Habitat for Humanity®

Terwilliger Center for Innovation in Shelter

Affordable Housing Institute

Democratic Republic of the Congo: Analysis of the Housing Construction Value Chain

Executive Summary

September 2018

The Democratic Republic of the Congo

Capital city	Kinshasa
Main port	Matadi
Population	83,339,988
Population living in Kinshasa (2017)	13,171,000
Surface area (Km^2)	2,344,858
(second largest country in Africa after Algeria)	
Annual population growth	2.4%
Urban population	44.5%
GDP (billion US$)	37.2
Annual GDP growth (2017)	2.8%
GDP per capita in PPP in 2017 (US$)	800
Population under the poverty line (2014)	63%
Exchange rate US$ 1 in local currency (Congolese Franc, CDF)	1,616
TI corruption rank	161 out of 180 countries
Doing Business rank	182 out of 190 countries

Country context	*Implications for the housing sector*
1. The DRC continues to experience political uncertainty and economic difficulties.	Both production markets (of building materials, including delivery) and financing markets (to access finance for households to improve their homes) are volatile and often expensive.
2. Basic inflation is extremely high (ranging from 15% today to as much as 70% only a few years ago).	Any loans are short-tenor (meaning high periodic payments), with high interest rates, and in combination the amount households can finance is small.
3. Long-term residential finance via mortgages is rare and mortgage lending volume is small.	Households that want to improve their home must do so incrementally, mobilizing savings or remittances.
4. Trunk infrastructure is weak, and even if infrastructure is laid down, water or power may not come through the system.	Households have to install their own property-based infrastructure for water (cisterns, wells, pumps), sanitation (septic tanks, latrines) or electricity (generators, solar panels).
5. Except for the main urban centers, transportation infrastructure (chiefly roads) is weak.	Getting construction materials to a building site is expensive, sometimes doubling total cost to the consumer. Many households thus try to create their own materials (e.g. cement with local sand).
6. Land tenure is usually insecure, and perfecting title to land is difficult and often unreliable.	Except if a developer-sponsored home is built, it will seldom be mortgageable because of land title defects.

I. Executive summary

In this assignment, Habitat for Humanity International (HFHI) and ELAN RDC have hired the Affordable Housing Institute (AHI):

1. To assess the DRC's supply-side (construction) housing value chain.
2. Using the value chain assessment, to identify weak links that currently make housing hard to obtain and expensive.
3. Likewise, to propose solutions that could improve access to housing for the DRC's people who are poor or informally employed.

For practical reasons, we focused our work on Kinshasa (the capital and largest city, 11+ million people), and Lubumbashi (second largest, 1.5 million people).

DRC struggles with a large housing deficit

The housing deficit in the DRC is currently estimated at 3.9 million housing units. According to ANAPI, 263 039 homes should be built every year in order to close the deficit. 54.4% of the deficit is concentrated in Kinshasa, meaning about 143 092 homes to be built every year. Some projections even estimate the national deficit at 12 million housing units.

Weak links in the housing market: land, trunk infrastructure, construction and access to housing finance

Formal housing in the DRC is expensive and is rarely available under US$ 100,000, far out of reach for the majority of the population which must rely on buying or building their own home in the informal market. The reasons for the housing deficit can be directly traced to four major weaknesses in the supply-side value chain:

1. *Land*. Insecurity is a major problem. In Kinshasa, 77% of households claim that they own their plots of land but only 30% of them have land rights that are recognized by law. Land is also very expensive and, according to our survey, represents close to 40% of the total cost of housing for informal households. Formal land titles are much more expensive and a plot of land of 20m^2 near Kinshasa costs US$ 4 000 (US$ 20/m^2 [1]). The difference in cost and legal work necessary to verify a title is far out of reach for the majority of households who continue to perform land title transactions on the informal market. Land title issues additionally severely discourage investment in housing by developers.
2. *Trunk infrastructure* lags far beyond the growth of peri-urban areas. Barely half the population (52.4%) is connected to improved water, and only 9% to the electrical grid. Lack of access to roads and trunk infrastructure makes housing expensive to develop as developers need to transfer the costs of the infrastructure. Furthermore, the cost of materials greatly increases with the distance from the manufacturer as transport costs are high.

[1] According to the World Bank in 2018

3. *Construction* is challenging. Construction materials are costly and are often of poor quality. Cement, the most basic and virtually universal building material, has prices that fluctuate widely both across the country (different markets) and at different times. The price of cement varies from US$ 10 to US$ 45. Cement is the main component of concrete blocks together with sand and the cost of blocks will increase with the cost of cement. This can cause the price of housing to triple. Furthermore, many construction materials are imported and subject to high formal and informal duties. The poor road network in the country further adds costs to the materials which are eventually passed on to households. Labor is cheap on the other hand and only represent 15% of total costs. However, qualified labor is difficult to find and households often face quality issues or cost overruns when working with unskilled laborers.
4. *Very few households have access to housing finance.* Despite the presence of 20 banks in the country, only 2% of the population has access to formal credit and even fewer have had access to a mortgage. With short tenors (5 years maximum) and high interest rates (20%), housing finance remains a major blockage to increasing the affordability of housing. The annual household income needed to purchase the cheapest home built by a developer was US$ 49 117 USD in 2017 whereas the average household income was estimated at US$ 6 407 in 2016.

Despite the high housing deficit, there have been few Government efforts to try to promote affordable housing in the country. A National Housing Plan was drafted in 2001 and stressed the importance of supporting households with their self-construction needs. Though an office was created to this purpose, it was later dissolved.

Elements that could potentially strengthen the supply-side ecosystem

Many of the DRC's housing challenges are consequences of macroeconomic instability, lack of infrastructure and land tenure issues. Until the government policy and enforcement of regulations improve and strengthen, one must look for market-based work-arounds, most likely at metropolitan or similar scale. Existing elements that could be components of this intervention include the following:

1. *Strong need and likely effective demand.* The housing deficit is currently estimated at 3.9 million units, so if homes or home improvement can be made affordable and financeable to those households, they will almost certainly apply their labor, their savings, and their potential to tap family income (e.g. via remittances). This represents a significant market opportunity for financial institutions and construction companies seeking to expand down-market.
2. *Building materials/ vendor finance*. Large construction material companies could support households with their construction needs by developing house 'kits' and payment plans. This model has been successful in Mexico where CEMEX, a large cement company, developed a housing microfinance product for low-income households. Such schemes could enable companies in the DRC to expand their market base while enabling a greater number of households to progressively build a home.
3. *Demand aggregation*. Financial institutions could develop tailored products to individuals within a professional group. By understanding the incomes and needs of different groups, financial institutions can better evaluate risk and develop appropriate loan products. Housing microcredits could, for example, be developed for members of the Association of Taxi Drivers who represent a bankable but unmet demand.

These programs will solve deficits identified along the supply side and demand side housing value chains and will offer new products to households that have been left out of the banking system until now. A pilot program could be implemented with technical assistance from HFHI and ELAN RDC in order to identify and create a product that is specific to certain population groups. This pilot program could then be adapted to other groups, depending on whether it is successful.

II. The housing value chain

Compared with a successful housing ecosystem, where the supply side and demand side housing value chains operate effectively, repeatedly, and at scale, the DRC's housing value chains for both supply and demand have many links that are fragile or broken.

The red color indicates the most fragile links. The links shown in green are the ones that function properly. Orange is used for the links that are not broken but could be improved.

Supply side.
On the supply side, DRC's housing value chain is weak, except for design which, in the formal sector depends on the skills that developers can afford to pay. In self-construction design generally remains very basic. All other links are weak or broken, leading to undersupply.

Land	Trunk infra	Site layout	Design	Risk assumption	Construc-tion	Offtake	Manage-ment

Demand side.
The demand side of DRC's value chain is weak except for loan servicing and enforcement which do not pose significant problems but only apply to few loans as financial inclusion is extremely low. Very few households can access housing finance and are constrained to building themselves, most of the time incrementally.

Eligibility	Application	Subsidy	Loan credit	Loan closing	Funding	Loan servicing	Enforce-ment

The housing value chain, detailed hereafter, distinguishes between the formal and the informal sectors. Although both are related (the predominance of the informal market results primarily from the inability of the formal market to develop), it is important to analyze them separately in order to better understand the challenges that are specific to low income households. Indeed, households at the bottom of the pyramid often have informal and/ or irregular incomes. As a result, they only have little access to formal finance and no access at all to mortgage finance. This exclusion from the formal financial sector limits their possibilities in terms of housing to rent or self-construction because neither relies on a large lump sum of money. Self-construction can be done incrementally, as money becomes available.

When financing becomes accessible to low income households, it will come from a different source (mainly family solidarity) but the steps in the financing process are comparable to those of the traditional banking system (loan credit, loan closing, funding, servicing, and enforcement).

The major differences on the demand side reflect on the supply side because housing is built differently, according to constraints that the informal sector suffers more from than the formal sector. Land security impacts low income households but is not as much of a pre-requisite for construction as it is in the formal sector. The same goes for infrastructure: households will often compensate for it themselves (for example using water tanks and alternative sources of energy).

The tables below give further analysis of the supply side and demand side value chains in the DRC, for the formal sector and for self-construction.

Supply-side value chain, formal and informal (self-construction)

	Formal (developer led)	*Informal (self-construction)*
Land	Land is owned by the Government and transferred to developers through long term lease agreements. The process is long and costly. Only 15% of the population has land registration titles that are legal.	Land titles are often not officially recorded. 85% of the population owns illegal land titles.
Trunk infrastructure	There are major disparities in access to basic services across the country and within cities.	Connection to the different infrastructure networks is weak (asphalt roads, sanitation, clean water, electricity).
Site layout	Developers prefer un-serviced suburban areas where land is not disputed as much as it is in urban center. Site layout is proposed by the developer and authorized by the relevant administrations.	The site is chosen by the households, sometimes on land that is risky to build on. Site layout is done by the people that households hire (engineers, architects, sometimes construction workers) or by the households themselves.
Design	Recourse to qualified professionals can be costly for small developers but the expertise in terms of housing project design is available.	Design is often done by construction workers or by the households themselves which can lead to damage and additional costs in the medium term.
Risk assumption	There is little financing available for construction or real estate development. Developers bear most or all of the risk and use their own equity	Risk is assumed by the households. Housing construction is financed through household savings, microfinance, and/or informal loans.
Construction	Construction is done by specialized companies. Construction materials are expensive because of high costs of import and high transportation costs.	Construction is often done incrementally, sometimes over years, according to households' housing needs and financing capacity. This makes it difficult to optimize construction expenses. Materials are expensive and of poor quality.
Offtake	Lower-income households cannot afford formal housing. The middle class has very limited access to mortgage loans and offtake can be difficult for this market segment.	There is no offtake as households build for themselves.
Management	Condominium management exists but will depend on the agreement between co-owners. Insurance is not much developed.	Households manage their housing themselves.

Demand-side value chain, formal and informal (self-construction)

	Formal (developer led)	*Informal (self-construction)*
Eligibility	In the absence of Government intervention, eligibility is left to the market.	Households who can secure access to a piece of land with their own means are the ones who have access to self-construction.
Application	Access to housing depends on income levels. Given the limited availability of mortgage financing, it also depends on individual savings and access to alternative sources of financing (employer support, family solidarity, etc.).	Housing loans for non-salaried workers are almost inexistent. Microcredit is very expensive et loan amounts are too small to cover the construction of an entire house. They are most often used for housing improvements.
Subsidy	There are no Government subsidies. Formal housing is unaffordable to the bottom-of-the-pyramid populations.	Subsidy does not exit. Even worse, infrastructure deficits can be interpreted as a negative subsidy (a hidden surtax on the poor) because it causes households to incur additional housing-related costs (electricity, transportation).
Loan credit	Effective demand is weak because of the high poverty rate.	Effective demand is further reduced by the informality of incomes and the informality of the housing units (land titles and constructions). Microfinance does not demand the same levels of formality but it is limited, short-term (2 years at the most) and does not offer (for now) a product that is explicitly dedicated to housing.
Loan closing	Interest rates are high.	Microfinance costs are even higher than in traditional banking.
Funding	Loans are most often denominated in US dollars and must be paid back in US dollars. Households bear the exchange rate risk.	Household incomes, especially at the bottom of the pyramid, are not only in US dollars. Paying back loans in a currency other than the Congolese franc implies currency exchange expenses as well as an exchange rate risk (the loan gets more expensive as the Congolese franc depreciates with respect to the US dollar).
Loan servicing	Banks do not signal major difficulties related to loan servicing.	Some microfinance loans are used for a purpose that is different from the purpose stated at application. This increases risk as the asymmetry of information between the microfinance institution and the client increases.
Enforcement	Banks are very careful and take precautions to limit the risk of default. If default occurs, the loan agreements further protect the banks that can take over the mortgaged properties without waiting for a long foreclosure procedure.	Microfinance institutions de not signal major enforcement challenges.

III. Conclusion and recommendations

For base of the pyramid households, formal housing is impractical:

- Residential developers who can build formal homes will target them to the top of the pyramid.
- Even if a lower-cost formal home could be built and sold, the buyer would need to pay cash because mortgage financing would be extremely unlikely.

To make informal housing better quality, the supply-side value chain has to be activated by enabling self-construction: that is, by matching vendors of the components of housing – building materials and fixtures – to sell their products to households, while at the same time enabling individual buyer households to convert their income expectations into effective demand or financing through some form of demand aggregation or risk pooling.

As detailed in the main report, several dynamic stakeholders in the DRC realize this and have resources they could bring to a multi-stakeholder plan:

Activity	*Stakeholder group(s)*
Demand aggregation by groups and development of specialized financial products	Professional associations, financial institutions, ELAN RDC
Set up an information centers on building materials: prices, uses and quality differences	Construction material companies, ELAN RDC
Train stakeholders on the self-construction housing value chain	HFHI, ELAN RDC
Improve access to affordable and quality construction materials and services	Service providers, construction material companies, financial institutions, HFHI, ELAN RDC
Promotion and support to local materials production	Local producers of construction materials, HFHI, ELAN RDC

Appendix 1: The housing value chain by AHI

A successful housing ecosystem arises when the supply and demand side housing value chains operate effectively, repeatedly, and at scale.

The **supply side value chain** results in the production of physical homes that people want to live in, via the following eight links:

1. ***Land:*** to identify, acquire, and prepare land for physical development
2. ***Trunk infrastructure:*** to connect the site to trunk infrastructure
3. ***Site layout:*** to plan the location and program of site components
4. ***Design:*** to configure and design project units, buildings, and landscape
5. ***Risk assumption:*** to absorb potential risks and commit funds to the project (including development finance, public-private partnerships, capital markets, etc.)
6. ***Construction:*** to construct the project
7. ***Offtake:*** to occupy, sell, or allocate housing units
8. ***Management:*** to run facilities, management and operations, and maintain occupancy

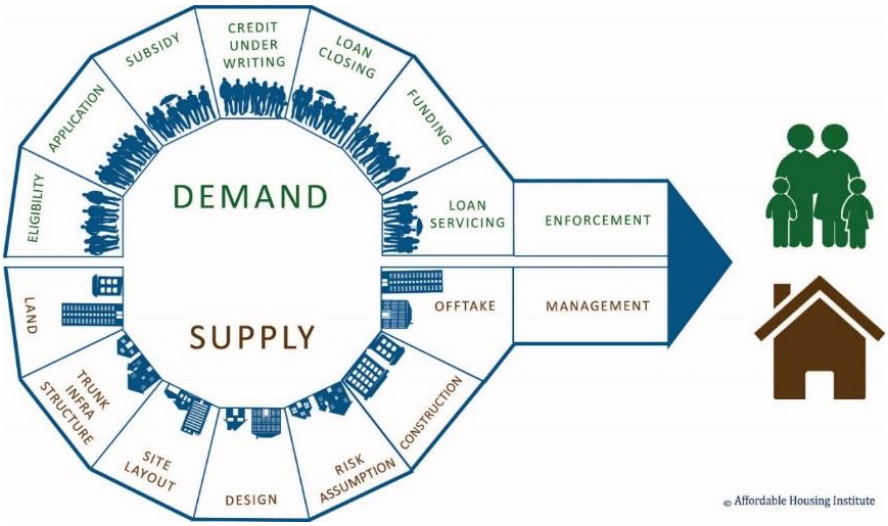
The **demand side value chain** results in converting an eligible household into a successful home occupant that has access to capital (borrowing) to finance the purchase of a home. This value chain is comprised of:

1. ***Eligibility:*** to identify target market and determine who is eligible to receive the housing product
2. ***Application:*** to market potential applicants and solicit applications
3. ***Subsidy:*** to secure commitment for subsidy
4. ***Credit underwriting:*** to perform due diligence and select applicants
5. ***Loan closing:*** to execute all legal documents
6. ***Funding:*** to source additional funds
7. ***Loan servicing:*** to collect payments of principal and interest from borrowers
8. ***Enforcement:*** to mitigate risk of default, to mitigate loss if default occurs, and to recover losses if default occurs

Finance is inherent in the demand side because housing is a typical household's most expensive asset and one of the few assets which is priced at levels equal to several years' income of the occupant family anywhere in the world.

These value chains are each composed of eight interlinked and interdependent steps, as per the graphic below.

The supply and value chains that make up the housing ecosystem



Source: Affordable Housing Institute, 2018