

UNDERSTANDING HOW TO DEVELOP A SECONDARY CITY IN PROXIMITY OF A PRIMARY CITY

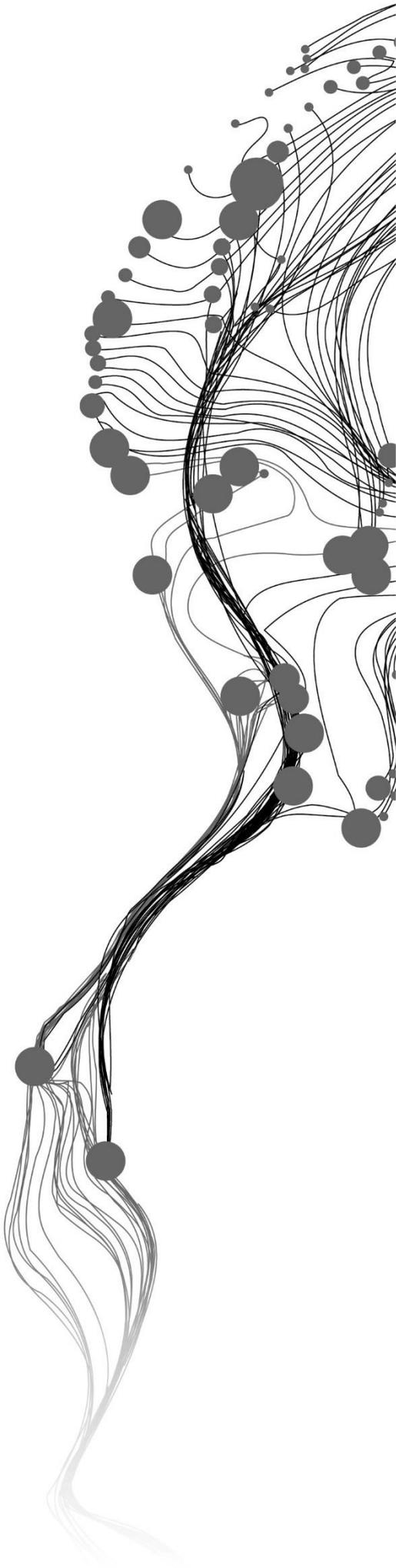
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February, 2016

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ABSTRACT

The current world urbanization rate shows that cities are growing very fast in numbers and size. With the new economic geography, cities are growing more dependent on fast communication, trade, finance, and services in general. But smaller and secondary cities are not benefiting to it. They lack the capacity to attract investment, to create jobs and retain capitals, necessary to support their development and they face high level of unemployment. Many of them lack also adequate infrastructures and amenities necessary for the urban life.

Based on their importance in the new economic geography and the number of people they accommodate, governments have been promoting secondary cities through urban policies. Locating them in the proximity of primary cities is among strategies used to develop them, and at the same time to reduce the pressure on primary city. In some countries it have been a success story and the secondary cities are growing together with the primary cities but in the others, especially in developing countries, primary cities continue to grow alone and absorb secondary cities. Thus, they become very dependent suburbs of primary cities.

Given the above understanding, this study aims to understand how the government of Rwanda, through the National urbanization policy (NUP), manage to develop a secondary city of Muhanga in the proximity of primary city of Kigali, by containing the risk of being absorbed. It uses the case of Rwanda because of the development of new NUP aiming to develop six secondary cities as economic growth poles. One of them is located at one hour commuting distance to the primary city of Kigali. The study collect a list of commuting reasons between the two cities as factors influencing the residential location choice. Those reasons are compared to the NUP to access to which extent they are addressed.

At the end, commuting reasons are discussed in comparison to the factors of the residential location framework, found in the literature, and the four pillars of the NUP. The study concludes by showing the main commuting reasons to be considered towards the independent growth of Muhanga as growth poles. It highlights the absence, in the NUP, of consideration each secondary city as a specific case in term of location.

Keywords: Secondary cities, economic development, commuting and residential location choice.

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LIST OF ABBREVIATIONS

EDPRS II:	Second economic development and poverty reduction
NISR:	National Institute of Statistics in Rwanda
NUP:	National Urbanization policy
RURA:	Rwanda Utilities Regulatory Authority

1. INTRODUCTION

1.1. Background

Since 1950, the urban population has been growing very fast. In 1950 less than one third of the world population lived in urban areas. In 2014 over half of the world's population was already concentrated in urban settlements and the projection shows that in the coming 35 years the urban population will be two thirds of the world's population (United Nations, 2014a). The current figures show the disparities between world regions in terms of urbanization. Latin America and North America came among the most urbanised regions in the world, with 80 percent of the population living in urban areas, followed by Europe with 73 percent then Asia with 48 percent and Africa with 40 percent (United Nations, 2014a). Asia and Africa are expected to be urbanize very faster than other region and reach 64% and 54% repeatedly by 2050. The above trend confirm the words of Shlomo Angel that the world is becoming a "Planet of Cities" (Angel, 2012), with great diversity among them.

With the new economic geography, cities are growing more dependent on fast communication, trade, finance, services in general and investment to support their development. But many of them, especially small and secondary cities are not benefiting to the new economic system(Cities Alliance, 2014b). They lack the capacity to create and retain jobs and face the high rate of unemployment. They also struggle to retain capital and to attract investment(Cities Alliance, 2014b). Some others grow very fast and they do not have the managing capacity of fast growth population. Many of them lack adequate infrastructure, housing and other amenities necessary for the urban life(Cities Alliance, 2014b).

Even if they lack adaptation capacity for the new economic geography, those cities play an important role in economy. Almost 40% of the urban population live in those smaller cities of less than 500,000 inhabitant referred also as secondary cities or intermediate cities; while around 13% of them live in primary cities, or megacity of 10 million people and above (Cities Alliance, 2014b). Those cities play an important role in the economic development of the countries by promoting trade, travel, and other type of investment (Rondinelli, 1983).because highly populated area, with high concentration of industries offer good business environments by lowering transportation costs, allowing Business network creation and the promotion of knowledge which at the end boosts the economy of the place (Moomaw & Shatter, 1996;Chang & Brada, 2006). In the opinion of the United Nations (2014b) cities are very important because life in urban area is associated with higher level of literacy, education, better health services, and other social service, political and culture opportunity. And the increase of urban population enhance the production quality of the industry by allowing the industry to enhance the quality of the labour forces, which is accumulated in the urban areas (Mitra, 2000). So there is no doubt that those secondary cities are going to have much more influence in the future economic development of country especially in Africa and Asia where most of them are located (The World Bank, 2009).

To use secondary cities as engines for national and regional development, many government under decentralization and regional development policies have developed them around the capital cities(Cities Alliance, 2014a). And according to Asian Development Bank (2015) ,secondary cities can reduce the pressure on primary cities by producing connectivity and other urban infrastructures and services. This also increase the development of secondary cities by providing easy access to multinational company , connectivity to global market though available international services in primary cities like international harbour and airport(Asian Development Bank, 2015).

1.2. Research Problem

In general, primary cities are more competitive than secondary cities. In many countries of Africa and Asia, primary city are 50 percent more competitive than secondary city, except some in Brazil and China India, USA, where some secondary city are compete very well with the main city (Cities Alliance, 2014a). in term of quality of live, Cities Alliance (2014a) citing EIU, 2007 and word bank, 2009 argue that *secondary cities tend to fall well behind primary cities.*

To be able to compete with primary city, secondary city need to focus not only on five dimension of prosperity such as quality of life, productivity, infrastructure development, equity and environmental sustainability (UN-HABITAT, 2011). Because the economic development doesn't only depend on economic factors but also on other factors such as development of network, liveability, social, culture, the nature of the city, etc.(Cities Alliance, 2014a). By enhancing the competitiveness of secondary city, governments develop secondary cities near primary cities and took advantage on agglomeration by developing network, cultural factors, and improvement to organizational governance(Cities Alliance, 2014a). They have to be in a symbiotic relationship with primary cities to become centres for market growth offering specialized job and services, rather than becoming residential suburbs (Asian Development Bank, 2015).

However, in developing country, very little is known about these factors, the economic geography, and competitiveness of the secondary cities, their function, their assets, job creation, and type of investment that they attract (Cities Alliance, 2014a). And many of secondary cities around primary cities grow and become the residential suburb of megacity, because they lack capacity adequate infrastructure and competitiveness to grow on their own(Cities Alliance, 2014a). And The lack of necessary urban infrastructure or the policy implementation that ensure the equitable share of urban benefits result in some city to rapid sprawl, pollution, and environmental degradation (United Nations, 2014b).

Given the above understanding, this study aim to understand how governments through, urban policies, can develop secondary cities in the proximity of primary cities by take advantage to it and contain the risk associate.

To understand this, the study propose to use the case study of Rwanda. With the new National Urbanization policy aiming to develop secondary cities as growth poles for economic development. Where one of the secondary cities is located near the capital city. Since the city is in the proximity of the capital, there are people who work in one of them and stay in the other one by commuting. Those people will tell us other main residential attraction/repulsion factors beside the job opportunity. By comparing these motivations (attraction/repulsion factors) with the National urbanization policy (NUP) I hope to understand the ways NUPs can find a balance of taking advantages of primary cities for independent growth toward a twin cities while containing the risk of becoming a suburb.

Thus, the main objective is to assess how the new urbanization policy took into consideration factors that seem to be influential to commuters in the residential location choice.

To achieve the main objective the following specifics objectives have been formulated:

- I. To identify the residential attraction/repulsion factors based on the literature review.
 1. What are the main residential attraction factors found in the literature?
 2. What are the factors used by policies as residential attraction factors?
- II. To understand the reasons behind commuting travel between the primary city and secondary city.
 3. What are the reasons identified by commuters from the secondary city?

4. What are the reasons identified by commuters from the capital city?
- III. To investigate the extent to which the current urbanization policy addresses the commuting reasons identified by commuters.
5. What are the most relevant attraction/repulsion factors ?
 6. Which factors of the residential location choice framework are more sensitive to commuters?
 7. What are the actions proposed by the urbanization policy to address these major factors?

1.3. Thesis layout

This thesis is presented in five chapters, the first chapter is the introduction setting up the context and the background in which the entire study has been conducted. The second chapter includes a literature review on secondary city development and its relation with the growth pole theory. It also shows the existing disparities between secondary city and primary city, and the advantages and risks of developing secondary city near the primary city, then it ends up in the description of factors influencing residential location choice besides job opportunity. The third chapter describes and explains the choice of the case study, the method for data collection and analysis. The fourth chapter presents the results based on the research objectives and questions. The fifth chapter discusses the results and concludes.

2. LITERATURE REVIEW

2.1. Introduction

This chapter discusses the growth pole theory and secondary city then goes to the relationship between primary and closed Secondary city. Further it also discusses the relationship primary cities and closed secondary cities. At the end it describes factors which may influence the residential location choice, beside job opportunity.

2.2. Secondary cities and Growth poles

The term “secondary city” have been defined in very many ways, depending on the context in which the term is used. Some of them refer to it in term of population as an urban area with a number of population between 100000 and 500000 in general (UN-HABITAT, 1996). Other refer to the classification system of cities (Dacey, 1965; Geddes, 1915; Goodall, 1987), other refers to the difference in form, function and size (Taylor, 1997; Zipf, 1949). In some countries this definition apply in some others and in global context it is not consistent (Soo, 2005).

There is no generally definition of secondary city agreed by everyone (Cities Alliance, 2014b). They are not primary cities nor very small cities of a population below 100000, but they are something in between(Cities Alliance, 2014b). In general most of researchers admit the important role played in the socio-economic development of countries, whether they are considered as second from a primary city, with a certain size or a consideration in global or national context (Cities Alliance, 2014b).

Secondary cities have been playing an important role in national development program and policies of countries. They started in 1950s with the construction of new towns around London and Paris. The main driver was initially social than economic. To contain the physical development inside the already established green belt. New towns was constructed outside those large cities with the aim of reducing the population density of those large cities seem to become overcrowded(Cities Alliance, 2014b). In some developing countries, secondary cities development program were also driven by socio and economic development policies. Some of the current capital of country in Africa like Abuja, Yamoussoukro and Dodoma, were built as symbol of hope and political unity after the independence. And there were built away from the overcrowded historical capitals (Gantsho, 2008).Other capital cities like Islamabad, and Brasilia, are also secondary city constructed far from the formal capital for the equal distributed urban and economic development (Cities Alliance, 2014b). Some other countries like Australia, Canada, China, Japan and India have been using secondary cities as growth pole and satellite towns, in their national programs and policies for decongestion and decentralization of urban area (Cities Alliance, 2014b).

The theory of Growth centres was proposed in 1955 by a Frenchman François Perroux as a growth theory. His idea was that the economic development doesn't occur everywhere at the same time but it start in specific centres before spreading everywhere by different channel (Perroux, 1970). The growth pole strategy is conceive as good tool to reduce disparities between rural and urban area but to focus on the interdependence between them as development zones(Van Kessel, Hornbeck, Meier, & Douglass, 1998). Historically they were considered as central places where located basic economic services, and social needs of agricultural producers. To be able to play that role, growth centres needed to have necessary infrastructure in the collection and marketing of agriculture inputs and products, social services and some consumable goods (Douglass, 1998; Mutizwa-Mangiza & Helmsing, 1991)

The role of secondary cities in the developing countries started to be recognized in 1970s. In that period, resources were oriented to historical centre used in trade, transport or administration purposes. The investment in services, facilities and infrastructures, brought economic advantages, and encourage new private investment (Rondinelli, 1983). As the industries, commerce, trade and other services grow, the centres of grow and started to attract many migrants looking for jobs. Thus, those centres has become important cities with a certain function (Rondinelli, 1983).

2.3. Primary and secondary cities relation

Most of countries have primary and secondary cities in their classification system of cities. According to Goodall (1987), a primary called also a primate city is the leading city in the country or region extremely larger than other cities. It is also most of the time the leading city, political, in economy, culture or in other services (Jefferson, 1989). Those city are most of the time big metropolitan urban area in high densely populated countries, but in low densely populated country, they are not so big.

As describe above, Since 1950s, many countries have developed secondary cities as a strategy for decentralization and spreading the economic development concentrated in only large cities. Somehow as a sign of accepting that centralised governance was not the most efficient system in expanding new market nor creating competition between cities or regions. But mainly, it was a strategy to decongest and reduce the overcrowding of large cities by developing secondary cities in the proximity of primary cities (Cities Alliance, 2014a).

Given the advantages of primary cities it is not easy to develop secondary cities in their proximity. Primary cities are mostly dominate logistics, market centres, national politics and administration. They contain large industries, and have a command position in trade and investment (Cities Alliance, 2014b). Additional to that primary cities has a big number of manufacturing firms and other facilities which offer a good environment of knowledge sharing, accessibility to specialised labour. And this contribute to the reduction of production cost which increase companies productions (Glaeser & Gottlieb, 2009; Rosenthal & Strange, 2001; Shaver & Flyer, 2000). All this advantages doesn't facilitate secondary city to compete together with primary city. And they tend to fall well behind primary city (Cities Alliance, 2014a).

However, there are other factors which can be used by secondary cities to improve their prosperity and competitiveness with primary cities. Those factors are agglomeration, innovation, cultural factors, network development, organizational improvement and governance arrangement between cities (Cities Alliance, 2014a). Secondary cities especially in Africa and other developing country (Cities Alliance, 2014a), need to put emphasize on these factors to develop themselves, and also to be able to compete with primary cities without getting absorbed. Additional to that secondary cities need to put emphasize on their endogenous growth factors as growth pole. Because primary cities have already a step ahead in terms of exogenous factors.

2.4. Residential location choice

Secondary cities don't only compete only in trade and economic factors. They also compete in term of population. When people find jobs in a certain location, the next step is to look for a residence that will allow them to access the job location, but also will satisfy their personal needs. If a secondary city is developed in proximity of a primary city, people will chose one city depending on which satisfy their needs.

Individuals may choose to live where they work, others may choose to work where they live. On the other hand, people may also choose to work in one place and live in another, and this involves a

phenomenon called commuting which, in the context of this study, refers to going back and forth on a regular basis for working reasons (Oxford Dictionary, 2015).

Even if commuting is an important aspect that has some benefits, it also consumes not only a lot of valuable time of the commuter, but also causes other mental and physical related problems (Kahneman et al., 2004). But people still do it because, it allows them to reach the working place, and benefit to cheaper houses and other factors of well-being not offered by their working place (Stutzer & Frey, 2008). Thus, In this case, it is necessary to understand well, those factors influencing the residential location choice.

Age, as a socio-demographic characteristic of a person, is an important factor influencing the residential location choice. In Istanbul, Dökmeçi & Berköz (2000) found that the residential preferences of young people are the periphery of the city while the older and middle age people preferred to stay in the most accessible area of the city, between the periphery and the city centre. Groot (2011) in studying the gap between the intention to move and the mobility, found that retired people, do not change their residential locations as stable working persons do. Thus Age is an important factor influencing the choice of residential place.

Beside age, marital status is also another factor influencing the residential location choice. When people get married they move in new house with the possibility of accommodating both. Additional to that they may start thinking about having a baby which will require them to move in a new one with bigger space(Groot, 2011). One the other side with breaking up one start looking for a new house or both look for small houses because they no longer need too much space. The civil status have a big influence in the residential location choice.

Depending on the size and composition of the family, the requirements in terms of housing are also different. The arrival of the children in the family is also among the life events that make people change their residential location(Groot, 2011). Older couples have shown to be reluctant in what concern neighbourhood adjustments when they move to a new place, like new schools and new environment for their children (Clark & Onaka, 1983; Speare, 1974). Sometimes people don't want to change their residential location because they have developed emotional relationship through their children. They don't want to change the school of their Kids especially those who are in primary school (Bijker, Haartsen, & Strijker, 2015).

Another personal characteristic that plays an important role in the choice of residential location is gender. In Tel Aviv for example, women prefer to stay near their working place than men because they are also concerned by household work and caring of children (Prashker, Shiftan, & Hershkovitch-Sarusi, 2008). In San Francisco bay metropolitan, the workplace of female workers is an important determinant of residential location choice (Sermons & Koppelman, 2001).In summary, Socio-demographic characteristics of a person influence his needs in term residence. Thus, influence his choice of residential location place.

In addition to the socio demographic characteristic, the physical characteristics of the dwelling have also an impact in the residential location choice. Homeownership usually provides a high housing satisfaction, like in Greece, Italy, Spain, Netherland, United Kingdom, Australia, Ireland, Denmark where tenants are less satisfied by their current housing than owners (Elsinga & Hoekstra, 2005). Different type of housing (apartment, house) and their size are also associate with different level of satisfaction. For instance, families with children seem to be less satisfied by apartments or small houses. The opposite is observed to bigger houses (Grigolon et al., 2014). Therefore, dwelling characteristics seem to have an influence in residential location choice, and may be attraction factors.

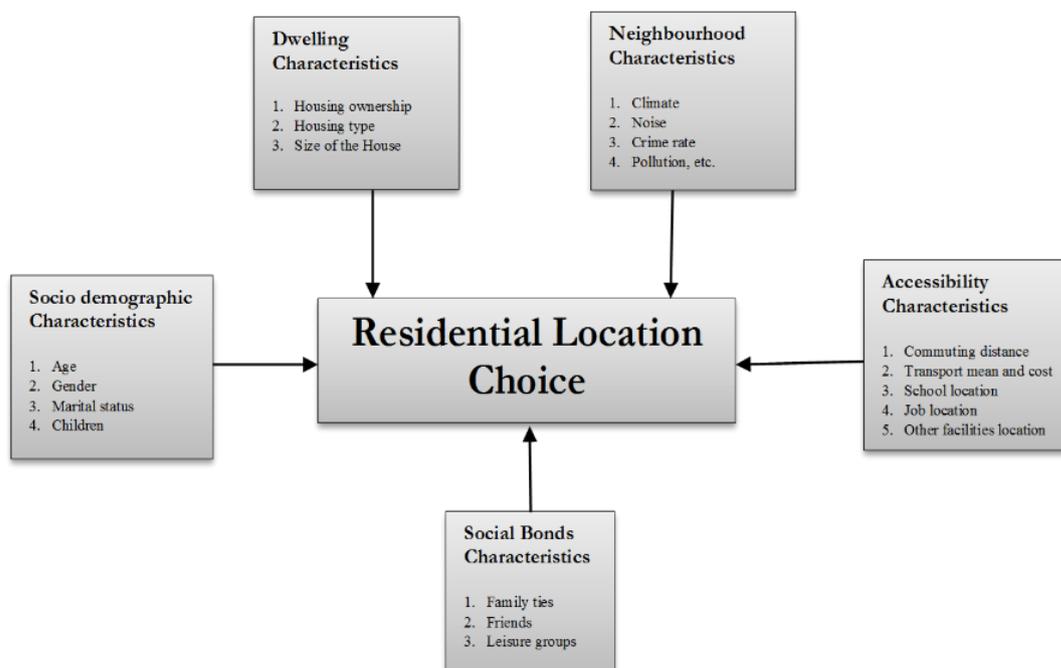
In the whole process of choosing a residential location, people observe also the neighbourhood according to their needs. They try to maximize the benefits that they get from the residential unit (house), area location characteristics, distances to various services and activity locations, considering their income and constraints (Prashker et al., 2008). Neighbourhood characteristics that are mostly identified in literature are availability of services, accessibility to workplaces, distance to other family members and friends, crime rate of the area, safety, and school quality (Clark & Hunter, 1992; Ben-Akiva & Bowman, 1998; Shiftan, 2003; Parkes & Kearns, 2003, Karsten, 2007).

Accessibility characteristics of the residential place are also seen in the literature as important factors influencing the residence location choice, especially for cities inhabitants. Authors like Srour et al. (2002), Molin & Timmermans (2003) and Blijie (2005) have considered them in their studies as important determinants of residential place. The main factors defining accessibility, which also determine the choice of residential location, include the travel time and costs to work (Lerman, 1976; Anas, 1985; Baht & Guo, 2004), commuting distance (Weisbrod et al., 1980; Quagley, 1985; Evers, 1990; Van Ommernan et al., 1998; Molin & Timmermans, 2003) and the availability to public transport (Ortuzar et al., 2000).

Beside the above mentioned characteristics, social bonds characteristics are also not left behind among factors influencing residential location choice. Proximity to family, friends, or being part of a social group are found in the literature as reasons considered in the choice of residential location (Landale & Guest, 1985; Prashker et al., 2008; Wiley, 2009; Pendyala, 2012). It was found that high frequency of social contacts have a strong relation with housing satisfaction (Grigolon et al., 2014).

In summary, previous studies highlight different factors influencing residential location choice and their role with respect to increasing or decreasing the level of satisfaction with the current residential location. Thus, it seems relevant to better understand all factors influencing residential location choice. Residential location choice factors are summarizing on Figure 1.

Figure 1: Residential choice Framework



2.5. Summary

Using the growth pole theory, government have been developing their secondary cities to become an engine of their economic development. Not only for the economic development, but also to address the problem of overcrowdings and decongestion in primary cities. They place them in the proximity of primary city so that they can benefit to the access to multinational company, connectivity to global market though available services in megacities like international harbour and airport. The location of secondary cities in the proximity of primary cities, increase the possibility of residential location choice for inhabitants of the two cities. To stimulate the independent growth of those secondary cities, influential factors in the residential location choice must be taken into consideration.

3. RESEARCH DESIGN

3.1. Introduction

This chapter describes the context in which the NUP has been developed, and the choice of the study area. It continues with a description of the relationship between a primary city of Kigali and secondary city of Muhanga, and the mission of the NUP. The same section shows the relationship between the factors influencing the residential choice location and the relationship between the two cities. The chapter continues with the description of the method used to get the commuting reasons between two cities of the study area. Then it explains the method used to analyze and get the important commuting reasons.

The table 1 is a research design matrix showing the objectives, research question, techniques of analysis and results.

Table 1: Research Design Matrix

Objectives	Research Questions	Techniques of analysis	Results
Objective 1 To identify the residential attraction/repulsion factors based on the literature review.	<ul style="list-style-type: none"> What are the main residential attraction factors found in the literature? What are the main residential repulsion factors found in the literature? 	Literature review	List of reasons Residential location choice framework
Objective 2 To understand the reasons behind commuting travel between the capital city and secondary city	<ul style="list-style-type: none"> What are the reasons identified by commuters from secondary city? What are the reasons identified by commuters from the capital city? 	Free listing interview	Attraction factors Repulsion factors
Objective 3 To investigate the extent to which the current urbanization policy addresses the commuting reasons identified by commuters	<ul style="list-style-type: none"> What are the most relevant attraction/repulsion factors Which elements of the residential location choice is more sensitive to commuters? What are the actions proposed by the urbanization policy to address these major factors? 	8. Saliency analysis 9. Discussion based on the policy document in place in the relation to the main commuting reasons.	Discussion

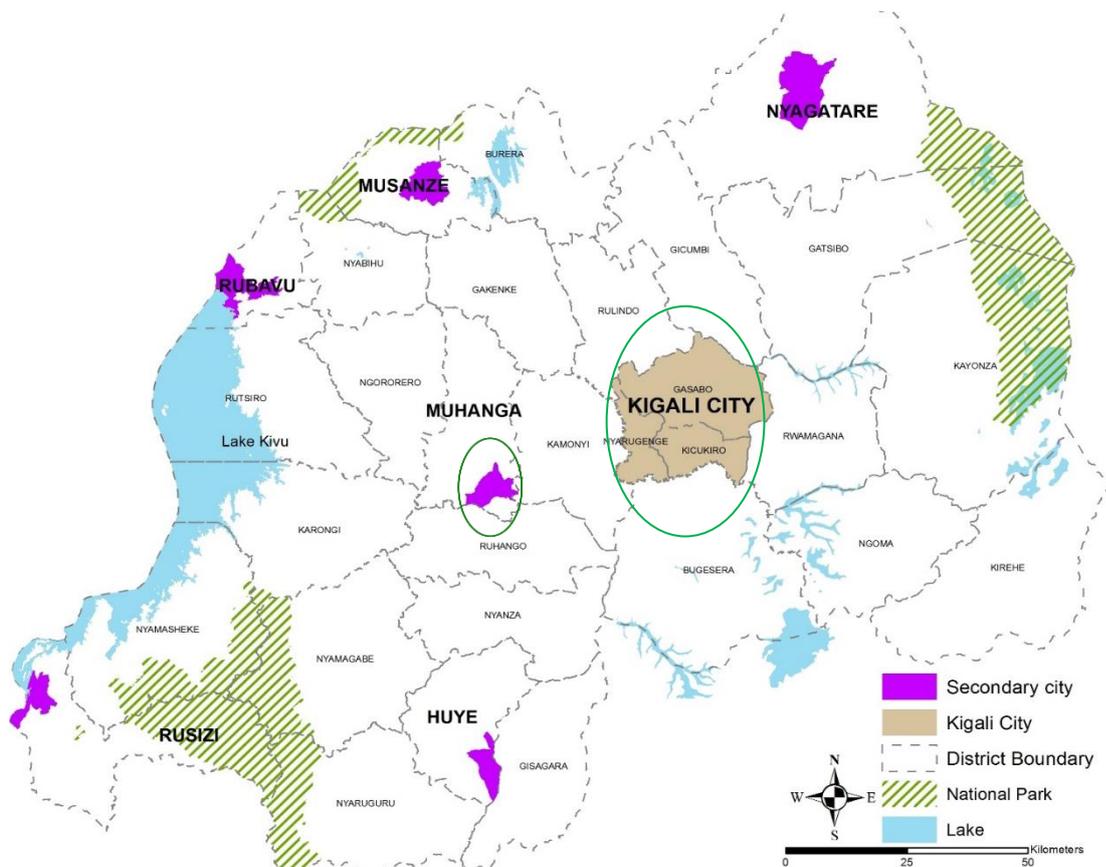
3.2. National Urbanization Policy context and the choice of the study area

Rwanda is experiencing a high urbanization rate putting a pressure on the capital city of Kigali. During the period between 1978 to 2012, Rwanda has gone from 4.6 to 16.5 percent of urbanization rate and its vision is to increase this urbanization up to 35% by 2020 (MININFRA, 2015). According to the NISR (

2014a), the capital city of Kigali, accommodate the half of the total urban population. And if nothing is done this trend is going to increase because that city also attracts 54% of the total country migrants.

The Second Economic Development and Poverty Reduction Strategy (EDPRS II) designated six secondary cities for the promotion of urbanization outside Kigali. Those are Muhanga, Rubavu, Musanze, Huye, Nyagatare, and Rusizi (MINECOFIN, 2013). The current urbanization policy aims to develop them as growth poles for economic development (MININFRA, 2015). One of them is very close to the capital city of Kigali at a commutable distance of one hour travel time. This give people a good opportunity to work in one city and live in another one. The figure 2 illustrates the location of those secondary cities and the selected cities as the study area.

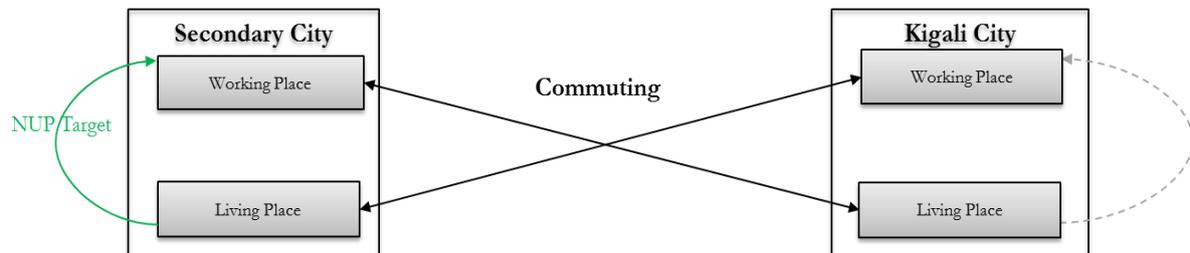
Figure 2: Study Area Location



3.3. Secondary city and Kigali city interaction

Figure 3 shows the interaction between the Kigali and Muhanga. Both cities have properties of being a working place and a living place. Two types of behaviour are observed. The first one with people living and working in the same city and the category of commuters. Based on NUP Mission of developing poles providing economic opportunity to all and a liveable green environment, the ideally situation is transform the commuting into working and living in the secondary city.

Figure 3: Secondary city and Kigali city interactions and the National Urbanisation Policy



3.4. Data collection.

The first objective of this study was identify in the literature, the main factors influencing the residential location choice. Those factors are considered as property of the living place. This objective is achieved by establishing a residential location choice framework in the chapter 2. The figure 6 illustrates the relation of those residential location choice factors and the commuting behaviour observer in both cities in the proximity.

To fulfil the second objective of this study; understanding the reasons behind commuting travel between the capital city and secondary city especially; Data collection was done to understand the reasons behind the commuting behaviour between the two cities.

No study has been done before about commuting reasons between Kigali and Muhanga. To collect this reasons, I had to find commuters and conduct a primary data collection using interview. Then secondary data collection from two local transport companies about the commuters among their customers. The field survey data was collected at two bus stations of the respective cities Kigali and Muhanga. The data collection was conducted in October 2015, using the free listing technique.

3.4.1. Method of data collection.

The population of this study comprises all the passengers who use public transport company as a means of commuting, either from Kigali to Muhanga or from Muhanga to Kigali. I used the public transport because the use of private transport to commute between two cities will be very expensive in the case of Rwanda. We don't expect too many Rwandese commuting every day using the private transport.

To achieve the second objective of this study, "understand the reasons behind commuting travel between the capital city and secondary city", we needed to get a list of possible commuting reasons. Why commuters don't change they current living place to the city where they work which seems more reasonable. This reason will help to see if the NUP is already aware about that and something is already planned to prevent this. To see if one city is growing on his own without depending too much to the other one.

I already know that, there is only one bus stop from Muhanga in Kigali and another one in Muhanga from Kigali. Those two were my sample unities. I also know the time travel from Muhanga to Kigali

which is one hour, and job start at around 7:00. I decided to approach commuters at the bus stops for interview, starting from 6:00AM with the first bus arriving at one of the bus stop and ending up at 8:00 AM, the time assumed that all workers has already gone to their job. Customers from two public transport companies were used (Volcano Express and Horizon Express) as only companies working on the route Muhanga Kigali.

Time was not on my side because most of commuters are sometimes late or their time is too tight to answer a long questionnaire. I decided to use the free listing technic by asking a list of reasons preventing them to go to live in the city where they work. They free listing was an answer for me to the constraint about commuters time. With its strong capacity of isolating and defining a new domain using the right/exact vocabulary used by people in their domain(Weller & Romney, 1988), it was offering respondent the freedom to give they commuting reasons (Borgatti, 1992) without biasing them with my factors from the residential location choice (Weller & Romney, 1988).

For the free listing technics, a list of 20 to 30 respondent is enough for the definition of the domain. The only requirement is that respondent has to be appropriate for the domain definition. This does not exclude the fact that the more the respondent the better(Weller & Romney, 1988). However I wanted to have as much as possible commuting reasons to really understand the domain. To be able to reach a good number of commuters, the data collection was performed by 3 people, the researcher and two other field work assistants.

The primary data collection started by a pilot survey. The questionnaire was understandable to most of the people interviewed, but some rephrasing was needed for clarification according to some suggestions from respondents. As I said above, commuters don't have much time for interview. To use the shortest time with them, I have also planned to use recorders but based on the request of commuters, voice recorders were not used. Then this was a paper based interview (See the Appendix 1 and 2). In total 168 interviews were collected, being 80 from Kigali as the 1st sample and 88 from Muhanga the second one.

To know the size of the population under the study, after the interview, I visited the transport company to look for the number of commuters among their customers. As said before, two public transport companies' works on Muhanga-Kigali route (Volcano Express and Horizon Express) were used. From the database of the two companies, regular passengers from 5:00 AM to 8:00AM of the whole month of September 2015 were extracted.

3.5. Data Analysis

The free listing interview was conducted in the local language, Kinyarwanda. Commuters from both cities gave list of their commuting reasons. After collecting the lists of those reasons, there have been translated in English and entered in Excel according to the rank given by respondent. See figure 4.

Figure 4: Data base

	A	B	C	D	E	F	G	K	L	M	N	O	P	Q	R
1	No		1			2			4			5			6
2	Interv_Code		nf1			nf2			nf4			nf5			nf6
3	Married		1			1			1			1			1
4	Age		31			32			40			37			49
5	Gender		Male			Male			Male			Male			Male
6	Children		1			1			3			1			3
7	Total		0	4	0	0	7	0	0	4	0	0	2	0	0
8	reasons														
9	Salien analysis	r(Position)	n	s-salien	r-position	n	s-salien	r-position	n	s-salien	r-position	n	s-salien	r-position	n
10	the family stays in Kigali	1	4	1	1	7	1	1	4	1	1	2	1	1	3
11	young baby	2	4	0.666667			0			0			0		
12	transport is cheap and on time			0			0			0			0		
13	Muhanga is not far	3	4	0.333333			0	3	4	0.333333			0	2	3
14	Good school of Kids which can't be found in Muhanga	4	4				0			0			0		

To answer to the question about the most important commuting reasons, after the data entry, I calculated the frequency and the saliency index value for each reasons was calculated. The saliency analysis was chosen over frequency analysis because frequencies give only the idea on how many respondent has chosen the certain type of the answer but the saliency index give also the importance the respondents give their different type of reasons(Borgatti, 1993).

The saliency index consist of counting all reasons mentioned by respondent then indicate also the order this was mentioned by respondent. It is calculated as:

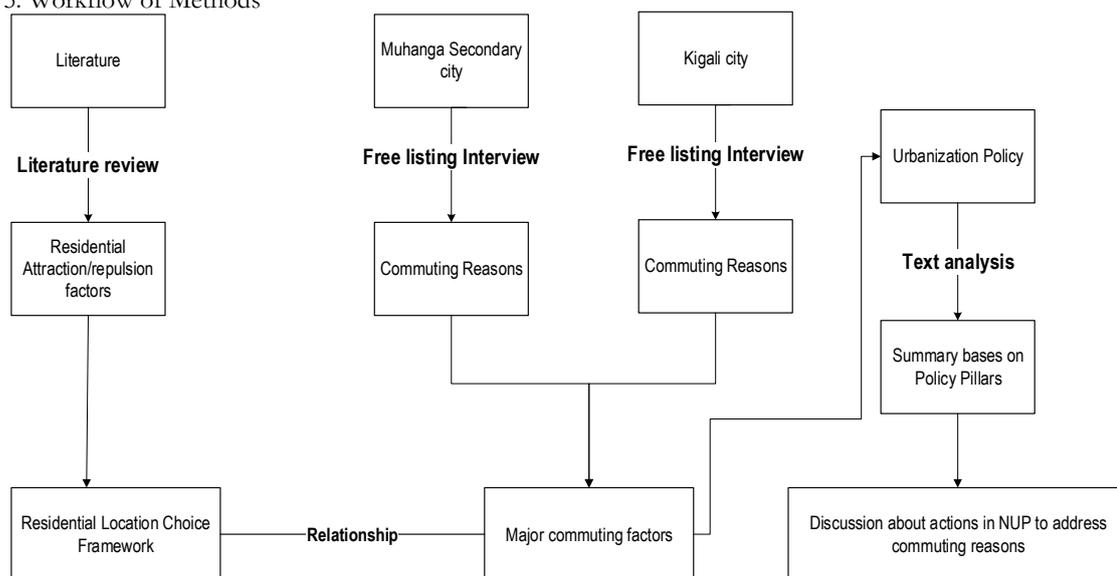
$$S_j = 1 - \frac{r_j - 1}{n - 1}$$

$$S_j = \frac{n - r_j}{n - 1}$$

Where r_j = the rank for each reason according to the respondent, n is the number of reason given by the respondent (Borgatti, 1993).

Additional to this an analysis I summarise the National Urbanization Policy of Rwanda based of their 4 pillars as extended elaborations of their objectives. Then further I related it to commuting reasons. The figure 5 summarises the workflow of methods used in the study.

Figure 5: Workflow of Methods



3.6. summary

In summary, the NUP of Rwanda is major part or of the EDPRS which appoint six secondary cities to be developed as growth pole for economic development. This development have to be in those secondary city to release the urbanization pressure on Kigali. One secondary city was designated near this primary city of Kigali for that specific task. Knowing that people commute because it allows them to reach the working place, and benefit to cheaper houses and other factors of well-being not offered by their working place (Stutzer & Frey, 2008). We conduct a literature review to see the factors influencing the residential location choice in general. But also we conduct a field survey to know the exact reason behind the commuting behaviour. This reasons will be used in the discussion and analysis of the NUP to see how they have been addressed to allow those city to grow independently. Figure 5 summarise the workflow used in this study.

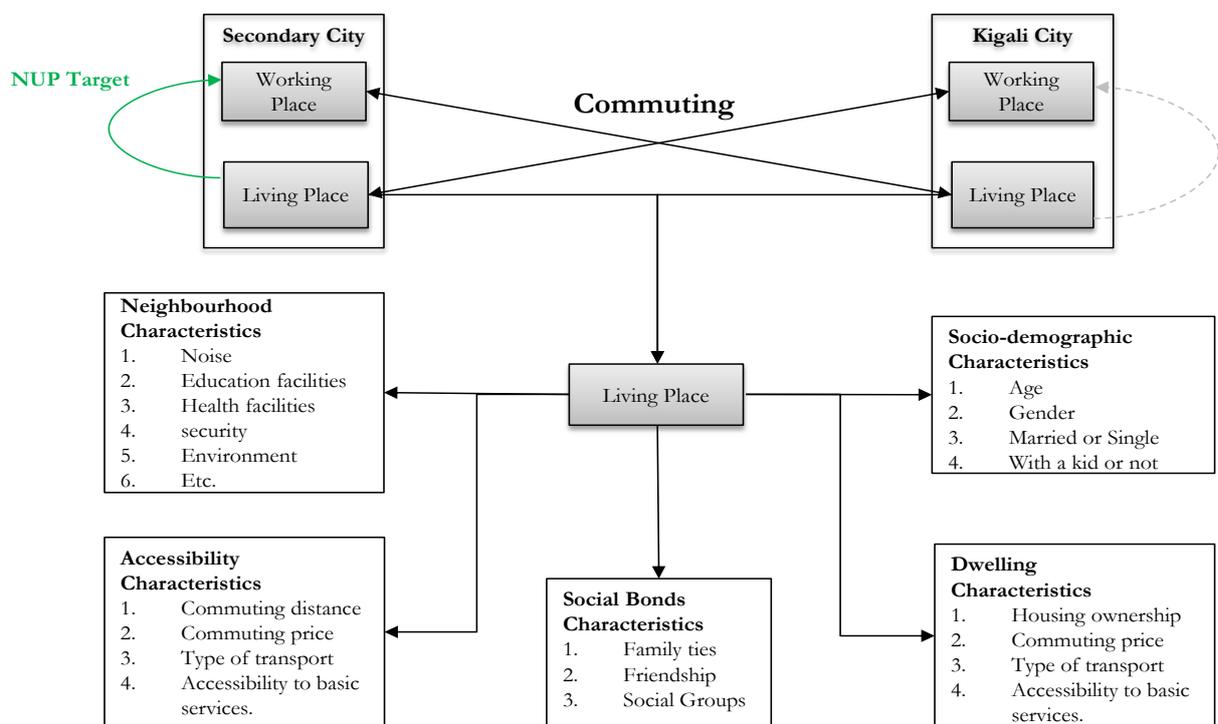
4. RESULTS

This chapter present results from this study. It start by a description of the population of the study, followed by commuting reasons then a summary done using the residential choice framework. It end up with a summary of National urbanization Policy of Rwanda to be used in the discussion.

4.1. Relationship between commuting and residential location choice

The first objective of this study was to identify the residential attraction factor in the literature. By searching in academic database as presented in the chapter 3 I came up with a residential location framework which is also presented at the end of the chapter 2. The figure 6 establish the link between the situation analysis and the aim of the national urbanization policy presented in the chapter 3. The residential choice location factors are presented as proprieties of the living place which a person observe and make a choice of a residence. A secondary city have to be able to offer both characteristics. It have to be a working place at the same time at the same time offer adequate living condition (MININFRA, 2015) .

Figure 6: Relationship between residential location and commuting behaviour



4.2. Reasons behind commuting behaviour

The second objective of the study was to identify the commuting reasons between both cities, Kigali as a primary city and Muhanga as a secondary city. Before presenting them, the section started by the sample description, how many commuters were using the two public company used to conduct interviews. It also shows the socio demographic characteristics of the sample as one of the factors influencing the residential location choice. Then it present all reasons identified by commuters and how it have been ranked using their respective saliency value.

4.2.1. Population description

Volcano Express has 405 commuters, among which 108 travel from Kigali to Muhanga and 297 who travel from Muhanga to Kigali. Horizon Express has 446 commuters, with 128 who travel from Kigali to Muhanga, and 318 who travel from Muhanga to Kigali. The total number of all commuters using Volcano Express and Horizon Express were 851.

Table 2: total number of commuters using public transport

Companies	Kigali	Muhanga	Total
Volcanoes	108	297	405
Horizon	128	318	446
Total	236	615	851

During interviews, the total number of list was 80 interviews of commuters from Kigali and 88 interviews from commuters from Muhanga. The total number of interviews was 168, which is 29% of the total commuters from two companies.

4.2.2. Socio demographic characteristic of the sample

In line with the residential location framework, socio-demographic characteristics of the sample, was analyzed. This was done to understand what type of bias may contain our results.

Table 3: Socio demographic characteristics of the sample

Socio-Demographic Characteristics		Kigali in %	Muhanga in %
Age	Young	49	40
	Adult	51	60
Gender	Male	82	77
	Female	18	23
Civil Status	Married	90	97
	Single	10	3
Children	Yes	88	92
	No	12	8

Based on the classification given by NISR (2012), on the labor force participation age group , below 35 for young people and above 65 for Adult, for both samples, Kigali is represented by 48.8% of young people and 51.2% of adults. Muhanga commuters have less young people compared to Kigali's, with 39.8%, and adults represent 60.2%. In term of age the sample is homogeneous. In what concerns gender, both Kigali and Muhanga showed that there is a predominance of male respondent because female count only, 17.5% in Kigali and 22.7% in Muhanga. Compared to males who represent 82.5% and 77.3% respectively. The same predominance is seen on civil status where married count 90% in Kigali and 97% in Muhanga. The last predominance is on having children where people with child from one and above represent almost 89% in Kigali and 92% in Muhanga. This may have an impact in the rank of commuting reason where the preference of the predominant respondent may took ever other factors which are also very important for the non-predominant in the sample.

4.2.3. Commuting reasons from Muhanga Secondary city

Table 4 shows all the reasons given by commuters from Muhanga, from the most important reason to the least important ones.

Table 4: Commuting Reasons from Muhanga

Rank	Reasons	Saliency	% of respondent	Framework
1	Life in Kigali is too expensive	34.79	53.41	Neighbourhood
2	House renting rate in Kigali is higher than in Muhanga	31.77	48.86	Dwelling
3	Living environment and Climate are good in Muhanga	16.21	43.18	Neighbourhood
4	I have my own house in Muhanga	14.04	31.82	Dwelling
5	Transport means are favourable	13.37	29.55	Accessibility
6	Shopping is cheaper in Muhanga	11.35	23.86	Neighbourhood
7	My partner study in Muhanga	8.67	21.59	Socio Demographic
8	My family live in Muhanga	8.6	19.32	Socio Demographic
9	My Children study in Muhanga	8.25	19.32	Socio Demographic
10	Good schools for Children in Kigali are more expensive	6.98	17.05	Neighbourhood
11	Kigali is not too far	6.72	13.64	Accessibility
12	My partner works in Muhanga	5.87	13.64	Socio Demographic
13	Here you can build easily your house	4.66	12.50	Dwelling
14	Kigali has too much noise	4.31	12.50	Neighbourhood
15	There is no housing stability in Kigali because they keep destroying houses	3.75	6.82	Dwelling
16	In Kigali you can make good money	2.17	5.68	Neighbourhood
17	I have other activities in Muhanga	2	3.41	Neighbourhood
18	I don't like Kigali	2	3.41	Neighbourhood
19	Kigali is full	1.8	3.41	Neighbourhood
20	I Have a land property in Muhanga	1.75	3.41	Neighbourhood
21	To be able to work and do farming	1.55	3.41	Neighbourhood
22	Muhanga is in the centre of the country	1.08	2.27	Neighbourhood
23	I don't want to change my residence every time I am transferred to another city	1	2.27	Social bond
24	Transport to Muhanga is easier than the one in Kigali	0.75	2.27	Accessibility
25	My house in Kigali give me much money on rent and I can rent the same at a very cheap price in Muhanga	0.67	2.27	Neighbourhood
26	Not easy to move the family	0.5	2.27	Neighbourhood
27	I used to make small and expensive movements every time when I was in Kigali	0.4	1.14	Neighbourhood
28	No water in the dry season	0	1.14	Neighbourhood
29	There many selfish people in Kigali	0	1.14	Neighbourhood

Commuters from Muhanga to Kigali gave their reasons of staying in Muhanga secondary city. These reasons can be considered as attraction factors that bring people in this secondary city. The most important reason given by commuters was that life is less expensive in Muhanga compared to Kigali. This is mainly illustrated by the second important reason which states that house renting rate in Kigali is higher than in Muhanga. Another important factor that pushes people to stay in Muhanga is that the environmental conditions and climate are better in Muhanga compared to Kigali. As for commuters from Kigali, commuters from Muhanga also stated that the fact that they already have a house in Muhanga push them to stay there, especially when they consider the high house renting rate in Kigali. For this reason they consider Muhanga to be a cheap city, not only in what concerns house but also in what concerns shopping for different items.

For the scope of this study the thirist six reasons are going to be used in the discussion, there are chosen based on their score in saliency, meaning that they have a high frequency in term of the total commuting reasons but also among the individual listing they have been identified among the first important reasons. After ranking them I picked the only six where the saliency value dropped down.

4.2.4. Commuters from Kigali

The reasons stated by commuters from Kigali are shown in table 2

Table 5: Commuting Reasons from Kigali

Rank	Reasons	Saliency	% of respondent	Framework
1	I have my own house in Kigali, I can't rent a house in Muhanga	27.63	51.25	Dwelling
2	the family stays in Kigali, I need to know the family program everyday	25.75	42.5	Socio Demographic
3	Good school of Kids which can't be found in Muhanga	22.12	38.75	Neighbourhood
4	My partner work in Kigali	19.94	37.5	Socio Demographic
5	Muhanga is not far	8.7	31.25	Accessibility
6	I have young baby	8.31	26.25	Socio Demographic
7	my partner work in eastern province (Rwamagana, Bugesera)	5.05	17.5	Socio Demographic
8	It is hard to move the family, without assistance. Employers need to consider that before the job re-allocation	4.24	13.75	Social bonds
9	transport is cheap and on time	4.2	11.25	Accessibility
10	Many leisure activities are located in Kigali	4.01	10	Social bonds
11	I have other activities in Kigali and I can't move them	2.83	8.75	Neighbourhood
12	There is no appropriate and affordable house in Muhanga	2.5	8.75	Dwelling
13	Muhanga is not well developed like Kigali	2.4	8.75	Neighbourhood
14	It is close to my other family members (Parents, brothers, etc.)	2.24	13.75	Social bonds
15	I have many friends in Kigali	2.17	7.5	Social bonds
16	It's a village not really a city	1.7	6.25	Social Bonds
17	There are no good hospitals in Muhanga like the ones in Kigali	1.62	6.25	Neighbourhood
18	There is nothing good else except the job	1	5	Neighbourhood
19	Not good to keep moving the family	0.67	3.75	Socio Demographic
20	It is close to my school	0.67	2.5	Accessibility
21	Tenants destroy houses, I prefer to stay in my own house	0.5	2.5	Dwelling
22	People from Muhanga gossip a lot	0.5	2.5	Neighbourhood
23	Water and electricity are not stable	0.34	2.5	Neighbourhood
24	No basic infrastructures in Muhanga	0	1.25	Neighbourhood
25	It is a small town	0	1.25	Neighbourhood
26	There are lot of thieves compared to Kigali	0	1.25	Neighbourhood

On the other hand, the most important reason shown by commuters from Kigali was the fact that they do already own a house in Kigali and for this reason they cannot move to Muhanga where they would be obliged to rent a house. The second reason given was a family matter. Commuters said that they have family members who already stay in Kigali, for this reason they cannot leave them there or move everyone to Muhanga. Another important reasons that push people to commute from Kigali to Muhanga is that Kigali have better schools compared to Muhanga. People said that they cannot let their children leave the good schools to come to Muhanga only because of their jobs. For this reason they prefer to commute. The fact that one partner in a couple already have a job in Kigali also push people to commute to Muhanga. People said that their partner cannot leave their jobs to follow them to live in Muhanga. And the fact that Kigali is not far from Muhanga at a commutable distance push many people from Kigali to

commute to Muhanga. Other reasons given by different commuters are described in table 2. All of these reasons can be considered as repulsion factors of Muhanga secondary city.

These reasons push people away from Muhanga. Also, for the scope of this study, the thirist 4 reasons are going to be used in the discussion, there are chosen based on their score in saliency. After ranking them I picked the only 4 where the saliency value was dropping down.

Table 6: Relevant reasons selected to be the most important for both cities

Rank	Reasons	Saliency	Framework
Muhanga			
1	Life in Kigali is too expensive	34.79	Neighbourhood
2	House renting rate in Kigali is higher than in Muhanga	31.77	Dwelling
3	Living environment and Climate are good in Muhanga	16.21	Neighbourhood
4	I have my own house in Muhanga	14.04	Dwelling
5	Transport means are favourable	13.37	Accessibility
6	Shopping is cheaper in Muhanga	11.35	Neighbourhood
Kigali			
1	I have my own house in Kigali, I can't rent a house in Muhanga	27.63	Dwelling
2	The family stays in Kigali.	25.75	Socio Demographic
3	Good school of Kids which can't be found in Muhanga	22.12	Neighbourhood
4	My partner work in Kigali	19.94	Socio Demographic

The above ten reason are chosen to be used in the discussion as the most salient for both side.

4.3. Commuting reasons and residential location framework

To answer the 6th research question about which element of the residential location choice framework is very sensitive, figure 7 summarize all the salience value and frequencies.

Table 7: Commuting reasons and the residential location choice framework.

Groups	Kigali saliency	Muhanga saliency	% of total answers Kigali	% of total answers in Muhanga
Accessibility	14	21	12	11
Dwelling	31	54	17	25
Neighbourhood	31	88	21	45
Social bonds	14	1	14	1
Socio Demographic	60	31	35	18

By grouping all reasons based on the residential location framework, both values, saliency value and frequencies, shows the difference between the two cities. From Kigali socio demographic characteristics are the most factors influencing the residential location choice of commuters. But on the other side of Muhanga, Neighbourhood characteristics influence more in the choice of residence. But on both side using saliency value, the dwelling characteristics are the second important reason for both side. It is also very important to see how neighbourhood characteristics rank second by considering the frequencies of the reason related to that on the side of Kigali.

4.4. Toward attractive secondary cities.

In line with the 3rd objective, the National urbanization policy have been analyzed to understand to which level it address the commuting reasons identified by commuters. A summary of the NUP have been done based on it pillars identified as a response to its objectives (MININFRA, 2015).

4.4.1. Coordination

The coordination pillars is composed by six important element which promote multilevel coordination, support the promotion of effective and appropriate tool of urban planning and management, and advocate for the integration of public, private action plan and urban plans.

For the integration as the first element, urban plans have to integrate all document and plan having an impact on urban development of the place. Such as economic, environmental and physical planning action and tasks. On the second level, the participation of different actors, public, private sector and civil society is seen as an important element for a sustainable urban development. The involvement of them in a very possible participator manner is also promoted under coordination pillar.

Communication should be improved in term of information, knowledge transfer and sharing to facilitate procedure and service delivery in urban areas. The coordination at all level of governance is also needed. At national level to align all national plan, policy, and programs. The coordination at local government level is also need to facilitate the implementation of national programs, and also for the ownership of them for the effective implementation. Coordination is also needed across government level, not only in translating policies into action but also to facilitate the improvement of government policies and plans. Human resources are very important and their capacity has to be developed for a suitable purpose. The staffing and capacity building has to be developed in term of technology and other knowledge with the aim of providing solution to local challenge. And by the end all has to be monitored and evaluate on time to give the feedback about the impact of the programs and actions on the population and urban areas.

4.4.2. Densification

The densification pillar promote the efficient use of the land and serviced urban neighbourhood. To better understand this pillar, we have divided it into two main points.

The first, with the promotion of efficient use of land and strategic investment based on green development principles. To achieve this, urban planning guideline shall be respected in the preparation and implementation of physical plan. The elaboration of new physical plans, has to allocate valuable land resources in a sustainable manner, in the respect of planning guidelines. It has also to develop urban infrastructure such as housing socio-economic facilities and other infrastructure for the need of the population and by basic standard and site development requirements.

The realization of densification will be achieved through the compact urban area reducing amount of consumed land in construction by increasing the densification thus mobility will be increased in urban area. It will also be achieved though infill and densification by elaborating of detailed analysis of the existing urban area with the aim of promoting the densification of them though infill of the existing built up area thus efficient use of underused areas will be achieved.

The second point promote the urban neighbourhood serviced in efficient manner. The mixed use areas with higher density create a sustainable livable community space. And the clustering of housing unity allow recreation space, services and facilities sharing, thus promote at the same time the conviviality. To be serviced in an efficient way, there is a need of urban infrastructure development such as water and sanitation, covering the urban area in an adequate and equitable area, transport to facilitate the mobility of

people going for work, shopping, in leisure activity etc. another important element necessary for the economic development and the good standard living in urban area is the energy. It has to be reliable and distributed in equitable and adequate manner.

4.4.3. Conviviality

The conviviality pillar promotes two policy statements which are improving the quality of life in urban areas, social inclusion and cultural preservation. The urbanization have to allow the interaction of people in a friendly manner and promote social interaction, environment, culture and the economy of the urban area. The conviviality pillar can be subdivided in two parts. The urban quality of life, social inclusion and culture preservation.

The urban quality of life ensure the development of the urban area by increasing the access to business services and opportunity such as access to retail shop in the proximity, employment opportunity and basic food commodities. It also ensure the access to the basic infrastructure and services such as public transport, clean water, safe and reliable electricity, good road network, ICT, health services, education. It also advocate for the healthy environment. The neighbourhood offering a good living and working conditions, with water and air in a good quality, with clean condition, proper management of waste, adequate shelter, etc. The very important element not to forget is to have a safe urban environment. Urban area with a reliable emergent response system, with crime and violence prevention principle, and proper coverage of policy stations.

The second part is the social inclusion and cultural preservation. This part cover the inclusion of vulnerable people such as people with extreme poverty to have the opportunity to participate in the economic development of the area, and to enjoy in general the quality of life in the urban area. The social inclusion also take into consideration the importance of women in the development. The women empowerment to be able to participate in all programs for urban planning, design and development and also strengthen prevention of gender- based violence in urban area. For the culture preservation, programs for culture preservation and valorization has to be in place, to protect historic site, to promote tourism, arts, for the economic development of the urban area in general.

4.4.4. Economic growth

The economic growth promote three policy statements, green economy, innovation and entrepreneurship and revenue development and efficient financial management.

The green economic growth deals with a double challenge of development of economic opportunity but at the same time the prevention of environment risk. To achieve this, four fundamental aspects have to be achieved. Those are the control of environmental and social impact, the use of resources efficiently, a clean production and a green infrastructure.

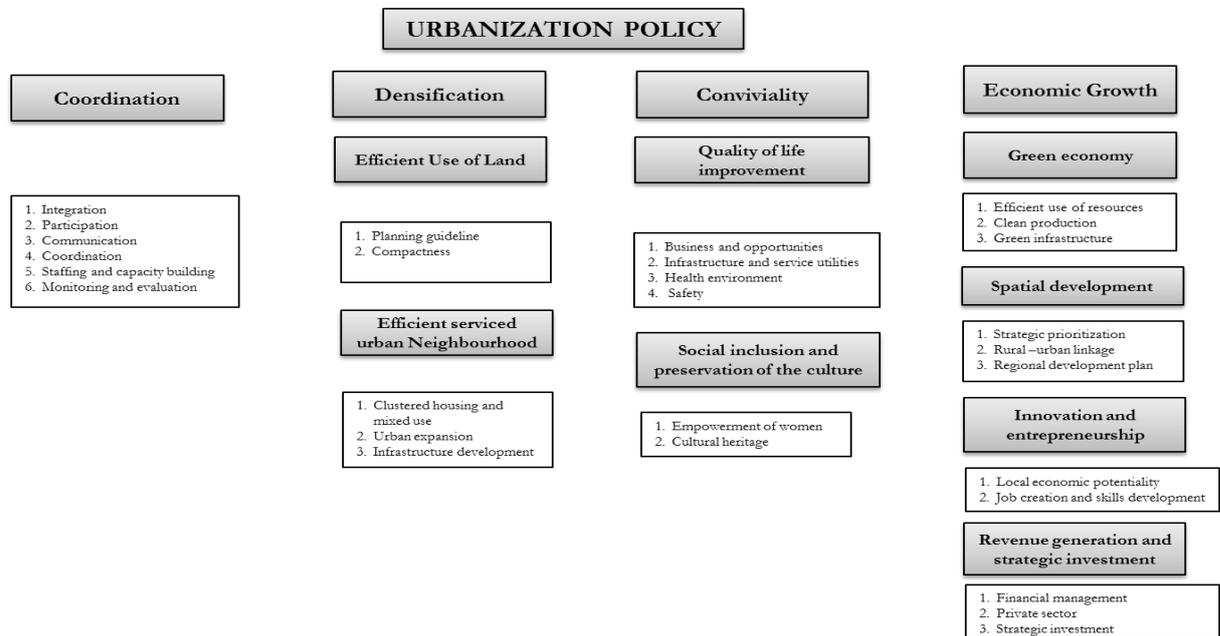
Due to the proximity of cities and other human settlement, Rwanda has an advantage of providing a very functioning network between them. To achieve this there is a need of a spatial development network with the aim of enhancing physical connection between resources, businesses, and markets between areas, pursuing the unique potentiality of each urban area and strategically elaborate a network between them based on services provision and economic attraction in the entire country. To have this the prioritization in necessary thus the development of secondary cities as poles for the economic growth. And each with a specific economic brand.

Urban area are good opportunity for the development of their surroundings areas. This pillar advocate also the linkage between rural and urban as an important engine for the local economy social and cultural transformation. The development of local economy require a suitable environment for business a vision and a suitable leadership on the side of local government. This environment will allow the identification of

local economic potentiality. Thus job creation and skill development will be in line with the local economic potentiality.

For the sustainability of the urban areas, local government has to put in place activity generating local taxes. They have to develop a clear finance strategy, plan for generating income, enhance the financial management systems, and provide a good institutional organization. They have also to integrate private sector and also develop a strategic investment plan.

Figure 7 : National Urbanization Policy Diagram



4.5. Summary

The result shows that 3 socio demographic characteristics are dominant in respondents. Those are male, married people and people with kids. In terms of commuting reasons, two characteristics of residential location choice dominate for both side. Socio demographic characteristics are the most important commuting reasons for Kigali commuters. 35% of commuting reasons are related to socio-demographic characteristics while the following category of reasons, which is neighbourhood characteristics, score 21%. The other side of Muhanga, neighbourhood characteristics are the most important. They score 45% while the next score 25% as dwelling characteristic. But by observing the individual reason we see that table 4 and 5 owning a house as a dwelling characteristics score the first on Kigali side (28 in saliency and 51%) and fourth on Muhanga side (14 in saliency and 32%) . This also justify its second position for both side. Another fact is that the social bonds doesn't seem to be so important for both sample either grouped by residential location characteristics or by talking reason by reason.

5. DISCUSSION

5.1. Introduction

This chapter discusses the important commuting reasons from the free listing interviews in both cities Muhanga and Kigali. Based on their relation with the residential choice framework from the literature review, it continues with a discussion on how the NUP took into consideration those reasons.

5.2. Dwelling characteristics

Housing characteristics are very important factors influencing people in the choice of city as a living place. An adequate shelter is a basic need for a human being. And the result of this research, shows that commuters from Kigali and Muhanga shows that they also need to own a house. Those who live in Kigali put, the ownership of a house on 1st position among commuting reasons. Which means that even if they have a job in Muhanga, they still live in Kigali because they own a house there. When you also combine all reasons with dwelling characteristics, you find that there are very important because they score second in saliency (31) after socio-demographic (60). On the other side, commuters from Muhanga say that housing renting price is cheaper in Muhanga compared to the one in Kigali. The reason is ranked second among other commuting reasons. They also consider the house ownership among other factors preventing them to move to Kigali and it is ranked on the 4 position among others.

In term of dwelling characteristics, People need to own a house because it offer them freedom, social and financial security, and then housing satisfaction (Elsinga & Hoekstra, 2005). As a determinant of residential location choice, the satisfaction of the current housing is very high for people who own a house especially for household with children (Grigolon et al., 2014). In this study for both groups of commuters, the residential location choice is determined by where they own a house or where the house renting price is cheaper as said by commuters from Muhanga.

The national urbanization policy consider the housing characteristic among important for a better urbanization. In the densification Pillar, mixed and higher neighbourhood density are advocated for a liveable urban community place (MININFRA, 2015).the same in the conviviality pillar the health environment for urban area should provide an adequate shelter, but as seen in in literature and also from the commuting reasons, the ownership of a house is the main attraction factor to the secondary city as well as to the capital city. Especially for Kigali commuters where 51% of commuters shows that they are still attached to Kigali because they already own a house there.

In summary, the result of this study that both commuters are not willing to change their residential place because their already own a house. And the national urbanization policy is not using this criteria to attract more people in secondary city and decongest Kigali. With the growth poles near the city, if people don't see any attraction in term of owning a house in secondary city, they will continue to follow other attractions in Kigali as it is known to attract them because of it superiority in term of basic service and other facilities (Musahara , 2011).

5.3. Neighbourhood Environment

In term of Neighbourhood characteristics, commuters from Kigali are still attached to the city because of the quality of school which they perceive higher than the one in Muhanga, 38.5% with a saliency of 22 of respondents said that they cannot move to Muhanga because the city does not have good quality of schools in comparison to the one found in Kigali. This reason confirm the finding of Musahara (2011) that Kigali still attracts a good number of people because of its superiority in terms of quality of school and other basic services. And Ely & Teske (2014), studying the implication of Public school choice for residential location decision, identified the quality of school as an important factors used by parents in the choice of residential location; because they are more likely to select their residence based on the quality assigned to a certain school. And we cannot ignore that commuters from Muhanga perceived that good school in Kigali very expensive. Even if it is not among the main reasons to commute for the majority, but it still ranked 10th among others.

One other side of Neighbourhood environment, commuters from Muhanga are attracted there, because of the natural environment is favourable for them in comparison to the one in Kigali. On Kigali side, that reason did not come, it seems for them they don't consider the natural environment in the choice of residential place or they don't appreciate it at all. So it is not among factors attracting them in Kigali.). This can be related to the result of Wan & Li (2004) where neighbourhood characteristics was more influential than housing characteristics in the choice of residential location in Beijing China. The same is true with the result of (Aliu & Ajala, 2014) conducting a study residential choice within three residential density area high low medium in Lagos. They found that neighbourhood and housing characteristics are very important than the proximity characteristics.

Quality of school, Healthy environment are factors to be enhanced as it is advocated in the conviviality pillar of the Rwanda NUP. The policy advocate adequate education and health facilities as factors to be assured in all the secondary cities to increase their attractiveness (MININFRA, 2015). However the policy does not mention the increase of the quality of education in Muhanga, to be able to compete with Kigali. Those two factors are also recognized by (Cities Alliance, 2014a) among factor which have contribute to increase the competitively and liveability of secondary city. Some secondary cities are techno pole who have developed high tech industries in association with high learning institutions(Cities Alliance, 2014a).

5.4. Accessibility

The transport is seen as a favourable mean facilitating the commuting behaviour. Commuter from Muhanga found it affordable and on time. Which allows them to stay in Muhanga where they can live in their own houses, or benefits cheaper rent of house, good climate and cheaper life at the same working Kigali. Which is almost the same on the side of Kigali even in it is not among the top four reasons selected as the highest.

The Rwandan national urbanization policy recognize the accessibility to different services and urban amenities as a very important factor to be assured inside secondary cities. It advocates it in the densification pillars and also in conviviality pillar (MININFRA, 2015). However the NUP doesn't talk about the accessibility between cities as a risk or an advantage.

For the development of secondary cities, especially the one in the proximity of primary cities, the accessibility between the two of them is a very important factors because it facilitate trading, and network between them. Some secondary cities have built their development by being along the transport corridor (Cities Alliance, 2014a). It also gives an opportunity to big companies to relocate their actions in the proximity because as primary city grows land and qualified labour force in big cities become very expensive (Cities Alliance, 2014a).

However, for the secondary cities like Muhanga very close to Kigali increasing accessibility without increasing other service and amenities in the city will increase the commuting behaviour. As Kigali being more attractive than Muhanga, it will be very difficult for Muhanga to grow on his own.

5.5. The current family location and job location of the partner

The current family location and Job location of the partner are in relation with the social demographic characteristics of respondents. They usually refer to wife or husband and kids every time they talk about their families. For both sides of commuters, it seems that the job or the school location of their partners are very important factors in the choice of residence. The job location of a partner in a couple is an important factor influencing the residential location choice. If the job location of one of the partners in a couple are in different place they will choose a central place for both or one will leave the job and look for a new one in around the living place. This is the reason why respondents keep commuting because their partners work in Kigali or one of the eastern province. Kigali is a central place for them and their partners. With the advocacy of innovation and entrepreneurship (MININFRA, 2015), secondary cities will be able to create new employments. With this it will be easier for partners to move together with the hope of finding jobs in secondary cities.

6. CONCLUSION

Beside economic factors, other factors like agglomeration, innovation, cultural factors, network development, organizational improvement and governance arrangement between cities can be used to enhance the prosperity and competitiveness of secondary cities. By looking at all pillars of the NUP of Rwanda, I found that network development, organizational improvement and governance arrangement between cities are advocated in coordination pillar. Some other actions are also planned in term of cultural factors in conviviality pillar by promoting the cultural preservation of different places in secondary cities of Rwanda. The promotion of agglomeration is advocated in the densification pillars to enhance the efficient use of natural resources and also to promote access to basic urban infrastructures and amenities. And the economic growth pillar advocates also the innovation, entrepreneurship, revenue development and efficient financial management which are also very important for secondary city development.

However, all those factors are promoted in general for all secondary cities in Rwanda. There is no awareness, as an advantage or a risk, of Muhanga secondary city in the proximity to the primary city of Kigali. Based on the result from the commuting motivations, housing ownership is an important commuting reason for both sides of commuters, and is not well addressed in the NUP. I would expect NUP of Rwanda to point it out as an attraction for Muhanga secondary city in the proximity of Kigali. And I would also expect to see other measures to enhance the autonomy and competitiveness of Muhanga secondary city as an awareness of the risk of that strategy towards an independent growth of Muhanga.

It is a good strategy to develop a secondary city in the proximity of primary city to reduce the pressure and congestion in primary cities. But also to facilitate the local economic development and the development of the country in general. However there is a risk associate with that strategy which is getting absorbed become a suburb. There is no need to generalize the development of secondary cities, but to consider the specificity of each city as unique case based for example on its location (proximity to primary city, a border with a country or a sea or lake; in general the nature of each and every one).

To conclude, I would like to raise some limitations as the following:

- I. It would have been better to have more clarifications about some reasons like the city is cheap in comparison to the other one. What are the main factors that are referred to. Another example is to ask why not sell their house and buy a new one near the place they work.
- II. It would also have been better to find evidences among reasons identified by commuters and compare both cities to get a full understanding of them and why it is perceived as such.
- III. It would have been better to also to know why people don't change their jobs to find new ones in the proximity of their living place.

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APPENDIX1

Italiki

Nimero ya questionnaire: (Initials & number)

Ubu bushakashatsi bugamije kumenya icyo abantu bagenderaho bahitamo aho gutura, bukibanda ku bantu batuye i Muhanga bakora i Kigali, n'abatuye i Kigali bakora i Muhanga. Ibi bizafasha kumenya ibyagenderwa ho mu guteza imbere imigi ikurikira Kigali (secondary cities). Aya makuru azakoreshwa gusa muri ubu bushakashatsi kandi atangazwe mu ibanga.

Ibibazo (Kigali-Muhanga)

1. Utuye i Kigali ukora i Muhanga?

Yego Oya

2. Niba ari yego, ni akahe kazi ukora i Muhanga?

- Akazi k'igihe gito
- Akazi karambye

3. Ni izihe mpamvu zituma utimuka ngo ujye kuba i Muhanga hafi y'akazi? (*zandike uko uzumva*)

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Irangamimerere

a) Urubatse ?

Yego Oya

b) Ufite abana bangaha? (*andika umubare*)

c) Umugabo Umugore

d) Ufite imyaka ingaha? (*andika umubare*)

Murakoze, mugire umunsi mwiza

Italiki

Nimero ya questionnaire: (Initials & number)

Ubu bushakashatsi bugamije kumenya icyo abantu bagenderaho bahitamo aho gutura, bukibanda ku bantu batuye i Muhanga bakora i Kigali, n'abatuye i Kigali bakora i Muhanga. Ibi bizafasha kumenya ibyagenderwa ho mu guteza imbere imigi ikurikira Kigali (secondary cities). Aya makuru azakoreshwa gusa muri ubu bushakashatsi kandi atangazwe mu ibanga.

Ibibazo (Muhanga-Kigali)

1. Utuye i Muhanga ukora i Kigali?

Yego Oya

2. Niba ari yego, ni akahe kazi ukora i Kigali?

- Akazi k'igihe gito
- Akazi karambye

3. Ni izihe mpamvu zituma utimuka ngo ujye kuba i Muhanga hafi y'akazi? (*zandike uko uzumva*)

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Irangamimerere

a) Urubatse ?

Yego Oya

b) Ufite abana bangahe? (*andika umubare*)

c) Umugabo Umugore

d) Ufite imyaka ingahe? (*andika umubare*)

Murakoze, mugire umunsi mwiza

Check list of Questions/answers to guide free listing interview

Date

Questionnaire Code: (Initials & number)

This research is about commuters' perception of factors considered in the choice of residence. All the information provided will only be used for research purposes, and treated with full confidentiality.

1. Do you live in Kigali and work in Muhanga?

Yes No

2. If yes, what type of Job in Muhanga?

- Temporal Job, Some consultancy work
- Permanent Job.

3. Why don't you change your home location to Muhanga?(Free listing)

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Socio demographic characteristics

a) Are you married?

Yes No

b) Number of Children

c) Male Female

d) Age:

Thanks and have nice day

Check list of Questions/answers to guide free listing interview

Date

Questionnaire Code: (Initials & number)

This research is about commuters' perception of factors considered in the choice of residence. All the information provided will only be used for research purposes, and treated with full confidentiality.

1. Do you live in Muhanga and work in Kigali?

Yes No

2. If yes, what type of Job in Kigali?

- Temporal Job, Some consultancy work
- Permanent Job.

3. Why don't you change your home location to Kigali?(Free listing)

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Socio demographic characteristics

a) Are you married?

Yes No

b) Number of Children

c) Male Female

d) Age:

Thanks and have nice day