Affordable Housing in Rwanda: Opportunities, Options, and Challenges: Some Perspectives from the International Experience

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Introduction

This paper summarizes presentations and discussions from Kigali's the National Forum on Urbanisation in Support of EDPRS2. I start by considering the challenges Rwanda faces with urbanization, keeping an eye out for opportunities and options posed by these challenges. My emphasis in the discussion of options is not based on the Rwandan experience but rather what the international experience in many different countries suggests may be problems as well as effective ways to proceed.

The options are posed somewhat facetiously, in that they are depicted as broad "Dos," and "Don'ts." That is, as measures that should be followed as well as those that should be avoided. The point to stress is that the devil is very much in the details of a highly nuanced policy, but one that can lead to very costly mistakes. It is also a policy environment in which circumstances demand a proactive government role. So, with the object of trying to be provocative, to engage the discussion in the many possible directions, I pose some of the options starkly.

Rwanda's percentage of urban dwellers is one of if not the lowest in Africa. According to the 2012 census, 83 percent of Rwandans now live in rural areas (National Institute of Statistics of Rwanda, 2014). But with a high rate of urbanization the balance is shifting, fast. According to the City of Kigali's Development Plan, by 2020, Rwanda's population will reach 16 million people with 30 percent of that total living in cities. Kigali will take the majority of this increase (City of Kigali Development Plan 2012/13).

Rapid urbanization is of course not unique to Rwanda. Each year, the entire world gains about 70 million new urban dwellers. These transitions have happened in all regions; North America, Latin America and Europe all saw periods of rapid urban growth. Historically, all attempts to stop this undoubtedly disruptive shift have failed. Currently, the highest urbanization rates are being seen in Asia and Africa. Between

2010 and 2025 many large cities in Asia and Africa will have increased their populations by 50 percent (UN 2008).

But even within this global context, Rwanda's position is acute. A recent National Survey indicates that high population density in the countryside has led to farm plots in Rwanda becoming so small and fragmented that their size does not permit the average household to meet subsistence needs (Rwanda State of Environment and Outlook Report 2009). Related evidence from labor market surveys is consistent with this finding. They show that poverty is greatest among agricultural wage workers, and the lowest for non-farm wage earners. In such a context, moving to the city has never looked more attractive and it will remain that way, or the countryside will become densely populated by an underemployed and less productive population. Kigali could easily become four times larger over the next generation and it is certainly the case that urbanization is very much in train – as indeed it should be – in Rwanda.

Rather than attempt to work against this phenomenon, the important question for Rwandan policy makers is about how to facilitate these population shifts so that welfare is maximized and the country can continue on its impressive growth trajectory. The international experience suggests three broad issues are of importance:

- First, investing in the supply of infrastructure so that it keeps up with urban population growth;

- Second, designing policies that allow the most people to be served most effectively in a city that, due to its topology, will necessarily be expensive; and

- Third, linking up the capital city within a country-wide system of cities.

But, first some comments on the discussion so far:

In Paul Collier's talk at the National Forum on Sustainable Urbanization in Support of EDPRS2, he broke down urban investments into three components —

housing, infrastructure, and commercial. These three independent investment processes – which characterize the development of most urban economic models - build the city: households invest in housing; government invests in infrastructure; and businesses invest in the fixed capital they need to produce. This third process often happens last, particularly in cities which are not undergoing the rapid industrialization that occurred in the 19th century Industrial Revolution.

Collier suggested that one of the main problems in African cities is that households invest in housing prior to the government's development of adequate infrastructure. This is the genesis of informal settlements and, as a result, many African cities are plagued with slums –a housing stock that does not have access to the kinds of basic infrastructure needed for cities to be able to serve as platforms for economic growth. Instead of cities serving as centers of agglomeration economies that they have provided around the world and throughout history, they instead become centers of diseconomies which impede rather than enhance growth prospects.

Rwanda has the opportunity to change the order of these investments with potentially enormous gains. If the government invests wisely it can avoid this looming problem, and keep Kigali one of the most livable cities on the continent. However, this effort requires that the government take some "bets" on infrastructure investments prior to households overwhelming existing infrastructure. The question is, "Where to put the infrastructure, and how much to put down?"

These "bets" are important because if too little is done, neighborhoods become unlivable, as may be the case in the picture here. Well-designed urban infrastructure amplifies human ability, spurring further investment by households and creating livable neighborhoods. Communities with too little infrastructure are sentenced to a debilitating lack of efficiency, spurring neglect and causing deterioration in the housing stock and a lack of social mobility.

But, this kind of urban development is by no means a new problem. Poorly-serviced and overcrowded housing has been an aspect of urban life since the beginning of cities. From the 17th to the 19th century, Europe underwent massive social and economic shifts resulting in slum conditions much worse than what exists in the global south today (United Nations Human Settlement Programme 2003). The death rate of children in cities was a multiple of that observed in the countryside and knowledgeable observers referred to city life as “social murder.”

But public infrastructure investments can also go wrong in the other direction. It’s important that the “bets” made by government do not repeat the mistakes that have condemned so many housing programs of the twentieth century.

There are plenty of examples of large scale housing projects that have failed but the iconic example is that of the Pruitt-Igoe housing project in St. Louis. Starting out as an award-winning design, it consisted of thirty three eleven story buildings designed in the 1950s as a solution to inner city slums in St. Louis, Missouri. Within twenty years, half the buildings were abandoned and crime was rampant. As the image on the next page indicates it was ultimately deemed a failure and destroyed. But, the destruction went far beyond just tearing down the fabric of the buildings. It had a long-lasting legacy shaping planners’ thoughts about what could be done with affordable housing in the U.S. For many years after this planning fiasco, U.S. affordable housing policy was crippled.

The U.S. has by no means been alone in developing large scale affordable housing schemes that not only did not work but which left a lasting legacy of error. For instance, in France, suburban tower blocks, called *banlieues*, were built to address housing shortages following World War II. However, in many ways, they effectively “ghettoized” the poor, and are now being replaced at significant public cost. Nor were these policy errors made just in countries in the global North.

Destruction of the Pruit-Igoe housing development, St Louis, 1972

As depicted in the following figure, Angola recently invested a reported $3.5 billion US into a massive project called the, ‘New City of Kilamba’ as part of its plan to provide one million homes in four years. Designed for several hundred thousand people—with 700 high rise buildings— , it proved too expensive for ordinary Angolans and until recently remained mostly empty (Redvers, 2012). Meanwhile, housing shortages continue to make life difficult for the poor of Luanda. Moreover, when these units are ultimately filled their costs will be extraordinary so that the public expenditures will only be able to accommodate a small share of the many with severe housing needs.

New City of Kilamba, Luanda, Angola

The point is while there are an almost infinite number of ways to proceed, given Rwanda's demographic and income profile, policy-makers there are in a sense "doomed to choice." Choices, even doing nothing, have to be made. The default of doing nothing can set back the development agenda by years, but so too can the implementation of a program in which the details are not carefully thought out.

The central idea is not to identify the details of "correct" options, but rather to highlight some of the issues implied so that these extremely important details can be argued about and fleshed out. Perhaps the main concern is that Rwanda's ability to *implement* policy reform, which is one of the best in Africa, could become the enemy of a carefully *thought out* way of proceeding; its strength as an effective implementer may in fact become a weakness.

1. The Challenges:

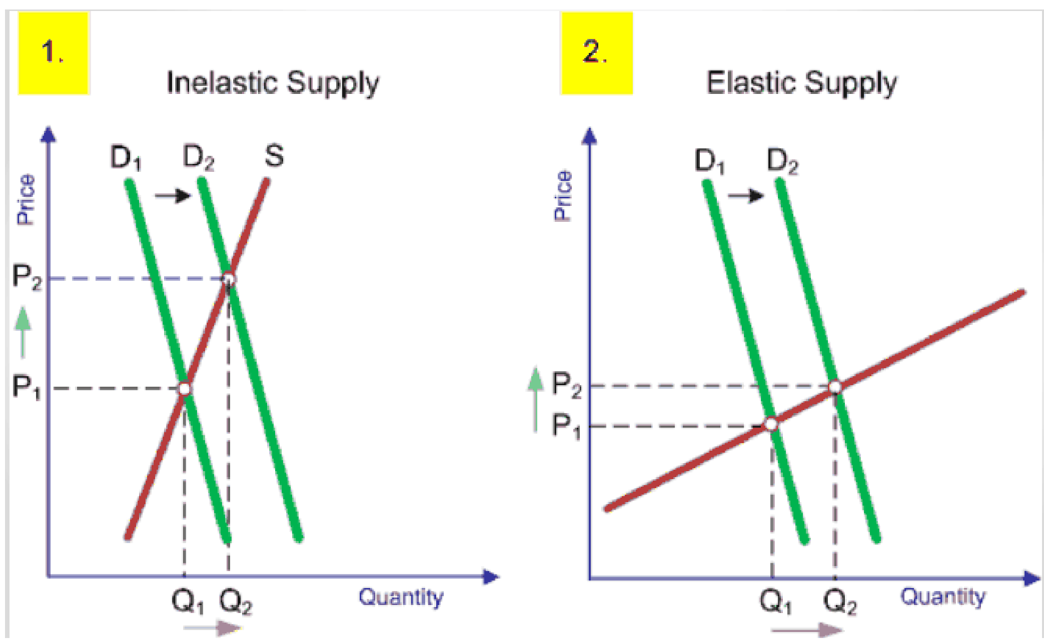
First challenge: Housing.

Infrastructure investments in Kigali will be made in a city in which more than half the land cannot be developed due to surface conditions—either the slope is too steep, or it is wetland—and of the existing housing, about 70 percent is in single-story informal units.

Limited land supply and lack of vertical construction means it is very difficult to accommodate increases in demand. With the reality of rapid and sustained population growth, housing will remain relatively expensive. The question is how to address these concerns? But within this challenge is an opportunity: Land value is probably very high—a significant price distortion that has been used, as discussed in the Kigali forum by Mihaly Kopanyi, to fund development in Singapore and China. In fact, as a number of authors have suggested, China's highly successful urbanization strategy has been built on a centerpiece of exploiting the rising land values of real estate that is being developed as their cities urbanize. Indeed, the Chinese strategy has been so successful tha tNobel Laureate Joseph Stiglitz has indicated that the two most important keys to 21st century prosperity are the continuation of China's successful urbanization program and American technological innovations (The Economist, 2014).

The Chinese urbanization program was financed through an internal passport system, which allowed the government to sell rural migrants various rights to urban residence in return for lower prices on land at the urban periphery (*The Economist,* 2014). The local governments used this land for develop purposes that in turn financed the subsequent improvement in benefits to the new urban residents. Such a system is obviously complicated and requires strong administrative and implementation skills. It also requires an orderly urbanization process – one that does not permit the free "voting with their feet" sort of migration that has characterized urbanization throughout the world. Nevertheless, while a discussion of all the aspects of such a system are well beyond this review, it is an approach that may usefully be considered for Rwanda and/or Kigali.

However, to say the least caution is also appropriate. In many cities of the world, unnecessarily restrictive planning regulations make it very difficult as well as costly to increase the supply of housing. Kigali's topographical constraints pose cost problems, making it more expensive to provide affordable housing. But, so too can inappropriate standards for what is the minimum sort of housing that can be developed. The following chart highlights these problems. In the figure on the left, with the less responsive supply curve representative of tighter planning regulations, a given increase in demand elicits a much larger price increase and a much lower increase in the quantity of housing provided. Therefore, the City of Kigali might consider less stringent regulations to respond to rising housing demand in a more cost-effective, affordable way.



Graphs to Show the Effects of Increased Demand on the Price of Products with Inelastic (left) and Elastic (Right) Supply

The Second Challenge: Despite Rapid Growth, Income Levels are Low.

As stated before, Rwanda's large rural population works on small farms which are declining in size, and among the most congested in the world. The greatest share of the poor is accounted for by farm wage workers, the lowest share by non-farm wage earners. To improve their situation will undoubtedly require many of those who now reside in rural areas to migrate to Rwanda's cities, and particularly to Kigali.

This situation is one in which large increases in urban population are inevitable. As Somik Lall suggested during the urbanisation conference, many aspects of this process won't be pretty. The disruptions involved with moving from a more traditional rural area to an unknown city are legend and pose incredible costs on those pioneers who undertake such moves. However, history is quite clear, as the Chief Economist from the Rwandan Ministry of Finance indicated at the Kigali forum, that unless this shift is made it is impossible for a country to move into middle income status.

Rwanda's per capita income level places it 203rd richest out of 228 countries. Building $15,000 units of housing, as suggested by some on day one of the forum, or even more expensive units, as also proposed, will do very little to accommodate a housing shortage. They are simply too expensive. Jane Weru from Nairobi indicated that housing that costs on the order of $5000 could be achieved and thereby serve three times as many families. There is the real threat that such expensive units end up being empty, as in Angola, or heavily subsidized and received by a limited few. Subsidies provided to build such expensive units will do more to enrich the builders then to solve a large and increasing housing affordability problem.

2. The Opportunities…

First Opportunity: Jobs and Kigali

Because of an existing commitment to building infrastructure and security, Kigali is already considered by many to be one of the most livable cities on the continent. Furthermore, it has land that can be developed in the central city; and it is close to potential commuting cities. In short, it has the potential to become one of the leading cities in the region. How can it do this? What kind of employment opportunities should it provide?

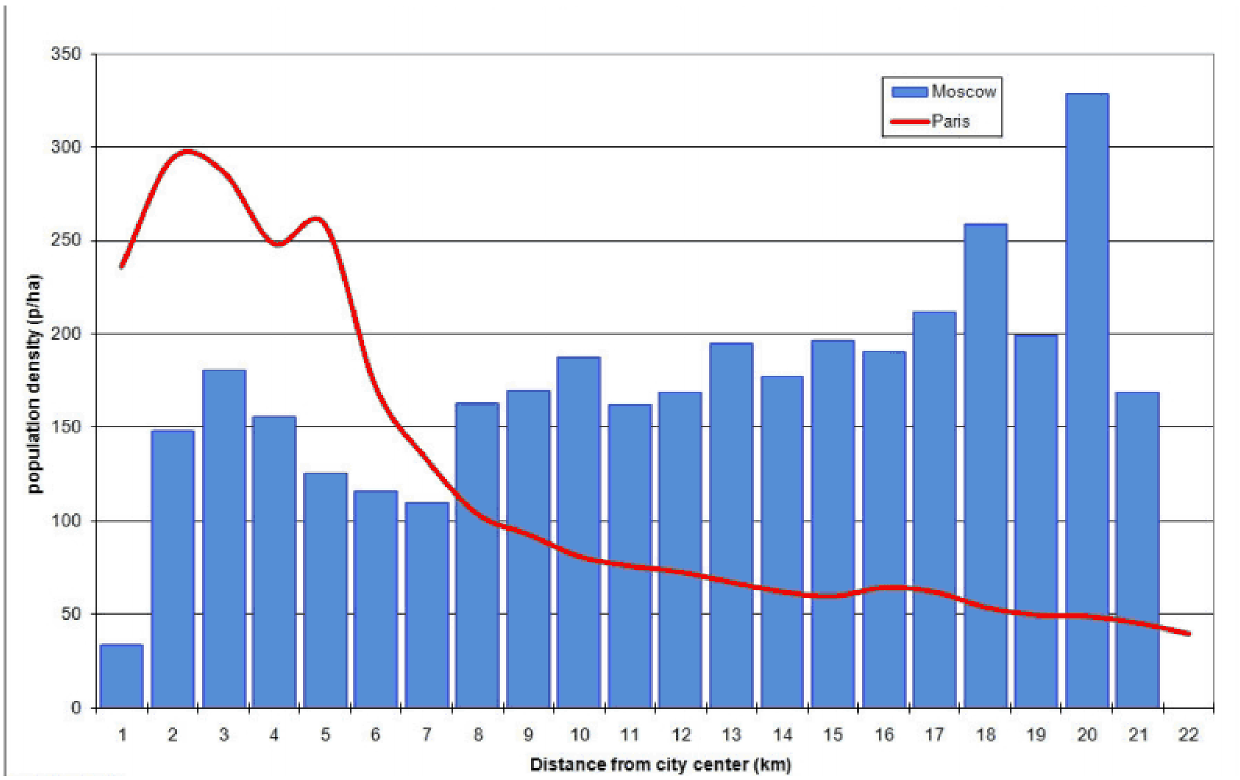
Quite simply, no one knows exactly why urbanization and growth go together, but, as noted above, the historical record is clear: without urbanization middle income status has never been achieved. But do high rates of urbanization in Africa automatically mean the rise of the African lions, much like the Asian tigers over a decade ago? The answer is no. If African cities are not affordable, and government doesn't move on infrastructure, they could lose out on growth and the opportunity to provide their youthful, but often unskilled populations with access to jobs, such as the relatively lower skilled jobs that characterize much of the construction industry (see Gibson, 1973, for evidence on construction sector jobs skills for the U.S). They will also lose out on the potential to realize the agglomeration economies that have been such a fundamental feature of the development process over time and across the world (see the evidence on this in the papers in Annez, Buckley and Spence, 2008).

To make the expensive city more responsive, and better able to exploit these opportunities, the supply of housing must be transformed. In short, the city must go up – build taller buildings -- and go out – expand its footprint.

Becoming a City with Taller Buildings

If this transformation can be managed, "going up in height" will allow valuable land value to be realized which, in turn, can pay for funding those adversely affected. A good strategy is to begin by encouraging and assisting the families who already own single story units to make their houses taller—ground plus two or even three floors, as in Nairobi. This densification of buildings is one of the least expensive ways to add to the supply of housing, avoiding the pitfalls of large-scale government provision of housing while increasing density in the center of the city. As the following figure indicates in cities of up to four million or so, the center city is almost always the place where land is most densely settled and correspondingly the most expensive.

Denser construction in the city center also has the benefit of providing a more desirable financial position for the many families who now reside in single story buildings. Such urban transformations, like the process of urbanization itself, are highly dislocative and in such a context it is always desirable to have some who gain from the process. Existing owners, who have recently had their properties regularized, could well be such beneficiaries who would lend support to such a transformation.



Graph to Show Comparative Density Profiles in the Built-Up Areas of Mosco (1992) and Paris (1990). Source: Bertaud and Renaud (1997).

Becoming a city with taller buildings will also allow the city to be more productive. Taller buildings will allow one of the most important assets in the economy to be priced much more effectively; and it will allow the city to cope more effectively with the coming population shift.

But care is needed in transforming to a city with taller buildings. Multi-story building is not the custom in Rwanda. In the transition to a taller city, fairness is extraordinarily important. The international experience indicates that communities must be involved, and the process should begin with situations in which current residents gain. Examples of how this has been done effectively, and implemented in government policy in India and Thailand, are described in a study of a World Bank-funded project in Mumbai, in the Water and Sanitation Program report (World Bank, 2006), and Buckley and Kallergis (2014), respectively. Most importantly, if this process is not well managed, transformation can result in the failures seen in the US, France, and Angola.

Becoming a More Expansive City

One of the major issues with rapidly expanding cities is the ability of people living on the edge to get to the job opportunities in the center. A policy goal, therefore, should be making the periphery of the city more accessible. In this connection, it is worth noting that it is not *physical distance* from the central city but the *time spent commuting* that matters most. Better transport systems can lower these costs enormously and in the process effectively make the city's spatial area broader without increasing commuting time. Such transport nodes are the key to an efficient expanding city.

A more effective provision of land at the periphery—designing road and plot layouts and providing basic infrastructure services—could facilitate a much more orderly and effective development process as the city grows. Of course, just developing the periphery is not enough. The central urban transport network must be able to accommodate the increase in traffic without increasing congestion of the road system, or much of the gains will be dissipated, Nevertheless, as Angel et al (2011) show, the footprints of cities throughout the world are growing at much more rapid rates than their populations, and a well laid out periphery can play a big role in effectively responding to this inexorable growth.

A periphery designed in a coherent forward looking way will be more efficient than one built in an ad hoc way. For instance, in what Rem Koolhaas called, "the Most Audacious Forecast in Social Science," New York City in the early 19th century made a plan to manage its street development in a simple, straightforward way that kept mobility and access high. The following figure depicts this plan which was made when 50,000 people lived on the tip of the island of Manhattan, rather than the millions who covered the rest of the grid as it was filled in over the next century. Barcelona followed a similar design strategy in the mid-19th century. In the long run such city street grids will minimize the problem of large informal settlements on the periphery, avoiding mass evictions as the city grows further.

The New York City Grid Plan, 1807

The Options

Housing Policy in a Bottle

Some “Dos” and “DON’Ts”

First,

Do upgrade some portion of the informal stock – increasing height as done in Nairobi—with an eye towards expanding supply and improving conditions;

Don't subsidize the development of expensive housing. Save subsidies for the poor and those adversely affected by the transformation.

Second,

Do expand the city with clear road layouts, sites and service pilots, and improved transport to near-by cities.

A System of Cities. Rwanda is geographically small and many of its secondary cities are within what could be a relatively easy commute to Kigali. Easy, that is, if the transport infrastructure were in place. Investing in the transport infrastructure could reduce the effect that distance now plays as a constraint on housing affordability in the country's main growth engine – Kigali. Of course Kigali is not the only location that should be supported by infrastructure investment, but it does appear to be the place where at present government infrastructure investments would yield the most benefit. The government receives a signal as to where to provide assistance, by observing those places that appear to be the most attractive to those attempting to improve their lives.On day one of the urbanization forum, some speakers suggested placing infrastructure in those areas of the country that are growing slowly. In my, and I think in the record of the international, experience that would be a mistake.

Don't construct expensive housing designed by the public sector. The public sector is severely disadvantaged in providing and designing housing. Units developed under government control usually cost much more than those that are affordable for most families, and they are often heavily subsidized and located in the wrong places. Subsidies have to be carefully targeted and regulatory controls which prevent the development of modest units should be carefully evaluated.

Third,

Do provide infrastructure to places where housing can be developed, and make public land available for development.

Don't have the public sector buy land for development. The role of the provident fund as providing a fiduciary role for retirees is extremely important. Investments in real estate can be a significant and important part of such investments, but not at the cost of imposing the costs of subsidies on the pensioners. Such systems have almost always resulted in opaque transfers of tax liabilities as well as financial ruin for many elderly retirees. Similarly, the Rwanda Housing Authority's expenditures for the poor need to be carefully designed. Financing houses that cost $40,000, as some suggested they do, will do little to address the housing affordability problem.

Fourth,

Do focus on ways to reduce the high interest rate. There are lots of options for doing this. The World Bank supported one such option in Ghana almost twenty years ago, where the financial institution assigned to help the provident fund make housing finance available is now one of the most successful commercial banks in the country: the institution is called the Housing Finance Company Bank (see its *Annual Report- 2014)* o-, the online descriptions of its evolution from a mortgage loan originator under World Bank IDA credit. The way funding was structured in Ghana helped maintain the financial solvency of the provident fund, the National Socail Security Fund (NSSF), while also making funds available to modest income earners. It involved making loans available at interest rates slightly higher than the inflation rate and indexing the payments so that the NSSF would not receive negative inflation-adjusted interest rates.

Many other options are also available to avoid the very high interest rate margins which now plague the financial sector and which will almost certainly prevent the kind of urban transformation needed. For example, the Thai government runs a program that provides mild interest rate subsidies to redevelop low income communities, which is very effective (as shown by a recent World Bank study I undertook, which the Bank published (Buckley and Kallergis, 2014).

Don't have the public sector take undue risks – such as investing in developing cities in the slowest growing areas in the country. Of course there will be opportunities for urban growth in cities outside of Kigali, and these opportunities, particularly as they link to agricultural marketing and development, should be encouraged. As mentioned above, the suggestion was made by an external advisor during the first day of the conference to encourage those areas that have not been growing.. There may be much to recommend the development of regions that are lagging and from a social equity concern, and such investments may be of considerable interest. They are not likely, however, to help address the very rapid urbanization concerns that the country now faces.

How to Proceed?

The "DOs" and "DON'Ts" presented here are meant to provoke discussion among Rwandan policymakers. Certainly pursuit of almost any of the options should be highly nuanced and require more clarity. My objective is simply to enjoin debate and argument among friends about how to proceed, since some action is essential and such arguments, one hopes, can be productive.

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