

# POLICY NOTE

## NATIONAL URBANIZATION POLICY

### RWANDA

**Promoting Synergy between Airports and Cities to Achieve Sustainable Development**

Pre-release

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# INTRODUCTION

Rwanda's urbanization history is quite recent. Since the colonial and post-independence periods, the tendency to promote ruralisation and the confinement of residents into rural areas was the main governmental goal. This situation has led to a low urban population growth, uncontrolled spatial expansion with little provision of safe, open, public places, and the uncoordinated planning and provision of basic services in urban settlements. Between 1960 and 2012, the urbanization rate increased from 2 per cent to 16.5 per cent (multiplied by 8.3), while the Gross Domestic Product multiplied by 4.2, moving from USD 1.68 billion to USD 7 billion.

According to the National Institutes of Statistics (NISR, 2014)<sup>1</sup>, between 1978 and 2012, the inter-censal growth rate in urban areas was 6.5%. This was influenced by the 1994 genocide against the Tutsi people, which brought the rate to 10.6% between 1991 and 2002. The following decade, after the relocation of internally displaced persons, the urbanization growth rate went down to 4.1% between 2002 and 2012. During these years, less emphasis was put in : developing and implementing urban planning and design instruments, collecting and using financial resources to boost local economy and job creation, and ensuring permanent application of urban rules and regulations by all stakeholders. The Government of Rwanda aims to increase the urbanization rate from 10 % (in 2000) to 35 per cent by 2020 with a focus on the improvement of the quality of life for Rwandans (Government of Rwanda, Vision 2020). The increase of urbanisation shall be go hand in hand with poverty alleviation, increase of domestic credit to private investors, improved access to sanitation and clean water, increased access to internet and energy, off-farm jobs.

Rwanda had 222,250 urban residents in 1978. The fourth demographic and housing census revealed that the urban

population was 1,732,175 in 2012; representing 16.5 per cent of the total population (NISR, 2014).<sup>2</sup>

Considering a future decrease of the annual growth rate, from 2.37 per cent in 2012 to 1.89 percent in 2032 and based on the medium-term scenario, Rwanda would have 20.2 million people by 2042 and 26.9 million by 2062. With a projected urbanization target fixed at 35% of in 2020, Rwanda could have 4.4 million urban population. The number of urban dwellers could reached 10.1 million in 2042 considering the UNDESA<sup>3</sup> projection and, by extrapolation, to 16.3 million in 2062 for an urbanization rate projected to reach 60.6 %.

Today, urban landscapes and living quality of Rwanda people are not as viable as it should have been if efforts were put in promoting adequate and implementable urban planning and design tools, enhancing endogenous and resident's friendly mechanisms to foster urban economy and increase finance, and strengthening the implementation of pragmatic urban legislation. In 2012, only 11.2 per cent of households resided in areas of planned urban areas, whereas nearly 58 per cent of households occupied spontaneous or squatter housing (NISR, 2014).<sup>4</sup> To address this crucial issue and to meet the goals set by the Vision 2020 as well as the medium and long term sustainable urbanization objectives, the Government of Rwanda decide to develop a National Urbanization Policy (NUP). The philosophy of the NUP is to contribute to economic transformation as stated in the EDPRS II. The purpose of this is to "Transform the economic geography of Rwanda by facilitating urbanisation and promoting secondary cities" as centres of non-agricultural economic activities. In order to meet this high level orientation, the urbanisation process, if well understood and coordinated among different stakeholders, shall lead to a better economies of agglomeration based on a well-balance system of cities, more productive interactions between urban and rural settlements, and improved multi-sectoral coordination.



Street in Kigali, Rwanda © Flickr/Adam Cohn

1 NISR. 2014. Fourth Population and Housing Census report.

2 NISR (2014). Op cit.

3 UNDESA (2014). World Urbanization Prospects. New York..

4 NISR (2014). Op. cit.



# I. URBANIZATION PROSPECTS

## 1. Population dynamics

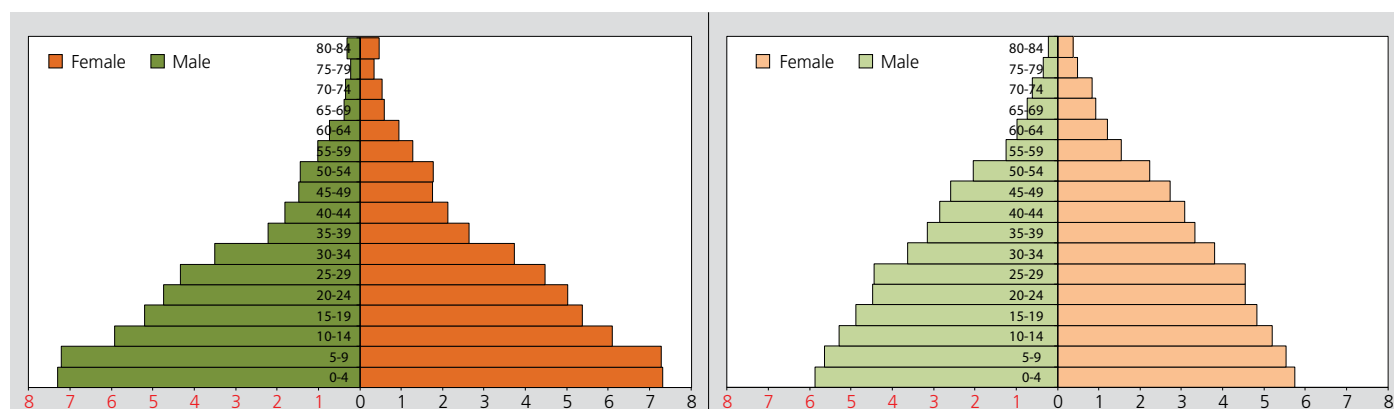
Rwanda is situated in the heart of Africa. It has a surface area of 26,338 km<sup>2</sup> with a dozen lakes that have the potential to produce gas and attract tourists. The country is surrounded by Uganda, Tanzania, Burundi and the Democratic Republic of the Congo. This strategic geo-political position gives Rwanda the potential to serve as an important hub for eastern and central Africa. With the recent development of the airline RwandAir, Rwanda is increasing its accessibility and direct connection to other African countries. Rwanda's population increased from 1,595,500 inhabitants in 1934 to 10,996,891 people in 2014. The population multiplied by 6.89 (almost 7) in 80 years, which contrasts strongly with the periods from 1978 to 1991, and from 1991 to 2002. In 2012, the population in Rwanda was estimated to be 10.5 million (4th Population and Housing Census, 2012). The figure 2 illustrates the repartition of population by sex. According to the medium-scenario projection, the population in 2014 was around 10,996,891. Over the last decade (2002-2012), the annual growth rate of Rwanda increased to 2.6 per cent. According to the medium scenario projection, the annual growth rate will continue to decrease from 2.37 per cent in 2012 to 1.89 per cent in 2032. The median age increased from 19 years in 2012 to 20 years in 2014 and will increase to 24 years by 2032. The percentage of children under five years old will decrease from 14.6 per cent in 2012 to 11.6 per cent in 2032. The report uses data from both the NSIR and Vision 2020 to project figures on urbanization. By 2062, the overall population is likely to reach 26.9 million.

Fertility, mortality and migration are the main drivers of population structure by age and sex at national and urban levels. Between 1978 and 2012, the total fertility rate was reduced by more than 2 points: from 8.6 to 4.0 children per woman. "The significant decline of fertility can be partly explained by the increase in modern contraceptive use, as shown by the increase in Contraceptive Prevalence Rate (CPR)

from 10 per cent in 2005 to 45 per cent in 2010, combined with the increase in net attendance rate in secondary school for girls that increased from 10 per cent in 2005 to 21 per cent in 2012" (Enquête Intégrée sur les Conditions de Vie des ménages, EICV 2010-11)<sup>5</sup>. The level and trends of mortality during this period has significantly improved. The mortality rate has gone down while life expectancy has gone up, especially during the last decade. The NISR points out that "life expectancy at birth was 46.4 years in 1978, increased to 53.7 years in 1991 before decreasing to 51.2 years in 2002. Between 2002 and 2012, it increased again by about 26 per cent, from 51.2 years to 64.5."<sup>6</sup> The NISR also projected fertility and mortality rates from 2012 to 2032. During this period, life expectancy for both sexes should grow from 64.5 to 70.4 years while mortality for children under five years will decrease from 72.2 per cent to 27.7 per cent. In Rwanda, the majority of the population is composed of non-migrants. The 2002 and 2012 Population and Housing Census showed that only 20 per cent of the population has moved from one site to another.

The proportion of the resident population of the age group 0-4 and 5 to 9 are quite similar due to a combination of three parameters. The crude birth rate and under five year mortality rate have significantly reduced between 1991 and 2012 despite some picks observed after the genocide in 1994 (figure XX). The crude birth rate went down from 45.7 per 1000 in 1991 to 41.2‰ in 2002. It was 30.9‰ in 2012. During this period, the under 5 years mortality rate increased from 195‰ (1991) to 221‰ in 2002. Then years later this rate was 72.2‰. These two factors were associated to the progressive reduction of the total fertility rate. Besides, the analysis of lifetime migrants trend indicates that more children of 5-9 year (close to 7.5%) are more concerned compare to those aged between 0-4 year (4.5%). This situation in 2012 could also demonstrate the effect of migration on the structure of the population of these age groups observed on the pyramid.

FIGURE 1: AGE PYRAMID OF THE RESIDENT POPULATION OF RWANDA IN 2012 AND 2032 (MEDIUM SCENARIO)

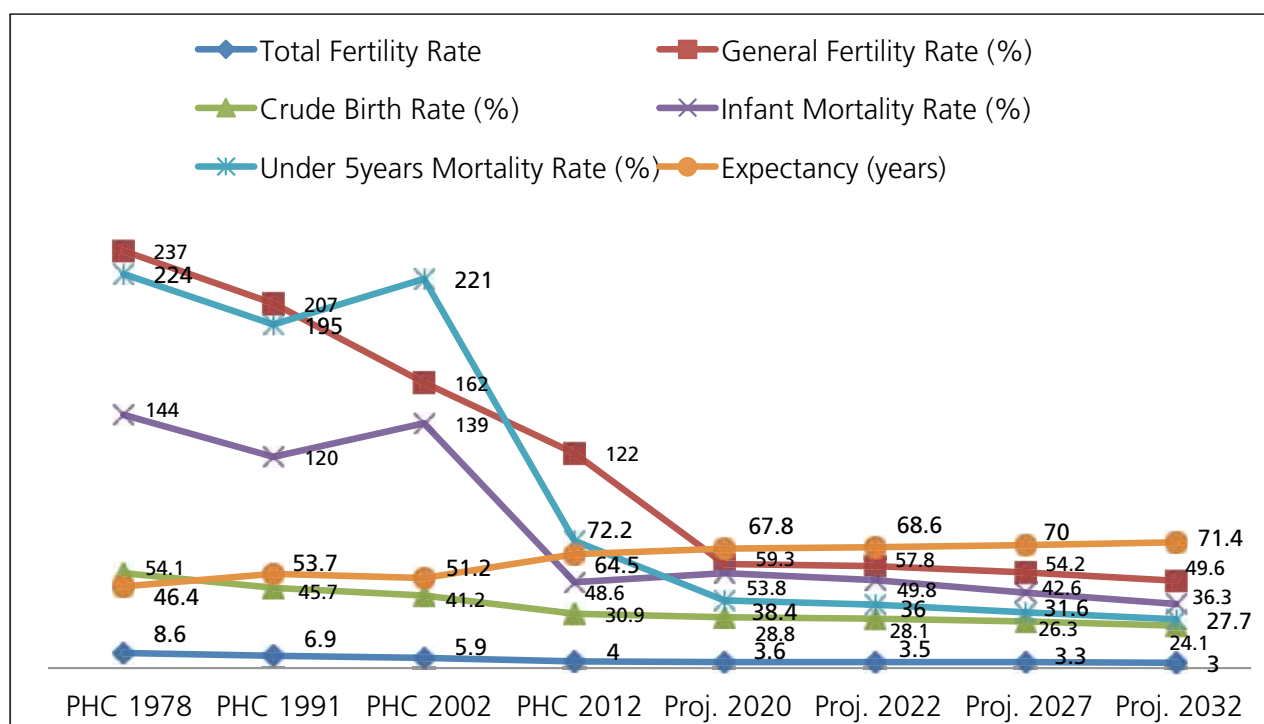


Source: NISR (2014). Rwanda 4th Population and Housing Census

<sup>5</sup> EICV: Enquête Intégrée sur les Conditions de Vie des ménages (Living Standard Measurement Survey)

<sup>6</sup> NISR. 2014. Fourth Population and Housing Census. Mortality

FIGURE 2: TRENDS AND PROJECTIONS IN FERTILITY AND MORTALITY INDICATORS FROM 1978 TO 2032



Sources: Adapted from NISR(2012), June 2014.

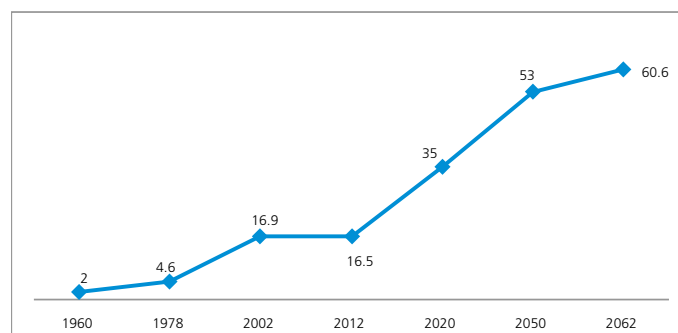
## 2. Urbanization trends

Urbanization trends are analysed from three aspects: urban population, urban households and the number of urban centres. The proportion of inhabitants residing in urban spaces has moderately increased in the last 50 years. Estimated at less than 2 per cent at the end of 1960, with only one main city, the urbanization rate was 3 per cent in 1972 and 4.6 per cent in 1978. If the definition and the legal boundaries of urban areas don't change between now and 2020, the proportion of urban dwellers is likely to reach 21.9 per cent with a projected population estimated at 2.7 million. The Government target is to reach 35% urbanization by 2020. Inconsistencies in defining urban areas and erratic censuses around the concept of urban population among stakeholders have led to less accurate estimation of the urban population in Rwanda, like in many other countries in developing world. If the definition used by the NISR during the 2012 population and housing census don't change, in 2032, Rwanda will have 30 per cent urban residency and 40 per cent by 2062. But taking into consideration the political commitment and continuous measures to advance urbanization, the recent urbanization prospects made by the UN (2014) shows that Rwanda could have 53% urban population by 2050. We assume that if such a target is met, the country could likely reach 60% urbanization in 2062, a new before the end of the new Africa agenda which is 2063. Based on the previous projection, Rwanda would then have 4.4 million inhabitants in 2020, around 7.03 in 2032,

approximately 13.3 million residents in 2050, and possibly 16.3 million citizen in 2062.

In 1970, two cities had more than 10,000 inhabitants: Kigali and Ruhengeri, called Musanze today. This group of cities gradually increased over years: 5 in 1978, 7 in 1991, and 14 in 2002. Three additional towns were created in 2002. Between 2002 and 2012, Kabuga, one agglomeration of the 2002 census, disappeared and six new agglomerations appeared on the list of urban areas. In 2014, as is shown in the following table, Rwanda had 21 urban areas with more

FIGURE 3: URBANIZATION TRENDS BETWEEN 1960 TO 2062 (URBAN POPULATION)



Sources: Human Settlement and Housing Policies, 2002, NISR (2014), UN (2014) World Urbanization Prospects.

than 10,000 inhabitants. Considering the characteristics and the typology for classifying urban areas provided by the law, No. 10 of 2012 governing urban planning and building (art. 2 and 3), the urban hierarchy in Rwanda can be categorized as shown in this table.

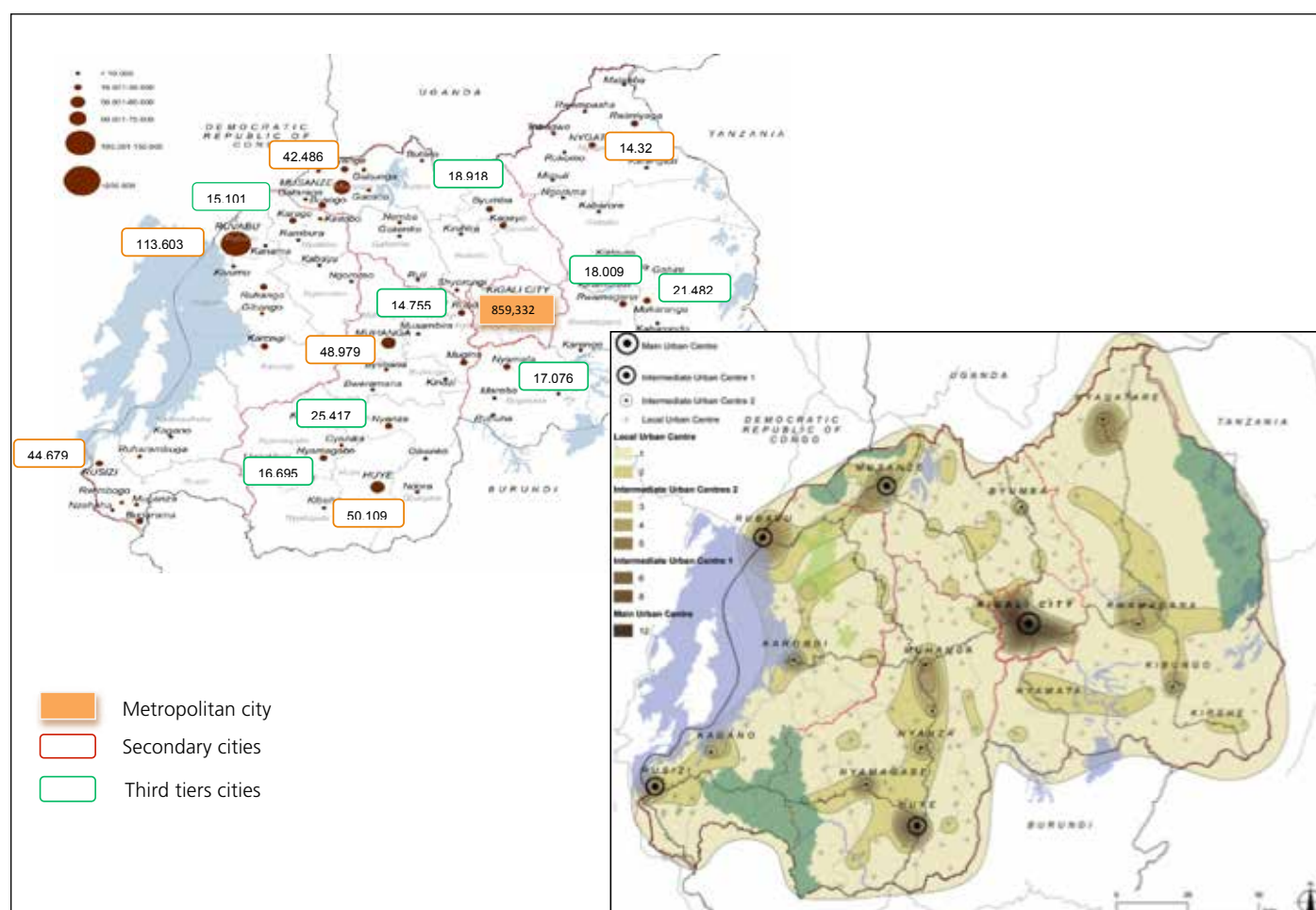
Since the colonial period and post independence area, the population of Kigali has always been very significant compare to the size of the second city. In 1970, Kigali population was 4.6 times larger than that of the all the secondary cities. This figure was 5.2 in 1978, then 8 in 1991 and 5.8 in 2012.

**TABLE 1: CLASSIFICATION OF URBAN AREAS AS PER THE LAW**

URBAN AREAS	DEFINITION	NUMBER (2012)	NUMBER (2032)
City	town that has at least 200,000 inhabitants	1	3
Municipalities	town with at least 30,000 inhabitants, but less than 200,000 inhabitants	10	12
Agglomerations	town with at least 10,000 inhabitants but less than 30,000 inhabitants	10	13

source: Adapted from the data of the Fourth Census, 2012.

**FIGURE 4: DISTRIBUTION OF THE URBAN SETTLEMENTS SIZE AND URBAN POPULATION IN 2012**



Source: 4<sup>th</sup> Population and Housing Census, Rwanda (January 2014); and NLUDMP (2010)

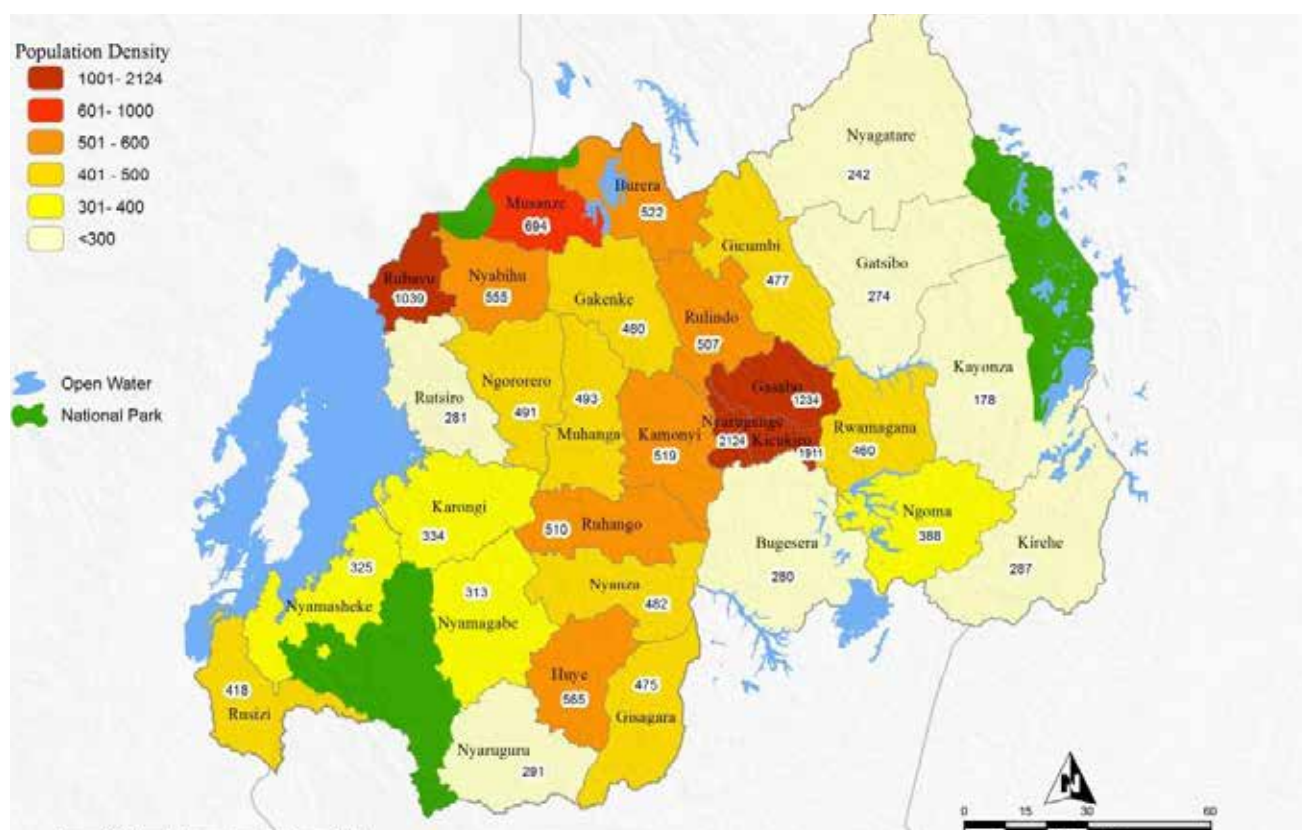
The spatial distribution of the urban population in Rwanda in 2012 was dominated by the concentration of people in the capital city. The second most urbanised urban area is Rubavu (37%) and then Muzanze (27%) as indicated in the figure below. Five secondary cities have between 45,000 and 110,000 inhabitants: Musanze, Huye, Muhanga, Rusizi and Nyagatare. Among the third tiers cities, Nyabihu and Kamonyi have more than 10% urbanization rates. Three types of studies have been combined to determine, on one hand, the urban settlements' hierarchy and on the other, a well-structured network of urban settlements:

- Socio-economic analysis of the human settlements: by using the Matrix of Ordered Functions (MOF).<sup>7</sup>
- Analysis of the population growth and the spatial distribution.

Analysis of the built-up areas: closely related to the topography and the existing road network connection, will help to define for each typology the geometries and the potential of urban growth.

The density<sup>8</sup> of Rwanda grew slowly from 1934 to late 1970. It has more than doubled since 1978, from 183 to 414 inhabitants per km<sup>2</sup> in 2012. The projections of density, illustrated by the next figure, are based on an NISR perspective with an urbanization rate that should reach 30 per cent by 2032 and 40 per cent by 2062. The second densification option is based on a moderate increase of urban population, with a target of 60% by 2062. The last scenario is done using the Vision 2020 trend and a continuous rapid increase of urban population which can lead to 80% urbanization rate.

FIGURE 5: POPULATION DENSITY IN 2012



Source: Rwanda 4th Population and Housing Census, 2012 (NISR)

7 A "function" is every service, equipment, activity and facility that has an economic, administrative, social or cultural function in a given human settlement.

8 According to the NISR (2012). Population size, structure and distribution. The population density is a measurement of people per area unit, which may be square kilometre, hectare or acre. Two definitions of population density are used here: physical density, which considers the population divided by the total surface of the land, including inland waters, and physiological density, which considers the population divided by the land area excluding inland waters, i.e. the area actually available for population settlements.



## II. URBANIZATION ISSUES

### 1. Urban Planning and Design systems

The Rwanda National Land Use and Development Master Plan is providing a conceptual framework for land-use regulation. The planning hierarchy is then followed by the District Land Use Master Plan for a time horizon of 40 years. Below this there are the Land Management and Urban Master Plans which are designed for a period of 30 years. There are completed by Regional and Sectoral Master Plans such as transport, water, agriculture, etc. Local Land development plan are made for 20 years and at a scale ranging from 1:20000 to 1:5000. The last level of planning documents is land subdivision plan. There are more detailed with a scale of 1:2000. In parallel to this, public and private bodies have specific land development plan for small micro power plants, agribusiness industries, real estate development, etc. The visualization of land management and prospective investments at local level (cells and sectors) appeared to be crucial to enhance the coordination of human settlements development. At the district level, many aspects of these planning instruments are selected and consolidated to produce the District Development Plan (DDP) to guide 5 years investment plan. Observations have shown that DDP are hardly exploited by stakeholders to elaborate the 3 years Strategic Investment Plans and the Annual Investment Plan to respond to the above mentioned aim of Spatial Planning. At the urban level, the main guiding document is the Local Urban Development Plan (LUDP commonly called Urban Master Plans). Rwanda possess 30 LUDP and in addition to this the City of Kigali has its own Master Plan. There is need for implementation tools to ensure an effective execution of plans by all stakeholders.

This approach will contribute to create more pull factors in other urban areas in order to reduce the unbalance urban population geography with the domination of Kigali City in the system of cities (see table 2).

**TABLE 2: PROPORTION OF URBAN POPULATION AND URBANIZATION RATE PER URBAN AREA GROUP IN 2012**

Year	Urban Population	Urbanisation Rate	Proportion of urban population
Rwanda	1.732.175	16,5%	100%
Kigali City	859.332	8,2%	49,5%
Secondary cities	465.405	4,4%	26,7%
Third tiers cities (market towns)	407.438	3,9%	23,8%

Source: Adapted from the data of the Fourth Census, 2012

The main issue regarding urban planning and design in Rwanda is the level of understanding and implementation of the plans by all public, private stakeholders and individuals. This is due to the lack of human and financial resources. Apart from the City of Kigali and the districts in this region, other districts have an average of one urban planner. The urban planning jobs is often done by engineers, land officers and Geographic Information System (GIS) experts with less knowledge on planning systems and requirements. Most of these personnel are less experienced in urban planning operations and have difficulties to understand and create enabling conditions for the application of different laws guiding urban spatial development. Awareness raising activities with population concerning urban planning and design regulations and the creation of better urban landscape are very rare. Further, it was noticed by stakeholders that the buy-in and understanding of the LUDP is low, both at executive as technical level in the districts. Three remarks are heard often:

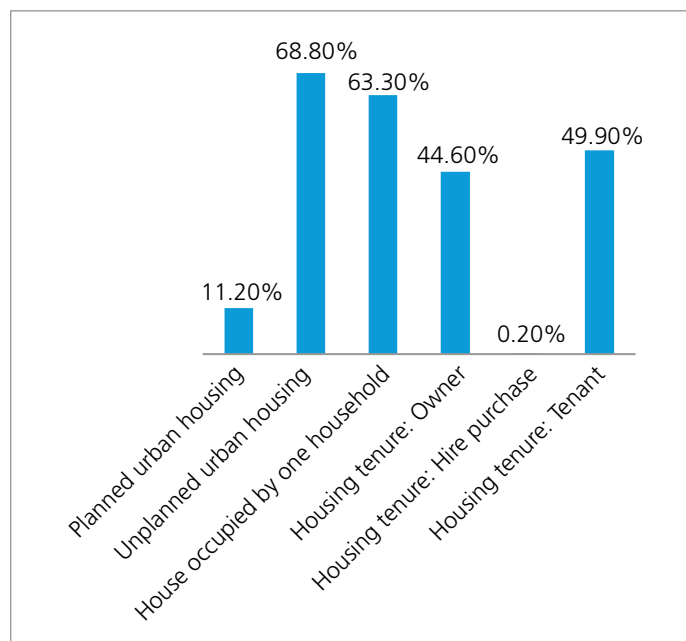
The district (council) often ignores the content and how to implement the LUDP but also how to align it with other investment plans;

The financial resources to execute the plans are too limited and sources of funding not well determined to ensure a proper execution of recommendations in LUDP and their implementation studies. Various ministries and authorities have earmarked funding for a specific period. This funding is often based upon a specific programme (e.g. slum upgrading) and spread equally over the districts.

To conclude on this, there is need to promote a strong urban planners' society or institute which will support governments efforts to advance urbanism and well planned urbanization processes. At the national level, many staff need to be exposed to comparative approach related to urban planning operations. They also need to learn issues faced at local level by authorities and professionals. A national ratio of urban or spatial planners per district or per population must be defined to better control access to these experts. The role and capacity of the local authorities to manage and account for financial resources dedicated to urban planning and housing is small as this is done under RHA. Inter-departments collaboration, joint planning and concerted development in urban areas are rare.

The insufficient and weak enforceability of urban planning rules and regulations over the year have led to the expansion of urban sprawl and informality. this situation is also due to the lack of proper coordination mechanism among public and private sectors to promote a gradual and normative city extension. In 2012, only 11.2% of housing in urban areas were located in planned and well serviced areas. As illustrated in the next figure, the proportion of unplanned urban housing represent 68.8% of build up areas in urban settings.

**FIGURE 6: PLANNED URBAN AREAS AND HOUSING OWNERSHIP IN RWANDA (%)**

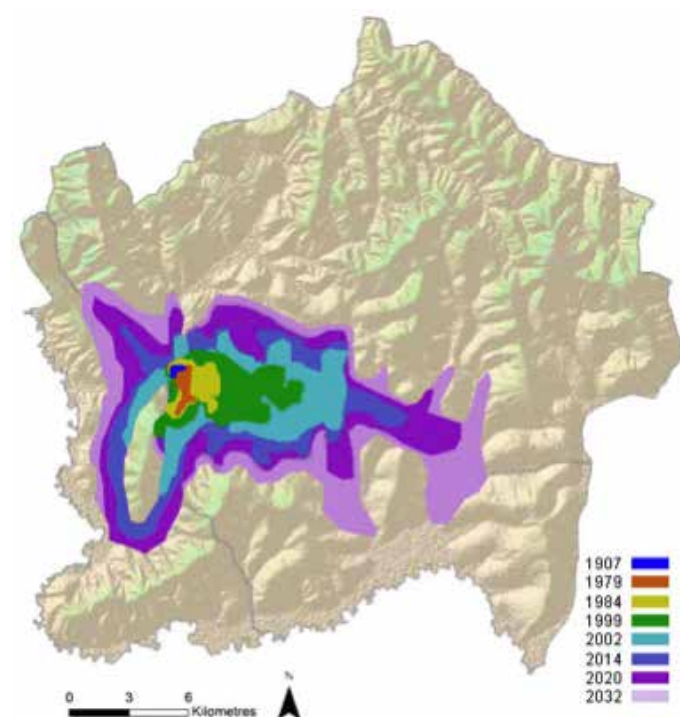


Source: NISR.2014. Fourth population and housing census, 2012.

In Rwanda, the condominium lifestyle is not common. Three households out of five stay in one compound. The land occupied is between 600 to 750 square meter per family. Analysis done by the Rwanda Housing Authority (RHA) for Kigali and Ruzizi show that if the current rate of land occupancy for housing continue by 2040 the proposed urban areas will not be sufficient to accommodate all dwellers. If there is not spatial containment policy to prevention slum creation and excess consumption by household, this will jeopardise the efforts to align urbanization, agglomeration effects and economic growth in Rwanda. If no adequate measures is taken to contain sprawl, a city like Kigali will see its urban areas limit continue to expand and render infrastructure provision and maintenance very difficult.

In order to improve density, all urban master plans have highlighted the level of density in different sites in urban areas. To higher densities proposed are: 32000 people/km<sup>2</sup> in Kigali, 85 persons/ha in Rwamagana, 30 plots/ha in Gicumbi, and the creation of 250 to 300m<sup>2</sup> of per household in Rubavu. The main challenge as pointed out during consultations will be the capacity of people to change their mindset and adopt new approach to life in urban areas with smaller plots. No document present a densification strategy that urban managers should follow to reach the desirable residential and mixed-use density

**FIGURE 7: EXTENSION OF URBAN AREAS IN THE CITY OF KIGALI, SITUATION AND PROSPECTS**



Source: UN-Habitat, October 2014

## 2. Open public spaces, land value sharing and construction rights: a legal perspective

### i. Land needs for open public spaces

The total surface of urban areas in Rwanda is 354.62 Km<sup>2</sup> according to the Rwanda Natural Resource Authority. The maximum size is in Gasabo district with 108.09 square km, followed by Kicukiro (56.5 square km) and Nyarugenge (22.76 square km). The smallest urban areas are respectively located in Rutsiro district (0.91square km) and Gisagara district (0.87 square km). Proactive measures must be taken by the national and local authorities to identify, acquire and secure adequate land for the execution of open public spaces and establishment of public land reserve for short, medium and long term projects. The value of land will continue growing yet there is no common strategy of public authorities to obtain land in future urban expansion areas.

By 2032, the Government of Rwanda should have secure between 5500 ha and 10098 ha of land. This will depend on the level of urban population that will reside in the urban areas. The long term demand for land is 24466 ha by 2062. This estimation is of land needs is mainly for open public spaces mainly schools, hospitals, playgrounds and

**TABLE 3: ESTIMATION OF LAND NEED FOR OPEN PUBLIC SPACES AND HOUSING TO REACH 35% BY 2020**

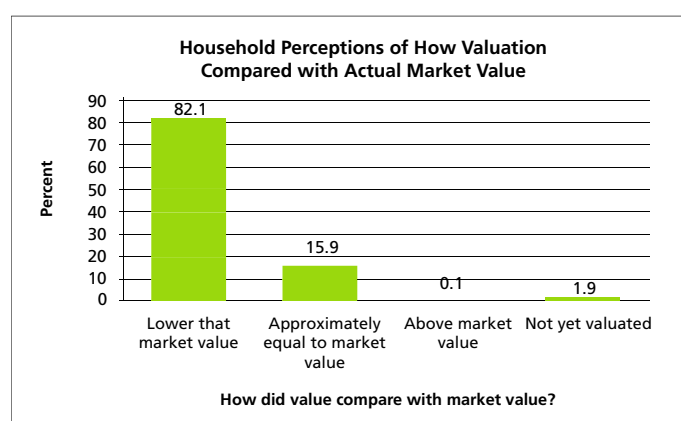
YEAR PROJECTIONS	TOTAL RWANDA POPULATION	TOTAL URBAN POPULATION (NISR)	URBANISATION RATE	TOTAL URBAN POPULATION (VISION) 2005	INCREASE OF URBAN POPULATION	AVERAGE LAND NEEDED FOR PUBLIC INVESTMENT (HA)	LAND FOR HOUSING		
							15000 INH./ KM²	19 DU/HA (KM²)	5000 INH./ KM²
2012	10 482,641	1,732 175							
2014	11,002,628	1,962,945	18	1,980,473	248,298	180.26	16.55	38.23	49.66
2015	11,274,221	2,086,390	20	2,254,844	274371	199.19	18.29	36.1	54.87
2017	11,839,419	2,347,098	24	2,841,461	586617	425.87	39.11	86.78	117.32
2018	12,132,541	-	28	3,397,111	555650	403.39	37.04	87.05	111.13
2019	12,432,365	-	32	3,978,357	581246	421.97	38.75	80.50	116.25
2020	12,738,767	2,773,222	35	4,458,568	480211	348.62	32.01	83.20	96.04
					2,726,393	1979.29	181.76	411.86	545.28

Source: Done based on NISR data and Vision 2020 urbanisation target

recreational facilities, urban parks, fire brigades, cemeteries, youth centre, women centre, post and telecommunication offices, and cultural centres. An analysis of urban population growth up to 2020, as per the Vision 2020 target, shows that between 73,500 and 165,400 new households shall need to be accommodated annually in urban areas. The yearly land need for public investment to fast track rapid and planned urbanization vary from 180.26ha (2012) to 421.97 ha (2018). In total public institution shall ensure that they obtain 1979.29 hectares of land to guide coordinate urbanization. This must be a joint effort of central and local governments.

Analysis of detailed development plan for city extension in Rwamagana and Muhanga-Karama show different profile of land use operation in urban areas. To create new extension areas of 103.1 ha, the Rwamagana plan proposed to set aside 18% of land for open public spaces (green space, public places, street and other networks). This proportion is 19.8% for the Muhanga-Karama detailed plan where the proposed expansion areas is 870 ha. The open public spaces here incorporate sport facilities and administrative land (land reserve). The wetland in Muhanga will cover a total of 30.5% of available land.

If the law governing environment strongly protect wetland so does the land law which guaranty security of tenure for private land. The difficulties will be for the authorities and private investors to acquire these land to create the open public spaces and other investment of public interest. Expropriation is the main approach to acquire land for many public investments. Household are not always satisfy about the compensation they have. Most of them always complaint about the value of land they get compare to the market value. An assessment done by the Land Project of the USAID (2015) indicates that 82.1% of household declare that the valuation of land to be expropriated is lower than the market value. This poses a problem of land value capture in the land valuation system.

**FIGURE 8: APPRECIATION OF LAND VALUATION FOR EXPROPRIATION BY HOUSEHOLDS**

Source: USAID(2015). Implementation of Rwanda's Expropriation Law and Its Outcomes on the Population

## ii. Some limits of existing legislation implemented in urban areas

Planning and coordination among public institutions looking for land or engaged in expropriation for road, fiber and water or electricity networks are very limited. This issues are not clearly addressed in the law N° 18/2007 of 19/04/2007 relating to expropriation in the public interest.

The law N° 43/2013 of 16/06/2013 governing land in Rwanda gives more power to individual over land ownership in Rwanda. More than 95% of land are register with known public, private or community owners. This situation extremely limits the sovereignty of the State of the acquisition of land. As a consequence, the national and local government are obliged to expropriate land owner and pay fees to realize

public infrastructure including open public spaces. Numerous public investment projects delayed or simply stop because of the lack of adequate funding to expropriate. The land and urban planning laws have few provision on land value sharing to ease the recovering of money spend for expropriation.

Ministerial Instruction No 007/2010/MINILENA of 20/08/2010 related to fees to be paid for systematic land registration. In this, land owners pay a tax of Rwf 80 per square meter for residential land, Rwf 150 for commercial land in all areas classified as urban areas while a tax ranging between Rwf50 and Rwf 30 is levied on rural land. All land owners in rural areas with land that is not more than 2 ha and used for agricultural purposes will be exempted and not pay taxes. This land taxation system is not based on social equity principle. It needs to be re-classified and consider the land value sharing for land which gains more value after the implementation of a public investments nearby.

The Law N°10/2012 of 02/05/2012 governing urban planning and building in Rwanda gives limited power to the Governments to secure land for public investment of public interests. The authorities must buy the land through the expropriation mechanism set by the expropriation law. But this is not always an easy task. Secondly, urban master plans are not often compulsory and when it is the case it is not known to the local land users. The Government is working on detailed plans and ministerial order to better improve the enforceability of plans. There is no provision neither in this law nor in the land law or subsequent orders on land value sharing. The law governing urban planning and building in Rwanda does not define the concept of urban planning, the notion of urban design, and the responsibilities of urban planners and. In addition, the law does not specify the modalities of intervention of decentralized local entities with legal personalities and populations in urban planning conception and operation.

### **iii. Land subdivision, consolidation and construction rights**

The process of land subdivision is not harmonized with specific standards on zoning and plot size regulations but is usually undertaken after occupation by the prospective land owner who then follows a set procedure of proof of ownership and other legal documents. Regardless of current law n°15/2010 of 07/05/2010 creating and organizing condominiums and setting up procedures for their registration, very few experience of land readjustment exist in urban areas. Nowadays, increasing number of real estate developers are attempting to pull urban land together in the City of Kigali to launch their housing programme. When land is divided by non professional developers, they outcome is informal subdivision. This is often done by land owners without much involvement of the local authorities and no consideration of set legal standards and spatial planning measures. Generally, in sites where there is an existing master or zoning plan, there are rules on the distances, setbacks and building alignments on the plots. There is need for

clarification and stronger implementation of measures as provided in the current implementation studies of master or detailed plans.

Concerning the buildability right, as indicated in the law N°10/2012 of 02/05/2012 governing urban planning and building, building permit is a document issued by a competent administrative authority authorizing to construct a building. This law is applied to towns and agglomerations with at least ten thousand (10,000) inhabitants spread over an area of at least twenty square kilometers (20 sq km) and occupied by at least residential houses, infrastructure, administrative buildings and buildings designed for socioeconomic activities; areas occupied by socio-economic and administrative infrastructure within a radius of two kilometers (2km) around such infrastructure if such areas are classified as economic zone by competent organs; areas classified as economically attractive by competent organs; any other densely occupied area or in which various activities are carried out and determined by laws governing housing and rural development. So, the right to build is provided by the government. Nowadays, there is no system to regularize illegally constructed houses. The Government is defining a country-wide strategy for slum upgrading and is aiming to put in place national programme to reduce the slums. In the meantime, there are demolitions of newly build houses without building permits. The building code is use to ensure that the construction in urban areas respect standards.

Application for building permit process is somehow cumbersome and may have led to the current outmigration when one considers the current peri-urbanisation in link with rigid urban development standards. In the City of Kigali many citizens prefer to build in the Kazeze (Bugesera) or Muyombo (Rwamagana) not in the core of the urban areas but at the periphery to avoid the high construction costs require by the construction standards in urban settings. Within the urban area, the implementation of the law is not efficient due to lack of supervision and construction inspections. The building permit is an independent subjective right as the applicants provide personal information and during inspection, the building inspector will also consult the building permit and detailed information. It can't be transferred. Where there is road infrastructure, the applicant will leave some few meters for road reserve (if this is less than 5% of the total land surface). The length of this road reserve depends on the area and zoning regulations guiding development in the zone.

All new construction need a building permit. The urban planning and building law in its article 91 is clear on that: "an person who performs any building activities without authorization as provided for in this law shall be liable to an administrative fine". Besides, This fine will range from fifty thousands and ten million Rwf depending on the type of the construction project. The fees for Construction permit are determined by the Presidential Order N°25/01 of 09/07/2012



establishing the list of fees and other charges levied by decentralized entities and determining their thresholds. The fee ranges from twenty thousands to sixty thousands (Article 16 sub articles 3). The floor area ration are indicated in the zoning plan. The urban zoning regulations describe with deep details the housing prerequisites. One of the requirements for the application for construction permit is the pre consultation with the OSC agent where the applicant has to present the project and analysed to evaluate the urban master plan proposed land use and regulations. Going through the Nyarugenge District Zoning Regulation, we can find that the proportion of plot occupied by the house range from 40% plus 20% of landscaping, 60% without landscaping, 50% plus 20% of landscaping. The floor area ration vary from 0.8 to 1.4 depending on the type of house and the land use function (Nyarugenge District Zoning report)

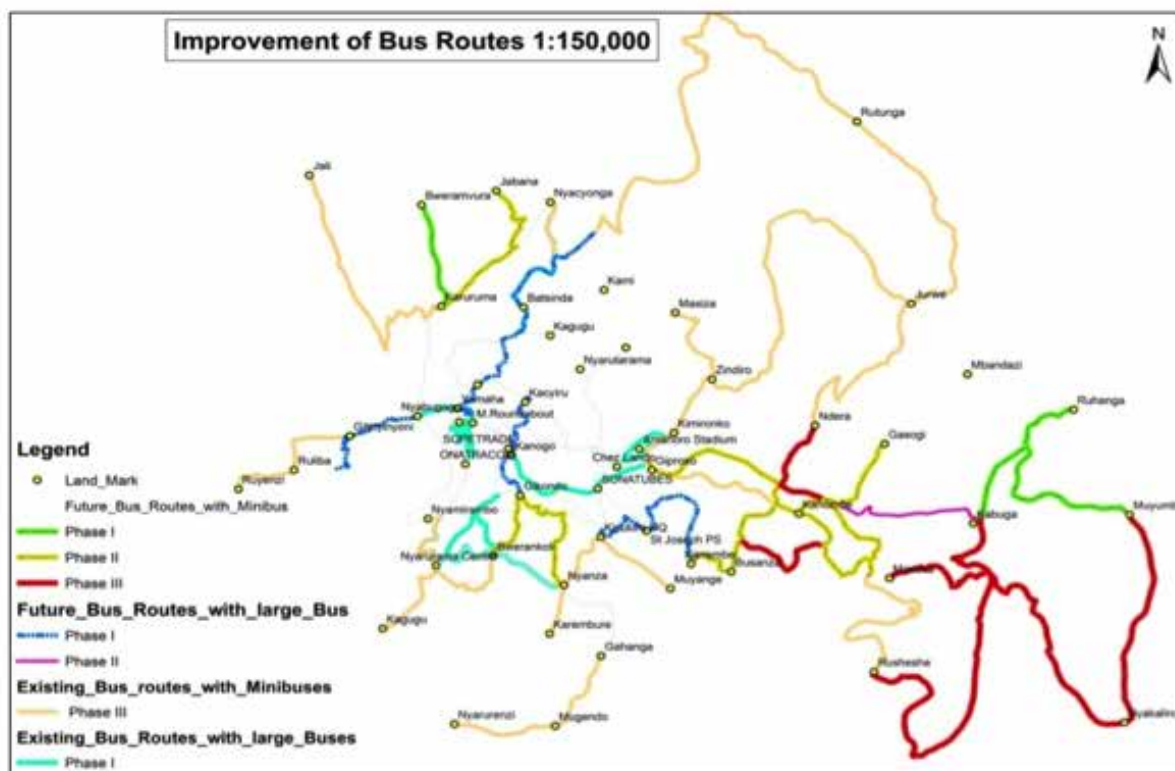
### 3. Mobility and telecommunication

#### i. Transport and mobility

Rwanda has 3914.14 km of road network comprising national roads and district road of class 1 (RTDA,2014). This gives a ratio of 2687 persons per kilometer. Based on this, the road density is 6.7 km/km2. Land-based transport services are currently oriented towards road transport, as there is no

railway network in the country. National roads cover a total of 1,210km and are considered to be very good. With reference to secondary city development, there are plans to extend urban road services up to a total of 140km to stimulate overall economic development. Providing urban transport within cities (i.e. intra-city service provision), especially in Kigali, is challenging due to population growth, increased car ownership and congestion. General transport major problems within the City of Kigali are insufficient second and tertiary streets to connect neighborhoods, the lack of and efficient drainage systems, and insufficient walking and bike lines. Up to 84% of the street in the City of Kigali are unpaved. This limits the connectivity and mobility using streets at cells and sector levels. A 20 years integrated public transport system in Kigali has been proposed to reduce congestion and air pollution. While planning for an integrated land use and transport system for Kigali City, efforts were made to adopt the "Smart growth" approach, i.e. to ensure high density, mixed use and walkable environment in the line with the policy directives of the Kigali Conceptual Master Plan and National Strategy for Climate Change and Low Carbon Development (MININFRA, 2014)<sup>9</sup>. The proposed bus road improvement doesn't integrate new routes passing in district second class road or street connecting sector. Such a situation will continue to put pressure on first level street network and increase congestions.

FIGURE 9: PROPOSED NEW BUS ROUTES TO IMPROVE PUBLIC TRANSPORT IN KIGALI



Source: MININFRA (2014). Development of an Appropriate Strategy for Reduction of Traffic Congestion and Air Pollution in Kigali City

9 MININFRA (2014). Development of an Appropriate Strategy for Reduction of Traffic Congestion and Air Pollution in Kigali City, Not published

Parking stresses of a typical on-street parking area for 2013 to 2018, from 8:30am onward the on street parking spaces are over-used MININFRA (2014). The report is not giving clear indication on the number of new vehicle parking needed by 2018. It suggest to adopt parking restrictive measures to manage existing ones.

### iii. Urbanisation and ICT

In Rwanda, radios and mobile phones are the most common ICT devices in households (with about 64 percent and 54 per cent respectively). About 8 per cent of households own a television and 2 per cent a computer. Generally, the percentage of households with access to ICT devices is higher in urban areas. For example, access to mobile phones in 2012 in rural areas was 48 per cent while it in urban areas it was 84 per cent. The highest percentage of households with radios and mobile phones is found in Kigali. Over the years, a sharp increase has been seen in households with access to communication devices. Since 1978, the share of households with access to a radio has increased from 27 per cent to 64 per cent in 2012, and that of mobile phones from 1.8 per cent in 2002 to 54 per cent in 2012. About 7 per cent of private households have a subscriber to an Internet service. According to the latest census, the percentage of households with access to the Internet is markedly higher in urban areas with nearly 30 per cent compared to rural areas with only 2 per cent. At a provincial level, access to the Internet varies between 3 per cent of households in the east to 4 per cent in the other provinces. In Kigali, it is 30 per cent. Cyber cafes and offices or schools are the most used places to access the Internet. The largest concentration of cyber cafés is in Kigali, but with the current rapid development of and access to easy Internet connectivity their number has reduced. In 2007, 12.9% of persons had a subscription to phone. There were 49.7% in 2012/13 (Africa Statistic Yearbook, 2014). There is need to expand the optic fiber network to reduce the smart divide between the City of Kigali and other cities. Secondly, investors and public authorities should put in place adequate measures to increase the access to smart phone. Today, this type of phone can contribute to improve access to different type of online services: health, finance, education, urban planning, peer to peer learning on specific issues, public safety and security, etc. Urban decision makers should embrace the concept of SMART Rwanda and make it happen in their sector for the benefit of all.

## 4. Energy and Water

### i. Access to electricity and energy for lighting

Overall, electricity as a source of energy for households has improved over the years. In 1978, access was 1 per cent and in 1991 was 2 per cent. Between 2002 and 2012, access increased more rapidly from 5 per cent to 17 per cent. In urban areas, and especially Kigali, electricity is the main source of energy used for lighting for 67 per cent of the households. In rural areas, this is significantly lower, below 7 per cent. The installed electricity capacity in the country has increased from 74.4 MW in 2008 to 110 MW in 2012. In August 2014, the generation capacity was estimated at 119.6 MW. The estimated daily electricity consumption per capita in 2013 was 840 kW/capita. The provision of electricity is very low and many household have to access other source of energy for lighting.

In 2012, the Census results reveal that at national level, only about 18% of the private households had access to electricity, out of this 67% are in urban areas; this percentage around 10 times higher than the one observed in rural areas (about 7%). Rapid urbanization would imply that local and national authorities invest in renewal energy plants and micro-hydro plants to connect more current and future city dwellers. Kerosene lamps were the most used source for lighting in rural areas by 44% of households. This was followed by candle (about 10%) and firewood (about 8%).

“Electrical power consumption per capita in Rwanda is extremely low comparing with other East African countries, electricity energy consumption accounts for only 4 % of the national energy consumption and 84 % of whole energy consumption is provided by traditional biomass sources such as charcoal and wood”, MININFRA and JICA (2015)<sup>10</sup>.

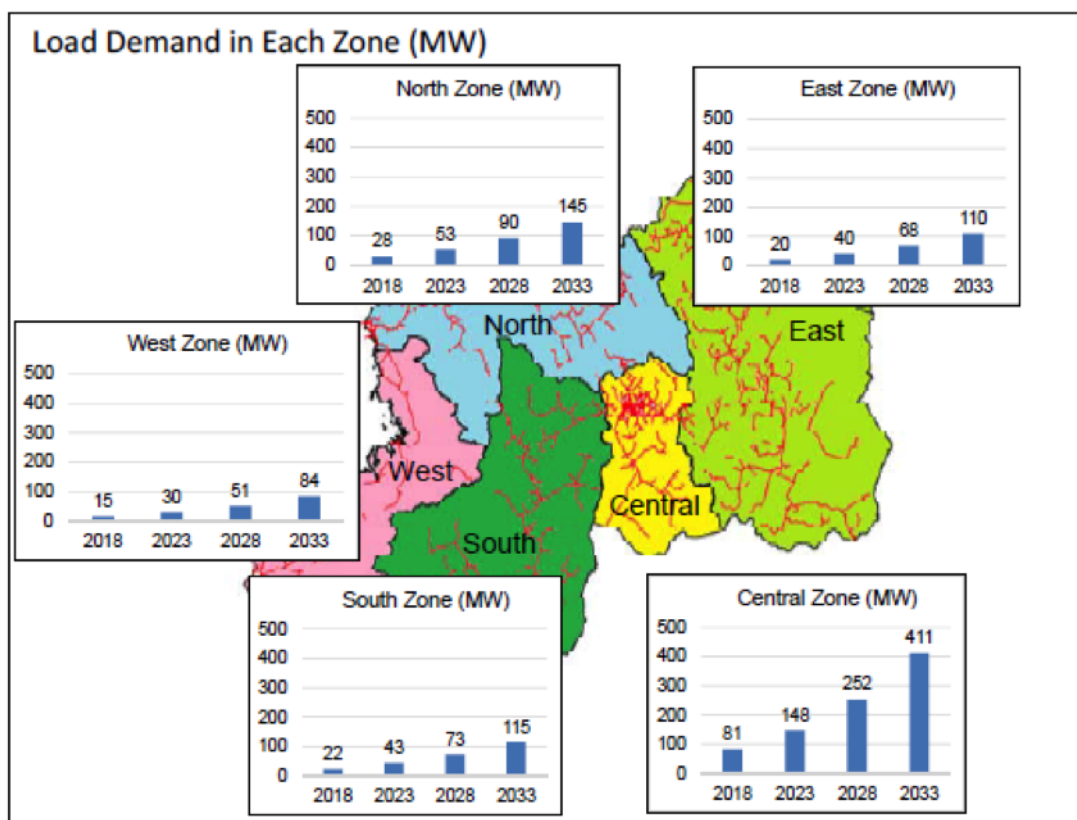
Main goal of Electricity Sector in EDPRS 2 are follows:

- Increased electricity generation capacity to 563 MW (current capacity is approx. 110 MW) , and for which improved engagement of the private sector investment
- Increased access to electricity: 70 % of the households with grid electricity by 2017/2018, the remaining 30% benefiting from off-grid solutions.

The power generation plants in Rwanda consists mainly of hydro (54 %) and diesel (46 %), and thus the country faces a big challenge to raise foreign currency to import fossil fuel whose prices on the world market are incessantly surging. Under these circumstances, Rwanda is planning to increase the installed capacity and diversify energy resources by utilizing indigenous resources.

10 MININFRA and JICA (2015). The Project for the preparation of electricity development plan. Not published

FIGURE 10: ELECTRICITY DEMAND BETWEEN 2018 AND 2033



Source: MININFRA and JICA (2015). The Project for the preparation of electricity development plan. Not published

In terms of energy sources used for cooking, the large majority of households (98 per cent) still rely on biomass. About 82 per cent use firewood, about 13 per cent use charcoal and about 3 per cent use grass or leaves for cooking.

## ii. Access to clean water

Moreover, statistics from the latest census show a clear disparity between urban and rural areas, as the percentage of households using improved water sources is significantly higher in urban areas (about 92 per cent) than rural areas (about 69 per cent) of the country. Kigali currently accounts for the highest share of households using an improved source of water (90 per cent) while the lowest share is in the Eastern Province (about 60 per cent). In fact, the highest share of users of non-improved water sources is in the eastern parts of the country, where, for example, lower topography hinders the distribution of water by gravity. In relation to water and sanitation development in secondary cities, a feasibility study

is being done on the establishment of water treatment plants and supply networks. The average demand for clean water in the City of Kigali is 110000 cubic meter per day. The water provider offer up to 65000 cubic meter during peak seasons. In urban area, the clean water consumption per capita is 80l. The country is building a 25000 cubic meter of water treatment plant using the Willingham technology.

## iii. Urban sewage system

There is no central sewage system in Rwanda's urban areas. In total 91.2% urban household used pit latrine in 2012. The prevalence of using modern modes of sewage disposal is more common in urban areas (about 60 per cent) than rural areas (about 23 per cent), with the city of Kigali clearly accounting for the highest prevalence. In urban areas, 22.5 of household use sump while 30.8% use cesspool. It is important to note that 42% of urban dwellers dumped their waste in the bush in 2012.

## 5. Land taxation

The government recognizes the value of land administration for economic and social development. The district land administration collects fees for transfer/registration services. These fees are earmarked as revenue for the district. Based on a recent assessment of local government revenue potential, four local revenue sources are tied directly to land and land-related services. In combination, they currently represent nearly 42 per cent of local government revenues<sup>11</sup>. They are:

- i. Fixed asset (property) tax (4.1 per cent of local revenue);
- ii. Rental income tax (16.8 per cent of local revenue);
- iii. Fees for leased land (19.4 per cent of local revenue);
- iv. Land and plot services (1.4 per cent of local revenue).

According to the Official Gazette of 16/01/2012, "Law No. 59/2011 establishing the sources of revenue and property of decentralized entities and governing their management" defines the property tax (fixed asset tax) and the rental income tax.

## 6. Local finance and economy

### i. National overview

The total national budget of fiscal year 2014/2015 is estimated at RWF 1,753.3 billion which is a slight increase of 4.5 per cent compared to the previous year. In terms of GDP, the total budget represents 30.5 per cent of GDP. The total domestic revenue is estimated at 17.2 per cent of GDP, and total grants are projected at 9.5 per cent of GDP. On the outlays side, recurrent spending for the financial year 2014/2015 is estimated at RWF 854.5 billion, up from RWF 798.1 billion in 2013/2014. This is 48.7 per cent of the total budget. Capital outlays are projected at RWF 784.1 billion (in comparison to RWF 750.1 billion in 2013/14). This shows a slight increase in the development budget of 4.5 per cent. The net lending represents 0.6 per cent of the total budget. A portion (56.7 per cent) of the capital spending (development budget) is financed domestically, indicating that the development still depends on external resources for 40 per cent of the development budget. The 2014/15 budget is expected to close the fiscal year with an overall deficit of RWF 177.2 billion. This represents 3.1 per cent of the GDP as against RWF 271.2 billion (5.3 per cent of GDP) in 2013/14. This deficit is not overly concerning, given that one of the conditions of joining the EAC Monetary Union is to present a deficit which, with grants, does not exceed 3 per cent of the GDP.

According to the financial law no 22/2014 of 30 June 2014 for the 2014/15 budget year, more than half of the budget (RWF 915 billion) will go into sector's priorities under the Economic Development and Poverty Reduction Strategy 2 (EDPRS 2) to boost infrastructure and export

promotion through the EDPRS 2 thematic groups: economic transformation for rapid growth, rural development, productivity, youth employment creation. Rwanda has been moving toward decentralization since 2000 in an effort to facilitate responsive governance and local economic development.

### ii. Local budget and finance

Rwanda's Decentralization Policy will be implemented in five phases; the most current (2011) policy is the third phase. Changes made to the fiscal system over the first two phases are summarized in MINALOC's Decentralization Implementation Plan. The national decentralization policy assigns general responsibility for service delivery to local governments<sup>12</sup>. Under the national decentralization fiscal policy, adopted in 2011 and published in the Official Gazette No 03bis 16 January 2012., and its strategy, and law no 59/2011 of 31/12/2011 establishing the sources of revenue and property of decentralized entities and governing their management, specific taxes are the following:

- i) Fixed asset tax (property tax)
- ii) Trading License tax
- iii) Rental income tax

According to Rwanda Fiscal Decentralization Policy (February 2011), other sources of revenue for decentralized entities are available to districts such as fees levied on services rendered, investments returns, donations and bequests, and others to the national government such as domestic taxes including value added tax, income tax, profit tax, pay as you earn tax, corporate income tax and personal income tax, as well as customs revenues including withholding tax, customs duties, excise duty and import duties (RRA, 2014).

Earmarked national transfers are used for local service delivery, and block grants are used for local administrative costs. The specificity of earmarks is to decrease as local capacity increases. Financial resources channeled through the local governments increased to 33 per cent of the previous year's domestic revenue in 2011 from 1.4 per cent in 2002.

The overall budget for the execution of projects and programme in the Districts Development Plans are 639 billion Rwanda Francs from 2013 to 2015. Districts own revenues are only 14.6 billion Rwanda Francs. Other contribution would come from the central government, the private sector and the donors. With the contributions from all these sources, there will still be a gap of 387 billion Rwanda Francs. In Rubavu district (as one of six secondary cities) earmarked transfers are at 70 per cent of the district's total budget for the fiscal year 2014/15; that means out of RWF 13.7 billion for Rubavu current fiscal year, RWF 9.6 billion comes from

11 Cyan, Musharraf R., Canisius Karuranga and François Vaillancourt (2013). Local Government Revenue Potential in Rwanda, International Centre for Public Policy. Georgia State University: Andrew Young School of Policy Studies.

12 Since 2014 all services related to tax collection has been back centralized- Rwanda Revenue Authority has been tasked to collect all revenues from the districts before percentages can be remitted back to local government (MINECOFIN, 2014). RRA has built its capacity in terms of expertise, skills and knowledge, they will fully take over the job of collecting taxes from local government, the whole idea is to have the job of tax collection done properly and efficiently by people who understand the sector well (Ambassador Claver Gatete, Minister of Finance and economic planning, 2014).



national earmarked transfers, RWF 1.6 billion is collected from district local taxes, and RWF 1.2 billion is block grant which supports day to day operations, and of which more than 80 per cent is consumed by salaries (Rubavu executive Secretary, 2014)<sup>13</sup>. While little local budget expenditure is used for capital investments, most local investments are of a social nature (for example schools and hospitals) rather than related to an economic development strategy. Domestic revenue and domestic financing represent, respectively, 56.2 per cent and 5.4 per cent of the total budget, which means that domestic resources account for 61.6 per cent of the total budget.

## 7. Climate change, green growth and cities' resilience

According the Rwanda Environment Management Authority (REMA, 2011)<sup>14</sup>, recent events and meteorological data provide glaring evidence that climate change is happening in Rwanda and that it will have disastrous effects. The 1997 floods and prolonged drought of 2000 associated with El Nino and La Nina (MINITERE, 2006) are some of the extreme climate change events that Rwanda has suffered signifying climate change. Estimates from the Fourth IPCC Assessment Report indicate that average surface temperature in Africa have registered increases in the range of 0.2 to 2.0 °C during the period 1970 – 2004. The same estimates suggest that over the next century, annual temperatures in Rwanda may be 1.0° C to 2.0° C higher during the next century i.e. 2010-2100 (MINELA, 2010). The analysis of the mean annual temperatures of Kigali Airport Station (1971-2007) in Kigali city and Kamembe in the extreme South-West (figure 5) reveals consistent increases in average temperatures. For Kigali, the average has increased from 19.8°C in 1971 to 21.0°C in 2009. This Guideline doesn't analyze the contribution of urbanization effects in local climate : temperature, humidity and gas emission. The Rwanda's Green Growth and Climate Resilience completed in October 2011, sees the promotion of appropriate urban development as a way to promote low carbon emission and enhance cities' resilience. The vision for climate change and green growth is to make Rwanda to be a developed climate-resilient, low-carbon economy by 2050. The report notes that "the development of slums could result in health problems and increase the incidence of crime... Rwanda therefore needs to carefully plan the growth of its urban areas to ensure that they are sustainable. The transition from a rural to an urban economy will require new skills, technology, and infrastructure. Job creation will be crucial and education will be necessary to build the skilled workforce to fill those jobs.

## 8. Job creation

The 2012 census results indicated that the unemployment rate among the active youth (16-35) is higher than the one for the general population, and it is an urban phenomenon. In urban Kigali, the unemployment is much higher (9.4 per cent) and concentrated amongst secondary senior graduates (15 per cent) and university graduates (6 per cent).

Rwandese women constitute a majority of Rwandan workers (52 per cent of the work force in Rwanda), with the majority of them employed in the agriculture and informal sectors predominated by working poverty. An analysis of the labour force during the 2012 Census indicated that the main occupation among the employed population is agriculture (73 per cent) and a greater percentage of females were employed in agriculture (82 per cent) than men (63 per cent). The national gender statistics report 2013 equally shows that only 2.7 per cent of women accessed credit through banks compared to 4.1 per cent of men, while 4.4 percent of women accessed credit through other formal means (e.g. microfinance institutions) compared to 8.3 per cent of men.

While the current population under 18 begins to enter the workforce, the birth rate has slowed, reducing the dependency rate. This so-called "demographic dividend" creates a one-time opportunity for economic growth and investment. The World Bank projects that Rwanda's labour force will triple between 2013 and 2050, with the dependency ratio declining after 2070. If Rwanda is able to create enough jobs to successfully harness this demographic dividend, it will catapult the economy to new levels of prosperity.



Housing project in Rwanda © UN-Habitat

13 Interviews with Rubavu District Executive Secretary, 2014.

14 REMA (2011). Guidelines for Mainstreaming Climate Change Adaptation and Mitigation in the Environment and Natural Resources Sectors

# III. SUSTAINABLE URBANIZATION POLICY FRAMEWORK

## 1. Rationale

### 1.1 Advancing urbanization for human prosperity

The government wants to improve the quality of life for people by 2020. This political will and the mechanisms to deliver on the 48 economic, social and governance targets are detailed in the Vision 2020 under six pillars and three cross-cutting areas. Urbanization should also be related to the improvement of social targets, increased access to sanitation facilities, clean water and electricity. The reach of and accessibility to telephone and internet services and their related connectivity are additional key indicators of the Vision 2020 and are linked to the urbanization process. Importantly, the government plans to improve macro-economic indicators and create an enabling environment to foster urbanization. This new perspective of enhancing urbanisation is captured and well explained in the second Economic Development and Poverty Reduction Strategy (EDPRS II). Under the Economic Transformation Pillar of the EDPRS II, the Government and its partners wants to “transform the economic geography of Rwanda by facilitating urbanization and promoting secondary cities” as centres of non-agricultural economic activities.

### 1.2 Balancing the geography of urban population and increasing densities

In 2012, Rwanda had 1.7 million urban dwellers. Half of them were residing in Kigali City and a quarter in secondary cities then the rest in third tiers urban areas in the four provinces. Assumptions based on NISR projections and the possible evolution of urbanization rate aligned to Vision 2020 target give two urban population trends between 2012 and 2062, one year before the end of Africa Union 2063 Agenda. Taking 2012 as a reference year, NISR prospects' indicated that urbanization rate would be around 21.9% (2.7 million inhabitants) in 2020 and 30% in 2032 (5 million citizens).

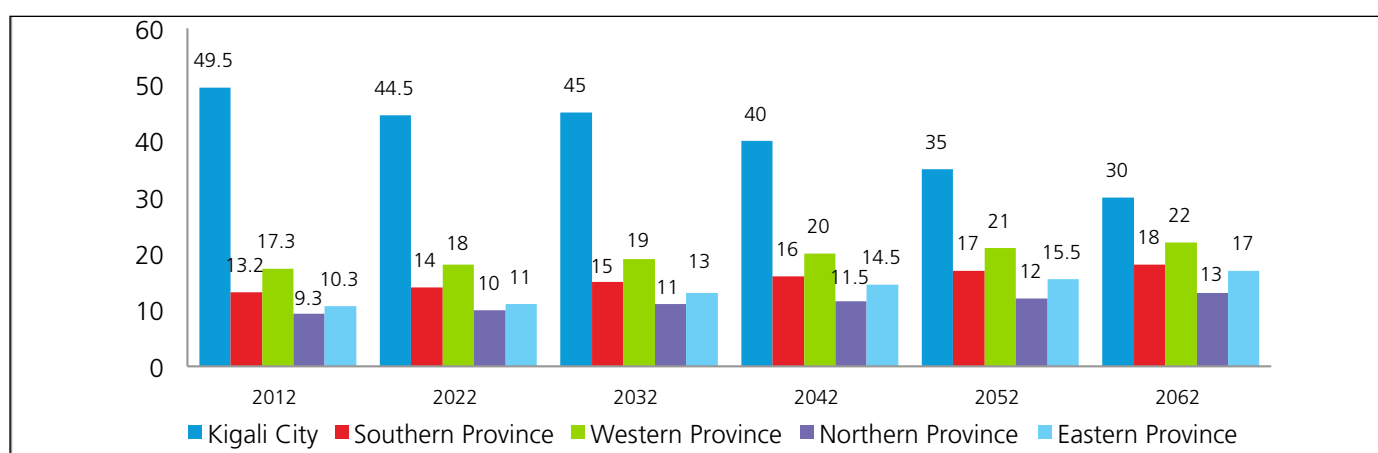
Based on this, it is likely that the total urban population could reach 40% by 2062, about 10.7 million inhabitants.

Decisions to urbanize rapidly will lead to an exponential increase of urban population if proactive measures and transformative investments are executed to achieve 35% by 2020 (4.4 million inhabitants). This requires not only financial resources but also a shift in individuals and institutions' attitudes and expansion of well planned integrated interventions in concerted development areas. Strong political and proper scientific guidance are needed to make this happen but also to expand the number of urban residents between 2020 and 2062. According to this model of promoting rapid urbanization, by 2050, the rate could reach 53% (13.3 million inhabitants, UNDESA: 2014) and likely 60.6% by 2062 that is 16.3 million urban dwellers.

In either option, the key issue would be to ensure a more balanced spatial distribution of urban population between the four provinces and Kigali City.

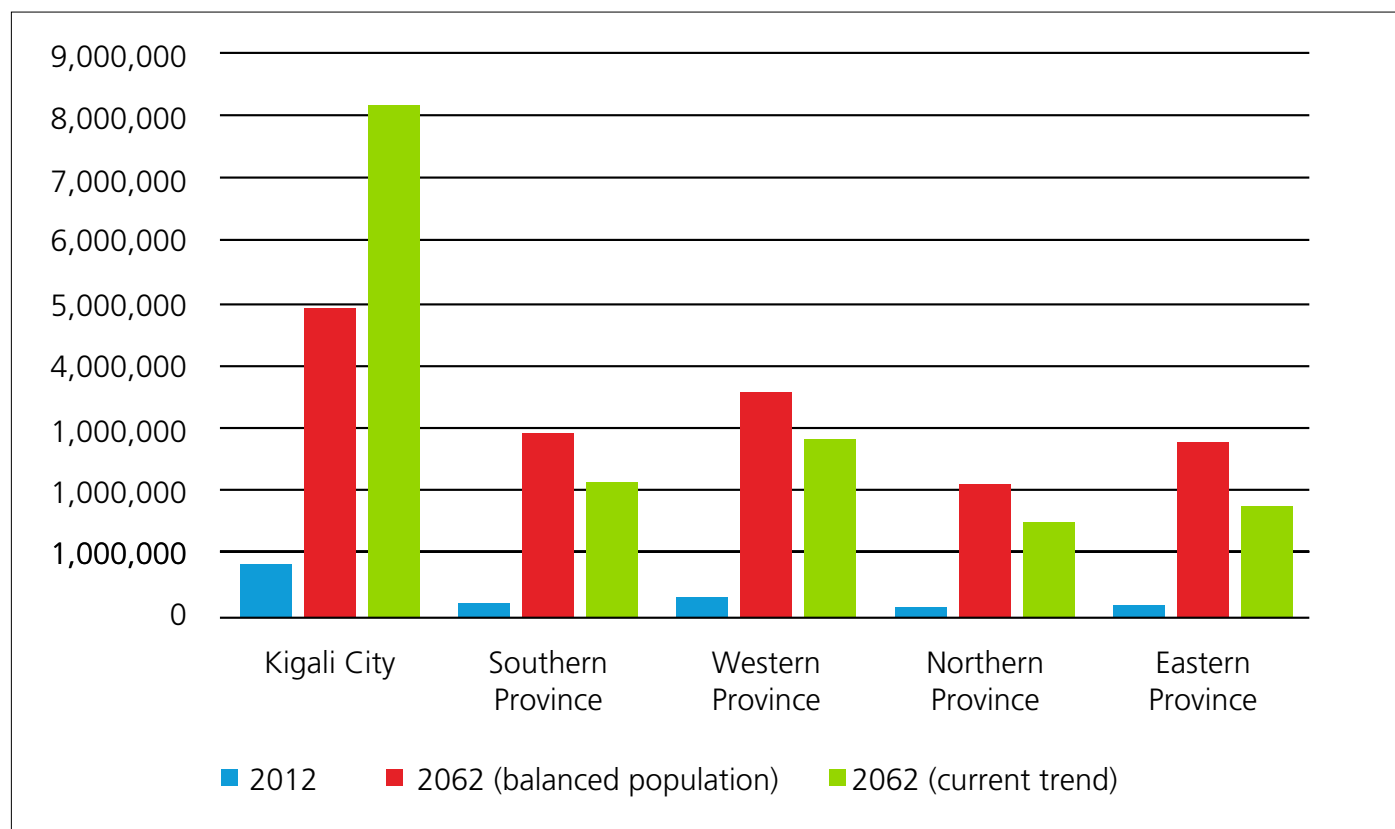
The current situation is dominated by the high proportion of urban residents living in Kigali, which has been the main trend since independence. To reduce the pressure on Kigali and create more opportunities for six secondary cities, there should be a decision to shift the on-going urban population pattern to a new one; this should be characterized by the reduction of the size of a metropolitan city and the second most populated city by 2032 or 2062 (see table above). Here, the aim is to suggest from a provincial perspective the progressive reduction of the urban population in Kigali while ensuring an augmentation of people in four provinces. Considering the long-term decentralisation plan in which provinces are planned to disappear one day, it is important to agree on the future trend options per geographical area. The table was done based on the recent patterns of urban growth at provincial level and the demographic weight and opportunities of economic growth of secondary cities.

FIGURE 11: PROPOSED EVOLUTION OF URBAN POPULATION BY REGION (PROVINCE AND COK) FROM 2012 TO 2062 (IN %)



Source: Based on NISR results, 2012 Census

**FIGURE 12: DISTRIBUTION OF URBAN POPULATION PER REGIONS IN 2012 AND SCENARIOS BY 2062 IF THE CURRENT TREND CONTINUE (BUSINESS AS USUAL IN RED) AND IF ACTIONS FOR A BETTER BALANCE OF URBAN POPULATION IS TAKEN (IN RED)**

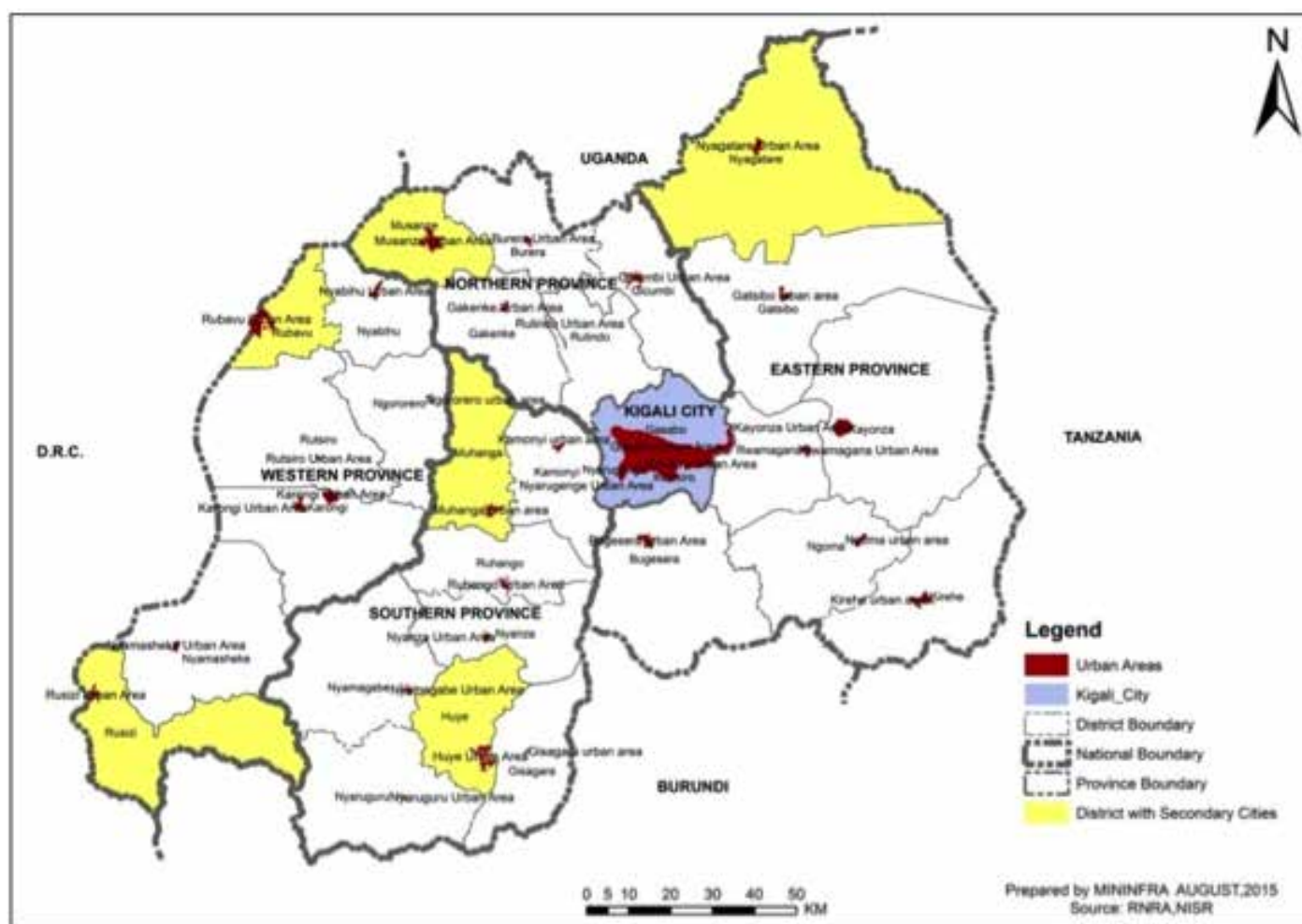


Source: Source: assumptions and long term demographic trends based on NISR population projections (2014)

By applying the principle of balanced urban population, and assuming 60 per cent of people will live in urban settlements by 2062, the city of Kigali will remain the main urban area with close to 5 million inhabitants. The capital city would have 30 per cent of the urban population while the other provinces would accommodate 70 per cent. This urban population goal per province could give more responsibilities to governors and would position provinces as the key players in the urbanization agenda for a better regulation, control and inspection of urbanization standards. Also, if enabling legislation is put in place, they could generate conditions for competition and organized synergy among provinces and Kigali. Thirdly, decision makers and researchers should examine the implications of the geographical balance of the urban population in all urban development sectors to produce a comprehensive urban prospective report, which should be widely disseminated and explained so as to increase ownership and participation.

With the current surface areas of cities and agglomerations, the density could increase to 11,640 inhabitants per km<sup>2</sup> by 2062 in a normal or low scenario up to 23,630 people per km<sup>2</sup> if at least 80 per cent of residents stay in urban settlements. It is also evident that new towns will be created and some agglomerations might lose their vitality to the benefit of others. The pressure on rural land for more social facilities, industrial zones, and water or sewage plants would increase the boundaries of existing and new settlements to meet the needs of the growing population. It is anticipated that some rural settlements would gradually be transformed into vibrant urban centres. Hence, these projections may remain high with a 5 to 10 per cent margin. This national projection should be disaggregated at local level in order to get the density target for each province and district.

FIGURE 13: LOCATION OF URBAN AREAS IN DISTRICTS AND CITY OF KIGALI



Source: compilation of data from NISR, May and June 2014

TABLE 4: PROJECTION OF URBAN DENSITIES BASED ON LEVEL OF URBANIZATION RATE (2012-2062)

YEAR	LOW SCENARIO (NISR)		MEDIUM SCENARIO		HIGH SCENARIO (BASED ON VISION 2020)	
	DENSITY (P/KM <sup>2</sup> )	URBANIZATION RATE	DENSITY (P/KM <sup>2</sup> )	URBANIZATION RATE	DENSITY (P/KM <sup>2</sup> )	URBANIZATION RATE
2012	1871	16.5	1871	16.5	1871	16.5
2020	2995	21.9	3915	28.5	4816	35
2032	5459	30	7598	41.7	9736	53.5
2042	7660	35	10855	49.6	14050	64.2
2062	11640	40	17635	60.6	23630	81.2

Source: compilation of data from NISR, May and June 2014



## 2. Urbanization policy philosophy

### 2.1 Vision

Striving to foster coordinated urbanization for sustainable economic opportunities, improved social welfare and better urban environment for everyone.

### 2.2 Mission

To promote and enhance partnerships in implementing a proactive and spatially integrated urbanization for sustainable solutions to urban poverty reduction, effective land use, and improvement of social cohesion.

### 2.3 Principle

- i. Promote policies' coherence and a people-centred urbanization;
- ii. Enhance socially inclusive societies, gender sensitive communities, child-friendly cities and family cohesion;
- iii. Ensure balanced spatial and economic development;
- iv. Promote better integrated and compact urban areas;
- v. Develop climate-resilient, low carbon, and safer urban environments.

## 3. Goal and Objectives

### 3.1 Goal

To promote sustainable urban development that enhances local and national economic growth and ensures a minimum standard of quality of life for all residents.

### 3.2 Objectives

1. To enhance administrative institutions, urban management, cross-sectoral coordination and multilevel governance to progressively increase the urban population and the quality of urbanization;
2. To advance integrated and climate resilient land-use planning, development and management in order to enhance compact and mixed-use settlements leading to higher urban densities, modernization and valorisation of natural and architectural heritages, and optimization of infrastructure;
3. To sustain and advance inclusive community cohesion, social peace, cultural heritage and access to quality basic services for better quality of life and equity in urban settlements;
4. To improve and align local and national financial systems and labour force development in order to strategically invest in long-term productivity and the competitiveness in manufacturing, service and touristic sectors.

## 4. Policy pillars, outcomes and statements

### 4.1 Policy pillar 1: Coordination

The aim of this pillar is to strengthen local and central governments and institutions to coordinate, plan, support and manage urbanization. The expected outcome of the coordination pillar is: Strengthened public institutions, local authorities, communities, civil society organizations and private sector for effective coordination and concerted implementation of rapid urbanization initiatives.

#### *Policy statements*

- PS 1: Multi-level institutional coordination, good governance and effective urban planning and management shall be fostered by all public, private and civil society organizations
- PS 2: Mechanisms for urban knowledge management, information and education shall be enhanced for mastering and monitoring urban growth
- PS 3: Urban development implementation plans and the principle of joint execution of urban projects shall be captured in all actions plans of public institutions and private sector with the focus on Kigali and secondary cities.

### 4.2 Policy pillar 2: Densification

The aim of this pillar is to build a network of compact, integrated, connected and climate-resilient human settlements to enhance the economies of agglomeration. The expected outcome is: Improved capacities of the communities, the private sectors, sectors, districts and City of Kigali in sustainable land use planning and management to coproduce a network of compact, integrated, connected and climate resilient human settlements.

#### *Policy statements*

- PS 4: Integrated spatial planning and development in all human settlements shall be jointly designed and managed in conformity with budget planning cycle, climate mitigation principles and construction standards;
- PS 5: Decision makers shall improve street, water, sewage, electricity and optic fibre networks for a better inter and intra urban communication and mobility as well as an enhanced living conditions.

### 4.3 Policy pillar 3: Conviviality

The aim of conviviality is the promotion of urban development at human scale with adequate recreational areas, quality basic services and people-led, socially inclusive initiatives. The expected outcome is: Enhanced, socially inclusive communities, social capitals, healthier environments and safe open spaces with a cultural identity.

#### *Policy statements*

PS 6: The principle of physical development shall be aligned with the improvement of livelihood;

PS 7: The valorization of cultural heritage reflecting the uniqueness of urban settlements shall be promoted.

### 4.4 Policy pillar 4: Productivity

The purpose of this pillar is to ensure the development of productive economic sectors and financial mechanisms to increase productivity. The expected outcome is: Improved productive capacities of districts, the private sector and civil society organizations through competitive fiscal conditions and an attractive installation environment for the development of financial products and goods to reduce trade deficit.

#### *Policy statements*

PS 8: Economic productivity, contributions of SMEs and cooperatives to economic transformation shall be fostered;

PS 9: The national and municipal finance systems shall be strengthened to attract more local and foreign investors.

## 5. Policy Implementation Phases

The policy measures are presented under four main spatial scales: national, Kigali City (metropolitan area), secondary cities (intermediate cities) and market towns and villages (third tier cities). The interest of doing so lay of the fact that decision-making and actions require for a long lasting qualitative sustainable urbanization depend on stakeholders at and between those levels. Decisions and interventions proposed here are derived from analysis of the four main policy pillars which aim at improving the three key determinant of sustainable urban development in Rwanda: legislation and by-laws, planning and design, and then finance and economy.

If planned and done in a proper way, urbanization in Rwanda will generate economic growth and wealth. Investments are need at different territorial levels and by communities and individuals to ensure long lasting effects of sustainable urbanization in all districts. The main following measures should be undertaken by stakeholders.

### 5.1. National level

#### *5.1.1. Coordination*

- i. Assess and develop tools and mechanism to strengthen multi-stakeholders coordination, multi-level good governance and joint land acquisition by public institutions
- ii. Set up minimum standard of living quality in human settlements to facilitate integrated spatial planning and the monitoring of sustainable urbanization
- iii. Create a National Urbanism Training Institute
- iv. Harmonize legislations, rules and regulations to ensure better coherence in urbanization process, control of urban sprawl and environmental protection
- v. Organize an inter-disciplinary research to determine the cost of urbanization, financing models and cost-sharing mechanism
- vi. Ensure the spatial integration of future mega transportation, energy and industrialization projects with urbanization process
- vii. Sustain international cooperation to advance sustainable urbanization

#### *5.1.2. Densification*

- i. Institutionalise national urban campaign and forum to transform communities mindsets and practices in order to advance sustainable urbanization at human scale
- ii. Develop and disseminate national densification and land readjustment strategy with the aim to enhance economies of scale
- iii. Improve legal and technical tools to strengthen land readjustment, land value capture and sharing in urban and rural areas
- iv. Promote the creation of human settlements observatories at national and levels
- v. Adopt and disseminate national green city development and mobility guidelines
- vi. Ensure the development of cultural facilities and preservation of cultural heritages in planned city extension and infill
- vii. Adopt an equitable (pro-poor) land and properties transaction fees based on size, (reel) value and conditions for acquisition (inheritance, gift, umunani)

#### *5.1.3. Conviviality*

- i. Promote the creation and the use of public spaces in secondary and third tiers cities (District towns)
- i. and streamline the level of safety and security in human settlements and the management of community policing by cell's authorities
- ii. Facilitate and evaluate the integration of community development initiative in the sector's development plan

- iii. Ensure the alignment of culture, environment and urbanization policies measures for sustainable promotion of cultural and natural heritages
- iv. Establish an urbanization trust fund under the planned Urban Development Fund to increase the access of basic services into and connection of poor and low income households

#### 5.1.4. Productivity

- i. Align urbanization, industrial and innovation policies in order to shift attention from goods acquisition to development of "productive capacities" to increase GDP
- ii. Understand and invest in the broader social and research processes to boost structural transformation for socio-economic growth
- iii. Advance the culture of savings and participatory budgeting respectively at household and sector's level as a tool to foster home-grown financial opportunities
- iv. Establish mechanism to improve financial resource mobilisation through land value sharing and non land based taxes
- v. Promote the specialization and progressive growth of industries in Kigali City and secondary cities to foster economic competitiveness
- vi. Expand the penetration of ICT in all public places and spaces in secondary cities and District towns/third tiers cities
- vii. Foster of system of cities through the development of industrial areas and economic corridors for the growth of local domestic products
- viii. Adopt the minimum percentage of local materials to be used in different type of construction, agriculture manure, and agro-processing industries
- ix. Enhance financial and tax incentives on enterprises engaging in equipment production and technology development of renewable solar photovoltaic and biomass power generation
- x. Sustain and secure finance for the improvement of living conditions and landscape in rural environment

## 5.2. Kigali City

### 5.2.1. Coordination

- i. Create and adopt a procedure and process that intentionally link longer-term strategic spatial development priorities to annual budget and investment planning cycles
- ii. Adopt mechanisms and tools to foster policies' coherence and the joint coordination of urbanization process and containment of urban sprawl
- iii. Enhance regulation and inspection of urban planning operations, housing and infrastructure constructions
- iv. Promote formal and permanent linkages between national training and research centres, private sector

federation and public administrations to align innovation and improvement of living conditions

- v. Establish a permanent think-tank on sustainable urbanization, decent housing and community development
- vi. Create and lead Kigali City and provincial joint sustainable urbanization forum

### 5.2.2. Densification

- i. Implement strategies for joint land acquisition for public interest for the next 30 years
- ii. Understand and promote the value chain approach in land and urban planning operations, housing production and participatory slums upgrading
- iii. Promote investments and social initiatives that sustain and enhance urban-rural linkages
- iv. Adopt and implement Kigali's densification and land readjustment guidelines and action plan
- v. Ensure the creation of Kigali Human Settlements Observatory in liaison with districts
- vi. Develop a master plan and resource mobilization strategy for the creation of a centralized sewerage network and treatment system in Kigali
- vii. Strengthen the inspection and enforcement of urban planning and building rules and regulations



Street in Kigali, Rwanda © UN-Habitat



- viii. Empower districts, spatial planners, and constructors to promote sustainable design and construction, energy efficient buildings and enhance flood and landslide protection
- ix. Ensure the integrated development of the Kigali Metropolitan Area with focus of urbanization process in Kanzenze, Runda and Muyonbo

#### 5.2.3. Conviviality

- i. Strengthen stakeholders participation in disseminating urban development, land value sharing, and housing production and market related rules and regulations
- ii. Mainstream gender and situational crime prevention in urban planning, design, development and management tools
- iii. Mobilize partners to increase the development of cultural amenities and recreational facilities for all with focus on children, youth, women and elderly people
- iv. Sustain and improve social cohesion in open and close public places and through social media
- v. Empower communities, youth and women organisations to ensure their representativeness and track their contribution to sustainable urbanization process

- vi. Enhance the culture of readings and urban development dialogues among the youth and women
- vii. Develop and disseminate community guide on self-housing development and social determinants of health

#### 5.2.4. Productivity

- i. Identify up to three industries and advance scientific and technological capabilities to foster their transformation and consummation
- ii. Capacitate districts to mobilize and manage land value sharing tax, extra-budgetary fund and credits for knowledge, innovation, technology and infrastructure development
- iii. Adopt a city-wide action plan to increase the national consumption of locally produced goods and their exportation
- iv. Enhance Kigali City innovation capacity to improve synergies in products, processes and organizational structures
- v. Promote management mechanism and technology support for demonstration projects on the application of renewable technology in building and industries



Public beach in Rwanda © UN-Habitat



## 5.3. Secondary cities

### 5.3.1. Coordination

- i. Provide a multi-stakeholders coordination mechanism to bring harmony and efficiency during the process of rapid and sustainable urbanization
- ii. Develop social and environmental recreational and economic activities to attract new population and retain daily migrant workers in urban areas
- iii. Adopt and implement the framework for joint acquisition of land for future public investments in the next 30 years
- iv. Understand, disseminate and inspect the implementation of urban planning and building rules and regulations
- v. Advance knowledge management and exchange between districts, private sector and research institutes
- vi. Ensure the linkage of longer-term strategic spatial development priorities to annual budget and investment planning cycles
- vii. Establish and manage human settlements observatory in liaison with all sectoral administration, private sector, civil society and academia
- viii. Promote knowledge sharing between district, sectors, cells and neighborhoods officials and technicians on urbanism, integrated urban development and urbanization process

### 5.3.2. Densification

- i. Adopt, disseminate and implement contents of the didactical manual for densification, land readjustment and participatory urban redevelopment
- ii. Adopt guidelines and procedural manual on integrated water, energy and sanitation supply in extension and redevelopment areas
- iii. Realize and align sewerage master plan to local urban development plan
- iv. Elaborate business investments plan for the implementation of local urban development plan
- v. Promote slums' prevention and plan city extension principles, rules and standards
- vi. Encourage the co-production of services plots and joint slums upgrading initiative in concerted development zones
- vii. Encourage environment protection and communities' preparedness to climate change
- viii. Train and raise awareness of communities, youth and women organizations in urban planning principles, environmental protection and construction of decent housing
- ix. Set a rapid alert system to monitor and manage natural and human made disasters and crime prevention
- x. Train districts and sectors land bureau managers and land services delivers on procedures and requirements for registering land transaction

### 5.3.3. Conviviality

- i. Secure lands and construct recreational and cultural facilities in liaison with appropriate national public institutions
- ii. Improve awareness raising on incremental densification, optimization of infrastructure and promotion of economies of scale
- iii. Market the uniqueness of their urban area
- iv. Empower communities to ensure their representativeness, participation, and track their contribution to urbanization process and slums upgrading
- v. Improve the population access to qualitative health and education facilities, basic services, cultural and recreational amenities
- vi. Enhance the culture of readings and urban development dialogues among the youth and women
- xi. Create or improve a zoo, a natural trail, a thematic museum, a mountain bike circuit and another distraction
- xii. Sustain and reinforce the use of community and public meetings to improve awareness raising, communication and education of citizens on land registration processes, procedures and requirements

### 5.3.4. Productivity

- i. Ensure the connection between knowledge infrastructure, physical infrastructure and linkages for local economic and social development
- ii. Facilitate the development of innovative off-farms products and jobs and the professionalization of farmers in collaboration with states and private sector federation
- iii. Partner with donors' community to design engineering and value chain system to transform selected district potentialities into competing products
- iv. Adopt process and accountability guidelines for improving financial management, participatory budgeting and districts' creditworthiness
- v. Increase district revenue through improve collection of land value sharing fees, non land based taxes, fund raising and attraction of investors
- vi. Promote the use of ICT tools and software in public administration, schools, cooperatives and women groups
- vii. Support the establishment of financial institutions in districts and the access of SMEs and cooperative to investment loan
- viii. Enhance the understanding and management of Public Private Partnership policy and rules
- ix. Improve the organization and management of housing cooperatives, land and property enterprises
- x. Promote recyclable energy, green building demonstration area and low-carbon emission
- xi. Create incentives to foster the registration of residential properties

## 5.4. District and Market towns

### 5.4.1. Coordination

- i. Strengthen institutional capacities for a better coordination of local urban development plan and urbanization process
- ii. Coordinate the joint acquisition of land for short, medium and long term public investments
- iii. Raise awareness on law and orders governing urban planning, housing construction, environmental protection and local revenue generation
- iv. Promote knowledge sharing between district, sectors, cells, and communities on integrated urban development, optimization of investments and economies of scale
- v. Improve participatory monitoring and evaluation of urban planning, environmental protection, social security mechanism to ensure quality urbanization and urban management
- vi. Adopt and disseminate the list and the map of concerted development areas and participatory budget process in line with national budget planning cycle
- vii. Establish a permanent working group on qualitative rapid urbanization, economic innovation and social welfare
- viii. Set form and functional indicators and qualifiers to assess the transit from district and market towns to full urban areas
- ix. Establish peer to peer learning with Kigali City and Secondary cities to identify and implement best practices

### 5.4.2. Densification

- i. Develop implementation strategies for local urban development plans and site layout plan for villages
- ii. Conduct social and environmental impacts assessment prior to urban upgrading and extension of human settlements
- iii. Disseminate and enforce the implementation district land use and densification action plan, local urban planning and building rules and regulations
- iv. Encourage the co-production of services plots and joint slums upgrading initiative in concerted development zones
- v. Understand and promote the use of qualitative education, health, urbanism and economic knowledge to promote rapid and sustainable urbanization
- vi. Construct, renovate and create new streets, alleys, walking and biking lanes, and water front decks
- vii. Increase safe walking and bicycles lanes and parking
- viii. Facilitate the construction of mass selling housing and cheap rental housing that respect urban planning and building rules and regulations
- ix. Increase the coverage of grid and off-grid clean water and electricity supply in urban and rural areas

- x. Capitalize and foster integrated and grouped rural village development concepts
- xi. Improve the use of renewable energy and principles of energy efficiency in building
- xii. Monitor and prevent land contamination, air and water pollution during the process of rapid urbanization and progressive industrialization
- xiii. Develop the urban-rural sewage collection and treatment concept plan
- xiv. Improve the road-water transportation system between urban and rural areas between district towns
- xv. Improve the preservation of cultural heritage during urban upgrading and extension operations

### 5.4.3. Conviviality

- i. Sustain and strengthen community development initiative and policing in line with cells' upgrading or extension action plan
- ii. Engage communities and financial partners for the creation of recreational and cultural amenities
- iii. Improve housing conditions, education and health services to attract and keep new residents
- iv. Promote the consumption of touristic products by the people of Rwanda
- v. Deepen urban-rural knowledge exchanges and socio-cultural festivals
- vi. Increase people's access to zoo, natural trail, thematic museum, creative arts, mountain bike circuit and cultural festivals
- vii. Improve awareness raising on incremental densification, optimization of infrastructure and promotion of economies of scale
- viii. Encourage environment protection and communities' preparedness to climate change
- ix. Plan and monitor the improvement of grouped rural settlements and the living conditions
- x. Educate youth and women on the use of ICT for personal and community development
- xi. Sustain and reinforce the use of community and public meetings to improve communities' awareness raising and communication on the importance of land registration
- xii. Launch campaigns on the importance and procedures for registration residential properties
- xiii. Strengthen the capacities of families, neighbors and cells authorities to manage and solve land and properties disputes

### 5.4.4. Productivity

- i. Analyze and set mechanisms to strengthen communities, youth and women assets to boost housing development, the provision of green infrastructure, and cultural industries
- ii. Establish specialized technology and innovation incubations centers for advancing the transformation of

- specific district potentiality into value-added commodity
- iii. Increase the penetration of the optic fiber and the use of internet in all public facilities
- iv. Sensitize and train citizens, especially women and youth, on the importance and procedures to create and co-manage common economic interest cooperatives and SMEs
- v. Sustain and enhance the development of cooperatives and SMEs in the land and property transaction, urban planning operations, public transport, housing construction and marketing
- vi. Promote affordable mobility and equitable foodstuff prices between urban-rural living environment
- vii. Assess the possibilities of increasing land and non land taxation to yield more finance for realizing social and physical investments
- viii. Improve skills of communities, youth and women groups in finance, savings, debt and investment

## 6. Policy Implementation Phases, Performance evaluation and Review Mechanism

To transform urbanization activities and outcomes into prosperity for all, the process shall be guided by short-, medium- and long-term measures. In the context of this policy, there are three major phases.

- i. **Phase 1 – (2015-2020):** inception (short term)
- ii. **Phase 2 – (2021-2042):** development (medium term)
- iii. **Phase 3 – (2043-2062):** maturity (long term)

The first phase will start in 2015 and end in 2020. The main reason for this is that it falls within the remaining period of the Vision 2020. This would be the inception phase and would be followed by the second phase from 2021 to 2042. The rationale here is that many urban master plans end around 2040. The second phase would be executed in two periods: 2021-2032 and 2033-2042. The last phase for the implementation of this urbanization policy is from 2043 to 2062. The visible impacts of urbanization will only be seen after one or two generations. The last phase responds to the need to align Rwanda's urbanization with the Africa 2063 Agenda, which calls for wiser and evidence-based urbanization and the mastering of urban dynamics and growth. To make this happen, all stakeholders shall be part of the execution of the policy.

In Rwanda, there are no comprehensive sources of information on urban development and quality of life statistics. When they exist, data are sometimes conflicting. The evolution of a definition of urban areas since independence is a concrete example of the difficulties to trace the dynamic of urban space and population.

As a consequence, it is difficult to formulate convincing hypotheses to project future urban trends and confidently determine strategies to meet people's needs. Because of this, the government shall put in place a mechanism to promote the collective identification of performance indicators and develop tools to guide common planning and participatory monitoring of the transformation of urban systems at national, provincial and district levels. The use of a Minimum Standard of Living Quality of Life (MSQL), which comprises characteristics of living conditions and the City Prosperity Index (CPI) as a reference for social, environmental, economic, and technological changes to positively improve people's wellbeing, is very important for the successful implementation of the urbanisation policy.

In order to ensure effective monitoring and evaluation of the implementation and ex-post evaluation of this policy, different types of indicators shall be used. Indicators can measure inputs, process, outputs, outcomes and structural situation. These indicators can exist at various levels: population, institution, agency, and programmes. These aspects shall be considered during each stage of policy development, implementation, monitoring and evaluation.

The review of the national urbanisation policy will be done every five years. Six month prior to the date, the NUP manager will contact all public institutions, the private sector, development partners and the civil society organizations to inform them that the review is due and shall be completed in not more than nine months. The officer in charge will propose a revision plan three months prior to the beginning of the process.

The review will include consideration of:

- Internal factors, such as changes to institutional organizational structures, information technology based systems, improvement of coordination mechanisms at national and local levels, and strategy and planning of the ministry in charge of urbanisation;
- External factors, such as changes to institutional arrangements, regulatory authorities in charge of urban planning and housing, and changes to government medium- and long-term policy.

Where can money come from to better plan and finance sustainable urbanization in Rwanda? Two main sources of finance can be explored. Firstly, the traditional approach through taxes, fees, levies and short term private savings. On the other hand, there is funds from development partners and minor investments of private sector. The second main source which has been neglected yet very important is the use of insurance and pension funds, trust and private equity funds, public-communities collaboration, public-private partnerships (PPPs), diaspora, medium and long term private savings, sovereign bonds and sovereign wealth funds.

## CONCLUSION

The natural consequence of urban population growth, whether rapid or slow, would increase pressure on limited buildable and agriculture land, demand for social and economic infrastructure, and both human and financial resources. In order to address the upcoming opportunities, decisions makers and communities should advocate and embrace qualitative urbanization. According to the NISR (2014)<sup>16</sup>, "this would imply revisiting urban planning and monitoring related interventions within the high population growth context, giving attention to the future development of new settlements including roads, transport networks, water and electricity supply, health and educational facilities and other essential community facilities". To set adequate mechanism that will guide short, medium and long term urbanization, the Government of Rwanda decided to elaborate a National Urbanization Policy. Throughout the development process of this policy it clearly came out that there is a need for positioning multidisciplinary approach during normative and operational thinking and planning. The NUP does not constitute a stand-alone policy but is a cross-cutting instrument aimed at strengthening institutional coordination for better policy coherence and synergy in operational urban development actions. The private and public organizations, civil society actors and community based organizations, development partners, households and individuals are all actors concerned with the implementation of the NUP. They have diverse levels of understanding of the challenges and how urbanisation-led projects shall be financed. The success of the NUP implementation will depend on the nature and the quality of the capacity development initiatives, which would support behaviour changes and shift mind-sets on the adoption and respects of rights and obligations of life in urban settlements. Rwanda's public agencies in charge of housing and governance will be key players in promoting and enhancing transformative leadership at all levels to guide long-term sustainable urbanisation.

The overall argumentation supporting the development of this policy is that well planned and sequenced urbanization processes and procedures would be efficient for proper land use, natural resource management, land value sharing and achievement of economies of scale within the Rwanda's system of cities. For this to happen, transformative

investments, in term of education for behaviour change, social and physical infrastructure, and increase of tax and fees with difference in urban, peri-urban and rural areas, must be done to generate adequate conditions for prosperity for today's urban dwellers and future generations. China has embarked in this challenging exercises by estimating the cost of future urbanization<sup>17</sup>.

In order to promote rapid and planned urbanization with a significant increase of urban household and population by 2020, the Government of Rwanda in close collaboration with its people and development partners should invest around 291.8 billion Rwanda Francs (383.9 million USD)<sup>18</sup>. For medium term investments, the Government of Rwanda shall mobilize and spend close to 1.138 billion USD to attract and improve the urban lifestyle of 7 to 9 million urban dwellers by 2032<sup>19</sup>. The direct effect would be the improvement of social environment and infrastructure required for innovative and competitive local economy. This assumption excludes the budget needed for constructing, operating, maintaining utilities plants as well as their depreciation cost; those utilities are mainly telecommunication, water, energy, sanitation, transport, cultural and sportive facilities. One policy measures request the analysis of the cost of urbanization, financing strategy and cost sharing mechanism, this can be done to provide a more accurate budget estimation for short, medium and long term investments.

The return of such investment will be visible in two ways. The return of such investment will be visible in two ways. Firstly, there will be an improvement of life expectancy and beautify landscape, the construction of low carbon and green cities and towns, and the containment of urban sprawl through ecological barriers. Secondly, the consequence would be the enhancement of the vitality of local economy, the increase exportation, and the improvement of GDP per capita. Rwanda economic projection shows that its GDP 1.68 billion USD (1960) and 7.7 billion USD (2013) could reach 11.58 billion USD in 2020, 17.37 billion USD ten years later. Rwanda GDP is projected to trend around 29.23 billion USD in 2050<sup>20</sup>. This growth can't come without initial transformative investments in people, institutions, social and physical infrastructure. This is and should be the key for knowledge-based sustainability growth both in urban and rural areas in Rwanda.

16 NISR (2014). Fourth demographic and housing Census, population projections.

17 According to the Chinese Academy of Social Sciences (2013) : "to accommodate 390 million farmers into its cities by 2030, China needs a cost of about 51 trillion yuan (US\$8.3 trillion)".

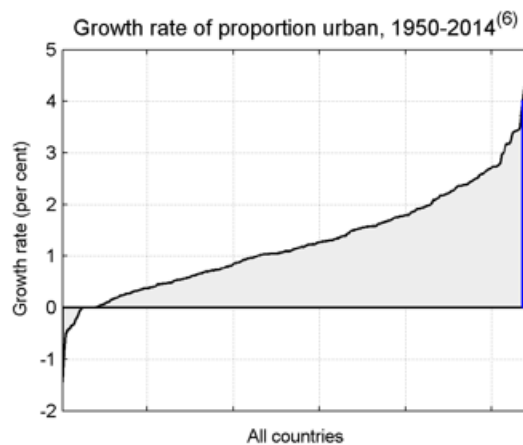
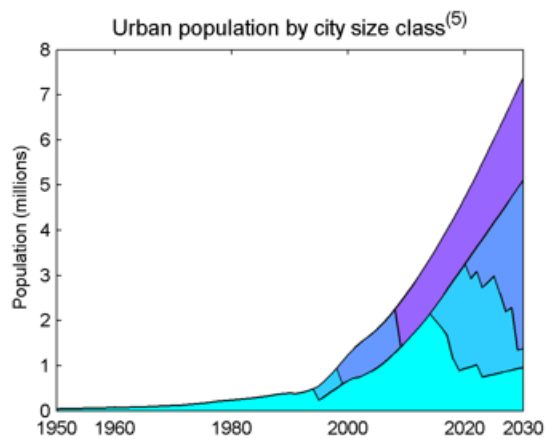
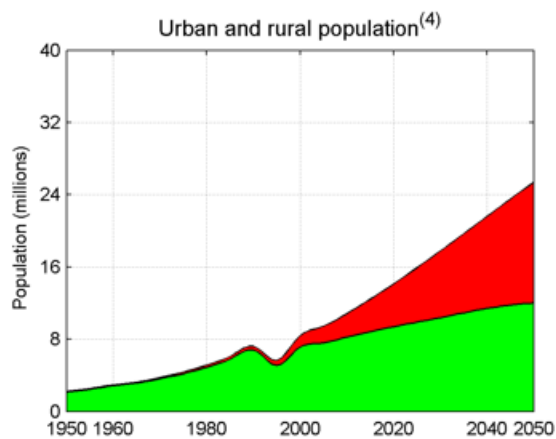
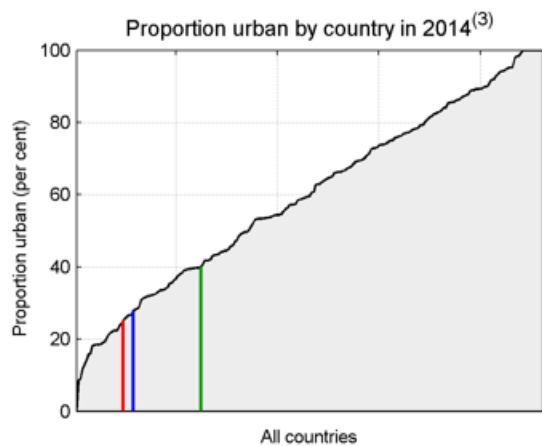
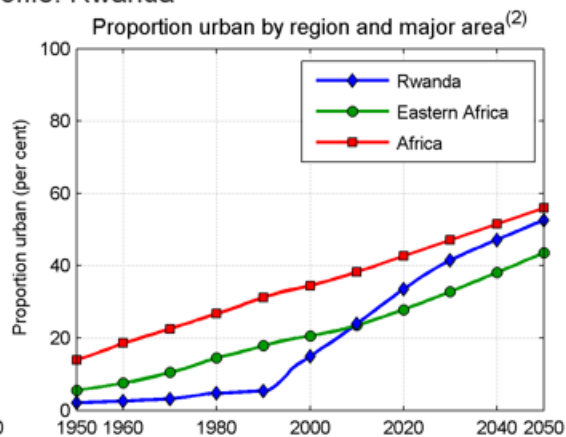
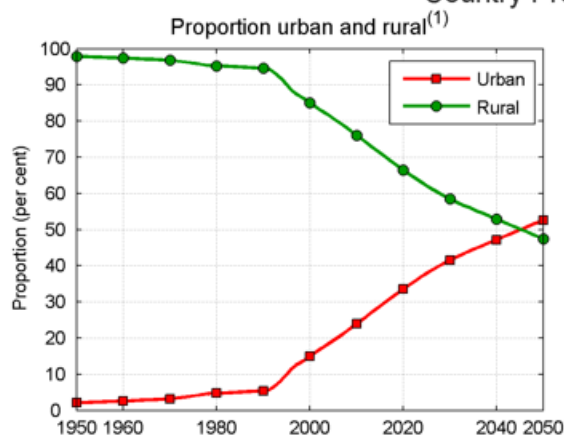
18 This amount is generated from a rapid assessment of cost estimations in selected reports for the implementation of master plans; this concern the cost for land acquisition or expropriation for the development of public places, the construction of street and basic sewage systems, the connection of householders to basic services, expansion of optic fibre in urban areas and access to internet in public institutions, the provision of quality health and education facilities and services.

19 This is the result of the review and extrapolation of investment costs proposed for 9 urban areas in the master plans implementation reports. It mainly concerns the provision of some basic services, leisure facilities, and expropriation of land for public interest.

20 <http://www.tradingeconomics.com/rwanda/forecast>



## Country Profile: Rwanda



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<http://esa.un.org/unpd/wup2014/Country-Profiles/Default.aspx>

**TABLE I: MAIN VARIABLES AND BASELINE INDICATORS OF URBANIZATION AGENDA**

	RWANDA	URBAN AREAS	BASELINE IN URBAN AREAS (%)	TARGET (%)	TARGET (%)	TARGET (%)
			2012	2020	2032	2062
Urban land use & planning						
Planned urban housing			11.2%			
Unplanned urban housing			68.8%			
House occupied by one household			63.3%			
Housing tenure						
Owner	80.0%		44.6%			
Hire purchase	0.1%		0.2%			
Tenant	14.8%		49.9%			
Main source of water						
Improved Sources						
Internal pipe-borne water	12,086	9,249	0.5%			
Pipe-borne water in the compound	172,092	142,815	7.1%			
Public tap out of the compound	670,767	183,379	27.7%			
Protected spring/Well	897,405	45,770	37.0%			
Rain water	17,173	320	0.7%			
Unimproved Sources						
Unprotected Spring/Well	315,203	14,835	13.0%			
River	155,208	8,064	6.4%			
Lake/Stream/Pond/Surface Water	154,659	6,035	6.4%			
Other	3,742	567	0.2%			
Not stated	26,563	5,745	1.1%			
Total	2,424,898	416,779				
Type of toilet facility						
Flush toilet/water closet (WC) system	20,426	19,208	0.8%			
Pit latrine- not shared	1,997,786	232,073	82.4%			
Pit latrine-shared	300,577	147,452	12.4%			
Bush	22,839	1,377	0.9%			
Sewage disposal						
Sump	348,553	93,598	22.5%			
In the courtyard	273,454	34,076	8.2%			
Rivulet/Trench/Channels	16,036	13,839	3.3%			
In the street	13,822	5,736	1.4%			
Main sewer	143,018	27,697	6.7%			
Cesspool	213,234	128,190	30.8%			
Bush	1,018,677	89,502	21.5%			

Waste disposal						
Compost dumping	1,388,126	128,597	30.9%			
Private dust bins	209,835	165,238	39.7%			
Public refuse dumps	29,697	23,719	5.7%			
In the bush	167,682	28,709	6.9%			
On the farms	574,464	60,555	14.5%			
Main source of energy for lighting						
Electricity by EWSA	407,818	279,102	67.0%			
Hydro-electric or other private source	3,871	457	0.1%			
Solar power	9,470	407	0.1%			
Generator	1,798	224	0.1%			
Kerosene lamp	959,512	74,029	17.8%			
Paraffin	31,933	1,743	0.4%			
Biogas	910	77	0.0%			
Candle	234,388	42,300	10.2%			
Firewood	192,628	3,723	0.9%			
Other	571,651	12,613	3.0%			
Not stated	10,919	2,104	0.5%			
Main source of energy for cooking						
Electricity	3,688	2,756	0.7%			
Gas	5,885	4,369	1.1%			
Biogas	3,548	582	0.1%			
Kerosene	3,440	2,166	0.5%			
Firewood	1,992,784	131,045	31.4%			
Charcoal	319,198	261,424	62.7%			
Grass/Leaves	65,449	2,431	0.6%			
Other	15,009	8,663	2.1%			
Not stated	15,897	3,343	0.8%			
Total	2,424,898	416,779	100.0%			
Specific assets, 1978–2012 (%)	1991 (%)	2002 (%)	2012 (%)			
Radio	29.0	41.9	64.0			
Television		0.1	7.8			
Cell phone		1.8	54.1			
Computer		0.1	2.4			
Vehicles		0.7	1.3			
Motorcycles		0.3	1.2			
Bicycles		8.6	14.1			
Access to internet						
		Rwanda	Urban area			
Household access		16%	16%			
Home			13%			
Public Offices, Schools and other			33%			

Source: NISR.2014. Fourth population and Housing Census

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