt and the repayment period, which ranges from year 9 to over 20 years.

| Table 14. Cost of residential and commercial building and month and annual rental income |
|---------------------------------|-----------------|-----------------|
|                                 | New residential housing | New commercial building |
| Cost of building (including land purchase) | RwF 714,462,000 | RwF 495,071,000 |
| Monthly rent (depending on scenarios) | RwF 120,000 to 150,000 | RwF 2,000 to 3,600 per m² |
| Annual rental income | RwF 96,768,000 - RwF 120,960,000 | RwF 50,640,000 - RwF 91,152,000 |

The Skat Calculator demonstrates the importance and utility of developing a financial modeling tool for assessing the feasibility of land readjustment and providing individual information regarding land and improvement size and value changes. Such financial model can use actual input data or inputs with

26 US Dollar estimate using the Calculator’s exchange rate of RwF 860 to US$1.
27 The Calculator assumes a 20-year mortgage. Landowners need to make annual payments for this entire period.
28 The Calculator assumes a developer capital contribution of 20% of total cost, with percent of rental income available for debt repayment.
clearly explained baseline assumptions, and outputs segregated by individual landowners (in terms of their contributions expected gains from a project. It is therefore highly recommended that the Rwandan government seek development and refinement of this tool.

Regardless, the pre-set scenarios in the Skat Calculator offer important insights on the conditions in which upgrading based on land readjustment can be financially viable.

- Financing is necessary for the project to work at any scale. For example, under most of the pre-set scenarios a straight sale of improved land would cover the cost of bulk infrastructure alone, but not the cost of structural construction.
- Land values after improvement would need to increase by 70 percent in order to recoup the value of (larger) contributed property.
- Property owners would be responsible for fairly significant up-front capital contributions (20% of total rebuild cost) and ongoing mortgage payments.
- Rents for relocated dwellings (or their owners’ incomes) would need to rise significantly, and beyond the typical rate for Kigali, in order to achieve a viable mortgage.
- Rents for new housing would rise even higher than that for relocated housing and would in some cases more than double.
- Professional developers would require both (a) commercial space included in the site that could be rented at significantly higher rates than residential; and (b) very favorable lending terms (i.e. 10% interest rate with 20% capital contribution by the developer).
A freshly-minted architect stood staring at a sea of toilets. Row after row of them, on small “housing plots” meant for low-income families who would build their house incrementally as their incomes and savings grew. The neighborhood was “planned” and provided with services—under a World Bank-supported “sites and services” project—to serve as the anti-thesis of and an antidote to the slums that were, at the time, increasingly becoming the only housing option for low-income families.

It was 1980 and the architect, Barjor Mehta, was deeply disappointed. There were no houses, no people and no chance that they would ever come, given the seemingly god-forsaken location—in an area called Arrumbakkam—so far from the city center in Madras (now Chennai). Having just completed his thesis on housing, he wrote a scathing news article in the *Times of India* denouncing the sites and services approach. Barjor wasn’t alone in his critique, and by the mid-1990s the World Bank had almost entirely abandoned such projects.

In October 2015, Barjor, now Lead Urban Specialist at the Bank, invited me to revisit Arumbakkam and other neighborhoods developed, between 1977 and 1997, under four Bank-supported sites and services projects:

- **Madras Urban Development Project**
- **Second Madras Urban Development Project**
- **Bombay Urban Development Project**
- **Tamil Nadu Urban Development Project**

With my colleagues Kate Owens and Andrea Rizvi, I visited 15 of the 28 sites developed in Chennai and Mumbai. We also reviewed archival material, analyzed satellite images, and recently presented our preliminary findings (download a peer-reviewed journal article here). Now, Barjor and I agree that previous assessments of failure may have been both premature and erroneous.

Why?

**Twenty years after completing our last sites and services projects, we found bustling and thriving neighborhoods** in all but one of the 15 sites we visited. The neighborhoods are almost fully built out and built up—not only did people come, but they also invested heavily. There are houses on almost all plots; less than 10% of plots are vacant. People have invested to add space, upgrade amenities, and improve construction materials, quality, and appearance. Although there are still a few small single-room and single-story units, most of the houses are 2-3 levels. Families have added bathrooms and kitchens on each floor. They have replaced tin roofs with tiles or concrete, strengthened foundations and the superstructure, and upgraded walls and facades. The idea of “incremental” housing—where people would invest slowly, over time, at a pace that fitted each individual family’s circumstances—has worked.

**Incremental Housing in Mumbai: evolution from one-room units with tin roofs (right) to multi-story houses (left)**

Four key technical features—two of them innovations at the time—worked exceptionally well.

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1. A key innovation was the introduction of plots that were tiny compared to those “standard” at the time. The smallest plot was 33m\(^2\) in Chennai and 21m\(^2\) in Mumbai, as compared to minimum plots of about 150-200 m\(^2\) in other housing developments in these cities. The small plots were far more affordable and have indeed allowed lower-income households to enter the housing market.

2. Another innovation was to use spatially-efficient site planning norms that helped lower the unit costs of developed plots while further increasing density. For example, only 34\% of land was allocated to streets and open spaces, compared to 50-60\% frequently seen in other developments in India at the time. Even so, average road density in these neighborhoods is actually higher than that in their parent city as a whole. Smart planning, thus, lowered the cost of infrastructure provision and individual housing plots, while creating compact, walkable and livable neighborhoods.

3. A key design feature was inclusion of a range of plot sizes that would attract different income groups. In Chennai the plot sizes ranged from 33m\(^2\) to 223 m\(^2\), and in Mumbai from 21m\(^2\) to 100 m\(^2\). Now, the neighborhoods are indeed mixed-income, with lower-income families occupying smaller plots, and middle-income and high-income families occupying larger plots.

4. Finally, the design explicitly aimed for mixed use by including commercial areas (shops), amenities (schools, clinics), and, in some cases, plots for light industry. As per plan, the current neighborhoods actually do have all of these types of businesses, services, and amenities. Mixed-use has also translated into vibrant streets.

The third and fourth features—resulting in mixed-income and mixed use communities—are noteworthy because they are used far too rarely. Instead, many government-sponsored affordable housing programs do just the opposite—they explicitly target a narrow band of low-income families, working hard to exclude those with more means. And they focus primarily on delivery of housing units, rather than invest in mixed-use development.

In Mumbai, the sites and services neighborhood of Charkop (left) is characterized by a dense, well-planned, and spatially-economical layout. The private development on a neighboring parcel (right) has fewer roads, larger buildings, and planning that is less efficient. The experience in Chennai and Mumbai suggests that we have, in our hands, a tool for better managing urban expansion and creating affordable housing. First, city governments can use the sites and services approach and planning norms to shape...
future urban growth. They can move beyond “putting stakes in the ground” and use it to earmark future neighborhoods.

Second, both governments and private firms can create more affordable housing by scaling up delivery of small housing plots where families can build incrementally. This represents a housing solution that, in terms of cost, lies in between the two classic options—in-situ slum upgrading and public housing—but, potentially, offers quality and livability that is superior to both.

In Chennai and Mumbai many of the families residing in sites and services neighborhoods feel they hit the housing jackpot. Governments should strive to make this option available to many more, not just a lucky few. And in the process, they can build new neighborhoods and cities that are more compact, more inclusive, more vibrant, and more livable.

We see this work as the start of an important conversation and a call for more in-depth research. Do you know of cases that confirm or challenge the findings above? Please share your comments with us.

Incremental Build Case Studies

The report by Wainer et al. (2016), Incremental Housing, and other design principles for low-cost housing, examines incremental, sites and services and low-cost technologies from four key components of the housing value chain, namely: (i) Land provision; (ii) services access; (iii) house construction (architecture, building materials and technology); and (iv) evolution (maintenance, expansion and renovation). Incremental Build Case Studies (pages 22-26) show case highly innovative cases of incremental housing construction both by professionals and homeowners, which are replicated below considering their relevance to the discussions in the main report.

An exemplary incremental build project is architecture firm Elemental’s project in Santiago de Chile. Elemental worked within the Chilean National Housing Program, which provided fully subsidized units to those at the bottom of the income spectrum who lacked borrowing capacity. The program provided a capital subsidy of US$7,500 (now up to $10,000) per family to finance the purchase of land, infrastructure and architecture.

Elemental found that the capital provided by the National Housing Program would cover half of the production cost of a low-cost house in the private market. They saw that mass-production was unlikely to reduce the cost of single unit by more than 15%. They found that the most expensive component of the housing in Santiago de Chile was land.

The cost of land, however, varies significantly from one location to the other. In general, Latin American governments choose to deliver a fully finished house in a poorly-located area, while the preferences of the people indicate the opposite. However, Elemental next conducted market research on the demand of the target group. This showed that low income communities were likely to trade in housing quality for a good location with access to jobs. Celhay and Sanhueza (2011) show that other Chilean public housing projects created social isolation and limited access to real economic opportunities. In their analysis, low-income families that stayed in the slums were shown to have better socioeconomic
outcomes, higher rates of labor participation, and better employment rates than formal housing beneficiaries. Lall et al. (2012) reach similar conclusions about South Africa, where people often choose to live in a better-located shack than in a subsidized, higher-quality, unit that provides less access to job opportunities. They also found that public housing provision results in poorer maintenance and upgrading of the facilities provided.

Elemental saw that producing a quality location is far more difficult than simply improving a house. Improving a house can be done at the individual scale, while improving a neighbourhood and location involves communities, businesses, and governments. However, constructing the house could be relatively simple: in Latin America, there is a long tradition of self-construction, and many low-income residents in fact work in the construction industry and related sectors.

So Elemental decided to construct **half of a house** in a **well-located area**. This forces the beneficiaries to, over time, dynamically transform the simple housing solution offered in a complete and personalized home, according to their own investments capacity and preferences.

The ‘half-houses’ provided were two-storied, with space left between houses for expansion. The second story was provided in line with a fundamental principle of incremental building: the **most expensive and fundamental elements of the house should be provided**, and cheaper elements left to residents to create. Similarly, the interior was left extremely bare and ‘unfinished’-looking, for residents to decorate, add partition walls or screens, etc, as they wished. Staircases and a ‘wet core’ (plumbed space) are more expensive, so were also provided, but again, in a very basic form.

Figure 28. Incremental House, Santiago de Chile, by Elemental (Left: Initial House Delivered. Right: Personalised Houses After Time)
Another incremental build project of interest comes from eSTUDIO in Mexico. eSTUDIO provided a simple ground-floor house, and on top a flat roof with stairs leading up to an empty block, or in some
models, an upstairs ‘wet core’ (plumbed bathroom space). This block was named the “possibilities block”, and was designed to encourage addition of a full second story with time.

The ‘wet core’ was located in order to be back-to-back with the adjoining home’s wet core, to reduce plumbing costs. This again illustrates the key principle of incremental building, to provide the most expensive and essential elements of the house, and do so in intelligent ways that save costs. Thus, the basic plumbing, foundations, stairs, and load-bearing walls are more costly than mere partition walls, so are provided. This approach makes it easier for the inhabitant to adapt the house over time, even with limited financial access. eSTUDIO included several different variations on their basic house model in the same block and neighbourhood, to present options to recipients and improve the neighbourhood diversity and feel.
Another incremental build project (shown in Figure 34) was designed and constructed by the resident, himself a construction worker. The image below shows the outdoor living space with simple covered roof, which the resident intends to close over time. This example also highlights that climatic conditions must be considered in choosing appropriate incremental models for the environment. In line with incremental principles, the owner also left the inside rather bare upon first completing the home (Figure 35. Owner-Built Incremental House: Interior), to add embellishment over time with income. The construction and initial finishing costs of the house was $5,900. This project is helpful for demonstrating firstly, that projects benefit when residents are well informed about building practices, and secondly, that even quite simple incremental components can be effective and helpful to residents.
E 2. Upgrading of Informal Settlements

Toolkit for Settlement Upgrading and Community Development

The World Bank (2014) produced a toolkit for Incremental and Affordable Housing in the context of community-driven slum upgrading, consolidating global experiences. The toolkit offers 25 tools across seven modules as described below.

Assisting Settlement Upgrading & Community Development

- 1 - Context Analysis
- 2 - Participatory Planning
- 3 - Land and Services
- 4 - Tenure
- 5 - Building Materials
- 6 - Labor and Skills
- 7 - Financing Incremental Housing

Assisting Incremental Housing
<table>
<thead>
<tr>
<th>Module</th>
<th>Key Actors</th>
<th>No</th>
<th>Tools</th>
</tr>
</thead>
</table>
| 1 Context Analysis   | • Local governments  
                      |     | 1.1 Stakeholder mapping                           |
|                      | • Communities                                  | 1.2 | Analysis of socio-economic structure              |
|                      | • Developers                                   | 1.3 | Participatory mapping                             |
|                      | • Other stakeholders                           | 1.4 | Participatory mapping: additional maps            |
| 2 Participatory      | • Local governments                            | 2.1 | Needs identification and prioritization           |
| Planning             | • Communities                                  | 2.2 | Community contracting                             |
|                      | • Developers                                   | 2.3 | Monitoring and evaluation                         |
|                      | • Land owners                                  | 2.4 | Urban resource centers                            |
|                      | • Public-private actors                        | 2.5 | Self-reliance centers (Temporary shelters)       |
| 3 Land and Services  | • Central government                           | 3.1 | Land development                                 |
|                      | • Local governments                            |     | Land banking, land pooling, land sharing and land readjustment |
|                      | • Municipal departments                       | 3.2 | Provision of basic services                       |
|                      | • Communities                                  | 3.3 |                                                 |
|                      | • Developers                                   |     |                                                 |
|                      | • Land owners                                  |     |                                                 |
|                      | • Public-private actors                        |     |                                                 |
| 4 Tenure             | • Central government                           | 4.1 | Tenure security                                  |
|                      | • Local governments                            |     |                                                 |
|                      | • Developers                                   | 4.2 | Social tenure domain model                       |
|                      | • Land owners                                  |     |                                                 |
| 5 Building Materials | • Local governments                            | 5.1 | Building materials identification                |
|                      | • NGOs                                         | 5.2 | Building materials: timber, bamboo               |
|                      | • Producers                                    | 5.3 | Building materials: bricks, blocks, elements, roofing |
|                      | • Vendors                                      | 5.4 | Building materials banks                         |
| 6 Labor and Skills   | • Communities                                  | 6.1 | Self-help groups                                 |
|                      | • Local governments                            | 6.2 | Housing cooperatives                              |
|                      | • NGOs                                         | 6.3 | Improving building knowledge and skills          |
|                      | • Contractors                                  | 6.4 | Technical assistance                             |
|                      | • Education sector                             |     |                                                 |
| 7 Financing Incremental Housing | • Private savings  | 7.1 | Informal housing finance                         |
|                      | • MFIs and CB Banks                            | 7.2 | Alternative forms of housing finance             |
|                      | • Informal lenders                             | 7.3 | Housing micro-finance                            |