

Livelihood diversity: Causes of Rural-Urban Migration

Why Rwanda's poverty classification does not explain migration flows.

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*Science can show us how to do many things, but it can't
tell us what ought to be done.
Author unknown.*

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February 2012, with two of my fellow students, Jan-Willem Kosten and Arjan Smit, I stepped on an airplane to unknown destinations in Rwanda. My first arrival in Africa and it has been a wonderful experience. The first period we stayed in Butare and worked together with the supportive teachers and students of the National University. After four weeks everything was finally prepared and we moved back to Kigali. Then three intensive weeks collecting primary data began. But I was not alone, together with Arjan and three Rwandese students we worked our way through four different locations surrounding Kigali. My internship acquainted me with the beauty of Rwanda, her complex history, enduring problems and the strive to overcome poverty in the land that home for many generation that lived there. I've had the pleasure of meeting new friends and gaining new insights along the way.

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Executive Summary

The central question of this research is: *How are rural-based households actively engaged into flows of rural-urban migration and how are these linkages related to their livelihoods?* To answer this question rural livelihoods, causes and flows of migration are examined. Rural-urban migration is seen as an integral part of rural-urban linkages. Different households have their own reasons to participate in rural-urban migration resulting in migration strategies.

Household poverty classification

Extreme poor-, very poor- and poor households are the majority in the rural areas, better-off households are less found. Most of the households livelihood capabilities align with the poverty classification based on the official poverty status. Ownership and size land do not and access to water and electricity is place dependent. Social capital in rural livelihoods remain ambiguous because of the many aspects of rural society and interactions. Gender differences, perspectives on migration and marginalization of sick and disabled also play a role. Free education and access to water benefit rural households most. In general it seems that the poverty classification is a fair comparison for the livelihoods of rural households. However, the classification has no explanatory power and differences between households are relatively small. There is no relation between stretched households and their poverty status.

Vulnerable livelihoods

Female-headed households and households with a physically disabled household member are more vulnerable in rural-urban migration flows. They have a less capabilities while dealing with structural constraints specific to their situation. Access to education is in particular a problem for female-headed households because all household members have to compensate for other livelihood capabilities. Disabled households resort to given land to survive but because of their constraint in human labour they are unable to invest in their natural capital. Vulnerable households have just enough to sustain themselves, therefore they are unable to deal with stress or shocks to their livelihood. Both households are trapped on low income levels.

Causes of migration

Because the poverty classification could represent the diversity of livelihoods explaining causes of migration, a cluster analysis is used. The six livelihood profiles found are: I. very poor disabled households, II. very poor female-headed households, III. poor subsistence cultivators, IV. poor market producers, V. better-off large land holders and VI. better-off higher educated. Related to their livelihood profiles, households have three different migration strategies: Survival, consolidation and accumulation. Households with a survival strategy migrate because they are unable to create a sustainable livelihood, cluster I and II.

These households see no other option than to send migrants to the city. Because of their structural constraints and low capabilities, sending migrants to the city is a relief to their livelihood. The second migration strategy is consolidation of the livelihood, cluster III and IV. These households send migrants to the city in the hope to find better employment, maybe new opportunities but more important it provides a way to make their livelihoods more sustainable. Importantly, households with more access to the market already have more livestock and are able to invest more in their land. The third group of households migrate because of an accumulation strategy, cluster V and VI. These are better-off households that migrate because they seek to benefit from the rapid development in urban areas. To expand their livelihood they are searching higher education and better employment that is not available in rural areas. These households have a sustainable livelihood based on either a large natural capital and access to the market or they are able to benefit from less expensive living conditions in the rural areas while receiving their main income from urban employment.

Flows of migration

Rural-urban migration is the most important and complex flow of migration. Differences between rural-urban migrants can be explained by diverse rural livelihoods of the households that are sending migrants. Gender differences, age, education, change of land, change of livestock and length of migration are all significant variables. Additionally, there are several other directions of migration besides rural-urban flows. Seasonal migration is a side-effect of rural-urban migration caused by deficit of human labour in farming seasons, most found in households with an accumulation strategy. Besides, not all migrants are successful in the city and some are forced to return for negative reasons, especially migrants sent by households with a survival strategy are unaware of hard living conditions in the city. Counter-urbanisation is a counter reaction to the fast development of urban areas but only households with higher education and more income are able to move out from the city. Ripple-migration occurs when poor households sell their land to these households and move to more remote rural areas to acquire more land there. Large land holders benefit the most because they are able to hold on to agricultural land and sell products for higher prices at the market. In conclusion, it seems that the city becomes a place for high income households and simultaneously a place where poorer households get trapped. Allocation of economic growth and social development are the greatest challenge in making rural-urban linkages work.

Central question

Rural-based households are engaged in flows of rural-urban migration in two ways. First, the constraints of their livelihoods are too great to overcome. Secondly, opportunities of urban development outweigh the costs of migration and households adapt migration in their livelihood strategy. Empirical research proves that the diversity of rural livelihoods involved in rural-urban migration is greater than the general poverty status suggests. Causes of rural-urban migration are not explained by poverty but by survival of vulnerable households, consolidation of subsistence and commercial farmers and accumulation of the relatively rich.

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1. Introduction

1.1 Relevance of this research

How is the livelihood of one farmer's family living in the remote rural connected with wider social and economic developments in urban areas. This question is useful to development thinkers and policy makers because a large part of the population in the developing world is dealing with structural poverty and most of these people are found in rural areas, especially in countries where most of the population depends on subsistence agriculture. And because social and economic development initiates in cities, urbanization through rural-urban migration is inevitable. Therefore it is expected that growth of African cities will only accelerate over the years to come. From that perspective it seems reasonable to seize control over rural-urban migration flows to temper demographic pressure in concentrated areas. However, perspectives from the rural areas should also be taken into account.

The contribution of rural-urban linkages in general and rural-urban migration in specific is important: "Migration is not an exogenous variable, but an integral part of wider social and development processes (De Haas, 2010, p.228)." This research explores the facets of rural-urban migration and seeks out underlying motives of rural households sending household members to migrate.

1.2 Research questions

This study focusses on development issues of rural areas surrounding Kigali. Rural-urban migration is identified as an important part of rural-urban linkages that foster potential development. Rural-urban migration flows provide rural-based households with an alternative livelihood opportunity. Consequently, this research will mainly focus on the causes and flows of rural-urban migration guided by the following central question:

- *How are rural-based households actively engaged into flows of rural-urban migration and how do these linkages reflect differences in their livelihood?*

Following the main research question, five sub-questions have been formulated. The first sub-question provides insight in the creation of livelihoods in the rural areas. The question also examines if Rwanda's official poverty classification (the Ubudehe-approach) aligns with livelihood characteristics of rural households in the Kigali-region:

- 1) *What are the livelihood characteristics of rural households in the Kigali-region and how do these livelihoods compare with their poverty status?*

The following research questions then compare livelihood characteristics of stretched households. Stretched households are households that have one or more household members living in the city, household members that are migrated because of marriage are not included because they are not sent away to migrate but migrate because they got married.

The second and third research questions first examines if there are significant differences between female-headed households, households with an physically disabled household member and other stretched households. These households are expected to be more vulnerable because they have to deal with specific structural constraints:

- 2) *What are the main characteristics of stretched female-headed households and how do these households compare to other households in the Kigali-region?*
- 3) *What are the main characteristics of stretched households with a physically disabled household member and how do these households compare to other households in the Kigali-region?*

The fourth and fifth sub-question then continues to investigate on all stretched households to see if causes of rural-urban migration flows can be unravelled with the help of a livelihood cluster analysis and qualitative information from in-depth interviews.

- 4) *What are the causes of rural-urban migration in the Kigali-region?*
- 5) *Which flows of migration are distinguished and how are these related to the livelihood of rural-based households in the Kigali-region?*

1.3 Structure of the rapport

First, the theoretic framework will elaborate on relevant scientific literature. The concept and importance of rural-urban linkages is explored, the use of livelihood framework in development studies and theories on migration. After the theoretic framework the regional context elaborates on Rwanda as developing country and the results of known studies on rural-urban migration in Rwanda is elaborated. The regional context concludes with a conceptual framework as the basis for this research based on the scientific literature and regional context. Then the chapter on used methods and techniques explains the way the empirical data has been collected. And finally, the chapters of data analysis presents the results of the field work. Implications and discussion of these results are found in the last concluding chapter, ending with some recommendations and comparison to the relevant literature.

2. Theoretical Framework

2.1 Rural-urban linkages

2.1.1 Introduction to the rural-urban context

Rural households connect with wider social and economic developments in various ways. Tacoli & Mabala (2010) draw attention to the importance of rural-urban connections for overall development. They base their ideas on four case studies performed in Mali, Nigeria, Tanzania and Vietnam. Each of these case studies explores different ways in which migration relates to the development of rural and urban areas. With this changing relationship, they observe a transformation of livelihoods. These changes are in general shaped by new arisen employment opportunities.

The interrelationship between rural and urban areas can be rather sensitive. Ansoms (2008) finds the perceived potential of the Rwanda's rural society has changed over time. The present development goal for rural areas are summed up in the influential Vision2020 document¹ declaring the intention to decrease dependency on subsistence agricultural from 85% to 50% by the year 2020. This implies a decrease of 35% of the population employed in agricultural activities. To realize this goal, rapid modernization and professionalization of the agrarian sector is required. However, alternative employment opportunities for the 35% surplus of the labour force are unpredictable. Nevertheless, the intention of Vision2020 to replace subsistence agriculture for most of the rural poor by something else is there. In his analysis, Ansoms (2008) points out that policies should also be adapted to deal with structural constraints of rural small-scale producers because an easy mistake is made by assuming the same opportunities are available for divergent social-economic groups in both rural and urban areas.

2.1.2 The rural-urban division

A most common distinction of places is the division between rural and urban. Though these definitions are widely used, the meanings are not uncontroversial and self-explanatory as they appear. Three problems in the definition of rural and urban areas will be discussed to avoid quick generalizations and false assumptions.

The first problem of defining 'what' is rural and 'what' is urban. In this respect there are many generalizations made in different countries and regions around the world. The threshold population for an urban area can vary a lot. Most nations apply a minimum population number and population density depending on the size and total population of the country.

¹ Rwanda Vision 2020, (2010), Ministry of Finance and Economic planning – Republic of Rwanda, key documents, p. retrieved from: <http://www.minecofin.gov.rw/ministry/key/vision2020> [cited at: 24-04-2010].

In other cases, the urban definition can also depend on an administrative function or given statistical status. Some smaller nations simply declare one or two places as cities. Other regions hold vague descriptions for urban areas because of the complexity of their agglomerations patterns. Table 1 sums some definitions to give an impression of country differences. For example, Japan defines urban areas as cities with a population over 50.000 with 60% of the population engaged in manufacturing, trade or other urban type businesses. Norway defines urban areas more simply as localities with 200 people and more and Indonesia holds ambiguously describes urban areas as places with urban characteristics (UN-Stats, 2005).

Table 1: Definitions of urban areas around the world

Country	Official definition of urban areas
Burundi	Commune of Bujumbura.
Hungary	Budapest and all legally designated towns.
Indonesia	Places with urban characteristics.
Japan	City with 50.000 or more inhabitants with 60 per cent or more of the houses located in the main built-up areas and 60 per cent or more of the population
Netherlands	Municipalities with a population of 2.000 or more inhabitants.
Norway	Localities of 200 or more inhabitants.
Peru	Populated centres with 100 or more dwellings.
Tanzania	The 16 gazetted townships.
Turkey	Population of settlement places, 20.001 and more.
United States	Agglomerations of 2.500 or more inhabitants, generally having population densities of 1.000 persons per square mile or more.
Zambia	Localities with 5.000 or more inhabitants, the majority of whom all depend on non-agricultural activities.

Source: UN-Stats (2005)

The second problem in defining urban areas is the definition of urban spaces. Like the threshold of urban places, there are many definitions that run with the variety of settlements and concentrated building sites around the world. For example, in South-East Asia, agricultural and industry estates can coexist side by side within small zones of land. And in Sub-Sahara Africa there are many cases of urban agriculture found in the midst of big cities, something that is highly unlikely to be found in European countries. Because of the variation of cities around the world, it is difficult to come up with a universal definition of exclusively urban areas that could include all different urbanised spaces (Tacoli, 2004).

The last problem is the definition of urban boundaries. The concept linked to this issue is the 'ecological footprint' of a city. This refers to the fact that urban residents and urban-based enterprises rely on a much larger area than their own resource base and environment permits.

Following the ecological footprint of a city, stretches out urban boundaries maybe further than administrative borders and urban city plans. Urban consumers depend on resources and ecological functions that reach beyond their own backyard (Tacoli, 2004).

Within geography there is no universal solution to definition issues of rural and urban places, spaces and boundaries. The learned lesson is to always be context specific and avoid quick generalizations in studies elaborating on the development of rural and urban areas. Consequently, development theories have assigned different views and roles to rural and urban places of which the researcher should be aware of. For the clarity of this study, rural areas are considered as those regions where the main occupation of most people is found in the primary sector. Urban areas are considered as regions where the main occupation of most people is found in non-agricultural activities. These include services, manufacturing, the public sector but also activities in the informal sector, like street vending.

2.1.3 The rural-urban linkage

The interrelationship between rural and urban areas and the impact on development is at the centre stage of this research. Scientific literature on this topic has steadily expanded in recent years. To describe the rural-urban relationship authors usually refer to 'rural-urban linkages' (Tacoli, 2002; Bah et al., 2003; Tacoli, 2004; Hoang et al., 2005; Saraje, 2007; Tacoli & Mabala 2010). Some authors use other concepts like 'non-farm income diversification' (Barret et al., 2001; Bryceson, 2002; Wouterse & Edward, 2006) and 'non-traditional income diversification' (Smith et al., 2001). The latter group of authors generally refer to the changing interactions between rural and urban places. In order to cover wider social and development processes 'rural-urban linkages' thus seem most fit. Three arguments are given to plead for acceptance of rural-urban linkages as concept to describe development between rural and urban areas.

The first argument is the broad potential of rural-urban linkages to capture wider social and development processes. Following a general overview of Tacoli (2004), rural-urban linkages include flows of goods, commodities and finances. Rural-urban linkages also include flows of people, ideas and information through daily commuters, frequent interactions and flows of rural-urban migration. This broad coverage gives the opportunity to study both causes and impacts of rural-urban development at the same time. This provides an advantage since there is a tendency to research causes and impacts separately. De Haas (2010) warns that in studies on rural-urban migration this tendency has caused separate strands in literature which is unfortunate since motivations shaping migration flows will probably also influence development outcomes (De Haas, 2010).

The second argument is that rural-urban linkages are able to adapt forward and backward linkages explaining endogenous growth following the 'New Economic Geography'. The New Economic Geography identifies the strength of agglomerations as prime factor for high economic activity. They refer to forward linkages as output-oriented connections between supplier and customers. And to backward linkages as are connections between the supplier of input and producer himself (Picard & Tabuchi, 2010).

Findings of Saraje (2007) in central Ethiopia illustrate the importance of backward and forward linkages between rural producers and urban market centres. In his case, strong forward linkages in trade were found but backward linkages to agricultural processing in the same region were missing. Saraje (2007) found out that traded industrial goods were all brought in from outside of his research area weakening local rural development and explaining the strong dependency in the rural-urban interaction.

The final argument is that rural-urban linkages lie at the base of transformations of a developing economy. They are closely related to livelihood diversifications on a micro (household) level but also to macro-economic policies on a national level, aimed to reform agricultural production and the agricultural export base. Tacoli (2004) explains that “synergy between agricultural production and urban-based enterprises is often key to the development of more vibrant local economies and, on a wider level to less unequal and more ‘pro-poor’ regional economic growth (Tacoli, 2004, p.2)”

So when agricultural production based on the renewable resources of land are high enough it will create a theoretic demand for new consumer goods. This demand allows small (urban-based) enterprises to flourish, creating a higher demand on food production leading to new innovations for more efficient agricultural production setting the process of development in motion. Effective development thus requires diversification of places, eventually resulting in what is known in economics as specialization of trade and comparative advantages of producers. In spatial analysis, diversification creates distinct physical environments described as rural and urban areas.

The interrelationship between rural-based production and urban-based activities is complex. Comparing rural and urban areas of low income developing countries with high income industrialized countries it becomes clear that the latter are much more urbanized. They depend largely on services and industry to sustain their economic welfare. Agriculture in high-income countries provides only 2% of their GDP, compared to 10% in middle-income countries and 41% in low-income countries. So as urbanization proceeds, national policy-makers need to think about appropriate public investments in particular times depending on the specific context of each country (Tiffen, 2003).

Rural areas in low income countries are besides their supply of food and raw materials also important for the supply of labour and as a potential domestic market. Additionally, the share of non-farm income sources for rural households despite the image of being subsistence farmers is believed to increase. In Africa it was estimated that 45% of the average households’ income derive from non-agricultural activities (Barret et al., 2001). Following these estimations, diversification becomes the norm to development. Meanwhile, given opportunities between different households remain unclear and should be mapped.

2.1.4 The urban bias

Historically there is a tendency to value urban-based development above rural-based development. Lipton conceptualized unequal development between rural and urban areas in a model he called the 'Urban Bias'². The relevance of his model today is discussed by Corbridge & Jones (2005).

Corbridge & Jones (2005) give an overview of all recurrent criticism placing hypothesis of the urban growth in two camps. Energetic urban growth is on the one hand seen as conclusively negative, causing rent seeking behaviour and urban bias. On the other hand, there is an emphasis on the economic benefits of urbanization because it profiles economic activities productive spill-over effects for surrounding areas (following the New Economic geography). To stimulate spill-over effects the latter group makes a case to remove all obstacles to mobility and migration. Ellis & Harris³, identify mobility and migration as key element for economic development. They are positioned as direct opponents of Lipton's urban bias thesis. Ellis & Harris criticize that poverty cannot be addressed by simply going to a residential location where most poor are found and blindly invest in local development projects. In the perspective of Ellis & Harris, unequal urban development is acceptable because welfare is then distributed through flows of mobility and migration.

Corbridge & Jones (2005) take a nuanced stance between the urban bias thesis and its direct opponents. It is a fact that 70% of the world's poorest still reside in rural areas, but neither positive nor negative hypothesis on urban economic growth are mutually exclusive. Both are found significant on various degrees in different countries and regions. This implies that urban development initially produces both negative and positive effects in relationship with rural surroundings. It is however misleading to speak of one single urban class exploiting one single rural class and similarly unhelpful to place all hope on positive effects of ceaseless circulation between the two areas (Corbridge & Jones, 2005).

2.1.4 The rural asset poverty trap

Baret et al. (2001) report that diversification of livelihoods to non-farm activities is typically positively correlated with income and wealth. In rural Africa this translates to the presence of more land and livestock in rural livelihoods. These indicators of wealth can offer a pathway out of poverty but only if rural poor can benefit from their nonfarm occupational activities.

The positive wealth-nonfarm correlation may also suggest that those already poor in land and capital face an uphill battle because entry barriers to step into nonfarm activities are high. Not only in terms of financial investment but also in access to human and social capabilities. The latter is important to get access to (in)formal groups sharing information, skills and investments and these are often based on status-quo.

² Corbridge & Jones built on several publications of Lipton up to 2005 including [Lipton, M., (1977), *Why poor stay poor: A Study of Urban Bias in World Development*, London: Temple Smith].

³ Corbridge & Jones refer to [Ellis, F. & Harris N., (2004), *New Thinking about Urban and Rural Development* (in mimeo, prepared for DFID)].

Consequently, high entry barriers in non-farm diversification could result in an 'asset poverty trap' keeping the rural poorest in structural poverty. They are unable to take entry barriers to nonfarm diversification activities, leaving them to less profitable return-activities abandoned by better-off households and thus increasing inequality (Baret et al., 2001).

With findings of two case-study villages in Vietnam by Hoang et al. (2005) share the concern of growing inequality. The studied villages experienced significant benefits from income diversification, mainly through rural-urban linkages. Consequently, both villages experienced impressive poverty reduction. However, in both cases it were mostly better-off households with better education, better social connections and abilities that could take advantage from new livelihood opportunities. This threatens to leave already vulnerable and marginalised households behind in poor conditions. The rural poverty trap thus results in a two-folded development process, increasing opportunities for one group of households but increasing inequality for the other (Hoang et al., 2005).

2.1.5 Conclusion

Differences between rural and urban areas are straightforward but the researchers should be careful not to make quick generalizations. Definitions of rural and urban areas differ from different countries, regions and context. The importance of the rural-urban linkage can be summed up in three notions: First, the concept of rural-urban linkages holds a broad potential to include wider social and economic developments. Second, rural-urban linkages are able to adapt influencing schools such as the influencing New Economic Geography. And third, rural-urban linkages lie at the base of social and economic transformations in society.

Diversification has become the norm for developing economies and rural-urban linkages give new insights in the complexity of the modern progress. In this respect, Corbridge & Jones (2005) provide a nuanced view on the urban bias thesis; It is misleading to speak of one single urban class exploiting one single rural class and similarly unhelpful to place all hope on positive effects of ceaseless circulation. At the same time, there are alarming signals of a rural asset poverty trap, leaving already poor households behind in the process of development because of high entry barriers to new employment opportunities. Hence, the development of rural-urban linkages in itself could lead to increasing inequality within rural societies.

2.2 The Rural Livelihood Approach

2.2.1 Introduction to agency and structure

To improve the standard of living rural households move into a multi-faceted domain in which farm and non-farm activities are combined and compete (Smith et al., 2001). The study on this multi-activity is best described in the livelihood approach, encompassing an agency perspective. This means it recognises that people are able to make their personal decisions, even if these decisions seem irrational or irrelevant to outsiders. This ability makes people agents of their own development. The decisions people make are assumed to be complex and not solely based on economic ratio. Economic factors can be important but are not of primary concern. Rather, the way people react on their environment and construct their way of life is of the essence. Time, scale and access to information are important factors influencing social behaviour (De Haan & Zoomers, 2005; Scoones, 2009).

The structural perspective differs from the agency approach. The structural perspective sees development and social change emanating from the interventions of centralized power, not from decisions made by individuals or group of actors. Though these approaches seem to contrast with each other, they should not be seen as direct opponents. In recent years, social scientists have made effort for agency and structure to coexist (Long & van der Ploeg, 1994). After all, agency is not simply the attribute of one individual person's well-being. Performance of others also play a significant role. Besides, some tasks and allocations of resources are based on social stratifications of society. For example, if the decision to migrate is made on the household level then the development outcome will also be influenced by power relations and hierarchy of household members (Schindler, 2009). It thus comes down to the "capacity to process social experience and to devise ways of coping with life (Long & van der Ploeg, 1994, p.66)."

2.2.2 Origin of livelihoods

The livelihood framework is widely recognized as a valuable tool to gain more insight in people's lives and their resilience to external shocks and stresses. One of the strengths of livelihood research is recognition in multiple disciplines on the developing field. Livelihood studies offer sufficient common ground between distinct disciplines to work together. However, researchers should be aware of different world views that could influence fundamental research questions (Kaag et al, 2004).

Scoones (2009) explains that the idea of people able to lift themselves out of poverty initially had much political and financial momentum but has lost its significance over time. Policy-makers dismissed the outcome of livelihood studies as too complex, confusing and sometimes seemingly contradictive. Despite its imperfections, optimists complement on the new insights, knowledge and perspectives that livelihood studies provided. Livelihood studies are being acknowledged as the new way forward for social scientists in the developing field, slowly merging actor and structural worldviews together (De Haan & Zoomers, 2005; Scoones, 2009).

In the 1980s, first household studies appeared focusing on labour, land allocation and income strategies. Analysis was performed with the help of micro-economic models. These models were stereotype for the strong structural world view at that time. It was however the first time that households were used as central research units. Following this trend, Norman Long first began to refer to the behaviour of household as livelihood strategies in 1984⁴.

Long's research was rooted in the distinctive actor-oriented approach of the Wageningen School and focused on the long-term development of Zambia. However, the Washington Consensus dominated the development landscape at that time. The primary focus was on income and consumption criteria based on the basic needs approach. This focus pleaded for more integrated forms of modern society through structural forms of adjustments of the national economy, so there was little place for strategies of households. Consequently, attention for the efforts of authors like Norman Long was limited until the 1990s (Scoones, 2009).

In the early 1990s, people became more recognized as actors of development. Agency slowly began to gain more ground in the development field. Like the dependency school in the 1970s and the neo-Marxists approach in the 1980s, it opposed modernization theories. Former opposition was criticized for their low degree of explanation as their reports tended to be filled with more structural constraints. The idea of the poor as agents of their own development soon became popular politics, especially after growing criticism on the need of development aid. This way, the livelihood approach gradually set foot on the development landscape (De Haan & Zoomers, 2005).

Attention to the livelihood approach was strengthened with disappointing results of large scale development programmes. Huge financial injections to developing economies did not deliver the intended results. Disappointing evaluations on these greater development interventions stimulated the demand for newer methods of poverty assessment and new tools of poverty alleviation. The demand for sustainability began to gain momentum.

Backed by the 'Zeitgeist', Chambers and Conway's definition⁵ of their sustainable livelihood approach, now widely accepted to define the focus of livelihood studies: "A livelihood comprises the capabilities, assets (including both material and social resources) and activities for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks maintain or enhance its capabilities and assets while not undermining the natural resource base (Scoones, 2009, p.175)."

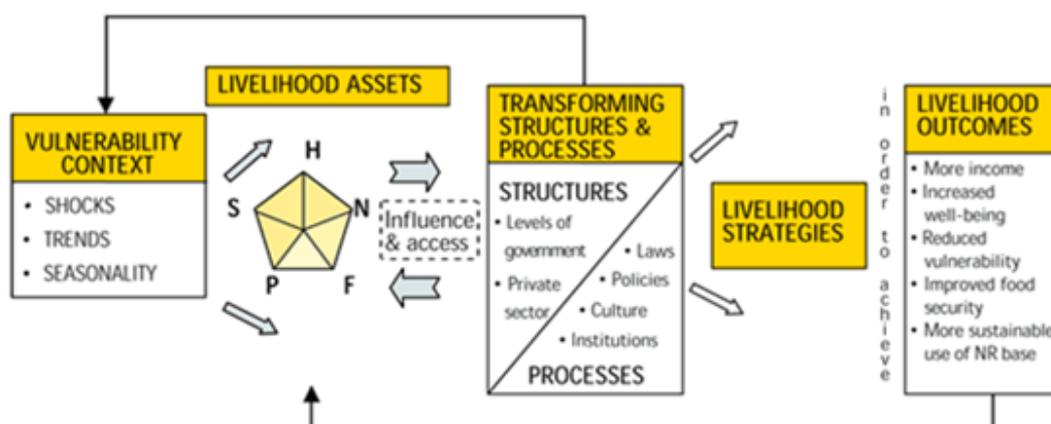
⁴ Scoones refers to [Long, N., (1984), *Family and work in rural societies, Perspectives on non-wage labour*, London: Tavistock].

⁵ Scoones refers to [Chambers, R. & G. Conway, (1992), *Sustainable rural livelihoods: practical concepts for the 21st century*, IDS discussion paper 296, Brighton, IDS].

2.2.3 Livelihood framework and capabilities

Following their definition of livelihoods Chambers and Conway designed the Sustainable Livelihoods Framework as is shown in figure 1. The five livelihood assets of the household are at the centre of the framework. The access to livelihood assets are on the one hand impacted by external shocks and developments in the context of the household. On the other hand, they are under influence by structural rules, regulations and processes creating possibilities and obstacles in the access to livelihood assets. The way households deal with both factors defines their livelihood strategy. Households are assumed to reduce vulnerabilities but are also recognized to have their own agency, meaning that they are not mere subject to structural transformations and can come up with creative and unexpected solutions of their own. A successfully designed livelihood strategy will thus lead to more sustainability.

Figure 1: Sustainable livelihoods Framework



Source: Practical Action (2012)

At the centre of the sustainable livelihood framework are the livelihood assets focusing on the capabilities of the poor rather than their limitations. Within these capabilities different material resources can be utilized.

Physical resources are means of equipment, tools or possessions that help to sustain people's livelihood. Financial resources refer to the financial income sources. They can relate the available amount of money people possess but also to the access of credit and loans. Natural resources generally refer to the renewable resource of land and livestock people have at their disposal (De Haan & Zoomers, 2005). Besides material resources, there are also immaterial resources that give people capacity to develop. Social resources entail the network of people you know. Human resources refer to skills, education and labour that can be utilized.

The sum of all material and immaterial resources create the livelihood capabilities of a household. This way of identifying households makes it possible to include plural activities of households in the developing world.

Livelihood capabilities are divided into five but this is only a schematic representation of reality. In practice the different aspects that make up a livelihood are (highly) interrelated. These relationships between different capitals give the livelihood approach its holistic understanding. In other words, someone's livelihood is more than just the sum of all parts (De Haan & Zoomers, 2005). For example, Isaksson (2011) explains that the ownership of land is not just an issue related to his or hers natural capital. Weaker land rights are also a matter of the household composition. Inequalities in natural capital are linked to age and gender. Social capital is thus linked with issues of access to natural capital. Figure 2 illustrates the five livelihood capabilities for households.

Figure 2: Livelihood capabilities pentagon



Source: *Practical Action (2012)*

One of the recurrent criticisms on the livelihood approach is that it ignores the importance of politics and power relations. A proposed solution is the addition of a sixth 'political capital'. However, political strife and power relations are arguably already included within each of the five capitals because people automatically take political considerations into account in their decision-making process. Therefore, it may be assumed that choices of people reflect hidden power structures and social stratification with the assumption that nobody has full access to all information (Scoones, 2009).

2.2.4 Variation and dynamics

Constructing livelihoods is not just a matter of building a shelter, making money transactions or cultivation land. It is also a matter of management of relationships, identity and status-quo embedded in structurally enforced rules and regulations, norms and values (De Haan & Zoomers, 2005). In other words, livelihoods is more than income diversification because it includes the process in which people struggle to survive, consolidate or accumulate. People weigh one decision against another to come to their own path of development (Smith et al., 2001).

The capacity to make use of certain livelihood capabilities is very important in order to decide on the livelihood strategy of a household. Equally, the ability to take advantage of new livelihood opportunities plays an important role.

In their livelihood strategy households weigh one decision against another. So, livelihood activities always include some sort of trade-off between available opportunities, existing capabilities and structural constraints.

In a research on migration and income diversification in Burkina Faso, Wouterse & Edwards (2006) found a relationship between the availability of livelihood capabilities and the occurrence of inter-continental migration. The findings from their model suggest that there are some potentially troubling implications in the distribution of wealth in the wake of migration flows. Benefits between continental and inter-continental migration showed significant differences. Households with more access to livelihood capabilities were more likely to increase their income by investing in the higher return-activities. Households with less access to livelihood capabilities were only found in migration flows with lower return-activities. Wouterse & Edwards (2006) conclude that “migration may lead households to diversify less when production activities are labour-intensive (Wouterse & Edwards, 2006, p.23).”

Ultimately, the decision to migrate is hardly made by one person alone. All household members can play a role in the decision of one member to migrate. Migration can thus be seen as a household utility-maximizing strategy. Age, number of children, number of other dependents in the household, education, skills, job security and the origin of the migrant household are identified as major determinants of rural-urban migration (Agesa & Kim, 2001). Variation and dynamics between households and within the household indicate that the rural poor should not be defined as a homogeneous or rigid group. Access to material and immaterial capabilities influence the ability of a household to take advantage of new livelihood opportunities producing a diversity of livelihoods. Such household livelihood profiles make decisions according to the opportunities within their reach (Ansoms & McKay, 2010).

2.2.5 Conclusion

The origin of the sustainable livelihood framework has deeper roots but was widely recognized with the definitions of Chambers and Conway in 1994. The livelihood perspective is now seen as a new way forward in the development field recognizing the agency of households and including structural obstacles they have to overcome in terms of access to different capabilities. The strength of livelihoods lies in its widely recognition and its ability to include multiple activities of households in developing countries.

In conclusion, the livelihood perspective is a suitable tool to get more insight in the development of rural-urban linkages from the rural perspective. The dynamics and variations of rural households should also be acknowledged in the researchers observations. Livelihood strategies include always some sort of trade-off between opportunities, existing capabilities and structural constraints. Migration is a household decision, migration of one household member has a significant impact on the livelihood of the whole household.

2.3 Theories on rural-urban migration

2.3.1 Introduction to migration and development

In sub-Saharan Africa flows of migration are often associated with economic decline and increasing poverty (Tacoli, 2004). The importance of migration for development has been however been rediscovered recently, there are two reasons why.

The first reason is the limited success of development interventions thus far. There is a hope that migrants may overturn this balance as it is increasingly recognized that they are able to foster development. The amount of remittances that are sent back by migrants is larger than the annual development budget. The development outcome and transformations with these money flows are a big subject of contemporary migration studies. However, these studies have been unable to make any decisive conclusions yet (Raguram, 2009).

The second reason is increasing security concerns related with flows of migration. In a globalizing world, goods, services and information are increasingly passing international borders. The intensity and extent of these flows are increasing and so is the movement of people. However, flows of migration are difficult to manage and relate to a range of important policy issues such as (food) security, spread of disease pandemics, service delivery of health, education and water, pollution, congestion, crime and unemployment. Therefore policy-makers struggle to find a solution to rules and regulations that seem to have out-dated the present process of development (Mutandwa et al., 2011; Raguram, 2009).

2.3.1 Perspectives on migration

In neo-classical theories there are broadly two different viewpoints towards migration, there are 'migration pessimists' and 'migration optimists'. Both identify individual migrants as decision-making unit evaluating the impact on development sending and receiving societies in flows of migration. Pessimists and optimists are opposite camps with different perspectives on the relationship between migration and development. First, migration-pessimists perceive unequal development as the main cause of migration. They plead for policies to control and manage the course of migration by countering underdevelopment in areas of out-migration through stimulation of local development. Secondly, migration-optimists perceive development as an outcome of migration rather than its cause. They identify migrants as important factors to spread development seeking ways to support and stimulate flows of migration (De Haas, 2010; Raguram, 2009).

Opinions about migration have swung back and forward between favouring pessimist and optimist from time to time. In recent years, it has become clear that migration is a highly selective process with both benefits and disadvantages that impact members of the communities involved differently. Following this notion De Haas (2010) proposes to embrace a more 'pluralist' approach towards the issue of migration because conventional theories are unable to provide decisive findings.

Within a pluralist livelihood households instead of individuals are identified as main decision making units. Migrants are no longer short-term survivalists but long-term strategists making deliberate decisions to strengthen their livelihood by spreading risks and enabling investments. This indicates that the impact of migration should not longer be evaluated outside relationships with other livelihood strategies, that includes the entire household portfolio of activities (De Haas, 2010).

In sum, there are fundamental links to development of sending communities in rural areas and receiving communities in urban areas. But from a plural perspective, the receiving community is not a substitute for those that chose to migrate towards and the sending community is not an empty shell left behind by those who migrate from. Long-term commitments to the sending community work through migrants rights and obligations, so migrants have a share in development of two different areas. From this perspective, rural-urban migration flows are part of rural urban linkages connecting sending and receiving communities in their development (De Haas, 2010).

2.3.2 Characteristics of migration

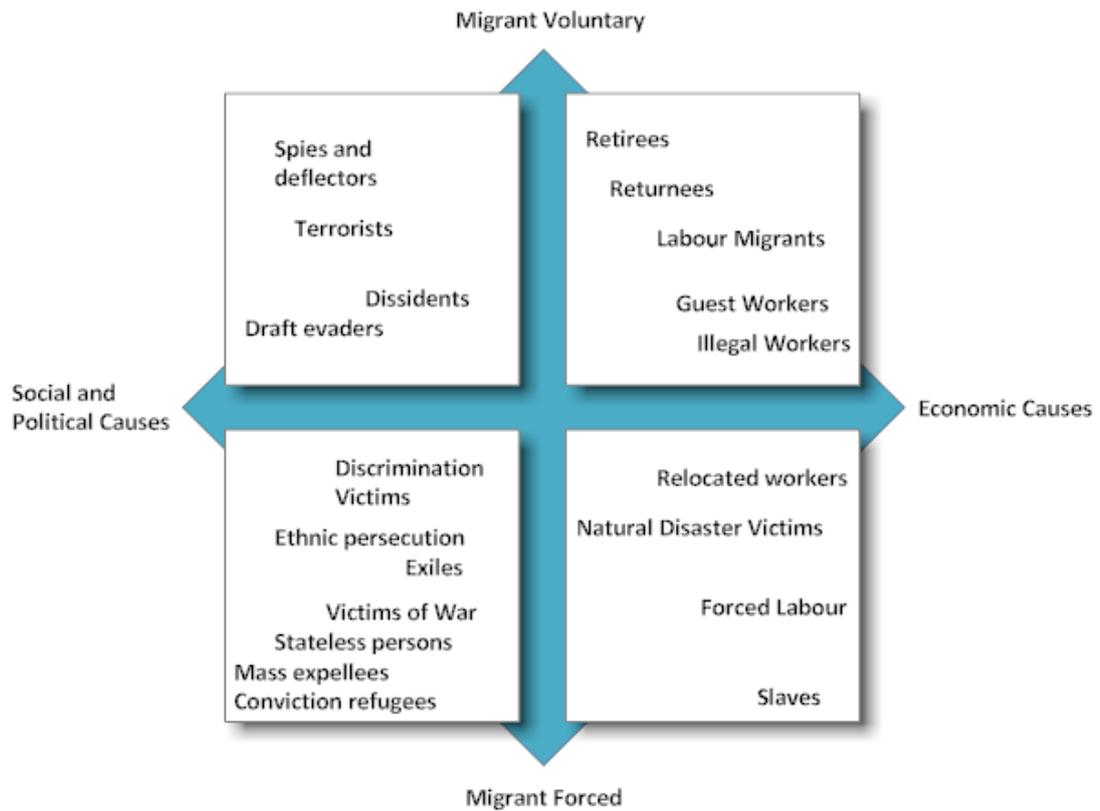
Migration is an ambiguous concept. In general description it is a human response to the unequal spatial distribution of resources over a geographical space. However, flows of migration are not as easily divided as it seems. The definition of a migrant is dependent on the observant perspective.

In his research on rural-urban migration, Mutandwa et al. (2011) uses the following definition: "A form of geographical or spatial mobility that involves a permanent or semi-permanent change of usual residence between geographical units. Change must be between clearly defined geographical units (Mutandwa et al., 2011, p.59)." Areas that receive flows of migration are referred to as receiving communities. Areas sending out migrants to other places are referred to as sending communities. Though such definitions are helpful, it remains difficult to draw straight lines between permanent and temporal movement, significant and insignificant geographical units. Besides, causality and direction of migration also vary between contexts.

Richmond⁶ attempted to create a typology of migration based on sociological motivations of people to migrate. His typology of migration is a schematic presentation of reality but provides some valuable insights. In practice, social and political causes are often relate with economic issues. And similarly, difference between voluntary and forced migration are also difficult to make. Still, Richmond managed to capture the basic thought in migration theories. The assumption that human beings naturally prefer to remain stable at one particular place they refer to as 'home'. This feeling of home makes people uncomfortable with sudden permanent change. This starting point equips migration researchers to map migration flows based on sociological, political, economical or other motivations to migrate. The typology of migration made by Richmond is captured in a matrix shown in figure 3 on the next page.

⁶ In: Boyle et al., (1998), p. 201; [Richmond, A., (1988), 'Sociological theories of international migration: The case of refugees, Current Sociology 36: 7-25].

Figure 3: Typology of migration by Richmond



Source: Boyle et al. (1998)

Of all migration flows, rural-urban migration is widely believed to be the most common flow of migration. Reported determinants show much variation: “Numerous dependents in one households family, lack of jobs, famine, drought, landlessness, the hope to find a job, increase of income, educational opportunities, better services and in general economic welfare.” Besides farm mechanization, farm size, marital status , land tenure and non farm income can also have a significant influence on the decision to participate in rural-urban migration flows (Mutandwa et al., 2011). Smith et al. (2001) extends variables of migration to the presence of external donors in the sending community, such as NGOs and development agencies.

Besides, rural-urban migration there is also a flow of counter-urbanization. These are people or households moving from the urban to the rural areas. Reasons are harsh living conditions, insecurity, expensive costs of live in the city or eviction by government policies or building programmes (Tacoli, 2004).

2.3.4 Conclusion

There is renewed attention for the relation between migration and development in recent years. Flows of migration are part of a world in motion. Also perspectives of migration are changing. Camps of migration optimists and pessimists failed to provide a decisive resolution to the value of migration in development processes. What has become clear is that migration is part of the social and economic transformations that are changing developing countries communities. Underlying causes and flows of migration are difficult to grasp but can provide important insight in the path of development.

Migration is an ambiguous concept, 'who' is a migrant and 'what' is migration is depends on the observers definition. The basic assumption in migration theories is the notion that people have a tendency to be stable at one particular place, movement is thus not a naturally phenomenon. The motivations to migrate nevertheless help to get more insight on the matter.

In conclusion, "migration is not an exogenous variable, but an integral part of wider social and development processes (De Haas, 2010, p.228)." Flows of rural-urban migration may help to understand rural and urban linkages, development and social differentiation in sending and receiving societies. But to get there, first a better understanding of the causes and flows of migration is required. Chapter 3.4 elaborates further on migration and livelihoods in Rwanda.

3. Regional Context

3.1 Historical overview of Rwanda

3.1.1 Colonization (1890-1962)

Before its colonization the great-lake region of Central Africa was ruled by several independent kingdoms. One of them was named the Kingdom of Rwanda and had evolved into a powerful expanding reign with its power base in the country we now know as Rwanda. The expanding drift of the former kingdoms is one of the reasons why the historic cultural territory of Rwandese stretches beyond the contemporary borders of the modern Republic. Due to its favourable climate and fertility, the region has for a long time been an attractive area for human settlement and development.

In 1890 Rwanda was colonized by the German Empire and it became part of German East Africa together with Burundi and Tanzania. The German colonization lasted until the First World War. After the war, in 1923, Belgium accepted to govern the former German territory along with its existing colony of Congo to west of Rwanda. In comparison with the Germans, the Belgians paid much more attention to the colony to make it more profitable. They introduced large scale projects in health and education and also brought new crops to the land like cassava, maize and Irish potatoes. Eventually, coffee was also introduced as export commodity. However, forced adjustment to the food production and labour division did not much good to the regional economy. Severe famines followed as a consequence. In 1928-29 30.000 people died and 100.000 people (at that time 7% of the total population) were pushed to migrate to English governed Uganda in the north and the Belgian Congo in the west. Another severe famine took place in 1943 and also caused many Rwandans to move into Congo. (Pottier, 2002). Additionally, an unidentified number of Rwandans had left to work in cotton plantation in East Africa and the Congolese mines between 1918 and 1959 (UNFPA, 2005).

In order to ensure their grip of power and control in the colony during times of unrest and starvation the Belgians continued to artificially emphasise the hierarchical power organization, also used by the Germans, this divided people into Tutsi and Hutu. In general Tutsi were assigned as the elite governing class of the colony because of their supposed difference in ethnicity or the Hamitic myth as Shyaka (2005) calls it. This systemic division of Tutsi and Hutu became a source of political conflict, especially in the period of destabilization after the Second World War. After the Second World war Rwanda stayed under Belgian administrative authority as an UN mandate until the 1961 referendum which decided if the country should become a kingdom or a republic. Meanwhile Belgian reformist tried to stimulate democratic political elections. However, the social stratification of Rwanda's population resulted in a violent sequence of events marking the first few decades of independence. The last two years towards the date of the referendum saw the first waves of refugees leaving Rwanda. This marked the beginning of a period of unrest, war and insurgency (UNFPA, 2005).

3.1.2 Independence and Genocide (1962-1994)

The Republic of Rwanda officially gained independence in 1962. The first decades were marked by cycles of violent conflict between several political factions. As a result as much as 600.000 refugees left the country in the period between 1959 and 1973 (UNFPA, 2005). Many people of the suppressed groups – in some cases Hutu and in other Tutsi – became refugees in Congo, Uganda and Tanzania. Eventually Rwanda fell into the hands of military leaders after a military coup in 1973. However, from the Rwandese refugees the Rwandan Patriotic Front (RPF) became organized in Uganda. And in 1990 the RPF invaded northern-Rwanda initiating violent conflict (Gérard, 1995). Because both sides of the conflict could not get the overhand a cease-fire had been signed in 1994. Nevertheless, in the same year the shot down of the plane of the President gave the catalyst for the Rwandan Genocide within a few hours. In a course of 100 days between 500.000 and 1.000.000 Tutsi and politically moderate Hutu were slaughtered. International powers failed dramatically to intervene (Henley, 2007).

When the RPF regained control, the former regime with approximately 1.7 million Rwandans fled to Tanzania and the Democratic Republic Congo in fear of repercussions. As order in the country was slowly being re-established it became clear that the entire Rwandese society had been affected. Almost every household lost members and many people were displaced or became refugees through a history of violent conflict that climaxed in 1994. In 1997 and 1998 it was estimated that 80% of the population was internally displaced (Uwimbabazi & Lawrence, 2011). Needless to say Rwanda had to be rebuilt in order to make sure that no Rwandese should ever go through the dreadful days of the 1994 genocide again.

3.1.3 Reconciliation and reforms (1995-present date)

There are still remnants of rebel groups left in the eastern region of the Democratic Republic of Congo (BBC, 2011) but Rwanda has managed to enter into a period of reconciliation and reforms. In 2003 a national referendum accepted the current reformed constitution. In the same year Paul Kagame, member the RPF, became president by popular vote and has been re-elected for a second term in 2010.

In 2001, the Rwandese government made a start with the Rwanda Global Diaspora Network. The network intended to promote productive investments and savings by establishing a Diaspora Investment Bank (UNFPA, 2005). Further, the network aims to attract knowledge and skills of Rwandese living abroad. However, the majority of displaced people preferred not to return to their original home areas, instead urbanized areas like Kigali became the major destination for immigration accompanied with economic development (Uwimbabazi & Lawrence, 2011). Looking at the present government focus on return-migration to stimulate the development of Rwanda, urban areas (in particular Kigali) are likely to continue to be at the centre of the development process (Musahara, 2001).

3.2 Country Profile of Rwanda

3.2.1 Geography of Rwanda

Rwanda is a small landlocked country in the great-lake region of central Africa. It is about 70% of the surface of the Netherlands. In absolute terms this means it has 26.338 km² (CIA Factbook, 2012). The country is situated to the South of Uganda, the North of Burundi, the West of Tanzania and the East of the Democratic Republic of the Congo. Map 1 shows the political map of Rwanda and its neighbouring countries. The capital city, Kigali, lies at the heart of the country. It represents the political and economic centre of development. In the periphery zones near the borders some natural reserves can be found, with in the west lake Kivu, to the east Akagera National park, in the south Nyungwe national park and to the north the famous National Volcanoes park featuring mountain gorillas.

Map 1: Political map of Republic of Rwanda 2012



Source: *Men Who Killed Me* (2012)

Since 2006, a new administrative division has been enforced dividing the nation into 5 provinces and 30 districts, these districts are again divided by sectors and cells, the smallest administrative unit is called Imidugudu or villages. This new settlement policy was put into place after 1994 when refugees returned to the country.

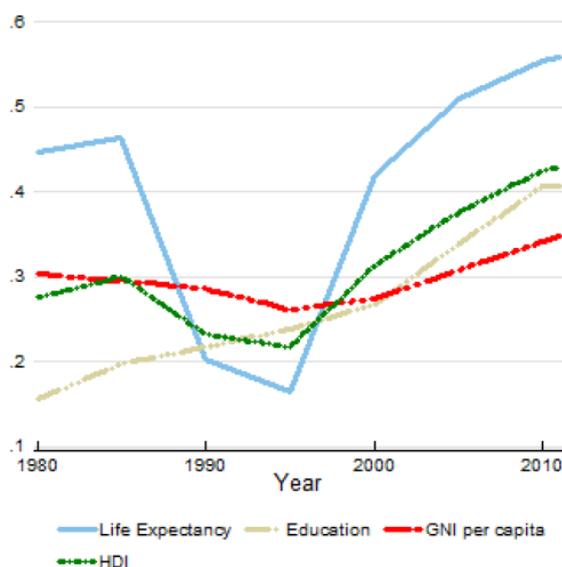
The Imidugudu are aimed to settle refugees, internally displaced persons and at the same time change the spatial settlement pattern (Uwimbabazi & Lawrence, 2011). Traditionally Rwanda doesn't have patterns of profileed settlement. Instead, farmers used to build their houses near their small scale plots of lands which they cultivate. Sometimes, only small concentrations of houses from the same family could be found but no concentrated villages (ACCRON, 2011).

One aimed benefit of the Imidugudu is to make basic services to all Rwandese citizens more easier and affordable. Other underlying reasons are also believed to be security, as it is easier to manage more concentrated settlements instead of a widely scattered population. The government has set the ambitious aim is to have 70% of the settled people in Imidugudu in the year 2020. The program is favoured by the government but has also received criticism because people are said to be forced to migrate and settlements are built on scarce fertile soil (Uwimbabazi & Lawrence, 2011).

3.2.2 Poverty classification and social indicators

Rwanda ranks 166 out of 187 countries and territories on the HDI of 2011. Between 1980 and 2011 their HDI value increased from 0.275 to 0.429 placing it in the low human development category with an average annual increase of 1.4% over the past decades. Figure 4 shows the trends of some HDI indicators since 1980 till 2011, you can clearly see the impact of the Genocide in 1994 but also the fast recovery and ongoing positive trend afterwards. In long-term perspective Rwanda is showing a positive trend closing in on the average HDI score of Sub-Saharan African countries of 0.463 (HDR-Stats, 2011).

Figure 4: Trends in Rwanda's HDI 1980-2011



Source: HDR-Stats (2011)

In 2006, 56.8% of the population was living below the national poverty line (UNDP, 2011). Most of this poverty was found outside the cities as 81.1% of the total population resides in rural areas and most of this population is very young as 42.4% of the total population is aged between 0-14 years (UN-Stats, 2011). It will be great the challenge to Rwanda's future development is to include this large rural population living from subsistence agriculture into the benefits of perceived economic growth (World Bank, 2011). In addition to the present situation, the population is expected to increase with an average population growth of 2.7% annually between 2010 and 2015 (with an average urban population growth of 4.4% and an average rural population growth of 2.3%) (UN-Stats, 2011). Nonetheless, there is good reason to believe that significant strides in poverty reduction are being made with high economic growth (World Bank, 2011).

Rwanda's latest data release supports believe in significant change. Latest government reports reveal that in 2011, 44.9% of the total population was living below the national poverty line. This shows an enormous improvement in the living standards of citizens over the past five years and progress towards the achievement of the MDGs in 2015. Other measurements are also positive, net primary school attendance went up from 86.6% in 2005-2006 to 91.7% in 2010-2011. Additionally, more people have gained access to safe drinking water from 64% of the population in 2006 to 74.2% in 2010-2011. Rwanda has also made significant progress in reducing maternal mortality, globally the worst performing MDG-goal. Rwanda has managed to bring the rate of 1071 deaths per year in 2000 down to to 487 in 2010-2011 (UNDP, 2012). Table 2 sums up some of the social development indicators of Rwanda provided by the UN-Stats (2011) and UNDP (2012).

Table 2: Social development indicators of Rwanda

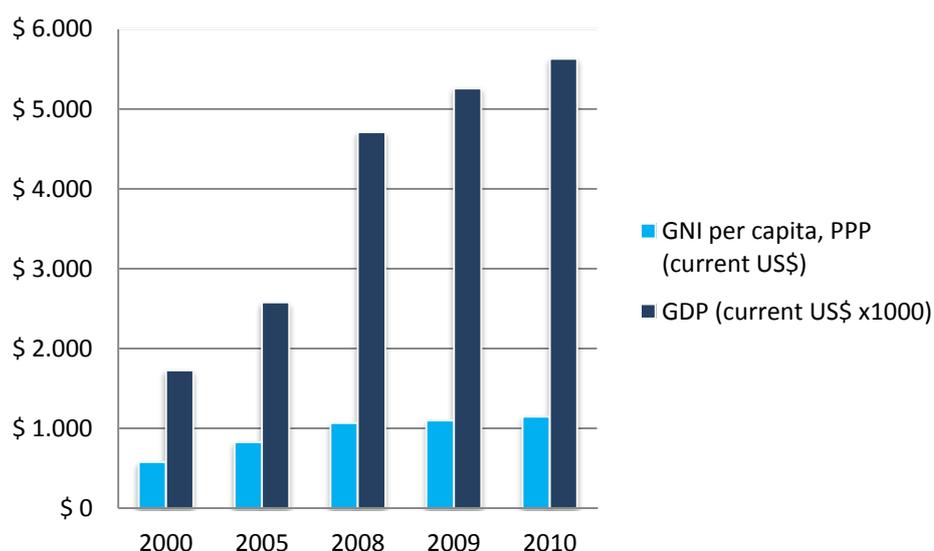
Social Indicator	Year(s)	Ratio
Human Development Index (rank out of 187 countries)	2011	0.429 (166 th)
Poverty rate (% of total population)	2011	44.9
Population growth rate (average annual %)	2010-2015	2.7
Rural population (% of total population)	2010	81.1
Population aged 0-14 years (% of total population)	2010	42.4
Life expectancy at birth (females/ males in years)	2010-2015	53.9 / 50.0
Access to safe drinking water (% of total population)	2011	74.2
Primary-secondary education gross enrolment ratio (females/males per 100)	2005-2010	93.4 / 93.1
Female third-level education students (% of total students)	2005-2010	43.5

Source: UN-Stats (2011); UNDP (2012)

3.2.3 Economic growth and development

The economy of Rwanda has become one of the fastest growing economies in Africa. In the last three years the estimated economic growth rates were as follows; 11.2% in 2009, 4.1% in 2010 and 6.5% in 2011 (CIA Factbook, 2012). Lower growth rates in 2009 can be explained through a delayed impact of the global economic crisis in 2008. Nevertheless, through the last decade Rwanda's economy has proven to be resilient as the average growth rate in the period 2006-2010 was 7.3% annually. This sustained macroeconomic stability is a good sign towards the development of a healthy growing economy; as such the IMF has projected a real GDP growth around 6.8-7% for future medium-term to come. The estimated size of the economy in GDP was \$5.63 billion in 2010, generating a Gross National Income of \$ 1.150 per capita PPP (World Bank, 2011). The economic growth between 2000 and 2010 is also given in figure 5, since 2000 Rwanda has witnessed high growth of GDP, the GNI per capita PPP has doubled. Contemporary, Rwanda's main concern are high global food and oil prices resulting in increased inflation deflating GDP's growth and increasing the daily costs of living.

Figure 5: Rwanda's economic growth in GDP and GNI per capita PPP from 2000-2010

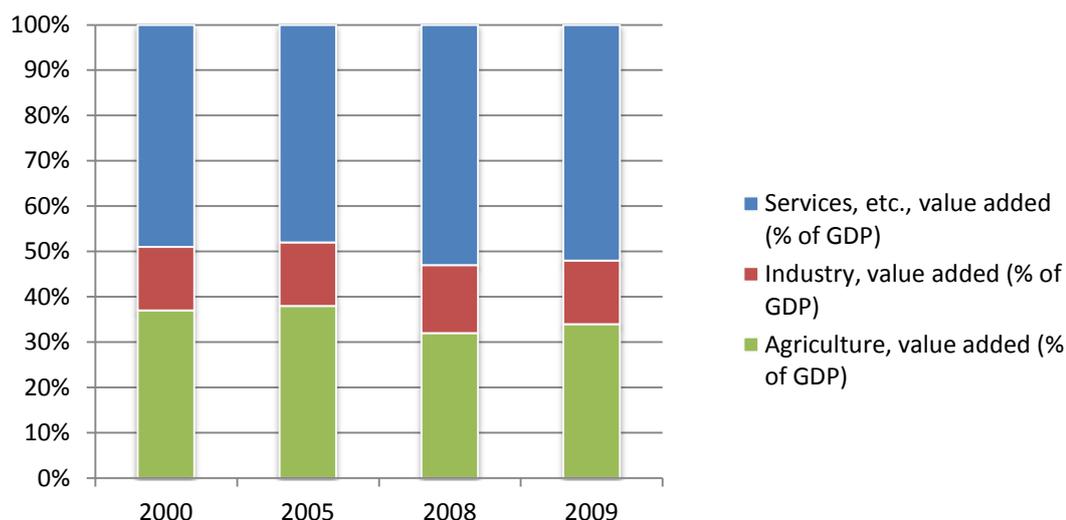


Source: World Bank (2011)

Since 2006, the services sector has made the largest contribution to the economic growth of almost 46% in 2010. This can be explained through a favourable business environment attracting foreign investments in mainly finance and insurance, transport and communications. The industry sector accounted for only for 13.8% to economic growth in the same year (World Bank, 2011). However, the secondary sector shows individually has demonstrated the greatest expansion of 15% in 2011 and is thus growing in importance (UNDP, 2012). The main performers in industry are construction, mining and manufacturing.

The contribution of the agricultural sector to Rwanda's economic growth is slowly decreasing but important. The primary sector represents 34.6% of the total GDP value (World Bank, 2011; MacMillan, 2009). The overall contribution in percentage of the total GDP of the services, industries and agriculture for the years 2000, 2005, 2008 and 2009 are displayed in figure 6.

Figure 6: Rwanda's added value of services, industry and agriculture to GDP in % for the years 2000, 2005, 2008 and 2009



Source: World Bank (2011)

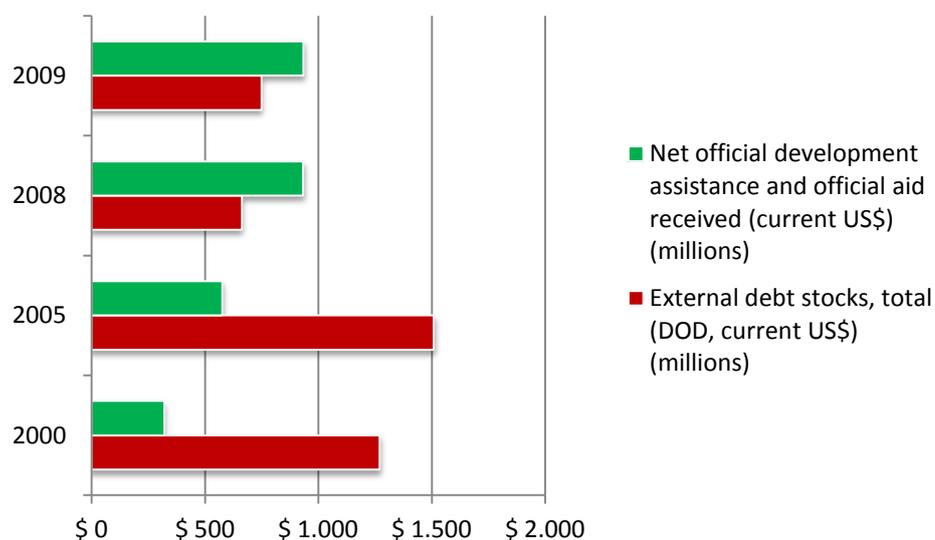
Though the added value of agriculture to the GDP slowly is decreasing, the importance of the primary sector should not be underestimated. Agriculture employs the largest share of the working force (about 80% of the population) and most of the Rwandese population depend heavy on their own food production to feed their families. Dominant food crop productions are bananas, Irish potatoes, fruits and vegetables, sweet potatoes and cassava. Additionally, coffee and tea (some regions also grow sugar cane and pyrethrum) are the most important cash crops. They represent also the most important export products of Rwanda followed by minerals, which are mainly wolframite, coltan and cassiterite (MacMillan, 2009).

Besides the export of cash crops and minerals, Rwanda does not have very many natural benefits that provide the country a sustainable future. The Rwandese government is trying to expand the range of opportunities by increasing agricultural outputs, both for consumption as for trade. In 2007 Rwanda has also become a member of the East-African Community promoting free trade between five East-African nations (IFAD, 2012). Major trading partners of Rwanda in percentage of exports are Kenya (15.1%), Belgium (13.7%) and Sudan (13.6%) (UN Data, 2011).

3.2.4 Challenges to future development

Rwanda's positive development trend is admirable and many believe that the Rwandese approach to promote inclusive and stable politics is at the base of current progress. The country's leadership has articulated a vision of unity and strive summed up in a visionary document named Vision 2020. Thus far, these efforts seem to be successful. Rwanda has emerged as one of the most stable and safe countries on the African continent making it attractive for foreign visitors and foreign investment. Rwanda has also become one of Africa's donor-darlings receiving a good share of international aid from industrialized countries, similarly the country's external debts stocks has lowered relieving pressure on government expenditures. Figure 7 shows the total amount of foreign aid and external debts of Rwanda over the years 2000, 2005, 2008 and 2009.

Figure 7: Rwanda's dependency by foreign aid and external debts for the years 2000, 2005, 2008 and 2009



Source: World Bank (2011)

Besides all positive trends, there are a great number of challenges to Rwanda's future development. Despite social progress and economic growth, Rwanda remains a poor country. The government budget continues to depend for around 20% on foreign aid flows and the countries narrow export base continues to feed into a large trade deficits (especially with the USA) which will on the longer term continue to feed into external debts. Additionally, neo-liberal politics point out that the government is still the main driver behind real GDP growth and there is little endogenous driven growth (IMF, 2011). Other challenges are the lack of key labour markets (75% of Rwanda's labour force is unskilled), high transports costs (\$165 per ton per km compared to \$95 per ton per km in the rest of the region) and a weak administrative capacity on lower district government levels (World Bank, 2011).

One specific challenge for Rwanda is the high demographic pressure combined with a high dependency on the renewable natural resource of land. This makes the delinquent balance between population size and food security one of the most acute problems for the immediate future. Most people are dependent on subsistence agricultural and great famines are not unfamiliar to Rwanda's history.

The current estimated population is 11.7 million people⁷ resulting in around 430 inhabitants per km² (CIA Factbook, 2012). This concentration of people results in the highest estimated population density of Africa, around 430 inhabitants per km². To illustrate the pressure on the land Wyss (2006) reports that the population has risen from 1.5 million in 1934 to 8.4 million in 2003. According to Musahara (2001) more than the half of the Rwandese population had access to more than 2 hectares of land, fifty years later the same percentage of the population had access to less than 0.5 hectares of land. A positive development shows that Rwanda has managed to bring down the number of births per woman from 8.2 in 1970, 6.8 in 1990 and 5.3 in 2009 (UN Data, 2011).

The changing relationship between land and population developed into some negative trends. The first is fragmentation, as farm holdings decrease in size and are divided by a larger number of people. This fragmentation is partly the result of degradation of the quality of land through erosion, intensive use with the lack of natural fertilizers and through the inheritance system that divides family land between many children. In turn people continue to expand cultivation to marginal zones like valley-bottoms, steep hillsides and woodlands which in turn leads to erosion. Because many people depend on small plots of fertile land they also feel compelled to accelerate the period of cultivation decreasing land fertility and increasing additional risks of failed harvests (Wyss, 2006). At the root of the problem lies poverty, one measure of the government is to provide one cow for the poorest households so they don't have to rely on harmful chemical fertilizers. However, it becomes clear that in the future no longer all people in rural areas can continue to rely on subsistence agriculture. Therefore, a growing number of young people seek to expand their livelihoods in the cities. It is estimated young people, under the age of 25, account for 67% of rural-urban migration flows (Mutandwa et al., 2011).

⁷ Satterthwaite warns about the provided data, that are mostly projections and can differ from reality: [Satterthwaite, D., (2010), Urban Myths and the Mis-use of Data that Underpin them. UNU-WIDER Working Paper Number: 28].

3.3 Kigali-region and selected research areas

3.3.1 Characteristics of the Kigali-region

Today, urban areas like Kigali form the centre of development in Rwanda. Especially, since former political struggles are considered to have delayed rural-urban migration in comparison with other African countries (Mutandwa et al., 2011).

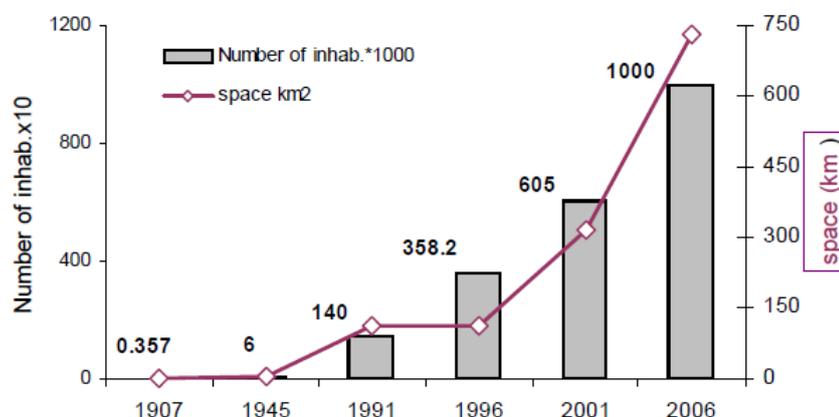
The Kigali region lies at the geographical heart of Rwanda, the region was enlarged in the new administrative division of 2006 (see also map x). Old municipal borders of the city of Kigali used to account for 70% of the former province, the city of Kigali and the province of the city are now the same entity under the name province of Kigali City. The Kigali region is as followed divided into three Districts: Gasabo, Kicukiro and Nyarugenge. These districts are divided into 35 comprising sectors, 161 cells and 1061 Imidugudu villages. In 2009, the Kigali region held 965.398 inhabitants with a density of 1165.8 persons per km². The area now holds an estimated population of around the one million residents. Urbanization rates in province are high although 70% of the regional surface can still be accounted for as rural space. However Kigali is expected to continue to grow transforming its territory into a large agglomeration of urbanized areas within the newly set boundaries. The population of Kigali is relatively young with 60% youth, the female population account for slightly more than 50% of the total population (Kigali City, 2008).

3.3.2 High rate of urbanization

Kigali-city is the main political and economic centre of growth, the city commands 70% of the administrative, commercial, industrial, construction, education and health activities of the country (ACCRON, 2011). All embassies are located in Kigali as well as most political institutions, the Public Court and most important international organizations and cooperation's. The return of many refugees from Uganda and other surrounding countries has increased the influence of English and Swahili (Ministry of Foreign Affairs, The Netherlands, 2008).

Return-migration of Rwandese refugees and members of the Rwandese Diaspora is one of the most important reasons for the cities initial growth after 1994. As much as 600.000 refugees of Rwandan generations had already left Rwanda between 1959 and 1973, especially those who built up skills and capital abroad were called upon to return and contribute to the renewal of the country. In general these return migration were better educated and contributed a large part to the city's economic growth. The city became also a safe haven for many survivors and refugees of the violent episodes in the '90s. Kigali has managed to continue to double its population from 1991 to 2006 (ACCRON, 2011). Since 1999, the city's population and build area has grown at an rate of 6% each year (Kigali City, 2008). Figure 8 illustrates the growth of the city of Kigali in population and expansion of urban space on the next page.

Figure 8: Kigali, growth of population and expansion of occupied space



Source: Uwimbabazi & Lawrence (2011)

Besides the immigration of Rwandese from abroad, two other arguments can explain Kigali's high rate of urbanization. The first argument lies in the economic growth of the country. The historical experience based on the development of higher income countries learns that rapid expansions of urban areas can be expected with an rapid increase of a countries GDP. However, such generalizations should not easily be made as every country follows an specific path of development (Tiffen, 2003).

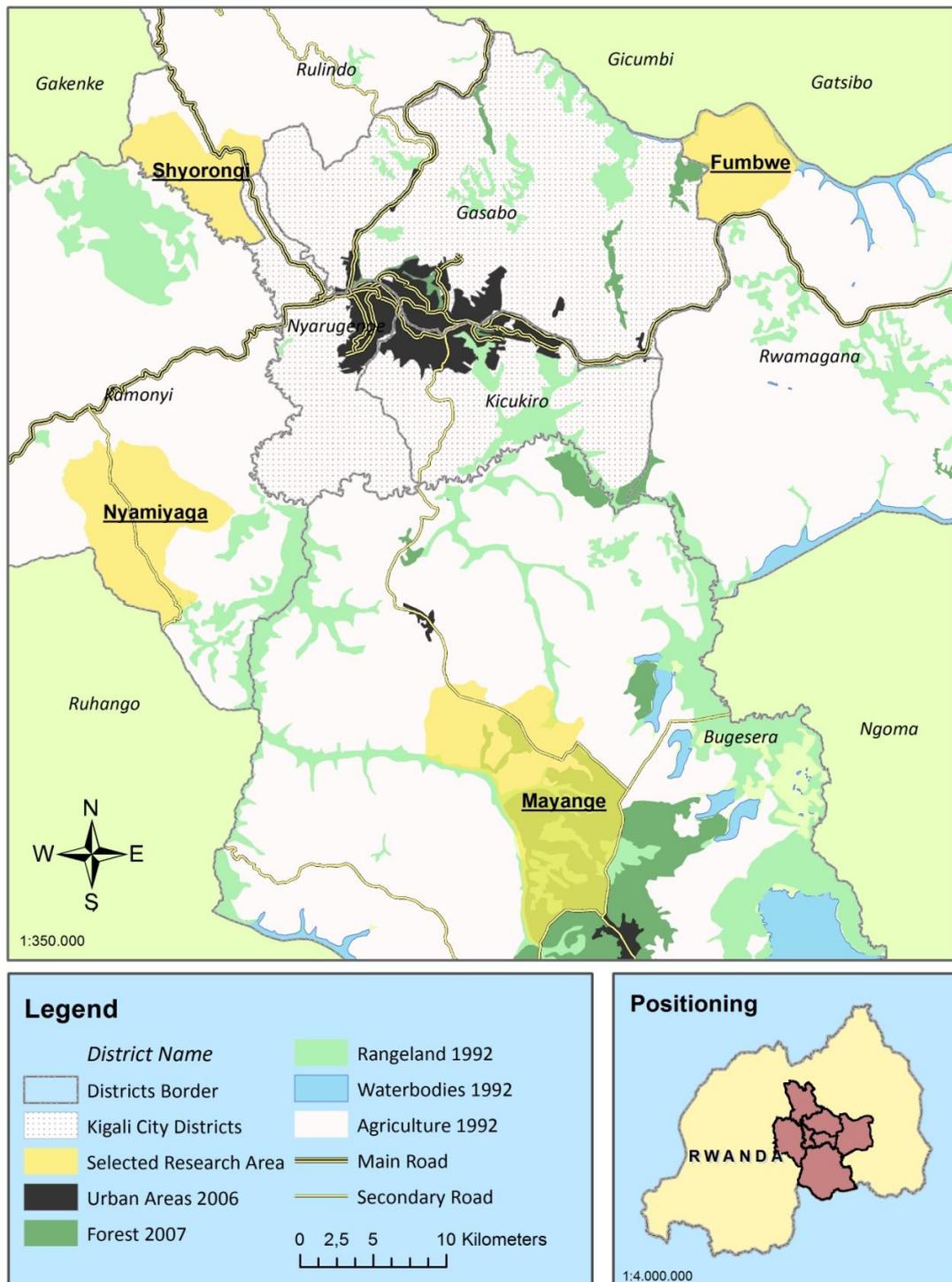
A second argument is that within Rwanda, Kigali has become the most important business centre and main port of entry for foreign investors. Consequently, the lack of capabilities and policies to control ongoing urbanization has provided urban growth with few limitations (Uwimbazi & Lawrence, 2011). As it becomes clear that in the future no longer all people can continue to rely on solely subsistence agriculture, a growing number of people seek to expand their livelihoods in the city. In this perspective Kigali has become the main destination area for internal flows of migration in Rwanda. In 2002 Kigali accounted for 37% of the internal migration (Mutandwa et al., 2011), it was estimated that 57% of Kigali's population were rural migrants (ACCRON, 2011).

3.3.3 Selected research areas

The Kigali region is divided into three districts: Nyarungenge, Gasabo and Kicukiro, these districts equally divide the city of Kigali. The following rural districts can be found surrounding the Kigali region: Rulindo (to the north) in the Northern province, Kamonyi (to the west) in the Southern Province and Rwamagana (to the east) and Bugesera (to the south) both in the Eastern Province. The Eastern Province is especially known to have less relief compared to the Northern and Southern Province. According to these four directions, north, west, south and east, four rural sectors were selected: Shyongi, Nyamiyaga, Mayange and Fumbwe.

Map 2 shows the location of the sectors in all four wind directions, the selected sectors are displayed in yellow together with their names. Kigali city and some other small urban places are represented by the black coloured parts on the map. Gasabo, Nyarugenge and Kicukiro are the three districts that together form the Kigali-region.

Map 2: Thematic map of Kigali and surrounding sectors



Source: National University of Rwanda, GIS Centre (2012)

General interviews with the Executive Offices of each sector have been performed. According to these interviews, the following descriptions of each sector in general can be given.

The main occupation of households is found in agricultural activities. Land consolidation policies destine land in each sector to one specific cash crop but farmers are heavily dependent on rainy seasons to irrigate the land, sometimes rain water is collected in basins but not yet on a large scale. Delayed rains can create food shortages but very heavy rains result in soil erosion as deforestation increases. To prevent soil degradation the government has implemented a tree-planting program.

Genocide has left some people with great portions of land. This land is sometimes given to other households to cultivate, another option is hired agriculture. The government also grants unused land to landless households until another destination is found. Additionally, the one-cow policy gives one cow to the poorest families in each area.

Besides agriculture, small entrepreneurial activities are little shops, restaurants, services or small production facilities. Important handicrafts include the production of traditional woven baskets and woodworks. Each village has its basic health worker trained in basic skills. Each sector has its own health center, for urgent cases people are taken to the hospital by ambulance. Education starts at the age of seven and takes nine years to complete, each village has its own school. In few places there is a school of excellence for above average students, this curriculum take twelve years to complete.

The Shyrongi sector

The Shyrongi sector is located south-east in Rulindo District in Northern Province. The surface of the sector is 4.609 km². Shyrongi is home to 5.445 households and has a total population of 23.738 people (44% male and 56% female), there are 5 Imudugudu. Almost 90% of the households are involved in agriculture.

The fertility of the soil is relatively good as a result of relatively heavy rainfall and the water of the Nyabarongo river. However, some areas in the sector are prone to soil erosion due to the steepness of the hills. The main agricultural crops that are produced in the sector are cassava, beans, maize and sorghum. Further, at the shores of the river are a lot of sugar cane plantations providing low-paid jobs for mainly young school leavers and workers from the southern sector. Shyrongi is one of the few sectors in Rwanda with mining activities, employing almost 4 percent of the sectors population. The mines delve for tin and colane.

Because of the mines the road connection to Kigali is particularly good. Some houses along the main road have electricity and piped drinking water. Most living in the valley or on the slopes don't have access to clean drinking water nor to electricity. Shyrongi is a mountains area and therefore difficult to reach. Finally, there are 5 primary schools and 4 secondary schools with a total of 3.965 students. There are two health posts in the sector providing basic medicine and first medical assistance.

Nyamiyaga sector

The Nyamiyaga sector is located southwest of Kigali in Southern Province. It is home to 32.848 people (44% male and 56% female). The area holds 7.070 households and there are 44 Imudugudu. Almost 95% of the population in Nyamiyaga is involved in agricultural activities.

Major agricultural crops are respectively cassava, maize, beans and sorghum. As a result of prolonged drought, land degradation and depletion of the farmland, fertile land in the sector is decreasing. An important influencing factor of the land degradation is a high frequency of cultivating on the same parcel, a lack of natural fertilizers and the use of fertilizers provided by the Rwandan government. Because of the high prices of these fertilizers the sector is facing budget problems.

After agriculture, the most important economic activities are business in the form of small local shops, mining (stones) and construction. Further, a small percentage of the sector population is active in handicraft, which mainly consists of the production of traditional baskets and tiles. Micro enterprises are present focusing on the production of cassava flour. The Nyamiyaga sector gets water from neighbouring sectors. There are only a few small marshlands with an abundance of water, but these areas are intensively used for rice production.

There are four primary schools and four secondary schools in the sector with a total of 4.566 students. In addition, there is only one secondary health post in the sector. The most people in the sector have to go to a neighbouring sector for medical services or medicines when they become sick. The most common sicknesses are malaria and flu. Only 102 (1.4%) households in the sector are connected with the electricity network and about 30% has access to clean piped drinking water. Nyamiyaga is not connected to the main road and the few secondary roads are unpaved.

The Mayange sector

Bugusera area is notorious for the heavy violence that occurred in the time of genocide. The savannah landscape was at the time scarcely populated and people were dropped there to be killed by the lions. Empty lands also attracted households from more crowded areas in the north and south of the country. But during the genocide, violence quickly turned on any new comer in the area. Violent groups roamed the country side to looking for targets in streams of fleeing refugees.

Contemporary, the sector holds four Imidugudu with a population of 24.372 people in 4.875 households. The balance between man and woman is distorted, current male/female distribution is 8.960 man versus 15.412 woman. Compared to other research areas Mayange has a large surface of 152 km², the territory is also relatively flat. Because there is more space land is less expensive but there are also a number of houses that are abandoned because of the poisonous snakes. Mayange has a structurally housing pattern, with four Imidugudu's divided over four cells.

Most people are farmers (estimated 95%), they cultivate cassava, maize, beans, fruits, sorghum and vegetables. Cassava is the appointed commodity to become the specialty of the region. A factory producing cassava flour is planned to be built, there is already a successful small processing plant producing high quality cassava flour owned by cooperative of local farmers. There is also some additional income from the demand for traditionally woven baskets that are exported to the United States. In Bugusera, a new national airport is also planned. Therefore new houses are already built provided with electricity and water to attract new households anticipating on the new economic activity.

Mayange is also one of the fourteen Millennium Villages from the United Nations. The sector has now better access to water, nine schools with about 8.000 students and good health care; 5 health posts, 1 health centre. One of the structural problems in Myange is the dependency on rain fails, infertility and erosion of the land. A few years back, a food shortage hit the area. To counter land deterioration, more trees are being planted by a government sponsored programme.

The Fumbwe sector

The Fumbwe sector is north from Kigali with a good road connection towards the city. The area is a popular for households that are moving out of Kigali and are searching for a secure environment with the same basic needs of water and electricity that are found in the city.

Fumbwe is the smallest sector and borders to one of the many lakes in Rwanda, this lake can be seen from the higher places in the sector. Besides cultivating lands, there are also artificial fishing ponds made in the valleys . Most of the households are employed in farming and hold livestock (95%). There are many hills in Fumbwe, the hill tops of the lands are often owned by the government and grown with forests to prevent erosion of the land. On some hills people herd large cattle of cow for rich households that live in the city, other hills are densely populated with local farmers. This part of the Eastern province is known for the many banana trees that households grow, trees here are taller and bigger compared to other areas in Rwanda. The main crops are banana, beans, maize, sorghum and cassava. This region also cultivates coffee for commercial exports and has some woodwork handicrafts, providing households with additional sources of income.

There are three schools holding 5.225 students in the sector. There is only one health post and one health centre. Nevertheless, Fumbwe is a popular area for households moving out of Kigali searching a place to settle in the rural areas. Consequently, there are many households in the newly created Imidugudu along the road in which the man of the household is working in Kigali.

3.4 Livelihood opportunities and migration in Rwanda

3.4.1 Introduction to migration and livelihood opportunities

Migration is a broad concept covering all sorts of human movement, small but also very large distances are included. From the livelihood perspective migration is linked to the capabilities of the household because of the investment that is required. This investment comes in terms of travelling time, information, finances and absence of household members.

Social class and migration are related because social stratification is reinforced when higher classes enjoy greater mobility therefore increasing their range of opportunities and thus benefit more from new developments⁸. Therefore social stratification and income differences can be a political sensitive topic Rwanda⁹. Additionally, differences between urban and rural development tend to reinforce discontentment.

3.4.2 Livelihood profiles

Based on a quantitative analysis Ansoms & McKay (2010) identified seven livelihood profiles in Rwanda. They based their findings on indicators on all livelihood capitals for all regions in Rwanda except the Kigali-region. The following 'livelihood asset profiles' were found: "Households of rural entrepreneurs, Association households, Natural-resource rich household, Resource-poor households in fertile regions, Resource-poor households that are centrally located, Isolated households and Female-headed households."

According to Ansoms & McKay (2010) specially designed policies of poverty alleviation for each livelihood profile are required, institutional access gates and barriers in Rwandese policies are identified in order to give them a maximum pro-poor effect. Unfortunately, the promising categorisation of different livelihoods then results in a high concern of the reduction of small scale subsistence agriculture for all profiles in general.

In a case-study on Rwanda and Ethiopia, Rizzo (2011) critically assess the believe that the rural poor in developing countries are only small-scale subsistence farmers. He explains that such believes might have profound impacts on policies of poverty alleviation because it seriously underestimates the importance of poor people working for other people in the rural areas as a main source of income. Rizzo (2011) explains that in the Rwandan case, policy-makers review rural labour markets as rather limited and rural poor are considered primarily a homogeneous group working on their own small-scale plots of land.

⁸ In the Kigali region rural-urban migration flows were found to be inversely related to the distance. The shorter the distance to Kigali the higher the rate of rural-urban migration (Mewesigye, 2000).

⁹ In Rwanda three out of four households moved to another income quintile in 2002 compared with their starting position in 1990. No relation was found between long-term welfare and the violent shocks linked to genocide and its aftermath, except for the number of household members killed and household members imprisonment. Derived from: [Verpoorten, M. & L. Berlagea, (2007), Economic mobility in Rural Rwanda: A study to the Effects of War and Genocide at the Household Level, Journal of African Economies, Volume: 16, Number: 3, (January, 2007), pp. 349-392].

Multiple authors¹⁰ confirm that there is at least one group of chronically poor with distinct different social economic characteristics and behaviour. Most households in the rural areas depend on their ability to cultivate land, those that are very poor rely on casual wage employment to sustain their livelihood.

Livelihoods assessments carried out by Save the Children¹¹ draw upon the findings of five livelihood studies covering six different regions of Rwanda. These studies identified a clear difference between at least two separate groups of rural households. First, a group of 'rural-entrepreneurs', who often own a larger size of land and hire labour from poorer households. Second, there's a group of 'wage-labourers', who are forced to look for other employment opportunities outside their own farm because their own land doesn't provide them with the subsistence needs to support their families. But since official government reports do not make any distinction between these households, obviously there is no framework in place monitoring this 'invisible rural labour market'.

3.4.3 Coping behaviour and adaptation strategies

The foremost and most extensive type of migration in Rwanda is rural-urban. There are three possible explanations for this movement pattern. First, there is a limited amount of available land, high levels of poverty and high population growth in rural regions of Rwanda. Second, there is a lack of policies to manage and control rural-urban migration flows. And third, rural-urban migration is believed to be postponed in Rwanda's development process because of the insecurity and violence in urban areas in the past which is now no longer the case (Uwimbazi & Lawrence, 2011). The Imidugudu policy¹² is one of the new regulation strategies to stimulate households to invest in the rural areas.

According to Uwimbazi & Lawrence (2011) the majority of the rural population in Rwanda are women, mostly widows¹³. Men are the ones searching for employment in urban areas. But because of urban unemployment they feel pushed to create their own income sources in the informal sector or return empty-handed to the rural areas. To better understand flows of migration, coping behaviour and adaptation strategies of households should be identified.

¹⁰ Rizzo refers to [Erlebach, R.W., (2006), Combining Quantitative and Qualitative, The Importance of Wage Labour in the Struggle to Escape Poverty: Evidence from Rwanda, Thesis, School of Oriental and African Studies, University of London.] and [Howe, G. & A. McKay, (2007), Methods in Assessing Chronic Poverty: The Case of Rwanda, World Development, Volume: 35, Number 2, pp. 197-211].

¹¹ Rizzo refers to Save the Children UK in 2000 several research studies were conducted in rural Rwanda for example [Save the Children UK, (2000), Household Economy Analysis of the Rural Population of Bugesera, Rwanda, (October, 2000) for full details on original sources please advise full reference list of Rizzo (2011).

¹² The Imidugudu are aimed to resettle refugees, internally displaced persons and at the same time change the spatial settlement pattern. Imidugudu are designed to provide better sheltering, water and electricity to the residents under government regulation.

¹³ Schindler (2009) pleads for a separate case review of widow households because they often reside in extreme poverty and are therefore less likely to participate in strategies of rural-urban migration. Instead they tend to invest more in own-farm agriculture, 28.2% of all rural households are headed by women of which 80% are widowed.

Coping behaviour and adaptation strategies are based on the livelihood profiles of rural households. Coping behaviour is often linked with shocks to the livelihood of a rural household. Frequently, households have to deal with uncertainty of income and causes of poverty such as droughts or landlessness. In reaction they are trying to reduce these risks by coping with (structural) constraints by migrating to the city. Adaptation strategies are often linked with opportunities in the livelihood of a rural household. Households are stimulated to migrate when new income sources become available in the city. Adaptation strategies relate to how people try to accumulate more wealth as a way out of poverty (Smith et al., 2001; Wouterse & Edward, 2006):.

The main difference between the two is their impact on sending communities. The first is aimed to reduce vulnerability, while the second is aimed to increase income and benefit. The line between coping behaviour and adaptation strategies as a way out of poverty is difficult to draw because households may also be engaged in more than one strategy (Wouterse & Edward, 2006).

Case studies¹⁴ on rural-urban migration in the Kigali region (Nankunda, 1998) and the region of Butare (Mewesigye, 2000) report that male and female are equally involved in rural-urban migration. They also get involved in rural-urban migration at the same age. Women were more often found to migrate because of marriage, while men migrate more for the purpose of seeking employment.

Furthermore, educated migrants are also represented. Mostly by students conducting their studies elsewhere, officials who move from small centres of the countryside and some business entrepreneurs. These migrants were motivated by various reasons like high pay, demand for services and availability of better social services (Mewesigye 2000; Nankunda, 1998).

3.4.4 Conclusion – Conceptual Model

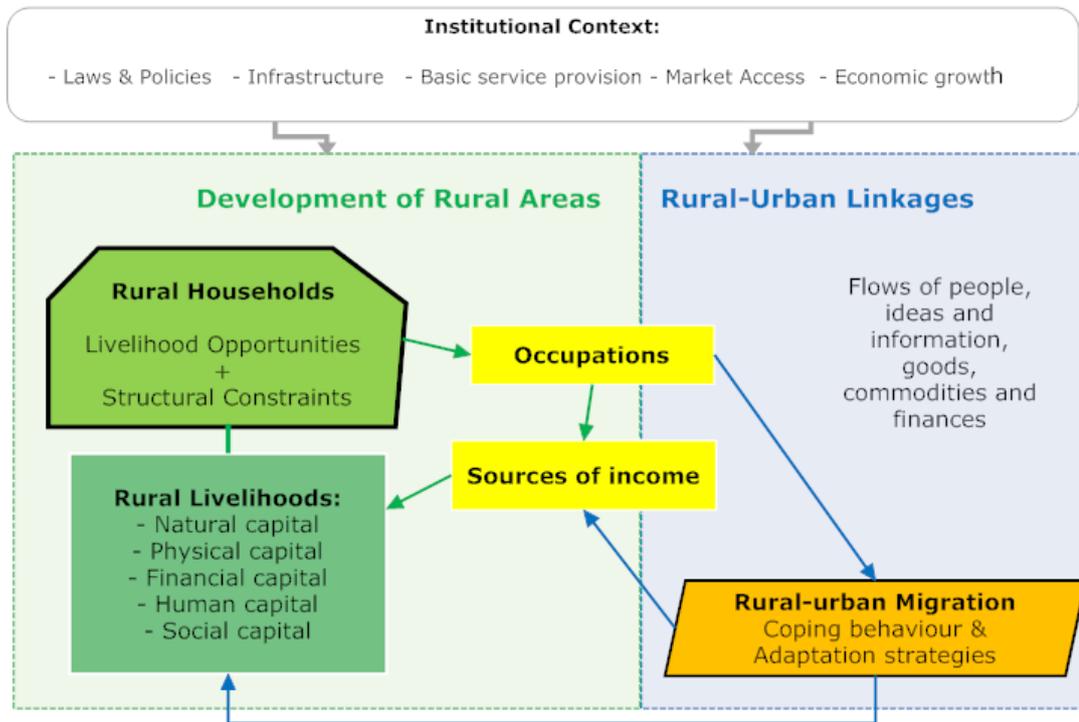
Rural households have different livelihood profiles based on their capabilities and access to assets. These profiles provide them with a certain type of mobility with their own opportunities and structural constraints. Therefore it is unjust to treat rural households as a rigid homogeneous group, this could lead to ineffective policies and denial of existing inequalities within rural society.

Rural-urban migration is the foremost and most extensive type of mobility in Rwanda, high rates of urbanization are the result of the inflow of migrants in urban areas. Rural-urban migration is an important part of rural-urban linkages.

Based on the findings in the theoretical framework and the regional context, a conceptual model is built to illustrate the role of rural-urban migration for the development of rural areas, this conceptual model is shown in figure 9.

¹⁴ Retrieved from main library of the National University of Rwanda in Butare.

Figure 9: Conceptual Model for Rural-Urban Linkages contributing to development



Source: Own design (May, 2012)

Explanation

- Development of rural areas: The livelihood perspective gives insight in the development of rural areas. Rural households are the decision-making units because they construct their livelihood according to their access to five livelihood capabilities. Household can reach out to new livelihood opportunities but are also restricted by structural constraints.
- Occupations and sources of income: Rural households can engage in different occupations depending on their ability and livelihood strategy. The amount of income received from their occupations in turn influence their livelihood capabilities.
- Rural-urban linkages: Occupations don't have to be solely rural-based. They can also connect households with urban-based development through rural-urban migration, in that case rural-urban linkages begin to relate with rural development by the flow of people and goods.
- Rural-urban Migration: Rural-urban migration is part of rural-urban linkages, it becomes part of the occupation of households when one household member migrates and provides new income through remittances to the rural household.

4. Methodology

4.1 Operationalization

4.1.1 Explanation of the household poverty classification

Rwanda's Ubudehe grass-root up approach now forms the basis for planning and implementing development initiatives, communities are recognized to be capable of defining their own problems, priorities and solutions (Wangwe, 2002). Consequently, every household in Rwanda has been classified into six official poverty categories ranging from 'extremely poor' to 'money rich'. A short description of each official poverty classification is shown in table 3.

Table 3: Ubudehe classification and household poverty classification

Official poverty status	Description	Household poverty classification in this study
1. Those in extreme poverty	Need to beg to survive, landless (<25 ha) or livestock and lack of shelter, adequate clothing and food. No access to medical care. Children malnourished and do not attend school.	Extreme and very poor households
2. The very poor	Same as 1 but physically capable of working on land owned by others. Very small landholdings, no livestock.	
3. The poor	Have some land and housing. Live on their own labour and production, and though they have no savings, they can eat, even if the food is not very nutritious.	Poor households
4. The resourceful poor	Same as 3 but may have small remnants and their children go to primary school.	Better-off households
5. The food rich	Larger landholdings on fertile soil and enough to eat. Own livestock, often have paid jobs, and can access health care.	
6. The money rich	Have land and livestock and often salaried jobs. Good housing, often own a vehicle, and have enough money to lend and to get credit from the bank.	

Source: Kettlewell (2010)

This household poverty status was created in the framework of the so called 'Umurenge Programme', part of Rwanda's Vision 2020 development program and has three components. The first component of the Umurenge Program concerns public works for those targeted households which can supply labour (about 17 percent of households in active sectors). The second component concerns direct support for those targeted households which cannot (about 5 percent in active sectors) The last part of the program contains financial services to enable loan beneficiaries to move out of extreme poverty on a sustainable basis and to prevent people who are slightly above the extreme poverty line from falling into poverty themselves. Households in Ubudehe categories one and two can be selected for Public Works and Direct Support and so on (Kettlewell 2010).

For this study, the upper three categories are combined together in a household category of better-off household. Especially the money rich but also food rich households are expected to be found in small numbers in the rural areas of research. Therefore, they are taken together with resourceful poor households, which are assumed to have more capabilities to utilize livelihood opportunities. The middle category is made out of poor households which are expected most to be encountered. These households are not in a very bad condition compared to the poorest households though they are also as well equipped as the better-off household. Finally, households in extreme poverty and very poor households are put together as the poorest household category because extremely poor households are probably most difficult to find. The three household poverty classifications are thus based on the official Ubudehe status and are found on the most right column of table 3.

4.1.2 Definition of rural-based and stretched households

There are different definitions of households in the scientific literature, according Ellis (2004) a household can be defined as a "dwelling unit where a group of persons usually live together and takes food from common kitchen. It, however, includes those who live outside the village but claim the household to be their own. Persons of this category work outside the villages and often send remittances. Such persons are called the migrated members of the household" (Ellis, 2004) and "a household consists of all members who operate as a under a single welfare-maximising decision-making unit. Household members of a rural-based household live in a rural locality, share income sources and expenditures based on livelihood activities inside their own place of residence. A household can be seen as both a consumption and production unit, a household should not be socially fragmented (Burgers, 2004)."

Above definitions of a household are clear and useful. But in order to avoid confusion and misunderstandings migrated household members were called 'former household members' in the questionnaire. For this reason the following definition of stretched household households is used in addition to rural-based households. A rural-based household is a household where most household members live in the same rural locality and operate under a single welfare-maximising decision-making unit.

A stretched household is a household that sent one or more household members to migrate to the city as part of this single welfare-maximising decision making process. The person that has migrated is then referred to as the actual migrant of his/her household. This household member must have lived in the city for at least one month. Persons who moved to the city directly because of marriage, in order to start their own family, are not identified as migrants because they are no longer attached to the rural-based household where they come from. Since they moved they carry responsibility for their own household based in their new place of residence.

4.1.3 Definition of rural-urban migration

“Migration can be defined as a type of spatial or geographical mobility that involves a semi-permanent or permanent change of usual habitation between geographical units. This change must involve trespassing the boundaries of obviously defined geographical units. (Mutandwa et al., 2011, p.59).” Additionally, areas predominantly receiving flows of migration are referred to as receiving communities. Areas predominantly sending out migrants to other areas are referred to as sending communities.

The focus of this study will solely be on internal migration, which means in this case the movements within the political borders of Rwanda with a special interest for rural-urban migration in the Kigali region. However, following the growing literature on the subject of migration many different definitions are being used to identify who’s a migrant and who’s not. And since it is important to correctly identify a migrant, it is necessary to first determine a clear and fixed definition of the internal migration flow that is being targeted.

The focus of this study will be on rural-urban migration in the perspective of the areas of out-migration in four different directions surrounding the Kigali region. These areas are defined as rural when they are mainly dependent on agriculture as main source of income. Rural-urban migration is thus defined as the permanent or semi-permanent change of habitation from the mentioned areas of out-migration towards the urban areas in the Kigali region also known as the city of Kigali. Following the livelihood approach, the research unit of this study are households based in rural areas of out-migration (rural-based households) that are actively engaged in flows of rural-urban migration (stretched households).

4.1.4 Definition of seasonal migration

Rural-urban migration flows are defined as permanent or semi-permanent change of habitation from rural areas of out-migration and urban areas in the Kigali region. The difference between permanent and semi permanent becomes important in the definition of seasonal migration. Since all migrants in rural-urban migration come from a rural-based households they are sometimes in one way or another involved in agricultural occupations during labour intensive farming seasons.

In Rwanda there are two distinct farming seasons, A and B. Farming season A stretches from September to November and farming season B from February to May. Some migrated household members temporarily return to the rural area of out-migration in these particular seasons to aid their rural households in farming activities. Such a person is then identified as a rural-urban migrant with a semi-permanent change of habitation since during some seasons he or she can also be found living temporarily with the rural-based household. However, this person is also expected to return after the farming season is completed and the extra labour force is no longer required. Therefore these migrants are besides rural-urban migrants also seasonal migrants when they engage in farming activities in their area of origin during one or both farming seasons, with the intention of moving back to the city again.

4.1.5 Definition of counter-urbanization and ripple-migration

In migration theories every directional flow produces a counter flow¹⁵. As the focus of this study will be on rural-urban migration in the perspective of rural areas of out-migration, it should also include some insight on the movement of people from urban parts towards the rural areas which can be identified as counter urbanization.

In this study the definition of counter urbanization are those households in rural areas of out-migration that were recently based in urban areas but have made a permanent move to rural areas surrounding the Kigali region for either positive or negative reasons. This definition is somehow difficult in the context of Rwanda as most households have been internally displaced one way or another the recent past. A study with the full focus on this type of movement will probably be able to provide a more complete definition. However, this study will focus on households that still derive their main source of income from the city and distinguish themselves as such from other rural-based households.

It is possible that counter-urbanization causes a side-effect in this study defined as ripple migration. Ripple migration refers to households that are reacting to counter-urbanization by selling their property to newly arrived households and chose to move to rural areas that are more remote from the city because where there is more available land to cultivate.

4.2 Research framework

4.2.1 Data collection

The data for this research was collected from February 2012 to May 2012 in four different rural cells surrounding the Kigali-region. Kigali attracts rural migrants from the entire country leading to the estimation that 57% of Kigali's populations were rural migrants in 2002 (ACCRON 2011). This makes the Kigali-region the most relevant and interesting research area in Rwanda for rural-urban migration flows.

¹⁵ In Boyle et al., (1998), p. 60, [box 3.3: Ravenstein's 'laws of migration'; Each current of migration produces a compensating counter current].

To bridge the gap of communication, three research assistants were found to help with translation and with the organization of household interviews. The research assistants were Rwandese bachelor students from the National University of Rwanda. They were equipped in both English and Kinyarwanda and are familiar in socio-economic research, which proved very useful during the fieldwork. For good collaboration they could use data from the semi-structured questionnaire their own bachelor dissertation. This way, the risk of carelessness and disinterest were replaced by mutual benefit in reliable results.

4.2.2 Selection of research cells

In this research there is chosen to use the administrative unit size of cells as research area because it provides a reasonably area to cover in the given time and each cell has approximately the same amount of people living there.

It was the intention to select rural villages as research areas. However, during the fieldwork preparation the fragmented and poorly demarcated nature of Rwandan villages became clear. The only obviously grouped settlements in Rwanda would be Imidugudu's but these are difficult to identify and groupings of housing are often the result of recent policy in attempt to artificially create profileed settlements resulting in a bias of selected areas.

The research units of this study are rural-based households. Consequently there had to be selected rural cells from the sectors in the surroundings of Kigali, which have a significant presence of 'sending households' (households that have migrant household members in the city). In order to get a variety in the research sample there is deliberately chosen to select rural cells from sectors in all four wind directions around Kigali with different historical and economic contexts. These sectors are selected on the basis of advices of experts in the field of migration from the National University of Rwanda (NUR) and in-depth interviews with the Executive Secretaries of the different sectors.

The selected sectors were demanded to have most people working in the primary sector in order to be relevant for rural-urban migration flows. A full description of the research areas can be found in the regional context, these descriptions are based on the interviews that were conducted with key persons through the executive secretary of each sector. From each selected sector then a randomly selected cell emerged as selected research area.

The selected research areas of research concern the following cells:

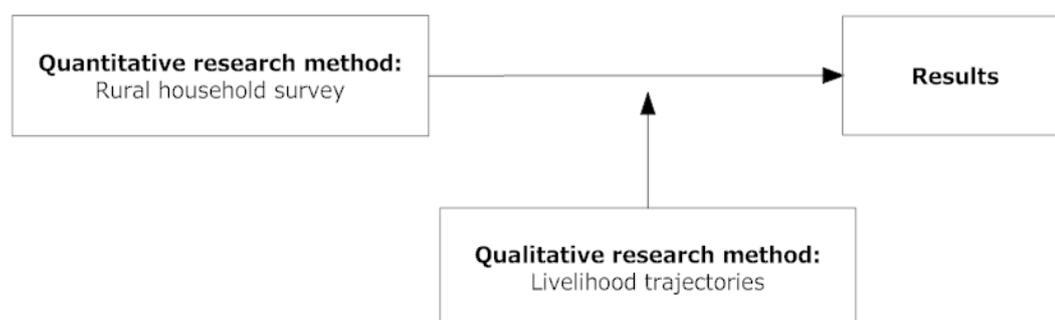
- Rubona cell (Sector: Shyorongi, District: Rulindo, Northern Province)
- Nyagasambu cell (Sector: Fumbwe, District: Rwamagana, Eastern Province)
- Ngoma cell (Sector: Nyamiyaga, District: Kamonyi, Southern Province)
- Gakamba cell (Sector: Mayange, District: Bugesera, Eastern Province)

4.2.3 Q-squared methods

In the last decade qualitative and quantitative research methods have begun to merge together (Desai & Potter, 2006). Across different disciplines, scientists have been encouraged to combine qualitative and quantitative approaches to gain new insights. The ways in which fruitful combinations of research methods might be designed has also increased and tangible examples of the so-called 'Q-squared approaches' have become available (Murray, 2001).

Well designed Q-squared approaches triangulate data and can result in deeper insights in social and economic changes (Hulme, 2007). Quantitative data provides the basis for showing 'what' and highlights significant variables. Qualitative data is able to give deeper insights in 'why' and 'how' and emphasizes variety and differences within the range of human experiences. In this research there is chosen to make use of both (Binns, 2006). Figure 10 gives a schematically oversight of the combination of the two methods in relation the final results.

Figure 10: Q-squared approach



Quantitative research methods will be applied through a rural household survey in the selected cells, using a questionnaire with open and closed questions. This provides insight in compositions of livelihoods and the flows and causes of migration. In addition to the household questionnaires, qualitative case studies in the form of livelihood trajectories were conducted with the help of preliminary findings.

4.2.4 Quantitative part: Household survey and cluster analysis

The selection of the strategic selected rural areas are based on the four wind directions around Kigali in order to get maximum variation. These areas were selected following advice and interviews of key persons at the NUR and in the field. Then a random sample had to be drawn from the selected cells to that includes both households with and households without migrant household members. The latter was important in order to gain a right and unbiased insight in the livelihood of all rural households.

In the first research design, the household survey was meant to be a random probability sample that could represent households from rural areas of out-migration. However as a result of problems encountered in the field the design of the sample changed in a non-proportional quota sample and could no longer be tested on representativeness. The main restriction is the lack of data on the proportion on households active in rural-urban migration and households that are not. The report on the choices that lead to this result can be found in the chapter on limitations and reliability. Although generalization of the outcomes should be handled with more care, this restriction did not further change anything to the design of the survey sample as it is still aimed to be as randomly drawn as possible.

The most usual and easiest way to create a sampling frame is by using a sampling frame in the form of a population list. However, there was no adequate population list available of the rural population in the selected study areas. Consequently, it was necessary to look for an alternative way of sampling that would provide the researcher with data which is reasonably representative and is statistically significant for a larger population. As solution for this problem, there is chosen to make use of aerial photographs. The GIS-centre of the NUR was able to provide adequate aerial photographs of the different rural cells.

By counting and numbering the roofs of the houses on the aerial photographs with the help of ArcGIS software a sampling frame arose. After the creation of this list of all households of the research population, a probability sample could be drawn. With a probability sample, every household of the research population has an equal (or known) chance of being included in the sample. Using the list, all the rural households in the different rural cells were numbered, and some numbers were randomly chosen as research cases by using the same ArcGIS program according to the calculated minimum sample size¹⁶. In order to get a rounded sample size a, 65 households are drawn from each selected cell.

Livelihood cluster analysis

With input from the household survey, a cluster analysis is performed to detect groupings in the data. Cluster analysis is a good tool to categorize cases in different groups because the researcher does not seek out group membership by himself but lets the computer calculate groupings. The only aspect that the researcher decides for himself is the number of groups in which all data must be divided but of course it is unknown how many cases and in what profile. SPSS provides two ways for profiling objects: Hierarchical Cluster Analysis and K-Means Cluster Analysis. For this study K-Means Cluster Analysis is applied, this method only clusters cases not variables, standardization in front is required and the number of clusters must be assigned. The benefit of K-Means is that it handles large problems better and cases can be assigned to new classifications with the distance to each cluster-centre. Initial clusters are formed with the cases closest to the centre and with the addition of new cases the computer recalculates in final cluster centres. The process continues until no further change occurs in the centres or the number of iterations are complete (SPSS, 1999).

¹⁶ To calculate the minimum sample size the formula of Alain Bouchard was used recommended at the NUR (02-03-2012) and derived from: [Mukamuganga, C., (2011), The role of SMEs in Rwanda from 1995-2010].

4.2.5 Qualitative part: Livelihood Trajectories

According to De Haan & Zoomers (2005) livelihood trajectories can best be depicted as: “unravelling a historical route through a labyrinth of rooms, with each room having several doors giving access to new livelihood opportunities; but the doors can be opened and the room of opportunities successfully entered only with the right key qualifications (De Haan & Zoomers 2005, p. 44).” Livelihood trajectories thus must be focused on issues of access to opportunities.

In-depth interviews are most appropriate tool for the livelihood trajectories because it includes open-ended questions that obtain depth of information from relatively few people. An in-depth interview is a open-ended method, which makes the interviewer able to intensely explore the respondent’s perspectives and feelings on a certain subject. This may result in rich background information (Guion et al., 2012).

For this research 12 interviews were conducted with respondents that are or were active in the migration flow of counter-urbanization. The interviews lasted around 40 minutes each, respondents were selected using a method of snowball-sampling in different research areas. Interviews were recorded but only with the respondents approval. Some indicated that they felt not comfortable to be recorded, these interviews rely on the memory and notes of the research. In some cases records were also found to be of bad quality because of background noise. Significant variables were used as starting questions. These were found through preliminary statistical analysis of the quantitative part earlier.

4.3 Limitations and reliability

4.3.1 Problems encountered in the field

During the first two days in the field it appeared that there were few households with migrant household members among the randomly selected households in the concerning cell. This was an unexpected setback which would have affected the whole research if there was not intervened. The main purpose of this study is to investigate the causes and flows of rural-urban migration. Consequently, the risk of the sample to have an insufficient number of households actively engaged into flows of rural-urban migration became formed a serious threat to the relevance of the results. On the basis of the interviews with the Executive Secretaries of the four different rural sectors the expectation was that at least 60 percent of the households included in the sample would be migrant sending households. This appeared not to be the case and might be due to a poorly representative sample, a concentration of migrant sending households in a specific geographical location or misinformation before. Thus far, only 30 percent of the randomly selected households namely proved to be involved in rural-urban migration.

In order to get a significant amount of migrant sending households in the sample, there was decided to set a minimum amount of at least 50 percent of migrant sending households per selected cell. Because of each cell appeared to have an amount of sending households below this minimum percentage, this decision resulted in two equal groups of households.

To select the additional households actively engaged in rural-urban migration in the field, the households most close concerning to the inadequate sampled-household were selected. As a result the type of sample changed in a non-proportional quota sample and was not random anymore. Quota sampling guarantees that the sample matches with the interest of the researcher in terms of specific characteristics, in this case households with and without migrants. The methodology is also very useful to acquire certain proportions of characteristics within the sample population, even if the numbers are not in proportion with the population. The latter was necessary in this research, because the proportions of stretched households in the population are not known.

To validate the differences between households the sample required two sufficient groups of households, those active in rural-urban migration and those that are not. Sufficient numbers within these groups enlarge the power to do statistical tests comparing households of each group in terms of the outcome variables (Morrow & Vargas 2007).

4.3.2 Main limitations of the research

Conducting research and analysis has some limitations that need to be acknowledged. No research is ever free of limitations, as there are different factors influencing the research itself and its results, hindering a feasible generalization of the outcomes. There are at least three restrictions which play a significant role in this research.

First of all, the research had to be conducted within a limited timeframe of three months, in which four different rural cells had to be investigated. Obviously, this prevented the research from being very thorough and in-depth. A second limitation is the fact that the research topic is fairly new in Rwanda, this limits the available information on migration in Rwanda. Mainly context-specific information, was sometimes difficult to gather. However the purpose of this research is merely to achieve and promote understanding of significance of studied aspects. A third restriction is the local language, which prevented a thorough understanding of the answers given by the respondents and also prevented the results from being optimal. The time and attempt it took to translate the questionnaires, interviews and answers could also be used in other ways. The same applies for the conducted interviews which could not be done without the intervention of translators. As a result, some information might be lost due to the barrier of speaking different languages.

4.3.3 Reliability of results

In addition to the restrictions of the research, there are other factors that play a role in preventing the results from being directly representative for a wider population. These factors might have affected the reliability of the research outcomes; research results can only be considered as reliable when they are collected by using a random sample (Binns 2006). First, because of the limited amount of rural households that are visited during the fieldwork there is the issue of representation.

In comparison with the total number of rural households in the Kigali-region the sample size of the research seems too small to really represent all rural households in the Kigali-region. This may form an obstruction in the making of generalizations about rural-urban migration-related issues for the whole region, especially since the representativeness of the sample could not be tested statistically.

On the one hand, power relations and their possible impact have to be taken into account. The researcher has to pay attention to the fact that every foreign development worker is in a power position (Binns, 2006). Being a western student in rural Sub-Saharan Africa, it is possible that some respondents have a suspicious attitude and are not willing to cooperate on a voluntary basis. For example, some respondents expected a reward to the participation of the research or were under the assumption that they could get support from a development organization. These wrong suppositions could lead to unreliable and 'desired' answers and the relationship between respondent and researcher could be altered by the assumptions. As such, the research assistants had to carefully explain the purposes of the research.

On the other hand, respondents may tend give answers they think the researcher would like to hear from them. In some cultures it is usual to give an ambivalent rather than a negative answer. It cannot be foreseen how many and which respondents are prone to give improper answers. Especially questions related to financial income may be biased. While the questionnaires were being conducted there were usually many people that heard about it and came to watch, lining up outside or inside the respondents house. Consequently, the concerning respondents were sometimes afraid to answer without reservation. The solution for this problem was to ensure that spectators kept healthy distance during the conduction of each questionnaire so the respondent would not be distracted by these bystanders. In some cases the research assistant would reformulate sensitive topics in other words or try ask about such issues in another more private setting.

5. Rural livelihoods and poverty classifications

5.1 Introduction to the rural-based household

5.1.1 Household poverty classification

This chapter answers the first sub-question to provide insight in livelihoods in the Kigali-region:

- *What is the livelihood of rural households in the Kigali-region and how do these livelihoods compare with their poverty classification?*

The household poverty classification the question is based on the official Ubudehe status designed by the Rwandese government for large-scale monitoring surveys. The poverty classification of a household is also used to determine the contribution of the household to get access to basic health, education and social insurances. Rwanda's Ubudehe is a grass-root up approach, that means that communities are recognized to be capable of defining their own problems, priorities and solutions (Wangwe, 2002). Every household in Rwanda has been classified into six official poverty categories ranging from 'extremely poor' to 'money rich'. For this study, the upper three categories are combined together in a household category of better-off households. The middle category is made out of poor households and poorest households are also combined in extremely poor and very poor households, see table 4 for a short description.

Table 4: Summary Ubudehe classification and household poverty classification

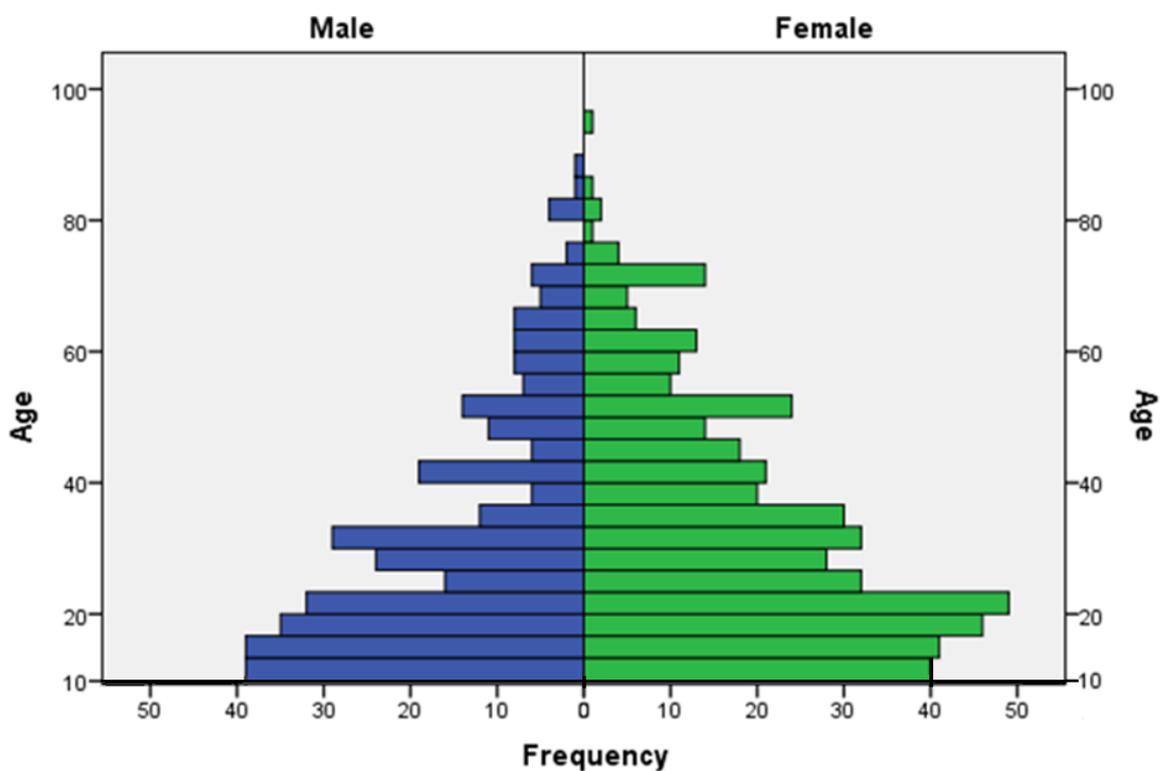
Official poverty status	Short description	Household poverty classification in this study
1. Those in extreme poverty	Beg to survive, no land or livestock. Lack of basic needs. Children are malnourished and do not attend school.	1. Extremely poor and very poor households
2. The very poor	Same as 1 but physically capable to work as hired labourers.	
3. The poor	Own land and housing. They have no savings but they can eat and live from their own cultivation.	2. Poor households
4. The resourceful poor	Same as 3 but may have small remnants and their children go to primary school.	3. Better-off households
5. The food rich	Larger landholdings on fertile soil. Own livestock, often have paid jobs.	
6. The money rich	Own land, livestock and often salaried jobs. Good housing and good financial capabilities.	

Source: Kettlewell (2010)

Figure 11 shows the total population pyramid of the sampled areas. To simplify the questionnaire, questions were asked about the total number of people living in one household. The precise age of household members below ten years old is not recorded. In Rwanda's traditional culture people don't count their years or celebrate birth days, many elder Rwandese had no idea how old they were but a estimation of their year of birth could be derived from their identification papers. It is noticeable that in the population pyramid woman are overrepresented in certain age groups. Most absent man in rural households are the consequence of genocide, they were killed or are imprisoned for crimes they committed in the past.

The pyramids wide base in comparison with its narrow top suggest a large proportion of young people, characteristic for developing countries. The narrow top of the pyramid represent the relative small proportion of elderly. The age category of 24 to 30 years old also form a relatively smaller group. This is the age that Rwandese are expected to take care of themselves, so they enter into marriage, move to another place to get hold of land or they migrate to urban areas to find employment.

Figure 11: Population pyramid of sampled area [n = 795]



5.1.3 Main and secondary occupations

Cultivating crops to provide for your own need is one of the first priorities in the rural areas. This is visible in table 5, where the main and second occupation is shown. People working in agricultural activities own land but also work on a plantation, hire themselves as labourer or hire land from others to cultivate in an informal agreement.

Some significant differences are found between the research areas; In Nyagasambu only 48% of the households have agriculture as main occupation, instead more people are active in services and trade in that area. Gakamba is of all areas the most agricultural, with 75.8% of the household working in agriculture as main occupation. Ngoma and Rubona both approximate the average of 61% of the people above ten engaged in agriculture as their main occupation.

Besides agricultural activities, about 26% of all people from the age of ten have education as main occupation. In Rwanda, education is obligated by law from the age of seven. And most children are able to complete their primary education, a normal curriculum takes six years. Besides their education children are expected to perform small tasks in the household, fetching water, looking after younger family members and collecting fire wood. In Gakamba significantly less people are active in education (17%). Rubona has the highest number of people that are undergoing an education (32.7%) closely followed by Nyagasambu (31.6%). Remainder main occupations are construction, mining or state-employed, including people working as nurse, teacher or as administrative worker. The unemployment in main occupations is very low with 3.1%, including physically disabled and woman nurturing children of young age.

Table 5: General main and secondary occupation and research areas

Main occupation			Secondary Occupation		
Occupation	N	%	Occupation	n	%
Agriculture*	487	61,3	Agriculture	25	3,1
Husbandry	0	0	Husbandry***	209	26,3
Hired in Agriculture	0	0	Hired in Agriculture	31	3,9
Livestock kept for others	0	0	Livestock kept for others*	54	6,8
Trade, services*	25	3,1	Trade, services	21	2,6
State-employed	12	1,5	State-employed	0	0
Construction, mining ¹⁷	9	1,1	Construction, mining	24	3,0
Student (and other)*	237	29,8	Student or other	11	1,4
Unemployed	25	3,1	Unemployed*	420	52,8
Total	795	100,0	Total	795	100,0

* 1% Significance, relation between research area and main occupation: Pearson Chi-Square [n = 795]; Agriculture; 32.161, P < 0.000 and Cramer's V; 0.201; Service, trade; 24.812, P < 0.000 and Cramer's V; 0.177; Student or other; 15.335, P < 0.002 and Cramer's V; 0.139, relation between second occupation: Livestock kept for others; 30.018, P < 0.000 and Cramer's V; 0.194; Unemployed; 15.716, P < 0.001 and Cramer's V; 0.141.

*** 10% Significance, relation between husbandry as second occupation and research area: Pearson Chi-Square [n = 795]; 6.447, P < 0.092 and Cramer's V; 0.090.

¹⁷ n is too small to run tests for significance.

Unlike low employment in the main occupation, unemployment in the second occupation is very high with 52.8%. This can also be explained by two reasons: First, 26% has education as main occupation and most are expected to go to school, they are not allowed to work. Another explanation is that more people find secondary employment as hired labourers during high labouring seasons. This sample is taken outside harvest seasons just before the long rainy season, a time of sowing of crops and waiting for rains. The highest unemployment is found in Rubona (62.9%), the lowest in Nyagasambu (44.8%). There are also differences in husbandry and livestock kept for others. The latter does almost not appear in Nyagasambu (1%) and Ngoma (3.7%). At the same time in Ngoma husbandry is the most found second occupation with (30.5%).

Quotation box 1: "I was received well here, I found a wife and have now children. First, I worked a year as a hired labourer then I found the opportunity to buy my own land to cultivate. It is enough to sustain but I don't want to buy any more because it is not productive. I also bought new livestock and am satisfied with I have after three years."
[Now farmer, forced out of the city three years ago]

Gender differences in occupation

For the main occupation significant differences between gender are found in agriculture, trade and services and unemployment. Men are more engaged in non-agricultural activities such as trade and services. Women are assumed to take responsibility for the children and work on the land near the house. Within the public sector there are little differences as a consequence of government gender policies. In the second occupation men work in construction and mining, an overview of male and female occupations is shown in table 6.

Table 6: Division of male and female main and secondary occupation

Main Occupation			Secondary Occupation		
Occupation	%Male	%Female	Occupation	%Male	%Female
Agriculture**	57,2	64,1	Agriculture	3,0	3,2
Husbandry	0	0	Husbandry	23,8	28,1
Hired in Agriculture	0	0	Hired in Agriculture	3,0	4,5
Livestock kept for others	0	0	Livestock kept for others	5,7	7,6
Trade, services**	4,8	1,9	Trade, services	2,7	2,6
State-employed	1,8	1,3	State-employed	0	0
Construction, mining ²	2,4	0,2	Construction, mining*	7,2	0
Student or other	32,3	28,1	Student or other ¹⁸	2,1	0,9
Unemployed**	1,5	4,3	Unemployed	52,4	53,1
Total	100	100	Total	100	100

* 1% Significance, relation between construction, mining as second occupation and gender: Pearson Chi-Square [n = 795]; 34.512, P < 0.000 and Phi; 0.208.

** 5% Significance, relation between gender and occupation: Pearson Chi-Square [n = 795]; Agriculture: 3.899, P < 0.048 and Phi; -0.070; Trade, services: 5.249, P < 0.022 and Phi; 0.081; Unemployed: 5.026, P < 0.025 and Phi; -0.080.

¹⁸ n is too small to run tests for significance.

5.2 Natural Capital

5.2.1 Ownership of land

In total 235 households (90.4%) own some land, 25 households (9.6%) did not. A relation is found between poverty classification and the ownership of land¹⁹ where most poor households are landless. To own no or very little land means to be dependent. Households have to rent land to cultivate or buy food on the market with high and fluctuating food prices. Consequently, they are unable to produce crops to sell products on the market. Land can also serve as a building plot and life insurance. Even if households are unable to cultivate their own land they land rights and could chose to hire workers or rent their land to make it more productive.

Quotation box 2: "Owning your land is better because when you rent land from other people sometimes they can throw you off the land. But when you have your own land you can even use fertilizers. You can manage you're land as you want, you cannot do that when you rent land from other people. Renting land for one farming season costs me 12.000 RwF." [Landless farmer, formerly living in Kigali]

Extreme and very poor households have on average the largest amount of land and poor households the least²⁰. Poorest households have 1.3 acres of land, poor households 1.0 acres and better-off households 1.2 acres²¹. So the poverty classifications does not confirm that poorest households are most landless and have smallest plots of land. Then again, quality and rate of land erosion may have great impact on production value. Since both are not included in this study their possible impact should be taken into account.

Access to water

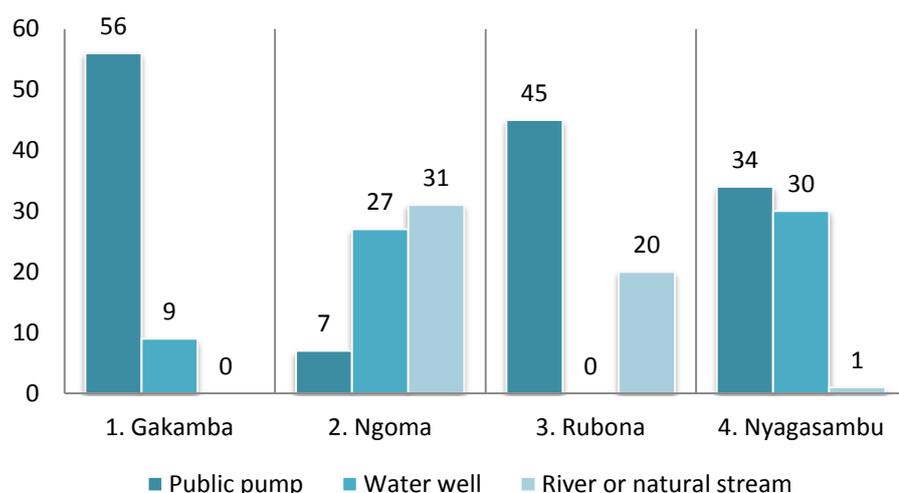
Water is freely available in rural areas (which is a big difference with urban areas). Three sources of water are identified, households fetch water from: "Public pumps, water wells, flowing river or natural streams." Access to a particular water source depends more on local circumstances rather than poverty classification of the household. For instance, Gakamba has no natural stream but through Rubona a large river flows with lots of natural streams but there is no water-well available. In Nyagasambu and Ngoma different water sources are available but the use sources is very different. Some water sources may be more in danger of pollution than others and therefore access to clean drinking water is also very different from place to place. It is certain that the household poverty classification gives no indication of the access to clean drinking water, the sources of water for different areas are displayed in figure 12 on the next page.

¹⁹ Relation between owning land and poverty classification: Kruskal-Wallis Test [n = 260]; 10.374, P < 0.006.

²⁰ Relation between size of land and poverty classification: Kruskal Wallis Test [n = 260]; 7.719, P < 0.021.

²¹ Means are taken with a 5% trim, leaving outliers out of the calculation.

Figure 12: Source of water for different research areas*



* Relation between research area and source of drinking water: Pearson Chi-Square [n = 260]: 127.730, P < 0.000 and Cramer's V: 0.469.

5.2.3 Ownership of livestock

Like land livestock is an important natural capital and can serve as insurance strategy. Livestock can be sold, traded or consumed. In Rwandan culture, especially cows represent wealth and status-quo to the household. However, in-depth interviews revealed that some households don't feel comfortable to take care of live animals. Owning livestock means to have someone in charge, you have to know where to keep it and how to feed it. Households that freely prefer not to own livestock are most likely better-off households less dependent on agricultural activities.

Quotation box 3: "I own no livestock but I can buy livestock if wish. Still, I prefer not to buy any because I'm not comfortable with it. You have to have a big land to keep them and someone with livestock has to have the capabilities to manage them"
[Metal-worker with own business]

A relation is found between poverty classification and the ownership of any livestock in the household. The majority of households own livestock but a closer look reveals that the extreme and very poor households own most often no livestock (49.2%) compared to the poor (30.2%) and better-off households (18.1%). The household poverty classification thus aligns as more poorer households own no livestock at all and most better-off households own livestock. Some households take care of livestock of others as secondary occupation but they do not own the livestock themselves. In that case an informal agreement is made between the two parties. A common agreement is that the first calf of a cow is to be kept by the care-taking family, or the family shares in profit and natural products of the livestock. Households that look after the livestock of others are poor and don't own their own livestock²².

²² Relation between poverty classification-, owning livestock and looking after livestock of others [n=260]: Kruskal-Wallis Test; 4.553, P < 0.033; 4.553, P < 0.082.

Type of livestock

The most common kind of livestock are goats followed by chicken and cow. A few households also held pigs and only a very few sheep. Under other animals, bee-keeping, rabbits and rats are recorded. When larger animals are compared, there is a clear relationship with the total livestock and the household poverty classification²³. The household poverty classification confirms that richer households have more livestock and poorer household have a smaller livestock. Against common believe, households in the eastern province (Nyagasambu, Gakamba) did not held more livestock than other places. Livestock differences in Nysagasambu are explained by more better-off households in that area and in Gakamba a Muslim minority reduces the consumption of pork. Beef and goats are the mostly consumed for their meat, this preference that is culturally determined. A detailed record of the livestock staple is displayed in table 7.

Table 7: Total livestock staple divided by the four research areas

Livestock	Research area							
	Gakamba	%	Ngoma	%	Rubona	%	Nyagasambu	%
Chicken	45	26,6	64	30,0	68	30,6	70	31,1
Goats**	41	24,3	60	28,2	60	27,0	101	44,9
Pigs**	1	0,6	12	5,6	12	5,4	12	5,3
Cows	42	24,9	47	22,1	54	24,3	55	24,4
Sheep	0	0,0	2	0,9	3	1,4	5	2,2
Other	1	0,6	11	5,2	26	11,7	35	15,6
Total	169	100	213	100	222	100	225	100

**5% Significance, relation between pigs- [n = 37], goats [n = 188] and area: Kruskal Wallis Test; 9.616, P < 0.022; 9.626, P < 0.022.

5.2.4 Natural capital and poverty classification

Natural capital of a household is examined by five different indicators. The household poverty classification does align with only two of these indicators, namely; ownership of livestock and total size of large livestock. Especially a large livestock is more characteristic for better-off households. These households have better access to natural fertilizers to improve the production of the land. In-depth interviews revealed that it is also possible that households do not feel comfortable to hold livestock of their own because of the many responsibilities and implications attached. Also poor households that don't own livestock of themselves can take care of livestock for others in an informal agreement.

²³ Relation between total number type of 'large' livestock and poverty class: Kruksal Wallis Test [n = 260]; 40.525, P < 0.000.

Ownership of land and land size do not align with the household poverty classification. Significant differences are found between household classifications but these do not follow the distribution from extreme and very poor households to better-off households. Instead, poor households have least ownership of land and land size in acres. However, the impact of land erosion, land quality and cultivated crops are not included in this research so caution must be taken to assume that extreme and very poor households automatically have better access to land compared to poor households. It is certain that in access to water the household poverty classification does not play a significant role as all households have freely access to different water sources. The access to clean drinking water may vary but depends on local circumstances not on household poverty classification. More details on the distribution of households and the six natural capital indicators are found in table 8.

Table 8: Natural capital and household poverty classification

Natural Capital	Extreme and very poor		Poor		Better-off	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Ownership of land	56	94.9	109	84.5	70	97.2
Land size in acres	1.3	-	1.0	-	1.2	
Access to water	59	100	129	100	72	100
Market production*	7	12.5	40	36.7	43	61.4
Ownership of livestock*	30	50.8	90	69.8	59	81.9
Total large livestock*	1.3	-	2.6	-	4.8	-

* Aligns with household poverty classification with 99% reliability.

5.3 Physical Capital

5.3.1 Access to electricity and kitchen

Electricity is important because it provides lightning without the use of fossil fuels, therefore there is no danger of open fire and harmful fumes. Most rural areas in Rwanda have no access to electricity because the largely undeveloped electricity provision. Houses with access to electricity are mostly alongside the road where larger electricity pylons run between urbanised areas. Another problem are electricity failures which may take minutes to a few days to restore (for safety reasons electricity supply towards Kigali is prioritized).

In total, 35 households had access to electricity. Most lived in Nyagasambu (29) but there were also some households in Gakamba (4) and Ngoma (2). The Rubona cell is not at all connected to the electricity network because of its remote location, far from the road and in the mountainous northern part from Kigali. Access to electricity is for now largely place dependent.

However, over the whole population a relationship is found between poverty classification and access to electricity²⁴. Extreme and very poor have the least households have the least access to electricity (5.1%), poor households follow (11.6%) and better-off households have the best access to electricity (23.6%).

Available kitchen

When households don't have a kitchen they have to cook in the open air or inside the house. Almost all households in Rwanda use firewood or charcoal as fuel producing fumes and smoke negatively impacting the health of the household. A relation is found between households that have a kitchen available in their house and the poverty classification²⁵. The priority of a kitchen in the household is shown by the high number of better-off households (94.4%) that have build a separate room for cooking. Also the majority of poor households have a kitchen available (66.7%) but a minority of extreme and very poor households are able to afford such an investment (40.7%).

5.3.2 Valuable physical assets

Four physical assets are indentified as important indicators of a households physical wealth in goods: "a radio, a phone without internet, a phone with internet and a bicycle." Communication devices are important for sharing information and therefore a phone with internet is distinctly better to get more access to information compared to a phone without internet. Besides entertainment, a radio can also be used to transmit information over a wider population. Bicycles are used to transport people and goods to market places, public buildings or other short distances. For longer distances people make use of public transport on the road, motorized private transport is a luxury only one household could afford.

Each different asset has a significant relationship with the poverty classification of the household, to enable easier comparison of the total physical assets between households the four assets are accumulated in a total value asset score. For each asset that the household possess they get one point. So the highest possible score is five, the lowest possible score is zero. The mean score of all households is 1.54 but there is as expected an significant relationship between poverty classification and total value asset score²⁶. Extreme and very poor households scored on average 0.73 points, households in poor household category scored 1.60 and better-off households scored the highest points with a mean of 2.38. Especially access to internet by phone is a physical asset reserved for better-off households.

²⁴ Relation between access to electricity and poverty classification; Kruskal-Wallis Test [n = 260]; 10.253, P < 0.006.

²⁵ Relation between kitchen and poverty classification; Kruskal-Wallis Test [n = 260]; 43.629, P < 0.000.

²⁶ Relation between value of physical assets and poverty class; Kruksal Wallis Test [n = 260]; 71.538, P < 0.001.

But there are also differences between research areas, shown in table 9. In Nyagasambu most households with access to internet are found. The higher number of people involved in trade and services in that area explains this difference, especially for traders information is very valuable.

Table 9: Household value assets and research areas

Asset	Gakamba	Ngoma	Rubona	Nyagasambu	Total
Radio***	46	42	41	53	182
Phone without internet	27	36	34	31	132
Phone with internet*	0	3	1	16	20
Bicycle*	38	8	6	11	63
Mean score*	1.88	1.24	1.25	1.75	1.54

* 1% Significance: Relation between value assets and area: Kruskal-Wallis Test [n = 260]; phone with internet; 35.929, P < 0.000; bicycle; 56.157, P < 0.000.

*** 10% Significance: Relation between radio and area: Kruskal-Wallis Test [n = 260]; 6.495, P < 0.090.

In Gakamba most households own a bicycle resulting in the highest score on physical assets. The relative plain landscape of the area explains this difference. In more mountainous areas it makes no sense to use a bicycle, especially where roads are small and only walkways for pedestrians. Photo 1 shows steep mountainous paths in the Rubona cell.

Photo 1: Mountain paths in Rubona cell



5.3.3 Physical capital and poverty classification

Physical capital of a household is examined by three indicators. First, the access to electricity is important because it makes lightning possible without any danger or harmful fumes. Access to electricity is partially place specific because not all areas have a good connection to the electricity network. In Rubona not one household had access to electricity, most households with this capability are found in Nyagasambu. All together, better-off household have significant more access to electricity followed by poor and extreme and very poor households. The availability of a kitchen follows the same distribution confirming the correctness of the poverty classification on both indicators. Having a kitchen in the house is very important for the health of the household. Almost all better-off households have a kitchen available. The majority of poor households also have a kitchen but the majority of extreme and very poor households lack this capability.

Finally, the presence of four different material assets in the household give some indication of the purchasing power of the household. Having a radio, a phone without internet, a phone with internet or a bicycle in the household adds one point to the total value asset score. This way some indication of the physical assets in the household can be given. All four assets follow the poverty classification indication from extreme and very poor with the lowest score to better-off households with the highest score. A phone with internet is most found in Nyagasambu, where also more people are active in trade and services. Bicycles are more found in Gakamba, the relatively plain landscape explains the good use a bike in that area. In conclusion, the official poverty classification of a household aligns with the physical capabilities as part of their livelihood. Table 10 shows significant variables for physical capital and household poverty classification.

Table 10: Physical capital and household poverty classification

Physical Capital	Extreme and very poor		Poor		Better-off	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Access to electricity*	3	5.1	15	11.6	16	23.6
Available kitchen *	24	40.7	86	66.7	68	94.4
Value asset points*:	0.73	-	1.55	-	2.18	-
- Radio	22	37.3	95	73.6	65	90.3
- Phone without internet	14	25.4	69	53.5	48	66.7
- Phone with internet	0	0	6	4.7	14	19.7
- Bicycle	4	6.8	30	23.3	39	40.3

* Aligns with household poverty classification with 99% reliability.

5.4 Financial Capital

5.4.1 Sources of income

Financial capital is measured through an indication of the different income sources of households. Financial income is difficult to validate because people may boast about their income or find it difficult to estimate how much they earn because their income isn't fixed. Nevertheless, significant differences are found between the total income of households poverty classification²⁷. With outliers excluded, extremely poor and very poor households have an income of 8.500 RwF per month. Poor households have an income of 16.850 RwF and better-off households have an income of 53.900 RwF per month. With foreign currency exchange rates of 600 Rwandese Francs for 1 US\$, extreme and very poor households earn 14.17 US\$ per month, poor households 28.08 US\$ and better-off households have an income of 89.83 US\$ per month. So with almost 3\$ a day only better-off households reach above the 1 US\$ a day poverty line. Most of these higher incomes are found in Nyagasambu where households get more income comes from agriculture, husbandry and own business enterprises²⁸.

Households derive income through different sources like: "Agriculture, husbandry, wage-labour, their own business enterprises, remittances and other sources like small handicrafts or rent of land. Besides some of the poorest household also received some income from charity from the community, NGO's or the government. Details can be found in table 11.

Table 11: Sources of income and household poverty classification

	Extreme and very poor		Poor		Better-off	
	RwF	%	RwF	%	RwF	%
Agriculture**	5.081,36	38,4	5.099,61	28,	16.501,27	29,3
Husbandry*	457,63	3,5	1.178,29	6,5	5.600,00	9,9
Wage-labour	5.118,64	38,7	5.755,81	31,	17.607,59	31,3
Own business enterprise**	1.711,86	12,9	2.496,12	13,	8.670,89	15,4
Remittances	722,03	5,5	3.710,02	20,	7.937,97	14,1
Handicraft, rent, other	135,59	1,0	0,00	0,0	0,00	0,0
Total*	13227,12	100,0	18.239,87	100	56.317,72	100,0
Total with 5% trim and	8.500	-	16.850	-	53.900	-

* 1% Significance: Relation between relative income from husbandry, total income and household poverty classification: Kruskal Wallis Test [n = 260]; 21.259, P < 0.000; 56.539, P < 0.000.

** 5% Significance: Relation between relative income from agriculture-, business enterprise and poverty classification: Kruksal Wallis Test [n = 259]; 6.634, P < 0.036; 6.462, P < 0.040.

²⁷ Relation between household poverty class and total income: Kruskal Wallis Test [n = 260]; 56.539, P < 0.000.

²⁸ Relation between financial capital and research area: Kruskal Wallis Test [n= 260]; income; 23.963, P < 0.000; agriculture; 23.775, P < 0.000; business enterprise; 8.026, P < 0.045; 7.610, P < 0.055.

5.4.2 Income from remittances

In this study remittances are an important source of income because it tells something on the importance of rural-urban migration for the rural-based households. Remittances can be sent in the form of money by migrants but also from family or friends living elsewhere. Mobile networks and mobile banking are important in current remittances flows because it makes sending money more easier and reliable. However, remittances are not always sent in the form of money but also in the form of food (oil, rice, beans) or goods (school supplies and clothes). Smit (2012) is focusing on the importance of remittances and the livelihood of households in Rwanda. He concludes that remittances sent from rural-urban migration have a positive impact on rural areas. Remittances not only increase financial capabilities but rural-urban migration may also increase the importance of wage-labour in rural areas. But there are also concerns that income differences between poorest and better-off households will increase negatively because better-off households gain the most from remittances sent by migrants.

Indepth-interviews suggest that the motivation to migrate has an important influence on the amount of remittances sent. For instance, one migrant was moving to Kigali to search for fiancnes to continue better education. When the migrant found it too hard to increase financial capabilities the decision was made to return to the rural area. But not only did migrant felt that there was not enough money to sent back remittances but the priority to increase financial capabilities are to continue education and not sent back remittances.

Quotation box 4: "I didn't sent any remittances to my family when I was living in Kigali because I felt that the money I made in one year was not enough to support them. (..) I prefer first to find financial sources to continue my study in Kigali. But because life is changing I don't know when I can go back."
[Former migrant living in the rural area]

5.4.2 Financial capital and poverty classification

The household poverty classification reflects the amount of income between different households with 99% reliability. Extreme and very poor households have only a small income, poor households twice as much and better-off household earn clearly the most income. Absolute income differences are found in every source of income. Relative income differences are found in income from agriculture, husbandry and business enterprises. Extreme and very poor households depend the most on agriculture for their total income. The share of income from husbandry and own business enterprises are also different for each household classification. Better-off households earn the most relative income from these sources, extreme and very poor households the least. In conclusion, the household poverty classification aligns with the financial capabilities of a household but financial capabilities of a household is not only motivated by a pure rational economic decision. Households from Nyagasambu receive more income compared to other households.

5.5 Human Capital

5.5.1 Human capital and access to education

Human capital refers to the knowledge and skills of household members. Education starts with primary school and in Rwanda is obliged from the age of seven years old. A normal education takes 6 years to complete, above average scoring students attend a curriculum that takes 8 years to complete. Human capital in terms of education in Rwanda improved much over the past decade, household members under the age of 25 years old are more educated and have better access to educational facilities compared to household members above 25 years old. In the past male attendance in schools was also higher but now gender differences are also improved, boys and girls attend classes in primary school without a problem. However, education from secondary school and higher is more challenging. The household poverty classification is influencing the chances of completing higher education. Human capital and the household poverty classification share a clear relationship²⁹.

Other variables that explain differences in human capital are the household size³⁰, a larger household reduces the chances of a good education. Access to education are higher costs of education fees, school materials, uniforms and basic needs. In-depth interviews revealed that a big family can be a real burden to a poor household because it is very difficult to give them all equal chances to a good education.

Quotation box 5: "My family 's big size is a burden to me because I cannot find many resources to support them. I think that my children will not be able to finish school because my finances are limited to support them to go and study." [Poor farmer. father of eight]

5.5.2 Differences between research areas

Most human capital is found in Nyagasambu followed by Rubona, Ngoma and Gakamba. Differences can be explained by the household poverty classification, size of household but also differences in educational fees and quality of education.

In-depth-interviews revealed that some households moved to Nyagasambu because they were attracted by low educational fees. These households fear that if educational fees go up with the development they will have more difficulty sending their children to school.

Quotation box 6: "The major problem I had in Kigali were the high fees for education while the educational fees in this place are for free. Because development that started here they might also start to ask for education fees here but they will still not be as high as in Kigali. I live here with my wife, 3 children and 1 child we take care off. I have not yet found other work besides cultivating my own land. [Household that moved out of Kigali to Nvaasambu]

²⁹ Relation between human capital and poverty classification: Kruskal Wallis Test [n = 795]; Years of Education; 41.234, P < 0.000, Education; 27.798, P < 0.000, Literacy Status; 24.006, P < 0.000.

³⁰ Relation between human capital and size of the household: Kruskal Wallis Test [n = 260]; literacy status; 29.513, P < 0.03; Education; 20.341, P < 0.061.

Differences between research areas are especially found in the completion of primary and secondary education. As the level of education goes up, from primary to secondary education, many students stop attending classes. In Nyagasambu, 17.8% of all household members followed secondary education for at least three years or more, 9.9% thus far completed secondary or higher education. There is much improvement to be gained in enrolment of secondary and higher education. More details of different research areas are found in table 12.

Table 12: Human capital, four research areas compared

Level of Education*	Gakamba		Ngoma		Rubona		Nyagasambu	
	n	%	n	%	n	%	n	%
No education	45	23,2%	44	23,5%	37	17,5%	31	15,3%
Primary at least 3 years	45	23,2%	41	21,9%	68	32,1%	41	20,3%
Primary complete	81	41,8%	75	40,1%	71	33,5%	75	37,1%
Secondary at least 3 years	13	6,7%	17	9,1%	23	10,8%	35	17,3%
Secondary and higher	10	5,2%	10	5,3%	13	6,1%	20	9,9%
Years of Education*	4,52		4,61		4,84		5,82	

* 1% Significance: Relation between research area, level of education and years of education: Kruskal-Wallis Test [n = 795]; 14.285, P < 0.003; 16.010, P < 0.001.

** 5% Significance: Relation between research area and literacy status: Kruskal-Wallis Test [n = 795]; 8.034, P < 0.045.

5.5.3 Human capital and poverty classification

Human capital and the household poverty classification share a clear relationship with each other. Poorer households have more difficulties not only to afford educational fees but also school materials, uniforms. Besides the household size has an influence on the human capital of a household, of course a larger household also adds to the potential labour force of a household but at the same time it reduces the chances to better education. Especially enrolment in secondary and higher education is expensive. If the education fees go up, poor households with a large household size will be the first to have problems in access to education. Table 13 shows significant variables for human capital and household poverty classification.

Table 13: Human capital and poverty classification

Human Capital	Extreme and very poor	Poor	Better-off
Literacy status* (3 = read and write)	2.18	2.67	2.81
Level of education* (3 = primary completed)	2.07	2.54	2.78
Total years of education*	3.20	4.67	6.26

* Aligns with household poverty classification with 99% reliability.

5.6 Social Capital

5.6.1 Social capital in the rural areas

Social capital comes down to the people you know and the people who know you. It is difficult to measure social capital in statistics but out of the in-depth interviews it's clear that it does play an important role in the livelihood of households. It is important to know your way in the rural community because life is in many ways compiled of informal agreements, information and norms. Though people that moved from Kigali to the rural areas indicated that they felt heartily welcomed by their new neighbours in the rural, they also indicated that they found it difficult to get involved and understand the social community of their new homestead. Life in the city is much faster and social capital is differs from what they were used to.

Quotation box 7: "The disadvantage in moving from the city to the rural is that people sometimes don't get familiar with the way of life in the rural. This is why it can be very difficult to find a job because you don't know anyone and you don't know how things work. In the rural it is very important to know your neighbours. [Household that moved out of Kigali to Nyagasambu]"

5.6.2 Living with HIV/AIDS

One clear impact on the access to social capital is contamination with AIDS. People contaminated with this virus are likely to be excluded and separated from social groups and social life. Besides, keeping an household member with AIDS means an extra burden to the household because of the dependency on other household members. When people become HIV positive, not only do they need special medication but also extra food to strengthen their attacked immune system. Because of their weak physical status, they can no longer carry the physical workload of a normal healthy member of the household.

From the in-depth interviews, two people with AIDS were encountered. One woman keeps her sickness a guarded secret. She would tell her story only in the absence of others out of fear of being excluded and mistreated with a lowered status. She feels that people in the city have no problem with HIV/AIDS but in the rural areas people act differently out of fear to get contaminated also.

Quotation box 8: "I have not told the people here that I am is suffering HIV, if I would tell they would be start to avoiding me, start to blaming me and not being socialized with me. Living with HIV is more difficult in the rural. I got contaminated in 1986 and lived for more than 25 years. I lost one of my children born with HIV at the age of 13.

But my other boy living in Kigali is not contaminated with HIV and that is a miracle from God. When I was in Kigali I could tell other people that I was thanking God that I am still alive and that my second son is not going to die but here people are not familiar with people contaminated with HIV. So that's why I became frightened. It's not the case that people in the city knew about her situation that she felt she had to leave but here people don't know." [Widow suffering from AIDS]"

A second interview is held with a man positively infected with HIV three years ago, when his wife found out she left him and took all his children to live a separate from him. In his case everybody in this surroundings are known with his illness. The man approached us himself because he sought someone to talk to. Others stood by laughing at him, pointing fingers, blaming him for problems of poverty and sickness.

Quotation box 9: "After 3 years I was positively infected with HIV and though my wife was safe, she then left me and took the children to live somewhere else because she felt I could no longer support me. She took all the furniture and everything in the house. After this happened life became very bad. I now live apart from my family but I have still contact with them. I support my 5 children by sending them food I cultivate. People know that I suffer from HIV and with some of them I live in peace. Some are always blaming me, saying bad things about me. Some of them I am in conflict, especially my wife. Some people don't even approach me, I am living apart as a caste-away. People feel my disease is very bad, they are afraid they get contaminated."
[Man suffering from AIDS]

5.6.1 Social capital and poverty classification

It is not possible to compare household poverty classification and social capital because social capital is a very ambiguous concept. In case of serious illness, mental or physical handicap from birth it is possible that household members feel useless to the community and therefore chose to leave the household without notice. In Kigali there are many beggars in the centre and the main bus park trying to survive because they are unable to get employment. Social capital is important for extreme, very poor, poor and better-off households but is difficult to say that one household gained more favour in a community compared to others. Social capital is also about having friends, the role of the family and maybe some good fortune in making a living. Indigenous minorities of Twa and albinos are known to be socially marginalised in Rwanda but none of these groups are included in the area where research is conducted. Photo 2 is a picture of Twa people, they make a livelihood out of pottery. Originally they live of the land as hunters and gatherers but modernisation has no room for this way of living any more.

Photo 2: Twa presenting pottery craftsmanship of his culture

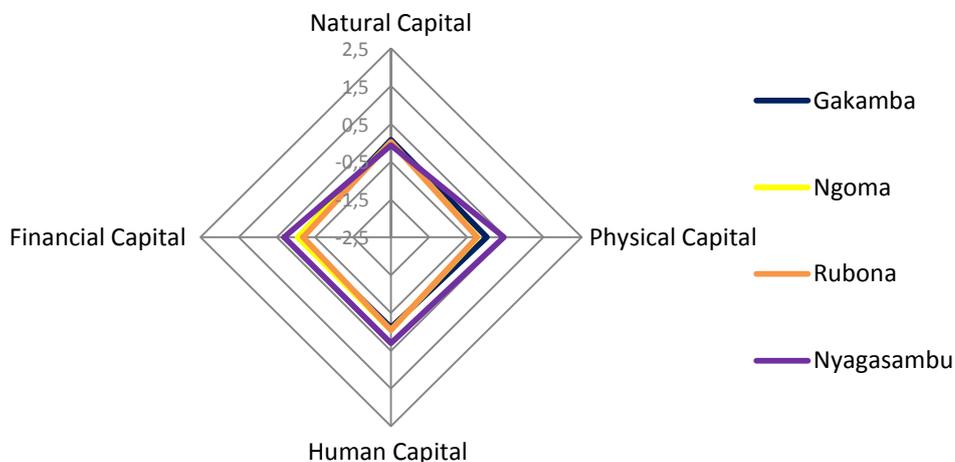


5.7 Conclusion

The question leading this chapter is: *“What are the livelihood characteristics of rural households in the Kigali-region and how do these livelihoods compare with their poverty status?”* Before answering this question, the four research areas are reviewed.

First, the population in rural areas is relatively young with a broad base at the population pyramid and there are more man compared to woman, female-headed households are not unusual. Second, there is a small difference between genders. Woman are more active in agriculture and take care of young children. Man are more engaged in trade and services, construction and mining. Third, the research areas show some differences but these are relatively small. More financial, human can physical capital are found in Nyagasambu but less natural capital. In Gakamba there is more physical capital but this can be explained by the use of bicycles in that area. But on a scale from minimum -2.5 to maximum 2.5 the livelihood capitals between research areas are not so big, see figure 13. The values of this chart are based on standardization of each measurement discussed in this chapter. Social capabilities are not included because it is very difficult to take statistical measurements for comparison for this livelihood aspect.

Figure 13: Livelihood capitals and research areas



Poverty classification and livelihood capitals

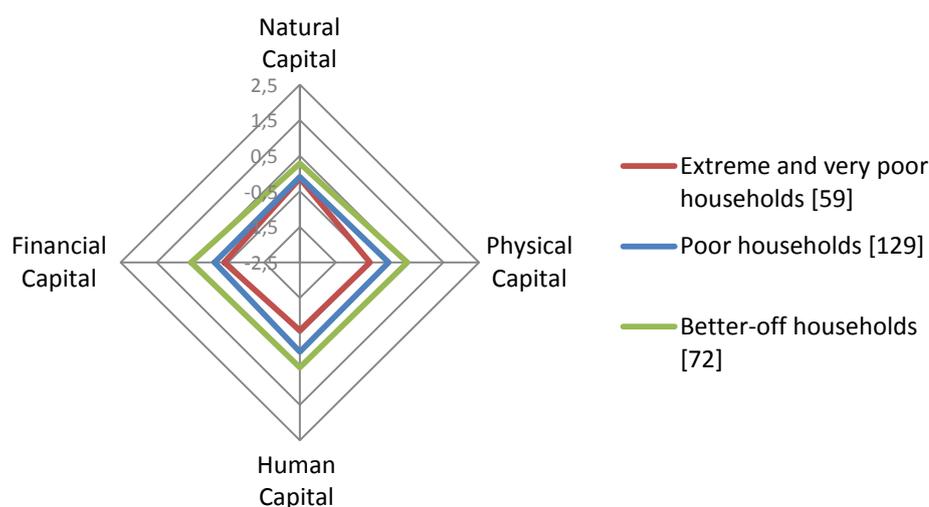
Most of the livelihood capitals align with the household poverty classification. Only natural capital does not fully follow the poverty classification from worst status for extreme and very poor households, the ownership of land is favours better-off households but then extreme and very poor households have most of ownership, poor households are in this definition the most landless. In size of land extreme and very poor households rank number one followed by better-off households and poor households have again the lowest score.

It is possible that quality of the land and land erosion play also a very important part, size and ownership of the land are only two aspects from a complex reality, a large piece of land does not automatically result in larger natural capital. Finally, all households have access to water but access to safe clean drinking water depends on the location of the household rather than the poverty classification. It is impossible to compare social capital to the household poverty classification, so it is assumed that social capital is equally important to each rural household.

In conclusion, the household poverty classification based on the official Ubudehe classification is a fair comparison for poverty with the exception of access to natural resources and access to electricity. This conclusion shows that communities are capable to assess their own situation because differences between extreme, very poor households and better-off households are significant. Extreme and very poor households have the lowest values in each capital, poor households are slightly better off and better-off households have the highest score in each of the four livelihood capitals. A critical note is that the differences between the capitals remain relatively small and therefore it is difficult to distinguish the characters of divers livelihoods. The household poverty classifications have little explanatory power, the classification is unable to explain why some livelihoods chose to engage into flows of rural-urban migration and others not. There are no differences between stretched households and households that are not active in rural-urban migration flows. In nutshell, it is true that poor households have less access to resources compared with better-off households but this classification give no explanation to the causes of rural-urban migration or the diversity of stretched households.

Differences between households based on the poverty classification are shown in figure 14, also based on the standardized values of measurements discussed in this chapter. The scale ranges again from a minimum of -2.5 to maximum 2.5 and social capital is excluded.

Figure 14: Livelihood capitals and poverty classification



6. Vulnerable livelihoods and migration strategies

6.1 Introduction to variation of livelihoods

6.1.1 Vulnerable households

In the first chapter rural livelihoods are introduced and compared with their household poverty classification but no explanations for rural-urban migration could be found. So in this chapter stretched households are further analysed in order to find diversity in livelihoods and underlying causes of rural-urban migration. First households that are known to be more vulnerable are compared for differences in their livelihood:

- *What are the main characteristics of stretched female-headed households and how do these households compare to other households in the Kigali-region?*
- *What are the main characteristics of stretched households with a physically disabled household member and how do these households compare to other households in the Kigali-region?*

Female-headed households are households with a single mother or woman as head of the household. In a nuclear household the man would normally represent the interests of the household but because of death, divorce or other circumstances roles have changed. Because of genocide, female-headed households are not uncommon in Rwanda. Households with a physical disability are households where one or more member is chronically constrained to function properly. Household members can for instance suffer from heart disorder, they could be crippled from birth or suffer from war-related injuries.

6.1.2 Stretched households

With vulnerable households analysed, production strategies of households are also examined to not only get insight on the access to resources but also access to the market. To reveal underlying cause of rural-urban migration flows, six new livelihood profiles are constructed with the use of cluster analysis:

- *What are the causes of rural-urban migration in the Kigali-region?*

Stretched households are households that have currently one or more members that are currently active in migration flows³¹. These household members are living and working in urban areas. This research includes 130 households without migrants and 130 stretched households. All stretched households are drawn from the four research areas; Nygagasambu, Ngoma, Gakamba and Rubona. Together these households include 158 rural-urban migrants³².

³¹ People that have migrated because of marriage are not included since they are no longer member of their parental household.

³² Compared with Smit (2012) there is one missing value due to computer error.

6.1.3 The demographic family cycle

Stretched households have three distinct features that separate them from other households. First, stretched households are significantly more female-headed households³³. Second, stretched households have more often a household member with a physical disability in their household³⁴. And third, stretched households have a different family composition related to the demographic family cycle. Migrant characteristics are shown in table 14.

The different family composition of stretched households means that they have significant older household members compared to households without migrants. The mean age of stretched households is 36 years old, the mean age of other households is 32 years old. The percentage of household members under the age of 18 years old for households without migrants is 23.65%, the same percentage for stretched households comes down to 16.06%.

Table 14: Household without migrants and stretched households age of household members

Household characteristics	Households without migrants	Stretched households
Mean age*	32	36
Standard deviation	10.48	10.98
Range	17 - 86	15 - 70
Percentiles:		
- 25%	25.63	26.88
- 50%	30	33.75
- 75%	34.40	42.00

* Relation between stretched households and mean age of the household [n = 260]: Mann-Whitney U; 7041.5, P < 0.020.

Differences in age between migrant- and other households are explained by the family demographic cycle. This cycle makes distinctions between different stages of family life based on the demographic features of family members. There are three distinct stages: “Child bearing-, child rearing- and child launching.” Households in the child-bearing and child rearing stage are less likely to engage in rural-urban migration because such households have younger children that are dependent. After reaching a more mature age, households enter the child launching stage. Children prepare to move out of the household and become less dependent. In this stage households are more likely to engage into migration.

Furthermore, stretched households have some other characteristics owing to rural-urban migration. They receive more remittances³⁵ but there is no significant greater financial capability. Another characteristic is that the migrant household size is smaller compared to other households. But with the migrants included there are no differences.

³³ Relation between female-headed household and migrant household [n = 260]: Mann-Whitney U; 7410.0, P < 0.015.

³⁴ Relation between disability household and migrant household [n = 260]: Mann-Whitney U; 7410.0, P < 0.027.

³⁵ Relation between remittances and stretched households [n = 260]: Mann-Whitney U; 3104.0, P < 0.00.

6.2 Vulnerable livelihoods

6.2.1 Female-headed households

Female headed households are not uncommon in Rwanda. Additionally, female-headed households are more engaged in rural-urban migration; 45.5% of male-headed households participated in rural-urban migration against 61.6% of all female headed households³⁶.

In-depth interviews reveal that female-headed households in general experience more difficulties in their livelihood. The absence of the male role in directly translates in a decrease in human capital but also less social capital. Cultural gender preference for the role of man as protector and provider of the household are strong in rural society. However, gender roles have become less rigid once woman were forced to take up more male responsibilities.

Quotation box 10: “Normally the households are led by men, they provide the main support for the household to survive. But when the man is not there, household members feel obliged to migrate to the city to support their household.”
[Rural-urban migrant on female-headed households]

Female-headed households are characterized with a lower poverty classification and lower human capital. Female-headed households primary live from subsistence cultivation, consequently they have a lower total income and less physical capital. Detailed information comparing female-headed and male-headed households is provided in table 15.

Table 15: Differentiation of female-headed stretched households

Migrant household characteristics	Female-headed	Male-headed
Stretched households	45 (61.6%)	85 (45.5%)
Poverty classification*: - Extreme and very poor	23 (31.5%)	36 (19.3%)
- Poor	40 (54.8%)	89 (47.6%)
- Better-off	10 (13.7%)	62 (33.2%)
Market production**	25 (34.2%)	90 (48.1%)
Total value asset points*	1.11	1.71
Total income (5% trimm)*	14.768	26.658
Literacy status**	2.44	2.67
Level of Education**	2.44	2.64
Total years of Education*	4	5

* 1% Significance, relation between poverty classification-, total value points-, total income-, total years of education and female headed households [n = 260]: Mann-Whitney U; -3.257, P < 0.001; -4.208, P < 0.000; -3.227, P < 0.001; -2.673, P < 0.008.

** 5% Significance, relation between market production-, Literacy status, level of education and female-headed households [n = 260]: Mann-Whitney U; -2.021, P < 0.043; -2.177, P < 0.029; -1.996, P < 0.046.

³⁶ Relation between female-headed household and migrant household [n = 260]: Mann-Whitney U; 7410.0, P < 0.015.

Although female-headed households receive less total income, their income from remittances is not significantly different compared to other households. Devotion to the household in rural-urban migration also became apparent in the in-depth interviews. There are two specific reasons for female-headed households to engage in rural-urban migration. First, children in these household are required to take up more responsibilities on a younger age because of poverty and reduced human capital. As soon as children in the household are old enough they tend to migrate to relieve the burden on their household. Secondly, migrants from female-headed households feel more responsibility to support their family. For example, one migrant moved to Kigali to acquire financial capability to get better education. But after one year, this migrant returned to her family to support her mother and sisters left behind.

Quotation box 11: "Our household has a small piece of land. I live with my mom and three younger sisters. My father has left the family for another wife. If he would be still here life would be easier and I feel that my chances to continue my study would be better."
[Eldest sister of female-headed household]

6.2.2 Physical disabled household

Households with physical disabilities in the household have a household member suffering from chronologic illness that prohibits them to perform heavy labour. These household members suffer from sickness because of old age, (sometimes) inadequate medication, lack of treatment, physical disabilities or transferable diseases. These conditions can make a person very dependent on the support of other household members. Therefore disabled households deal with additional difficulties in their livelihood, they have a lower poverty classification, less physical capital and less income compared to other households, see table 16.

Table 16: Differentiation of stretched households with a physical disability

Migrant household characteristics	Other households	Disability in the household
Stretched households	35 (64.8%)	95 (46.1%)
Poverty classification*: - Extreme and very poor	12 (34.4%)	39 (18.9%)
- Poor	19 (54.3%)	102 (49.5%)
- Poor	4 (11.4%)	65 (31.6%)
Ownership of land***	32 (96.3%)	183 (88.8%)
Market production*	15 (27.8%)	100 (48.5%)
Total value asset points*	1.11	1.70
Total income (5% trimm)*	14.768	26.658

* 1% Significance, relation between poverty classification-, market production total value points-, total income- and disabled households [n = 260]: Mann-Whitney U; -3.378, P < 0.001; -2.730, P < 0.006; 0.717, P < 0.008; -2.780, P < 0.005.

*** 10% Significance, relation between ownership of land and disabled households [n - 260]: Mann-Whitney U; -1.652, P < 0.098.

It is important to note that a physical disability in the household can be the cause of poverty but also the consequence when medication is expensive and health insurance insufficient. Disabled households are primary subsistence cultivators with ownership of their land. To deal with constraints in their livelihood disabled households chose rural-urban migration more often compared to other households³⁷. The impact on social capital of diseases with a social stigma HIV/AIDS is already discussed but in-depth interview revealed more on the impact of a physically disability.

Household members that born with a physical disability or are disabled by an accident tend to feel useless and a burden to their own household. Sometimes they chose to migrate to the city out of shame and try to survive by begging for food and money. These people can lead a solitary life but it is also possible that regular connections with the rural household are well maintained. Finally, in-depth interviews revealed that some households moved out of the city to rural areas because of diseases. Often these households were able to claim land of their family so that at least with their condition they can live of the land but these households are still very poor.

Quotation box 12: "Life compared to the life I had in Kigali is very bad. In Kigali I had a lot of money but I cannot go back to the city because I suffer from asma and in the city there is too much ari pollution." [Poor farmer, moved to rural areas]

6.2.3 Conclusion disabled and female-headed households

To identify more vulnerable livelihoods based, female-headed households and households with a physically disabled household member are analysed. In conclusion, these households have the following livelihood characteristics:

- I. Female-headed households are subsistence agriculturalists with a low income and less physical capital. Consequently they have a lower poverty classification compared to other households and they have significantly less access to good education. Female-headed households are more found in rural-urban migration because the lack of capabilities and the sense of responsibility of children in the household at a young age. Female-headed households main difference with disabled households is their lower human capital.
- II. Physically disabled households are also subsistence agriculturalists with a low income and less physical capital. They have a lower poverty classification but have more ownership of their land on which they heavily rely. These households claim land from their family in order to provide for their own needs but are also more active in rural-urban migration. Physically disabled household members sometimes move to the city to survive as beggars. Disabilities in the household can both be the cause but also the consequence of poverty if medication and treatment become expensive.

³⁷ Relation between disabled households and stretched households [n = 260]: Mann-Whitney U; -2.441, P < 0.005.

6.3 Livelihood profile analysis

6.3.1 Heterogeneity of rural livelihoods

With input from the household survey, a cluster analysis is performed to detect groupings in the data. Cluster analysis is a good tool to categorize cases in different groups because the researcher does not seek out group membership by himself but lets the computer calculate groupings. The only aspect that the researcher decides for himself is the number of groups in which all data must be divided but of course it is unknown how many cases and in what cluster (SPSS, 1999). The best number of clusters was six because the cases were relatively equally divided and each cluster contained at least more than five cases. Prior to the analysis all livelihood capitals are standardized and put to the test. To identify the households own assessment of wellbeing (which is the Ubudehe approach), the poverty classification is also added to the data set. From the analysis of vulnerable households, variables representing whether a household is a female-headed household and if a household has a physically disabled household member are also added to the data set. Additionally, because land ownership and land size did not align with poverty classifications of households, the access to the market is also added to the data set to increase insight on land use and diversity of livelihoods.

Market production and access

Access to the market is a wide recognized element of development for poor rural areas but at the same time more difficult to change than expected³⁸. Households are divided in two groups. Those that cultivate solely for their own consumption and those that also sell products on the market. This way a better relation is found between the land use and poverty classification³⁹.

The majority of extremely and very poor households produce as subsistence farmers (87.5%). These households are not able to produce enough crops to sell on the market. This farming strategy implies that they are more vulnerable to shocks since they are only able to foresee in their own needs. Poor households are more able to produce for the market (36.7%). But only the majority of better-off households are able to produce both for own their consumption and for the market (61.4%). Additionally, a relationship between land size and market production is found indicating that larger land holders are more capable to produce crops for the market⁴⁰. The poverty status of households prove that poorer households are most subsistence farmers, better-off households are able to generate alternative income from the cultivation of their land (they may also foresee in their own consumption). Additionally, a difference in production for the market is found between the four research areas. Most households with good access to the market are found in Nyagasambu followed by Ngoma then Gakamba and Rubona⁴¹.

³⁸ Mupenzi (2010), Interventions against poverty in Rwanda: A case study of Ubudehe in Gatsibo District, Eastern Province, Rwanda, p. 33.

³⁹ Relation between market prod. and poverty classification: Kruskal-Wallis Test [n = 260]; 27.709, P < 0.000.

⁴⁰ Relationship between size of land and market prod. [n = 260]: Mann-Withney U; 54738.0, P < 0.024.

⁴¹ Relation between market production and research areas [n=260]: Kruskal-Wallis Test; 19.431, P < 0.000.

The result of the livelihood cluster analysis of 130 stretched household from all four research areas is found in table 17. Scores indicate the standardized Z-score for each of the variables ranging from negative one to positive one. These calculations primary resemble a comparison for groupings within the data set. Depending on the number of profiles and iterations different results can be found but more or less the same livelihood profiles are always grouped together. After many test runs this table is used because of the equal distribution of number of cases. Six livelihood profiles based on female-headed, disability, market production, size of land and remittances are recognized.

Table 17: Z-scores of livelihood cluster analysis of rural households

Variables	Livelihood profiles					
	Very poor disabled households [30]	Very poor female-headed [26]	Poor subsistence cultivators [32]	Poor market producers [26]	Better-off large land owners [10]	Better-off higher educated [6]
Poverty classification	-,93699	-,34296	,33926	,63378	1,25689	,68732
Female-headed	,41648	,47272	-,31296	-,46507	,25030	-,70844
Disability	,50823	,16915	,07956	-,21498	-,57066	-,57066
Natural Capital						
Ownership of land	,09275	-,36388	,10702	,32107	,32107	-,196212
Size of land in acres	,07231	-,19912	-,27280	-,02987	,31281	-,38458
Market production	-,63079	,05795	-,58015	,95862	1,00820	1,19236
Ownership of livestock	-,73318	-,07935	,08856	,68820	,30055	,33285
Total large livestock	-,63666	-,45109	-,26160	1,27963	,39942	-,03152
Physical Capital						
Access to electricity	-,39027	,07954	-,20675	-,39027	,94443	2,05669
Available kitchen	-,53628	-,43626	,27639	,43095	,67826	,67826
Total value assets	-,84740	-,51299	,30213	,94598	,85332	,66690
Human Capital						
Literacy status	,24709	-,174543	,52626	,37063	,57331	,57331
Level of Education	-,01866	-,133224	,38134	,18085	,86000	1,25014
Total years education	-,07890	-,128841	,55594	,16799	,88072	1,54710
Financial Capital						
Remittances	-,32255	-,01488	,31915	,95687	1,39413	3,07148
Total Income	-,51187	-,40688	-,16000	,34403	2,52212	1,47503

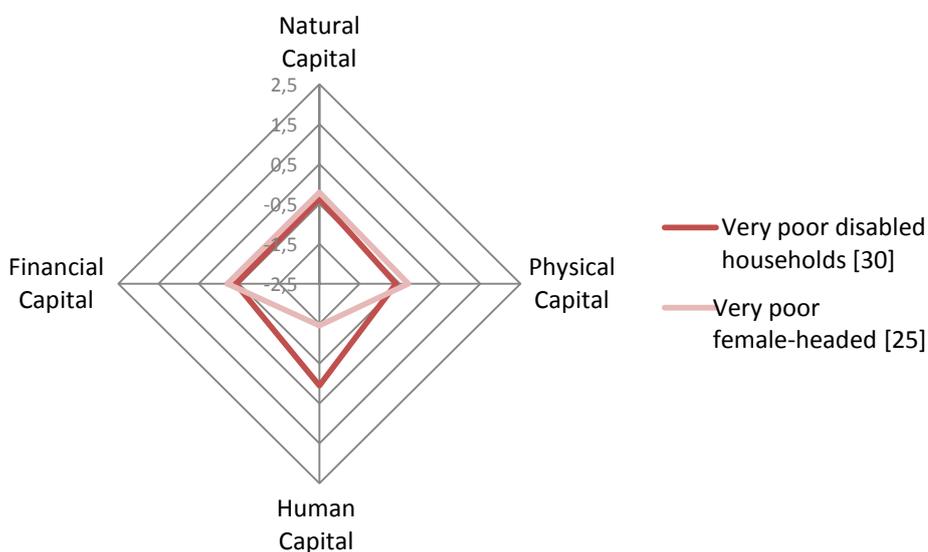
6.3.2 Migration as survival strategy

The two poorest profiles are disabled households and female-headed households. The migration strategy of these households is a survival strategy. The main motivation in this strategy to engage in rural-urban migration is poverty, the lack of fertile land and social conflicts. Because of difficulties these households are more or less forced to seek opportunities in urban areas. They see no other choice than migration to escape from structural constraints such as physical disabilities or the absence of a man in the household. The city is chosen as first destination because of the basic needs they believe they can find there.

The profile of very poor disabled households have the highest score on disability in the household. These households have the lowest poverty classification, the least physical and the least financial capabilities. The access to education is also low compared to other households but female-headed households have clearly the lowest human capital. Very poor disabled households own no livestock and lead a life as subsistence farmers cultivating for their own consumption. They one thing these households do have is land and land ownership, this capability could be better exploited with ownership of livestock. Migrants from these households face difficulties in the city because they cannot count on much support to help them on their way.

Female-headed households are also very poor households that can be counted with a survival strategy in rural-urban migration. These households are also very poor but as a result of the absence of a man in the household. One clear characteristic is the low human capital in the household. Apparently, these households chose to discontinue education to compensate for their difficulties. Although female-headed households have less access to land they are able to produce not only for their own consumption but also for a small part for the market. These households have also better financial capabilities, physical capabilities and own more livestock compared to disabled household. The drawback is the drop-out in education and a very low human capital in their livelihood. Female-headed households are very much busy surviving in the present, migrants from female-headed households are able to sent back remittances but are very low educated. Figure 15 shows the livelihood capitals of stretched households with a survival strategy on a scale from -2.5 to 2.5.

Figure 15: Livelihood capitals of stretched households with a survival strategy



In-depth interview revealed that a lot of young people with a migration strategy are not aware of the difficulties they have to face once they get in the city. They all indicate they are going to search for employment but it is likely very few will actually find a fixed source of income.

Quotation box 13: “When you want to get to the city you have to have a job otherwise you can die. People are not aware that because you can see many people that are saying we are going to live with our relatives but they don’t know where they stay and they can get there sleeping outside through the night for 3 days (..) they are not prepared for life in Kigali, they do not know the realities but they pretend to have a good life there.

*I’m especially concerned for the young people. If you don’t have someone to go to and stay with and you cannot find a job. Then you find the girls becoming prostitutes and the boys becoming thieves. But there are a lot of people ending up like this because they don’t know why they come to the city and they don’t know that they are going to do.”
[Unemployed head of household, worked 11 years in Kigali for a rich family]*

6.3.3 Migration as consolidation strategy

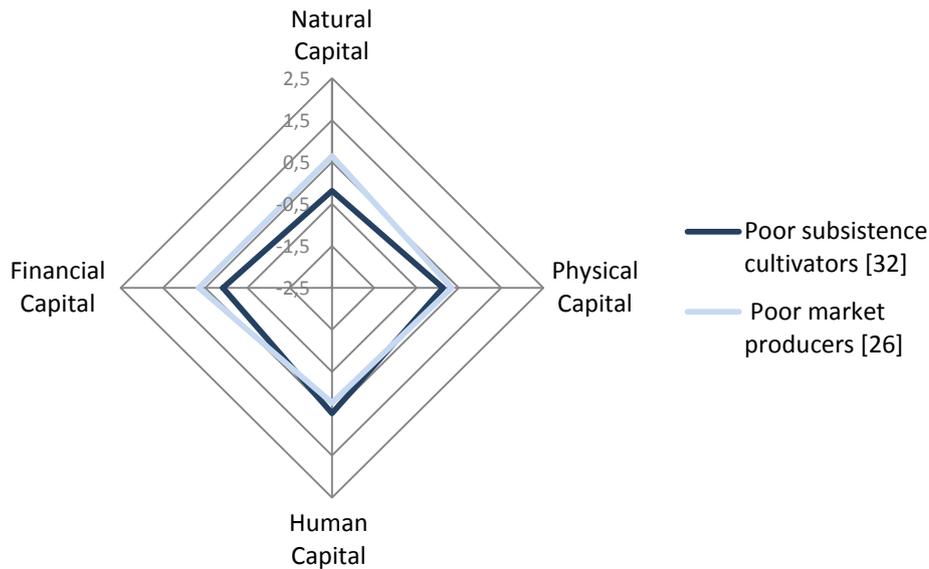
A consolidation strategy applies to the middle two profiles of the analysis, the poor subsistence cultivators and poor market producers. These households are in general in better shape compared to households with a survival strategy but it should not be mistaken that many of these households still live in poor conditions. Household members that migrate from these households have often found some sort of employment in the city. The remittances sent back to the rural household thus strengthen their livelihood. Migration is taken as a livelihood opportunity in these households in order to deal better with poverty and unemployment in the rural areas.

Poor subsistence cultivators form the largest profile in the livelihood analysis. These households own their own land but the size of their land is very small and they own few livestock. These subsistence farmers cultivate only for their own consumption making them independent from the market. Subsistence livelihoods are vulnerable for external shocks because they have few other means of income to sustain their livelihood. For a low income and few physical assets, households in this profile have a good access to education. And higher human capital is favourable for migration because it is easier for skilled migrants to find a job. Remittances that are sent back are an important share of the total income of the household and could lead to small improvements that are key to consolidation of their livelihood.

Poor market producers have one fundamental difference with subsistence cultivators, poor market producers get higher income from their natural capital because they are able to produce for the market. These households own more land and have access to natural fertilizers since they have the most large livestock. As a result these households have more physical capital, especially in physical value assets. In other words, these households are able to buy nice things with their higher income. However, human capital of this profile is lower compared to subsistence cultivators.

Apparently, good education is valued less or household members have more agricultural activities preventing them to complete a full curriculum. Migration is also for these households a good strategy of livelihood consolidation. Migrants from these profile are probably supported by their rural livelihood with own cultivated food (food is much more expensive in the city) enabling them to send back more remittances. Figure 16 shows the livelihood capitals of stretched households with a survival strategy on a scale from -2.5 to 2.5.

Figure 16: Livelihood capitals of stretched households with a consolidation strategy



In-depth interviews suggest that social networks are important for these households in order to get livelihood opportunities. One remarkable story was told by a man who got in contact with a business man from Kigali. He was offered a job and now lives as a farmer in the rural areas.

Quotation box 14: "I come originally from Gisenge where I was a street child. Then I got the opportunity to work as street vender in Kigali from a man I got to know and for whom I worked for. I didn't know anybody else before I came to Kigali but this man treated me well. It is especially important to know somebody in the city if you want to find a good place to stay. I lived and worked in Kigali for 8 months but then we were thrown out (...) My business in Kigali was very good and therefore I would like to go back if the opportunity arises. But after I could not sell anything I quickly ran out of financial resources. The man I worked for moved to the Eastern Province. So I also decided to move, life is easier here now. [Farmer and head of household of four]"

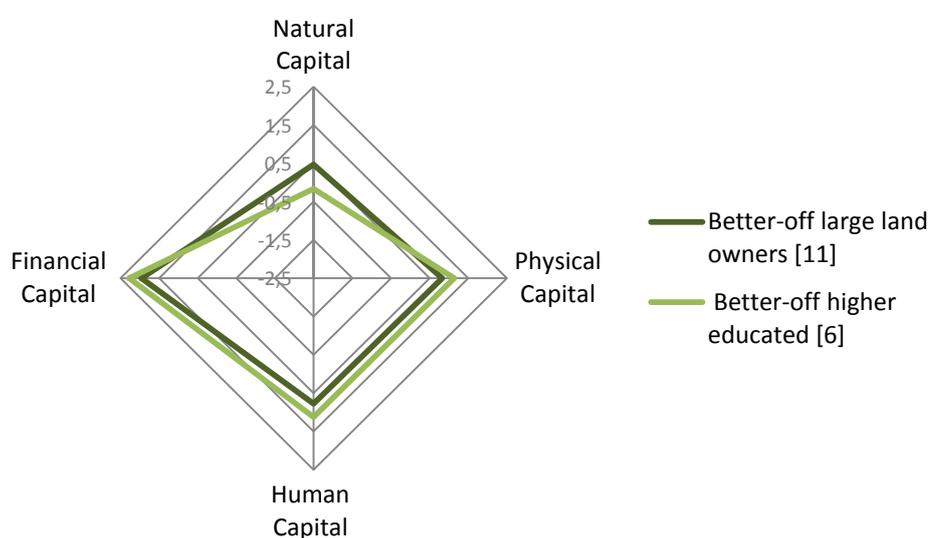
6.3.4 Migration as accumulation strategy

Better-off large land owners and better-off higher educated households are the two profiles that use migration as accumulation strategy. Both households have already created a sustainable livelihood for themselves and migration is being used as a way to expand this livelihood. These households have a high poverty classification and belong to the group of better-off households in the rural areas therefore these households form small profiles.

Better-off large land owners base their livelihood on high natural capabilities. These households own the most amount of land and are most successful in production of crops for the market. They own some livestock but land is clearly their most important asset. As a result these households have the highest poverty classification and the highest total income of all profiles. This income is both spend on physical and investment in human capital. Some of these large land owners are female-headed showing that female-headed households do not necessarily to poorer groups in rural society. Migrants from these households can expect a good support from their rural-based livelihood, with food and build up financial capabilities. Lost labour forces in agricultural activities in the rural livelihood can be replaced by hired labour from poorer unemployed households.

Better-off higher educated households base their livelihood strength on human capabilities; high education. These households own no land and very few livestock. However, these households found ways to generate alternative income by producing for the market in two ways. First, they can use income from formal employment to rent pieces of land to cultivate. Second, they could be using small pieces of land on the plot of their house to cultivate, for example small vegetable gardens. This last type of cultivation is not common in rural areas but readily used by households that have moved from the city. Livelihood characteristics that define this profile are the high level of human capital (high education), access to electricity and highest income from remittances. Migrants from these households are migrants that have found a formal wage-employment in the city, these are the skilled labourers and therefore they are also able to sent back high remittances. Figure 17 shows the livelihood capitals of stretched households with a survival strategy on a scale from -2.5 to 2.5.

Figure 17: Livelihood capitals of stretched households with an accumulation strategy



In-depth interviews revealed that especially the last profile of households (higher educated) include households that have moved from Kigali to the rural areas because life is easier and cheaper in the rural areas. Since it is too expensive to commute daily to their work in Kigali and back again, working members of these households become migrants in the city visiting their relatives periodically. The most positive perceptions of migration come from migrants with an accumulation strategy. One interview covers the story of a woman that has moved her household to the rural areas, she explains how migration benefits her household and the people around her.

Quotation box 15: “Compared to the average households of people living here I feel we’re better-off because I can find the means that other people don’t find. I can eat any time of the day I wants while others cannot. But there is no problem between us, people here are very receiving and not just because I have money. I feel that I am serving more people by being here compared to Kigali, this is beneficial to myself and my household.

The money I used to spent on things in Kigali is now invested here (..)

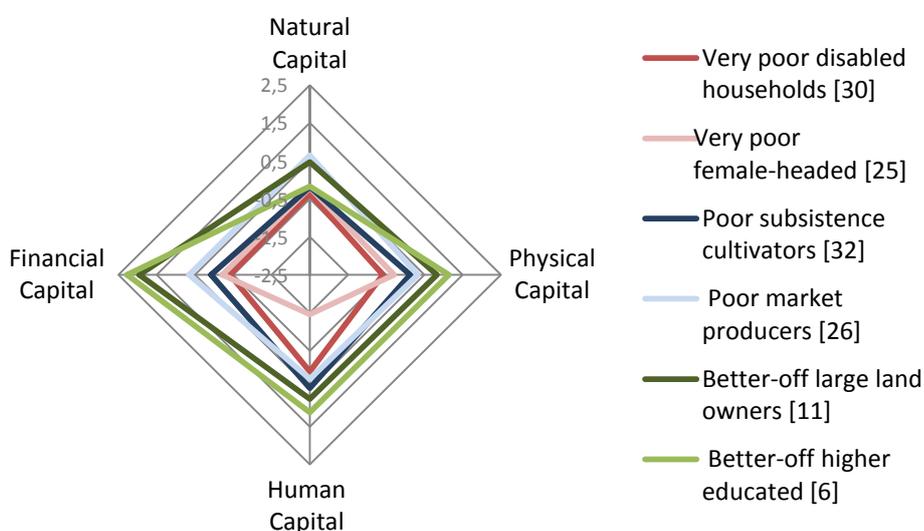
I think that migration is beneficial because when you come here there are things you have to buy like land to built your house upon. You come and bring money for other people which then can be used for new investments

[Lived 11 years in Kigali and 3 years in the rural, her husband is in the military]

6.4 Conclusion

Female-headed households and households with a physically disabled household member are recognized as more vulnerable households with more vulnerable livelihoods. Together with poverty classifications and market production they are all inserted to the livelihood profile analysis, the result are six livelihood profiles shown in figure 18.

Figure 18: Estimated livelihood profiles from livelihood cluster analysis



The results of the cluster analysis gives insight in answering the remaining sub-question leading this chapter: “*What are the causes of rural-urban migration in the Kigali-region?*”

Causes of rural-urban migration are related to three different strategies of migration that are found. First, households with a survival strategy send migrants because they are unable to create a sustainable livelihood. Structural constraints are extreme poverty, the lack of basic needs, the lack of fertile land and social conflicts. These households see no other choice than migration. A second strategy is consolidation of the livelihood. The causes of migration for these households is unemployment in the rural areas, therefore livelihood opportunities in the city are sought by rural-urban migration to strengthen the livelihood. Last but not least, households send members to migrate because of an accumulation strategy. This is a small group of households and migration occurs because households are trying to expand their livelihood with opportunities they see in the city.

Part of these households are also naturally attracted by employment for high educated workers in the city, employment that cannot be found in the rural areas. The livelihood analysis also brought forth six profiles, two with each migration strategy are identified. Characteristics of these households are summed up in table 18.

Table 18: Livelihood profile characteristics

Livelihood profile	Main characteristics
Very poor disabled households	Cultivate only for their own consumption and have no livestock. They have the lowest physical and financial capital. <i>[Survival strategy]</i>
Very poor female-headed	Poor households, try to compensate other capitals for structural restrictions but lowest human capital and no livestock. <i>[Survival strategy]</i>
Poor subsistence cultivators	Average households with better physical capital, good human capital but they produce no products to sell on the market. <i>[Consolidation strategy]</i>
Poor market producers	Capable to produce for the market. Own more land and own most livestock consequently they have more income and remittances, high physical capital but lower human capital. <i>[Consolidation strategy]</i>
Better-off large land owners	Highest total income and the most land. These households receive the most income with production for the market. <i>[Accumulation strategy]</i>
Better-off higher educated	High educated landless households with the most access to electricity and the highest remittances. These households have base their livelihood on skilled labour. <i>[Accumulation strategy]</i>

7. Migrant characteristics and migration flows

7.1 Introduction to flows of migration

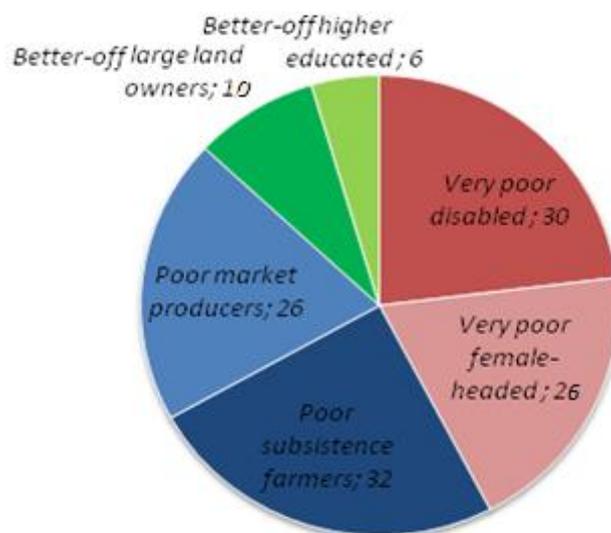
7.1.1 Number of migrants

The poverty classification of rural-based households and different migration strategies to rural-urban migration are examined in the previous chapters. This chapter continues the study on rural-urban migration by focusing on common migration flows or flows and the characteristics of different rural-urban migrants. The last sub-question is:

- Which flows of migration are distinguished and how are these related to the livelihood of rural-based households in the Kigali-region?

There are in total 158⁴² rural-urban migrants out of 130 stretched households. It is possible that a household has one, two or three migrants currently in living in the city. There are twenty-two households with 2 and three households with 3 migrant household members. Households with multiple migrants are on the one hand the very poor households with a survival strategy and on the other hand better-off households that own large lands. Amongst the poor households, especially disabled households sent more migrants to the city⁴³. They are restricted with structural constraints in their livelihood and seek alternative ways of income. Migrants from large land holders go to the city because they are motivated by higher education or employment that cannot be found in the rural areas⁴⁴. The total number of migrants from each livelihood profile is shown in figure x.

Figure 19: Number of migrants from each livelihood profile



⁴² Compared with Smit (2012) one missing value due to computer error.

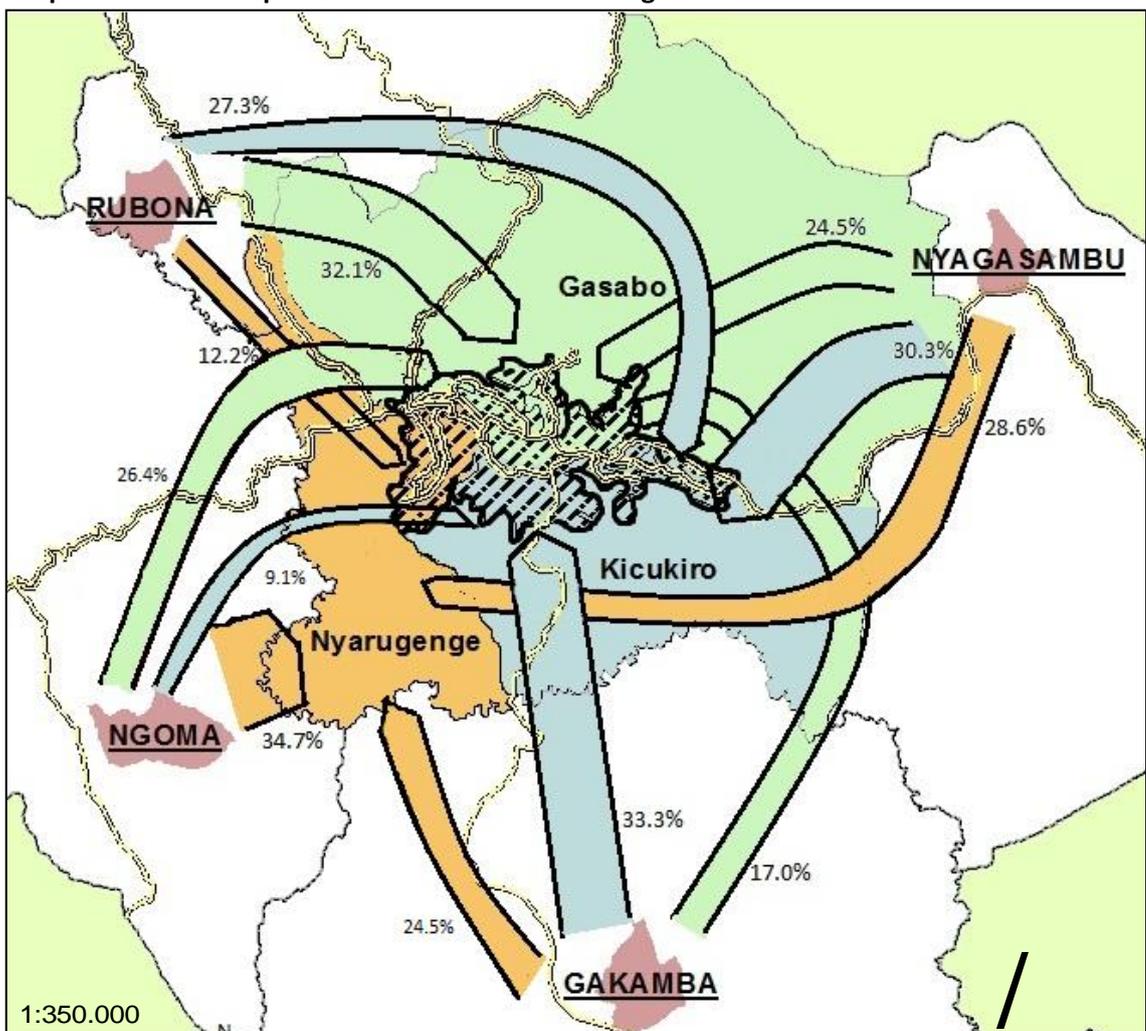
⁴³ All cases three migrants are found in the disabled household profile.

⁴⁴ Relation between livelihood profile and number of migrants in the household: Kruskal-Wallis Test [n = 258]; 12.803, P < 0.025.

7.1.2 Migrant destinations

Four research areas surrounding Kigali are taken to examine rural-urban migration flows in Rwanda. The four research areas are shown in map 4 where schematically the flow of rural-urban migration is displayed. Kigali is divided by three main districts: in the north Gasabo, in the south Kicukiro and to the west Nyarugenge. The most popular destination of rural-urban migration is Gasabo (39.3%) followed by Nyarugenge (36.3%) and Kicukiro (24.4%). Most migrants go to the district that is first reached from their area, with an exception in Rubona where most migrants in Gasabo come from. Most migrants in Nyarugenge come from Ngoma and most migrants in Kicukiro come from Gakamba, closely followed by migrants from Nyagasambu. This schematic map only demonstrates that flows of migration have many destinations and can be complex. In his research on urban livelihoods and rural-urban migration, Kosten (2012) performed a more detailed study on this subject on the basis of observations from two ‘migrant neighbourhoods’ in Kigali-city.

Map 4: Schematic representation of rural-urban migration flows from four research areas⁴⁵



⁴⁵ Based on known whereabouts of 135 rural-urban migrants, 4 migrants migrated to other cities, the current residence of 19 migrants were unknown.

7.1.3 General characteristics of migrants

Rural-urban migration is not a flow of only poor or better-off households, of small subsistence farmers or large landholders. Instead, households with different poverty classification all take part in rural-urban migration flows. Therefore, the heterogeneity of livelihoods in the rural areas trickle down into flows of rural-urban migration. But before these migration flows are unravelled, some general characteristics of rural-urban migration are observed.

First, the average age of rural-urban migrants is 28 years old and 50% of all migrants have an age between 22 and 32. These migrants are attracted by opportunities of the city. However, age differences between all migrants are greater. The youngest migrants are 14 years old, the oldest migrants are 56 years old. The youngest migrants (below the age of 18, 7.6%) are most often sent to live with family members in the city. Better-access to education and escape from poverty is a common motivation for these households. Older migrants above the age of 40 (9.5%) migrate because of socio-economic structural problems.

Secondly, table 19 shows that migration is dominated by young man (from the perspective of relation to the household). Gender differences can partly be explained by perceptions of migration in rural society. In-depth interviews revealed that it is much more difficult for young woman to return to the rural household if they fail to build a livelihood in the city. To survive times of hardship some woman sell themselves and even if this is not true, out of shame for this prejudice female migrants don't easily return to the rural area. Man are known to resort to theft but they have less dishonour to return and make up stories to cover for their crimes. In the rural household daughters ask more often for permission to migrate compared to others⁴⁶.

Table 19: Migrant characteristics

Migrant characteristics [n = 158]	
Mean age	28.56
- Minimum	14
- Maximum	56
- Standard deviation	8.727
Relation to the household	
- Husband	26 (16.5%)
- Son	75 (47.5%)
- Daughter	29 (18.4%)
- Other relation	28 (17.7%)
Asked permission to migrate	104 (65.8%)
Total years living in the city	6.18
- Minimum	0
- Maximum	30
- Standard deviation	3.745

Third, the average years of time spend in the city comes down to 6 years. Some migrants live for a long time in the city, others only stay for several months. The common factor is that they all keep a connection to the rural household where they came from. The majority of migrants don't stay longer than 5 years but there are also migrants that managed built a sustainable livelihood and life for over 20 years in the city. The duration of stay largely depends on the success of the migrant, of course goals and motivations can change with growing experience. In general, short-term rural-urban migration counts up to 5-6 years stay in the city accumulating to 64,6% of all migrants. Long-term rural-urban migration lasts longer (up to 30 years) representing 35.4% of the migrants. Short-term migration is more common.

⁴⁶ Relation between asking permission to migrate and relation to the household: Pearson Chi-Square [n = 158]; 6.971, P < 0.073 (Results: Sons 58.7%, Daughters 69%).

7.2 Migration flows based on livelihoods

7.2.1 Former occupations and loss of human capital

Like other people in the rural areas, the majority of migrants had agriculture as previous occupation (56.3%), followed by school activities (27.8%). The remaining migrants had other occupations, they were working as bus driver, mine-worker, construction worker, had a small business in trade or services, were unemployed or unable to work, see also table x.

Human capital of migrants in terms of education is significant higher compared to others. Before migrants leave they have reached a higher levels of education and had more years of schooling. For example, migrants have on average completed 6.49 years of education, other people have completed on average 4.69 years of education. This difference can partly be explained by the age of migrants since there are not many very young nor old migrants found. Another explanation is the relative large share of migrants seeking for higher schooling opportunities in the city because they are unable to follow higher education in the rural areas. Most difference between migrants and other people is found in the group that received no education at all and those that were able to complete secondary education and higher, for more details see table 20.

Table 20: Former occupations and human capital

Former occupations and Human capital	Migrants [n =157] ⁴⁷		Other people [n = 795]	
	n	%	n	%
Former Occupations				
- Farmer	89	56.3	487	61.3
- Student	44	27.8	216	27.2
- Other	25	15.8	92	11.5
Level of Education*				
- No education	13	8.2	157	19.1
- Primary at least 3 years	31	19.6	195	23.7
- Primary complete	66	41.8	302	36.7
- Secondary at least 3 years	20	12.7	88	10.7
- Secondary complete and higher	28	17.7	53	6.4
Average total years of education*	6.49	-	4.96	-

* 1% Significance, relation between rural-urban migrants and human capital [n = 824]: Mann-Whitney U; higher education; 4799.5, P < 0.000; years of education; 48789.0, P < 0.000.

Human capital is partly drained from rural areas because of rural-urban migration, especially higher educated people chose to enter into rural-urban migration to seek employment or continue their studies in the city. Additionally, entrepreneurs that are willing to take risks and set up businesses are also likely to leave rural areas when they see no opportunities at home. People with other occupations of farmer or student tend to leave rural areas.

⁴⁷ Two missing values.

7.2.2 Heterogeneity of rural-urban migration

Migrants come from rural-based households that are divided in six different livelihood profiles and three different migration strategies. Table 21 gives an overview of the migrant characteristics for each livelihood profile. The overview shows that different livelihood profiles bring forth rural-urban migrants with different characteristics. As well migration strategies as access to human, financial and natural capital are important. Differences are found for: “Age, permission to migrate, education and sending back of remittances.” Furthermore, the next paragraph elaborates on each households opinion on the change of land over the past 10 years and the change of livestock over one year.

Table 21: Migrant characteristics and livelihood profiles

Migrant characteristics	Rural-urban Migrants original households					
	<i>Survival strategy</i>		<i>Consolidation strategy</i>		<i>Accumulation strategy</i>	
	Very poor disabled households [41]	Very poor female-headed [36]	Poor subsistence cultivators [36]	Poor market producers [27]	Better-off large land owners [12]	Better-off higher educated [6]
Age**	27,27	28.11	27.00	28.63	31.75	42.67
Asked permission to migrate**	0.73	0.67	0.69	0.37	0.75	1.00
Total years migrated	6.39	6.14	4.67	6.93	7.5	8.17
Literacy status***	2.71	2.69	2.97	2.93	3.00	2.83
Level of education**	2.85	2.83	3.47	2.96	4.00	3.50
Total years of education*	5.66	5.64	7.61	5.81	9.58	8.33
Livestock change over 1 year*	1.56	1.05	1.77	2.37	2.10	1.20
Land change over 10 years*	1.44	1.60	1.76	2.07	2.00	3.00
Sends back remittances*	0.39	0.50	0.72	0.85	0.95	1.00

* 1% Significance, relation between total years of education-, remittances and livelihood profiles: Kruskal Wallis Test [n = 158]; 18.786, P < 0.002; 23.538, P < 0.000. Relation between land change [n = 143]-, livestock change [n = 107] and livelihood profiles: Kruskal Wallis Test; 22.416, P < 0.000; 17.334, P < 0.004.

** 5% Significance, relation between age-, permission to migrate-, level of education and livelihood profiles: Kruskal Wallis Test [n = 158]: 14.707, P < 0.012; 14.622, P < 0.012; 14.664, P < 0.012.

*** 10% Significance, relation between literacy status and livelihood profiles: Kruskal Wallis Test [n = 158]; 9.272, P < 0.099.

First of all, there is a gap in the age of rural-urban migrants. On the one hand, younger migrants with an age between 27 and 29 come from households with a migration strategy of survival and consolidation. On the other hand, older migrants come from households with an accumulation strategy. Better-off land owners sent migrants of 32 years old and better-off high educated households sent migrants with an age of 42 years old. Indications of total years migrated suggest that these migrants may participate in rural urban migration for the longer term (longer than six years), however this study is only a snapshot in time so this remains uncertain and requires additional research.

Secondly, human capital in terms of education is the lowest of migrants from female-headed households. Therewith migrants from female-headed households are not different from other household members. The highest human capital is found with migrants from rich land owners. With an education of more than nine years, these migrants even outsmart their counterparts from better-off higher educated households. In their migration strategy large land owners thus sent their most 'talented' members to the city to seek out opportunities there. Migrants from higher educated households are also well educated but these households are also very dependent on the salary of the migrant. Every migrant from better-off educated households sent back remittances, as the households become poorer less migrants are able to do so.

Finally, migrants from poor households that are producing for the market ask the least permission to migrate. Human capital in form of labour is probably very important for these households, they are too poor to hire workers to cultivate their land and they depend on market sales to sustain their livelihood. So agricultural activities could keep these migrants at home but instead they preferred to seek out new opportunities in the city. Migrants from better-off higher educated households all asked permission to migrate, these migrants have families back home depending the most on their remittances.

7.2.3 Changes in land and livestock

In order to get some insight in the impact of changes of land and livestock, rural-based households are asked on their opinion on change of both assets. Possibilities are a decrease of size (1), remained the same size (2) and increased size (3).

Because land is a very fixed asset a time span of 10 years is chosen, in this time as well droughts and floods took place resulting in crop failure and devastation. This unpredictable variability in temperature and rainfall is reported as an alarming trend that emerged over the last 30 years and is expected to continue to influence land changes in the future (REMA, 2009). Because not all households have access to natural manures some farmers resort to cheap chemical fertilizers. Especially households that are poor and live in mountainous areas are taking this great risk. If annual rains are delayed or insufficient, cheap chemical fertilizers spoil the quality of the land because the Ph-grade of the ground becomes too high and households decrease in land size. Consequently, households resort to rural-urban migration to survive.

Especially disabled households saw their land size decrease over the past 10 year with the lowest value of 1.44. Other households have more or less kept their land size unchanged though female-headed and poor subsistence households are also struggling. Only better-off higher educated households manage to increase their land size. In-depth interviews from Nyagasambu suggest that better-off households prefer to invest in the purchase of new land because there land prices are quickly increasing.

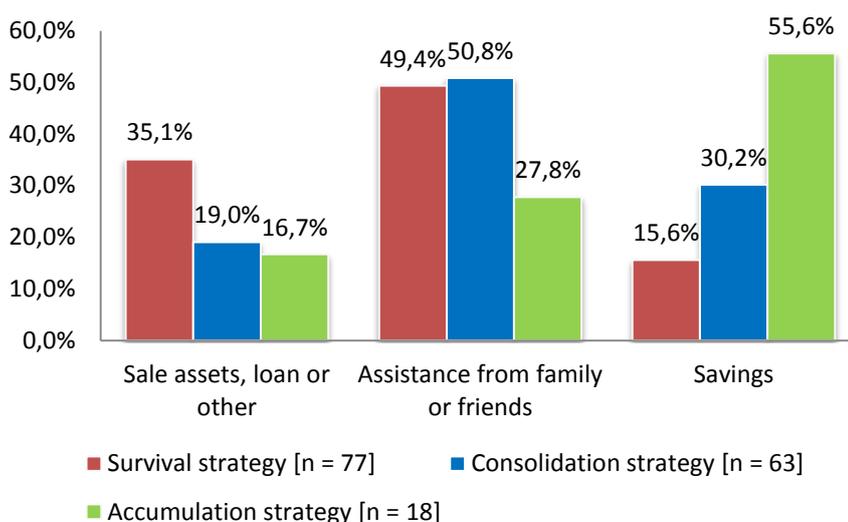
Quotation box 16 : “People with financial capital buy new lands and sell it for much higher prices because the land prices are going up very fast (..) For example, I bought my house here for 4.000.00 but after 9 months I can sell it for 6.000.000.” [Farmer, sold and rents out his house in Kigali and moved to Nyaqasambu]

The change of livestock is taken in one year time, reasons for a decrease of livestock are sells, trade, consumption or death of an animal. Livestock is often used as short-term insurance strategy. It is known that better-off higher educated households prefer not to keep livestock. So the impact here is most found with female-headed households, they have a very low score of 1.05 indicating that almost all female-headed households saw their livestock decreasing. Poor market-producers were most successful to consolidate and even expand their livestock with a score of 2.37. Besides external shocks to their livelihood, livestock can also be sold to fund rural-urban migration of household members.

7.2.4 Funding of rural-urban migration

Migrating is expensive, especially in the beginning costs of transport and living in the city are high. Figure 20 displays the way rural-urban migrants have funded their efforts, assistance from family or friends is the most important source of funding rural-urban migration.

Figure 20: Funds of migration and migration strategies⁴⁸



⁴⁸ Relation between funds of migration and migration strategies: Pearson Chi-Square [n = 158]; 15.468, P < 0.004, Significance with maximum error: 0.051 (22.2% expected count > 5; Lambda ±0.060 1.96*0.045).

Figure 14 shows that migrants from households with an consolidation strategy most often get assistance from family or friends to fund their migration efforts but these migrants are also able to save some money themselves. The sale of assets and taking a loan are the least preferred ways of funding migration. The same applies for households with an accumulation strategy, these are most self-sufficient migrants that are able to make most savings but sale of assets and taking a loan is most of the time avoided.

The poorest households with a survival strategy are unfortunately more forced to sell off assets (e.g. livestock) and take loans. However, these households also most often resort to family and friends to get some credit for migration. Because financial capital can easily be moved around, rural-urban migrants are more dependent on money than their rural households. Additionally, primary needs are more expensive in the city. Rural-urban migrants that are unable to save money and have low financial capabilities and ill prepared.

Quotation box 17 : “Kigali is a big city and there are many opportunities but without financial capabilities you can’t do anything. So you have to prepare yourself before going there. If you feel you want to go, make sure you have enough money. [Man tried to open up a shop in Kigali but failed and was forced to return to the rural areas]

7.2.5 Conclusion rural-urban migration

Different rural livelihoods bring forth rural-urban migrants with different characteristics. Migrants with a survival- and consolidation strategy are younger (short-term) migrants. Migrants with an accumulation strategy are older (long-term) migrants. Migrants with a survival strategy most often have to take a loan or sell assets to fund rural-urban migration. These migrants are the least prepared to migrate because they have few financial capabilities. Migrants with a consolidation strategy are more able to more money but only migrants from households with an accumulation strategy are able to fund their migration from own savings, these migrants have the most financial capabilities and are well prepared. Migrant characteristics per livelihood profile are:

- I. Migrants from disabled households sent back the least remittances and their households are most impacted by decrease of land size in the past ten years.
- II. Migrants from female-headed households have the lowest human capital and their households are most impacted with a decrease of livestock over the past year.
- III. Migrants from subsistence cultivators are the youngest migrants, these migrants sent back more remittances compared to the previous migrants. Their households are struggling with decrease of land size and decrease of livestock.
- IV. Migrants from market producers ask the least permission to migrate but their households were able to sustain their land size and livestock.
- V. Migrants from large land holders are the most educated migrants, their households are able to sustain land size and livestock. These migrants are well prepared.
- VI. Migrants from higher educated households are also good educated, they all sent back remittances, all ask for permission to migrate and their age is relatively high. These migrants have a family to maintain back home.

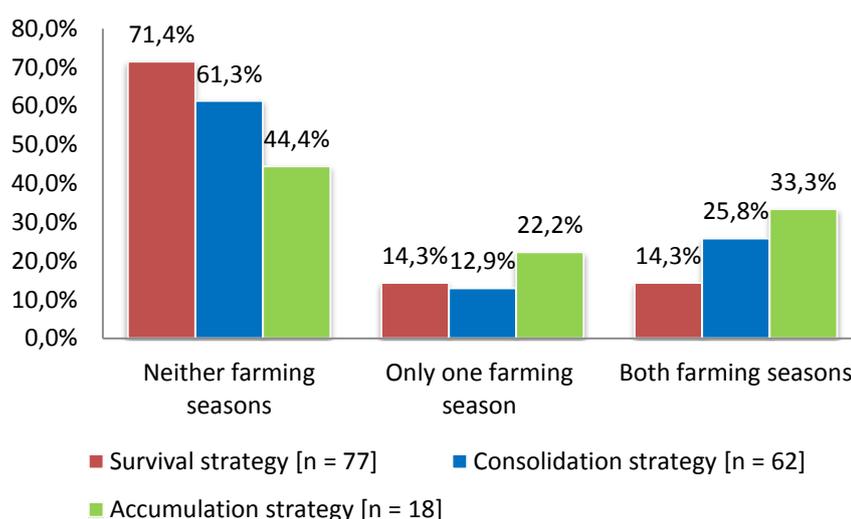
7.3 Additional migration flows based on type

8.3.1 Seasonal migration and temporary returns

In Rwanda there are two distinct farming seasons, A and B. The average labour force that is needed to cultivate land is 3 labourers in both farming seasons. Farming season A depends on the short rainy season stretching from September to November, farming season B depends on the long rainy season stretching from February to May. Farmers plant their field in expectations of these rains. Between the rainy seasons there are dry and warm periods of time. The success of the harvest from the first farming season also determines the strategy for the next. Yields from the land depends on the farmers skill, health, access to natural or chemical fertilizers, access to water and the fall of seasonal rains. The main issues of households are fragmentation and erosion of the land because of intensive cultivation.

Agricultural work in Rwanda means hard manual labour using no more than simple tools like a hand plough to cultivate. To assist in work on the land, rural-urban migrants make temporary returns to their rural household. About 35.6% of all stretched households benefit from this seasonal migration flow. But seasonal migration can also bring additional costs in time and transport. Some migrants return for only one farming season but more often seasonal migrants return for both. Figure 21 shows the relation of seasonal migration and migration strategies. Direct explanatory factors are the number of people needed to work on the land⁴⁹ and the average age of household members⁵⁰. Additionally, 5.7% of the migrants made temporary returns to help out in construction of a house or a pit latrine. Others made temporary returns in attempt to resolve family conflicts.

Figure 21: Seasonal migration and migration strategies⁵¹



⁴⁹ Relation between seasonal migration in stretched households and people needed in farming seasons: Kruskal Wallis Test [n = 157]; 8.041, P < 0.018.

⁵⁰ Relation between seasonal migration and mean age of the household: Kruskal Wallis Test [n = 157]; 10.015, P < 0.007 (Migrants from older household members only come back one farming season).

⁵¹ Relation between seasonal migration and migration strategies: Kruskal Wallis Test [n = 157]; 5.478, P < 0.065.

7.3.2 Counter-urbanization and ripple migration

Counter-urbanization refers to opposite flow of rural-urban migration. Households that participate in this counter movement used to live in Kigali but are now going to the rural areas surrounding the city. Reasons for this type of migration are increased cost of living in Kigali, life in the rural areas is cheaper and free water and education. This paragraph provides some examples of counter-urbanization and elaborates on its consequences also known as ripple migration.

When households move from the city to the rural areas they prefer a place similar to what they were used to, access to electricity and access to roads and transportation are important. The latter is especially important for households where the main income provider commutes from the city to work there. One example is a family that also moved out of Kigali because of high living costs. For most of the week the head of the household is found in the city working in a paint factory, he sleeps in a house he shares with other workers from the factory. Once or twice a week he is able to return to his household in the rural area to rest and spent time with his family. This household felt forced to move out of the city but most people that want to leave or feel forced to move out have no capabilities. Buying a new house and finance the transport is expensive. Therefore the poorest households become ‘trapped’ in the city, life in the city becomes more expensive but they also have no way out.

*Quotation box 18 : “To move from Kigali to this place costs a lot of money but is also an improvement because life here is cheaper, you don’t have to pay for water and education in the city you have to. Therefore I felt forced to move my family and leave the city. It is common for people to make this move but there are also a lot of poorer households that are ‘trapped’ in the city. Depending on the capacities of your household some poor choose to migrate even further to more remote rural areas and fully integrate into a life as farmer there. So the poorest households stay in the city while others depending on their capabilities move to rural areas near to the city or rural areas far away from Kigali.
[Commuter living in the rural areas]*

Another example comes from an in-depth interview with an retired construction worker that moved with his household to the rural area. He became weak and ill because of old age so now he can live from the land instead of heavy construction work in the city. He indicates that not only poor households are shifting from Kigali to the rural areas but also rich households are on the move. The difference is that less-capable households stay in the rural while rich households move between the city and the rural areas, when people are able they will always stay connected to the city.

Quotation box 19 : “Poor people stay in the rural areas, when people have capabilities to stay connected you will always find them to be connected to the city, therefore rich households move around more.

Kigali is for the rich people, everything have to be bought there.” [Retired construction worker]

Ripple migration

Counter-urbanization sorts out different households. Poorest households are trapped in the city, households with more capabilities can move out of the city if they wish and better-off households are also able to stay connected to the city. The most capable households are likely to stay in the city and so the difference between urban and rural areas increases. But counter-urbanization has also its effect on the rural areas where new households are received. In one of the in-depth interviews a head of the household that also moved out of the city explains how this works.

Quotation box 20 : “Here live is good because in Kigali you can’t cultivate and you have to have a degree to get a job. Here I have land and free education for my children. In the future I prefer to go back to Kigali but I want to leave my family to live here and find work in Kigali to support them.

More households are doing the same and this sets in motion a chain of events. When people move from Kigali to a place like this because of the better living conditions then they buy up land and rent houses from the people that are original from this place. These people then use this money to move further away in the country side where they can cultivate bigger lands and so on. This way of development sets in motion different shifts of households moving from one place to another. Now, inequality in the rural can be measured by the size of land people own that they are able to cultivate. So people from Kigali might have good houses but they still have to buy their food on the market, the people that are able to stay and keep the land for themselves are the ones that profit the most.” [Head of household moved his household to the rural areas]

Urban households move to rural areas surrounding Kigali. They buy land to build their houses and to cultivate. As a consequence, the price of land goes up and then it becomes attractive to poor households already living there to sell their land for a good price and buy new larger pieces of land in more remote rural areas. The same principle continues in more remote rural areas where these households move to. The households that are able to remain in the area of increased land and market prices profit the most from these events. This phenomenon is called in this study ripple migration because of its assumed wide-spread effect on a region, it is a combined side-effect of counter-urbanization and rural-urban migration.

However, migration of households from the city to the rural areas are not always voluntary. One in-depth interview covered the story of a widow-household forced to move to the rural area where she has no land to cultivate. Life for her became very bad compared to life she had in Kigali.

Quotation box 21: “We used to live in Gasabo district, officials from the government came and reviewed the value of everything in our house. Then they decided to give 1.500.000 francs for it. It was not my choice but we had to obey the decision all the people from that place are now scattered around the country.” [Widow with 7 children, forced out of the city]

7.3.3 Returning rural-urban migrants

Like households in the city, rural-urban migrants also have to deal with increasing living costs in the city. Some are not well prepared for the city and because of problems they are forced to go back to their rural area of origin. The next two examples come from migrants that have a negative experience with rural-urban migration flows, because this study conducted research on rural-urban migration from the perspective of the rural areas it was possible to get some insight in their stories as well.

One man had to admit that he did not make it as a shop owner in the city, eventually he had to turn back to the rural area where he came from and live with the consequences.

Quotation box 22 : “When I failed, I was forced to return to my birth place and people blamed me for coming back, they said: ‘He was going to Kigali but now he failed and he is coming here, he doesn’t have any house or even knows where to live.’ I am now living in a rented house. My original intention was to open a shop in Kigali but the prices of rent and taxes are much higher than I expected. The situation became so bad that at one time my children (back in the rural) could eat only once a day. My younger brother and a friend visited me in Kigali one time and had to spend a night without having anything to eat or to drink. After my business failed I didn’t decide to come back immediately but I preferred to look for other work and found myself working on a daily-hired basis, maybe for 7 or 8 hours a day for a small salary.”
[Head of household, returned to rural area because of high costs]

The next interview comes from a rural-urban migrant that lost his sustainable income because of economic regression. Eventually, he decided to return to the rural area where he could build up a more stable life. He got married and has two children now. He gives some insight in the set-backs he sometimes encountered in the city.

Quotation box 23 : “I was a metal worker in the city, contracted in construction and jobs on demand. The expenses I made in Kigali were increasing over past four years. The economic crisis had increased prices of everything from fuel to taxes.

Once I had a contract with someone for a job of 300.000 francs, in advance I got 20.000 to get started. But at the end when I was supposed to be paid the rest of the amount, the man was in conflict with the government. So he could not pay the full amount of the contract. This exploitation comes most of the time when you have contracts to build schools. Such a thing can even happen in the rural areas.

I would not recommend others to go to Kigali if you don’t have a very big profitable business there. It should be easier for young people to get access to credit especially because the rates are very high, now young people are unable to realize their projects for the future.”

[Metal worker, returned to rural areas because of economic crisis]

7.4 Conclusion

This chapter elaborates on flows of migration, the leading question is: “Which flows of migration are distinguished and how are these related to the livelihood of rural-based households in the Kigali-region?”

First, rural-urban migration is the most important flow of migration and there are migrants with many different characteristics. Differences between rural-urban migrants can be explained by diverse rural livelihoods of the households where migrants come from. Three migration strategies form the basis of motivation to migrate.

Secondly, there are several other flows of migration. Some are side-effects of rural-urban migration such as seasonal migration. Others are counter reactions to the fast development of urban areas such as counter-urbanization. And some flows follow upon others such as the return of rural-urban migrants follows rural-urban migration and ripple-migration follows after counter-urbanization. Flows of people between rural and urban areas are therefore complex, migrants have many destinations, motivations and each action is followed by another reaction producing different flows of migration. It seems that the city becomes more and more a place for the rich and poor that are ‘trapped’ there. Migration strategies, migration flows and characteristics are all summed up in table 22.

Table 22: Migration strategies, flows and characteristics

Migration strategy	Migration flows and characteristics
Survival strategy	<i>Short-term relative young migrants, most often resort to loans and selling of assets to fund migration. They are least prepared, most are unable to send back remittances and least often found in seasonal migration flows. Disabled households are most impacted by change of land and female-headed household with decrease of livestock. Returning rural-urban migrants are forced back by high living costs in the city.</i>
Consolidation strategy	<i>Short-term migrant relative young migrants, depend most on assistance from family or friends to fund migration. They are better prepared and are able to send back remittances more often. However, subsistence cultivators struggle with the impact of changes in land and livestock, migrants from these households have the shortest stay in the city. Migrants from poor market producers ask least for permission to migrate but some of these households were able to increase their livestock.</i>
Accumulation strategy	<i>Long-term relative old migrants, most are able to save money to fund migration. They are best prepared, most often able to send back remittances and most found in seasonal migration. Migrants from large land holders have highest education and their households are well able to sustain land and livestock. Migrants from educated households send back most remittances, their households increased in land size. These are households of counter-urbanization but where head provides income staying behind to work. Returning migrants are forced back by the impact of recession in the economy.</i>

8. Conclusion

This combined quantitative (rural household survey) and qualitative (livelihood trajectories) research presents six different livelihood profiles with separate motivations to send household members to the city, rural-urban migration is part of a survival strategy, consolidation strategy and accumulation strategy. This research argues that these household migration strategies based on livelihood profiles are a better representation of livelihood diversity than the poverty classification based on the official poverty status, also known as the Ubudehe-approach. The central question was: *How are rural-based households actively engaged into flows of rural-urban migration and how are these linkages related to their livelihoods?* To answer this question causes and flows of rural-urban migration are examined following two central concepts. First, livelihood framework and secondly migration flows were recognized as integral part of rural-urban linkages, placing the interrelationship between rural and urban areas at the centre stage of development.

First, the livelihood approach is widely recognized as a valuable tool to gain more insight in people's lives, instead of looking at the lacks and shortcomings it prefers to emphasize capabilities and strengths. Scoones (2009) explains that the idea of people able to lift themselves out of poverty (human agency) can be traced back to the 1980's but policy-makers dismissed the outcomes as too complex, confusing and sometimes seemingly contradictory. Nevertheless, after years of evaluations, attention to the livelihood approach was renewed. After disappointing results of large scale development programmes, backed by demands for sustainability, Chambers and Conway established the sustainable livelihood framework in the early '90s. The livelihood perspective teaches the importance of dynamics and variations between households. Their livelihood strategies include always some sort of trade-off between opportunities and existing capabilities. Also migration is rarely the decision of one household member alone. Access to material and immaterial resources influence the ability of a household to take advantage of new livelihood opportunities. Household livelihood profiles diversify according to the opportunities within their reach (Ansons & McKay, 2010).

Secondly, following a general overview of Tacoli (2004) rural-urban linkages include flows of goods, commodities, finances, people, ideas and information. Interaction between rural and urban areas happens through daily commuters, frequent interactions, mobility and flows of rural-urban migration. This broad coverage gives the opportunity to study both causes and impacts of rural-urban development at the same time⁵². Rural-urban linkages are important because it has the potential to capture wider social and development processes in one framework. Rural-urban linkages are able to adapt forward and backward linkages explaining endogenous growth following the 'New Economic Geography'. And rural-urban linkages lie at the base of transformations of a developing economy. As urbanization proceeds, national policy-makers need to think about appropriate public investments in particular times depending on the specific context of each country (Tiffen, 2003).

⁵² Smit (2012) elaborates on the findings of impact of rural-urban migration on rural households in the Kigali-region.

Rural-urban linkages are useful because they bridge the definition problem of what is 'rural' and what is 'urban'. Because there is no universal solution to the rural-urban divide, official classifications should be treated with caution. Additionally, there is a tendency to overvalue urban defined areas above rural defined regions resulting in a, political sensitive, unequal development which Lipton conceptualized in his urban-bias hypothesis⁵³. It is however misleading to speak of one single urban class exploiting one single rural class and similarly unhelpful to place all hope on positive effects of ceaseless circulation between the two areas (Corbridge & Jones, 2005).

To cover geographical diversity of the Kigali-region as good as possible in the time and means available, four administrative sectors were selected outside the urbanized city-districts. The random sampled administrative cells in these sectors are: Gakamba to the south, Ngoma to the west, Rubona in to north and Nyagasambu to the east of Kigali. With the provided data on household population of these cells a minimum sample size could be calculated which came down to 65 households for each cell. Households were then assigned with the use of aerial photographs of the designated research area, the aim was to get 130 households without migrated household members and 130 households that sent one or more household members to the city as a migrant (stretched households). To support the central question five research questions were formulated.

The first research question was designed to establish a basic idea of the livelihood of rural-based households and at the same time compare the results of empirical findings with the poverty classification based on the official poverty status of households. The first question was: *What are the livelihood characteristics of rural households in the Kigali-region and how do these livelihoods compare with their poverty status?* Some significant differences were found between the research areas. In Nyagasambu relative more people were active in services and trade instead of agriculture, Gakamba was the most agricultural active area. At the same time in Gakamba, significant less people were undergoing education, while Rubona had the highest number of people in school closely followed by Nyagasambu. Furthermore, for all areas unemployment is very low and there is good reason to assume many people have secondary agricultural occupations such as hired labour in harvest seasons. Differences in gender are found in agricultural activities (more female), trade, services, construction and mining (more male).

Natural capabilities of a household is examined by five different indicators. The household poverty classification did align with only two of these: Ownership of livestock and total size of large livestock. Ownership of land and land size did not align with the household poverty classification. Instead, poor households had least ownership of land and also the largest land size. The household poverty classification did also play no role in the access to water, the latter depended on locality as different research areas had different water resources available. Additionally, in-depth interviews revealed that it is also possible that some better-off households were not comfortable holding their own livestock because of the many responsibilities and implications attached. Poor households that didn't own livestock of themselves were known to take care of livestock for others in an informal agreement.

⁵³ Corbridge & Jones built on several publications of Lipton up to 2005 including [Lipton, M., (1977), *Why poor stay poor: A Study of Urban Bias in World Development*, London: Temple Smith].

Physical capital of a household was examined by three indicators, two of these indicators did align with the household poverty classification: Availability of a kitchen and total score of material assets owned such as a radio, bicycle, phone with or without internet. Access to electricity was more place specific because not all areas had an equal good connection to the electricity network. For example, Rubona was not yet connected to the electricity grid at all. Most households with access to electricity were therefore found in Nyagasambu. Within Nyagasambu, better-off household did have more access to electricity followed by poor, very poor and extremely poor households. Access to internet by phone was also most found in Nyagasambu (where also most trade and services was found). And the use of bicycles was more found in Gakamba, which can be explained by the favorable plain landscape of that area.

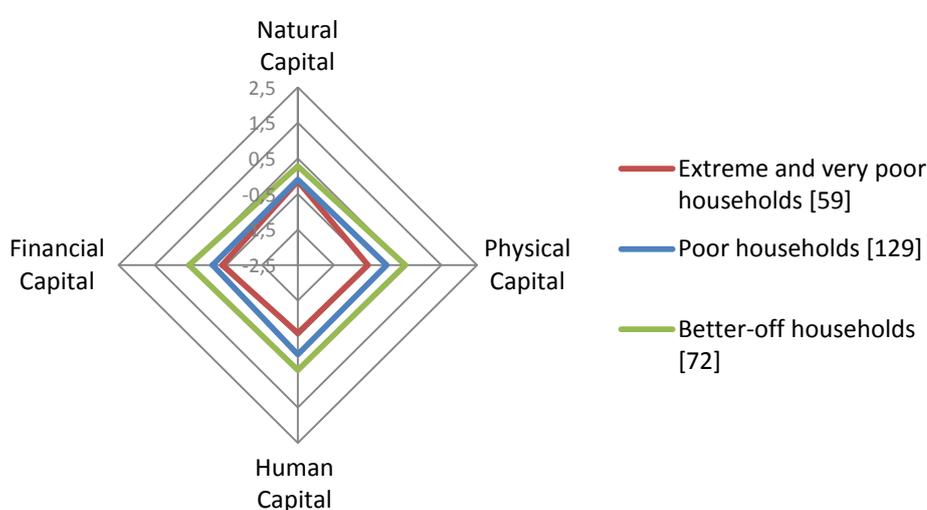
Financial capabilities were presented by the financial income of the household. The poverty classification did align with this capability. Extreme and very poor households had only a small income, poor households twice as much and better-off household earned clearly the most income. Absolute income differences were found in every source of income. Relative income differences were found in income from agriculture, husbandry and business enterprises. Extreme and very poor households depended the most on agriculture for their total income. The share of income from husbandry and own business enterprises were also different for each household classification. Better-off households earned the most relative income from these sources, extreme and very poor households the least. Households from Nyagasambu received more income compared to other households. In-depth-interviews suggested that the motivation to migrate may have an important influence on the amount of remittances received by the household.

Human capabilities were examined by three indicators: Literacy status, level of education and total years of education of the household. The household poverty classification and all three indicators shared a clear relationship with each other. Besides poverty status, the household size has an influence on the human capital of a household. A larger household adds to the potential labour force of a household but at the same time it reduces the chances to better education for every household member. Especially enrolment in secondary and higher education is expensive. If the education fees go up, poor households with a large household size will be the first to have problems in access to education. Most human capital is found in Nyagasambu followed by Rubona, Ngoma and Gakamba.

It was not possible to compare household poverty classification and social capital on the basis of the household survey. But in-depth interviews revealed that in case of serious illness such as AIDS, mental or physical handicap it is possible that household members feel useless to the community and become marginalised. Social capital is assumed to be important for extreme, very poor, poor and better-off households but is difficult to say that one household gained more favour in a community compared to others. Social capital is also about access to a social network, information and opportunities. For the first four livelihood capabilities, the household poverty classification seemed to be a fair comparison for poverty with the exception of access to natural resources as land and place dependent access for water and electricity. Extreme and very poor households had the lowest values in each capital, poor households are slightly better off and better-off households had consequently the highest score.

However differences found with the use of the poverty classification remained relatively small and based on these differences it was not possible to distinguish a diversity of livelihoods. The household poverty classification had little explanatory power to the causes of rural-urban migration. No real differences between stretched households and households that were not active in rural-urban migration flows could be found. Differences between research areas were equally of little value because differences between Gakamba, Ngoma, Rubona and Nyagasambu were even smaller. Differences between households based on the poverty classification are shown in figure 22, based on the standardized values of indicators. The scale ranges from a minimum of -2.5 to maximum 2.5 and social capital was excluded.

Figure 22: Livelihood capitals and poverty classification



The second and third research questions were designed to identify households that are more vulnerable to fall into structural poverty. Gender differences in occupations and marginalization of physically disabled household members suggested that households with these conditions had less access to livelihood capabilities. The second question was: *What are the main characteristics of stretched female-headed households and how do these households compare to other households in the Kigali-region?* The third question was: *What are the main characteristics of stretched households with a physically disabled household member and how do these households compare to other households in the Kigali-region?*

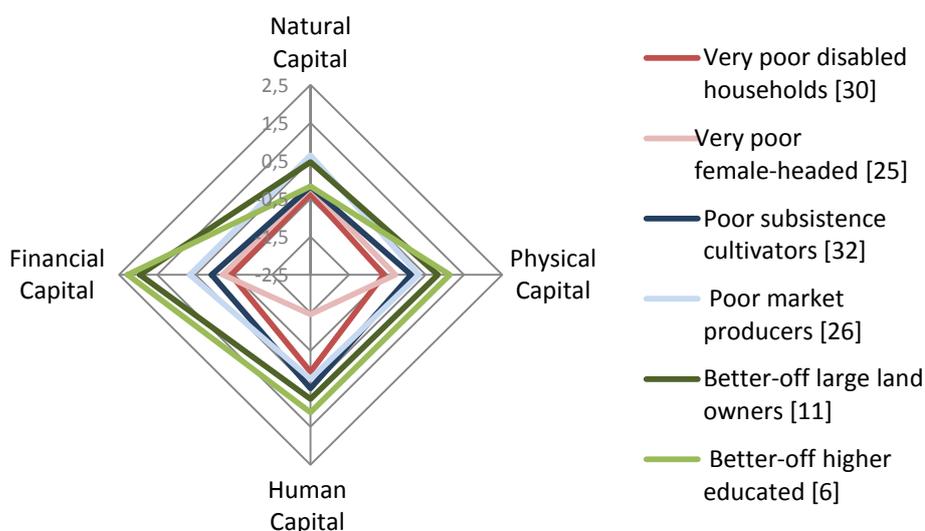
Female-headed households were households with a single mother or woman as head of the household. In a nuclear household the man would normally represent the interests of the household but because of death, divorce or other circumstances roles have changed. Because of genocide, female-headed households are not uncommon in Rwanda and they are more involved in rural-urban migration compared to other households. Female-headed households were subsistence agriculturalists with a low income and less physical capital. Consequently they had a lower poverty classification compared to other stretched households and they had significantly less access to good education. In-depth interviews revealed that female-headed households in general experience more difficulties in their livelihood.

The absence of a male role-model resulted in a decrease of human capital but and presumably less social capital. Low access to education could be explained by the larger share of responsibilities children in female-headed households assume at a relative young age. The low human capital was the main difference between female-headed households and households with a physical disability, which were also subsistence farmers with a low income and less physical capital. Disabled households had one or more member that is chronically constrained to function properly. These household members could, for example, suffer from heart disorders, they could be crippled from birth or suffer from war-related injuries. Physically disabled household members were sometimes found as beggars in the city, trying to survive. But as form of social security, physically disabled households were also given more ownership of land that is divided between families. This way they can survive by planting their own crops. Disabilities in the household can both be the cause but also the consequence of poverty, especially if medication and treatment become expensive.

The fourth research question build forth on the causes of rural-urban migration: *What are the causes of rural-urban migration in the Kigali-region?* Because the poverty classification could not produce enough livelihood diversity to distinguish underlying causes of migration, a livelihood cluster analysis has been used. A cluster analysis is a good tool to categorize cases in different groups because the researcher does not seek out group membership by himself but lets the computer calculate groupings. The only aspect that the researcher decides for himself is the number of groups in which all data must be divided but of course it is unknown how many cases and in what cluster (SPSS, 1999). The best number of clusters was six because the cases were relatively equally divided and each cluster contained at least more than five cases. From the second and third research questions, variables representing whether a household was a female-headed household and if a household had a physically disabled household member were added to the data set. And because land ownership and land size did not align with poverty classifications of households, the access to the market was also added to the data, most households cultivated merely for their own consumption but some also produced crops to sell on the market. A relationship between land size and market production was found indicating that larger land holders should theoretically be more capable to produce crops for the market. Poorer households were most subsistence farmers and better-off households were able to produce crops to sell on the market.

The result of the livelihood cluster analysis of 130 stretched household from all four research areas were six livelihood profiles based on female-headed, disability, market production, size of land and remittances. The six livelihood profiles are: Very poor female-headed households, very poor disabled households, poor subsistence cultivators, poor market producers, better-off large land holders and better-off higher educated (urban employed). Based on these livelihood profiles the 130 stretched households could be analyzed for underlying causes of rural-urban migration because the livelihood profiles reflected livelihood diversity with more unique differences than the household poverty classification could. Differences between households based on the livelihood profiles are shown in figure 23, scores were based on the standardized values of indicators (now grouped by the livelihood cluster analysis). The scale ranges again from a minimum of -2.5 to maximum 2.5 and social capital was excluded. The livelihood profiles proved that stretched households in rural areas are a more heterogeneous than comparison between research areas or by poverty classification pictured.

Figure 23: Livelihood capitals based on profile analysis.



I. Very poor disabled households cultivated only for their own consumption and have no livestock. They have the lowest physical and financial capital. II. Very poor female headed-households were poor households that slightly better managed to compensate livelihood capitals despite their vulnerable livelihood but as a result they have the lowest human capital and no livestock. These two households used rural-urban migration as survival strategy.

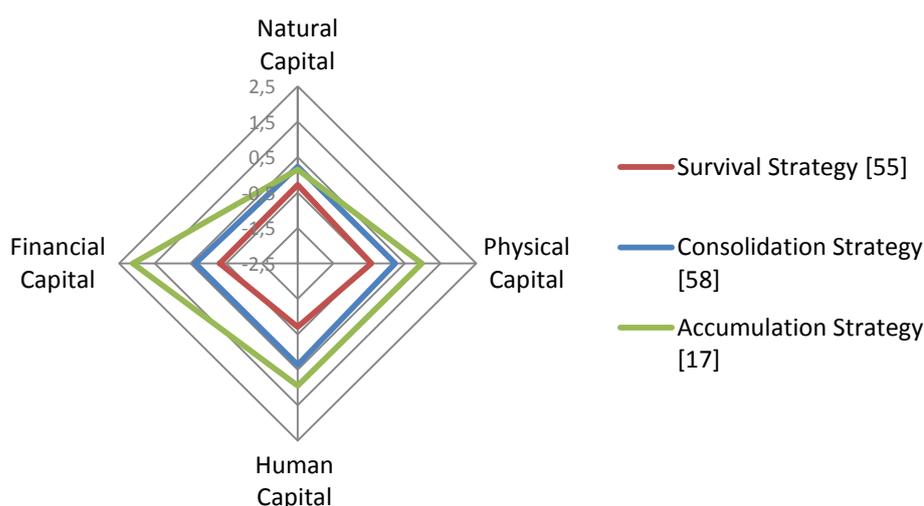
III. Poor subsistence cultivators were average poor households with better physical capital, good human capital but they produce no products to sell on the market. Their lack in livestock compared to market producers is besides market access characterizing. IV. Poor market producers were capable to produce crops for the market. They owned more land and own most livestock of all livelihood profiles, which means good access to natural fertilizers to improve quality of their land. Consequently they have more income and remittances, high physical capital but lower human capital compared to subsistence cultivators. These two households applied rural-urban migration as consolidation strategy to their livelihood.

V. Better-off large land owners had the highest total income and the most land in their livelihood. These households receive the most income with high production for the market and presumably make use of hired labourers or let others take care of their livestock for them. VI. Better-off higher educated households have household members that are higher educated but landless. This group of households include those that moved out of the city to cheaper living conditions in the rural areas but still get their main income from urban employment, they have most access to electricity and the highest income from remittances. These households based their livelihood on skilled labour and not on natural capabilities like other households. These two households adapted rural-urban migration as accumulation strategy.

So based on six livelihood profiles, three causes of rural-urban migration were found related to different livelihood strategies. First, households with a survival strategy sent migrants because they were unable to create a sustainable livelihood. Structural constraints of these households were extreme poverty, the lack of basic needs, the lack of fertile land and social conflicts.

Households with a survival strategy saw no other choice than to send household members to the city as migrants. A second strategy was consolidation of the livelihood. The causes of migration for these households were unemployment in the rural areas, therefore livelihood opportunities in the city were sought by rural-urban migration to relieve and strengthen the livelihood. The last cause of migration was found with households sending members to migrate because of an accumulation strategy. This is a small group of households and migration occurred because households were trying to expand their livelihood with opportunities they perceived in urban areas but were not found in rural areas such as higher education and urban employment. Differences between migration strategies are shown in figure 24, scores were based on the standardized values of indicators (now grouped by the livelihood cluster analysis). The scale ranges again from a minimum of -2.5 to maximum 2.5 and social capital was excluded. The migration strategies proved that causes of rural-urban migration could only be found with the help of the livelihood cluster analysis, revealing diversity between stretched households the way the poverty classification did not.

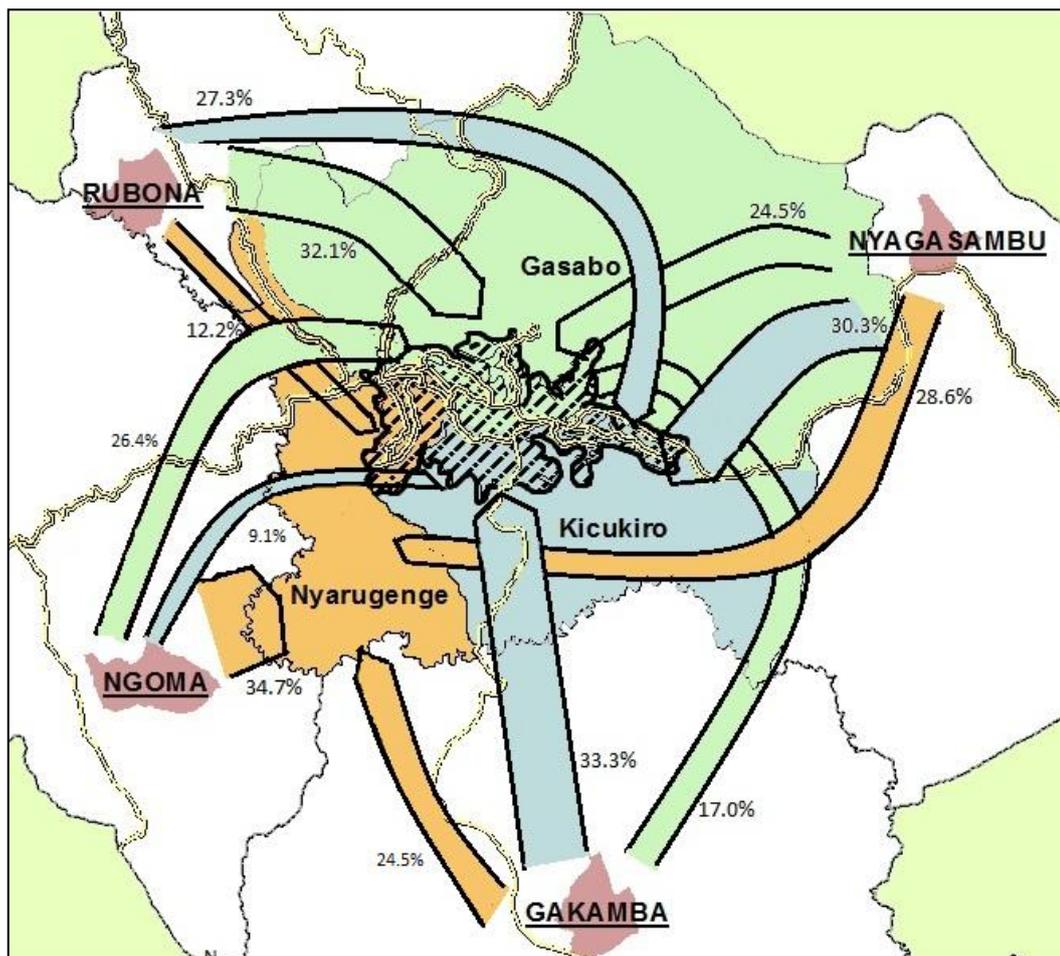
Figure 24: Livelihood capitals based on migration strategy



With diversity of stretched households and causes of rural-urban migration established, the last research question was designed to get more insight on the type of flows of migration: *Which flows of migration are distinguished and how are these related to the livelihood of rural-based households in the Kigali-region?* The first findings were that the diverse livelihood profiles sent out migrants differentiating in age, human capital in form of education and length of stay in the city. There are also relations to the livelihood profiles of sending households and the change in access to land, livestock and way of funding migration. Additionally, gender differences were also found. Secondly, additional types of migration were: Seasonal migration, counter-urbanization resulting into ripple migration and returning rural-urban migrants. Human capital was partly drained from rural areas, especially higher educated people chose to enter into rural-urban migration to seek employment or continue their studies elsewhere because there were no opportunities for them in the rural areas.

There were in total 158 active rural-urban migrants and it was possible that a household sent up to three migrants to the city. Households with multiple migrants were on the one hand disabled households with a survival strategy and on the other hand large land owners with an accumulation strategy. The average age of rural-urban migrants was 28 years old. The youngest migrants (below the age of 18) were most often sent to live with family members. Older migrants were above the age of 40 and migrated because of socio-economic structural problems. Rural-urban migration was male dominated. In-depth interviews revealed that it is much more difficult for young woman to return to the rural household because to survive hard living conditions in the city some woman sold themselves and even if this was not true out of shame for this prejudice female migrants preferred not to return to the rural area unsuccessfully. Man were expected to resort to theft in the same conditions but this had less dishonour for returning. In the rural household daughters asked more often for permission to migrate compared to other household members. The average time spend in the city comes down to six years. Short-term rural-urban migration counts up to five to six years stay in the city, ong-term rural-urban migration lasts longer (up to 30 years). Two-third of the migration flows was short-term, one-third was long-term migration. Migrant destinations are shown in map 4.

Map 4: Schematic representation of rural-urban migration flows from four research areas



Migrants with a survival- and consolidation strategy were relative young short-term migrants. Migrants with an accumulation strategy were relatively old long-term migrants. Migrants with a survival strategy most often have to take a loan or sell livelihood assets to fund rural-urban migration. These migrants are the least prepared to migrate because they have few financial capabilities. Migrants from disabled households sent back the least remittances and their households were most impacted by decrease of land size in the past ten years. Migrants from female-headed households had the lowest human capital and their households were most impacted with a decrease of livestock over the past year. Migrants with a consolidation strategy were more able to save money before migrating but like others they dependent most on assistance from family or friends. Migrants from subsistence cultivators were the youngest in age but these migrants were able to sent back more remittances compared to migrants from survival strategies. Subsistence households are all struggling with decrease of land size and/or decrease of livestock. Migrants from market producers asked the least permission to migrate but their households were able to sustain their land size and livestock. Only the majority of migrants from households with an accumulation strategy were able to fund migration from their own savings, these migrants had the most financial capabilities and were best prepared. Migrants from large land holders were the most high educated, additionally their households were able to sustain land size and livestock. Migrants from higher educated households were also good educated and they all sent back remittances. They also all ask for permission to migrate and their age is relatively high. This is because these latter migrants have a family that depends on their earnings as basic income of their livelihood.

About one-third of the migrants participate in seasonal migration flows. Some migrants return for only one of the two farming seasons but more often seasonal migrants return for both. Explanatory factors of seasonal migration are the number of people needed to work on the land and the average age of household members. Households with an accumulation strategy receive most migrants from seasonal migration, followed by households with a consolidation strategy and households with a survival strategy. A few migrants also returned temporary to help out in construction of a house or a pit latrine or to attempt to resolve family conflicts.

Counter-urbanization represented the opposite flow of rural-urban migration. Households in this counter movement used to live in Kigali but moved to the rural areas surrounding the city. Reasons for this type of migration were increased cost of living in Kigali, life in the rural areas was cheaper and free water and education. When households moved from the city to the rural areas they preferred a place similar to what they were used to, this includes access to electricity, roads and transportation. For these reasons most of these households were found in Nyagasambu. These households were then again found in rural-urban migration when the main income provider stayed in the city as 'rural-urban migrant' earning income from urban employment. Because counter-urbanization was very expensive, poorest households could not use this strategy. But counter-urbanization had also effect on the rural areas. Arriving households bought up pieces of land to live and cultivate. As a consequence, the price of land rose and it became attractive to poor households to sell their land and move in their turn to more remote rural areas. The same principle continues there resulting in a ripple of migration, in this study named ripple migration. Households that were able to hold on to large pieces of land profited the most from so-called ripple migration.

Recommendations

Rural policies should adapt distinct and appropriate interventions to support vulnerable and impoverished households. Key to interventions for rural-urban migration flows are not poverty classification but livelihood profiles, recommendations are summed up in table 23. Additionally, to anticipate counter-urbanization, new Imidugudu are already built but there should also be attention to the division of land and monitoring of price mechanisms to confirm the existence of ripple migration. Finally, the possibility of small-scale rural enterprises benefiting from rural-urban linkages should be explored. Allocation of economic growth should be stimulated and not Kigali-centred. Governments could lead the way by relocating institutions to secondary urbanised areas so that opportunities are urban or rural biased but found in linkages in-between.

Table 23: Summary of livelihood profiles and policies for rural-urban migration

Livelihood profile profile	Migration strategy	Recommendations
I. Very poor disabled Most impacted by structural constraints of poverty, disease, dependency on land	Survival: Short-term relative young migrants, resort most to loans and selling of assets, least prepared to migrate, most are unable to sent back remittances and least often found in seasonal migration.	Reduce vulnerability with social insurance and increase bargaining position on informal labour markets, also increase awareness on difficulties of migration
II. Very poor female-headed Most impacted by gender constraints, low education and no livestock available	Returning rural-urban migrants are forced back by high living costs in the city.	Improve access to education and increase awareness on difficulties of migration, remove gender constraints
III. Poor subsistence cultivators Struggle to consolidate land and livestock, most impacted by external shocks on production	Consolidation Short-term relative young migrants, depend most on assistance from family or friends, better prepared to migrate and able to sent back more	Improve access to natural fertilizers and integrate farmers in small-scale rural enterprises, explore self employment in off-farm work
IV. Poor market producers Most restricted by permission to migrate, probably because of labour demands	remittances, remarkably migrants from profile III have the shortest stay in the city.	Improve access to market and increase bargaining positions with unions and shares in product processing facilities
V. Better-off large land holders Sent out migrants to seek higher education and employment	Accumulation: Long-term relative old migrants, most are able to save money, best prepared, sent back most remittances and most found in seasonal migration.	Set good standards for rural entrepreneurship and access to micro-credit to increase production and labour demand.
VI. Better-off higher educated Possible result of counter-urbanization , high dependency on remittances	Returning migrants are forced back by the impact of recession in the economy.	Create network-association to share, information, knowledge and defend interests of urban-employees.

Comparison with theoretical framework

The conclusion of this research corresponds to the outcome of Hoang et al. (2005) and his research on income diversification through rural-urban linkages in Vietnam. Mostly better-off households are able to benefit, vulnerable poor households don't benefit as much and become marginalised without any interventions. So there is indeed a need for more pro-poor regional economic growth confirming the statements and importance of rural-urban linkages advocated by Tacoli (2004).

There is no evidence of a 'rural poverty trap' (Baret et al., 2001). The extreme and very poor households are instead well represented in rural-urban migration flows because they feel forced to seek opportunities elsewhere driven by the structural constraints in their livelihoods. The proposed entry barrier is resolved with loans or selling of assets, consequently these migrants are ill-prepared for high living costs in urban areas. However, there is reason for the existence of an urban poverty trap because poor households in the city cannot afford to move to the rural areas as the living costs increase. The decision to migrate is influenced by power relations and hierarchy of household members (Schindler, 2009; Agesa & Kim, 2001).

Gender-differences play a role in rural-urban migration, against Schindler (2009) expectation female headed households take more part in migration compared to other households. Findings confirm Uwimbazi & Lawrence (2001) on the presence many widow households in Rwanda and Ansoms & McKay (2012) in their plead that for specially designed policies for female-headed households as a vulnerable group.

The causes of migration in this research are similar to the causes of income diversification by Smith et al. (2001), households make a livelihood strategy to survive, consolidate or accumulate weighing one decision against another. Coping behaviour and adaptation methods are found in this research just like in Burkina Faso by Wouterse & Edwards (2006). Coping behaviour is linked with uncertainties in the livelihood and can be divided to the first three livelihood profiles that are subsistence households. Adaptation strategies are linked with opportunities and can be divided to the latter three livelihood profiles of market producers, large land holders and higher educated urban employed.

Finally, the livelihood analysis revealed that the rural population is not a homogeneous group of small-scale subsistence farmers confirming Rizzo (2011) arguments. Ansoms & McKay (2010) most resembled the findings of this research identifying seven livelihood profiles in rural areas of Rwanda. They did not aim at the Kigali-region and included both stretched households and households without migrants but they also identified a group of rich households based on entrepreneurship or natural resources, a group of average households that are resource poor and a group of vulnerable households including female-headed households. The plead for pro-poor specially designed policies based on livelihood profiles and not poverty classifications is the most important outcome. Rural-urban migration is linked to the livelihood of rural households because decisions to migration are not made alone but after careful consideration of livelihood capabilities, perceived opportunities and structural constraints. But these policies could not be successful without a way is found to rural-urban linkages work.

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RURAL HOUSEHOLD SURVEY

RWANDA

Rural livelihoods and the role of rural-urban migration in the surroundings of Kigali

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INFORMED CONSENT

In the framework of the ongoing capacity building partnership between the National University of Rwanda (NUR) and the University of Utrecht, we Micha Schutten and Arjan Smit, Dutch Master students, have been invited for an internship at the NUR-CEESD under the Rurban Africa Research Project on rural connections till 2014. As this internship serves as our MSc graduation project in International Development Studies, we have to perform a research, including data collection and analysis for our research topic entitled *“The underlying causes of rural-urban migration and its impact on rural households in the Kigali-region”*.

First, we would like to make a complete list of household members. A household consists of a person or a group of persons, irrespective of whether related or not, who normally live together in the same housing units or group of housing units and have common cooking and eating arrangements. The head of household is a person who is responsible for generating and managing the largest part of the household income. Household members include only those persons who are currently living in the household.

Second, we would like to know the current occupations of the different household members to get an insight of the daily live. In the last part we will ask some questions concerning former household members who have now migrated to another place. These migrant household members are the persons who are currently not living with you in the rural household but are still attached to your family.

All answers will be analysed with care and with keeping anonymity. Results will be reported back to the National University of Rwanda.

Questions should preferably be answered by the head of the household!

QUESTIONNAIRE FOR THE HEAD OF THE RURAL HOUSEHOLD (Rural household = without 'former household members' living in another place!!)

Section 1: Household Roster

P E R S O N I D	1.1	1.2	1.3	1.4	1.5	1.6
	Please list the NAME'S of all household members who currently live in the household. (Listing order) Head Spouse Children not married Children married Other relatives Domestic servant Employed guard Non relatives	What is the relationship of (NAME) to the head of the household? 1. Husband 2. Wife 3. Children: boys 4. Children: girls 5. Housekeeper 6. House guard 7. Other relatives 8. Non-relatives	What is the sex of (NAME)? 1. Male 2. Female CODE	What is (NAME's) age in completed years? YEARS	Is (NAME) able to read or write? (only ask older than 6 years) 1. Neither read nor write 2. Read only 3. Read and write	What is the highest level of schooling that (NAME) has attained? 1. No education 2. Primary at least 3 years 3. Primary complete 4. Secondary at least 3 years 5. Secondary complete 6. University CODE
1						
2						
3						
4						
5						
6						
7						

Section 1: Household roster (continued)

PERSON ID	1.7 How many total years of schooling has (NAME) completed? YEARS	1.8 Do you have persons with a handicap in your household? 1. Yes (write NAME(S) below) 2. No	1.9 What is your household class according to the Ubudehe classification? 1. Extremely poor 2. Very poor 3. Poor 4. Resourceful poor 5. Food rich 6. Money rich	1.10 Do you have household members that have lived in the city but returned to your household? 1. Yes; [write NAME(S) below] 2. No >> Q 2.1	1.11 What is the reason why [NAME] has returned from the city to your household? REASON
1.					
2.					
3.					
4.					
5.					
6.					
7.					

Section 2: Occupational activities (continued) – ONLY ASK HOUSEHOLD-MEMBERS (WITHIN THE HOUSEHOLD) OLDER THAN 5 YEARS

PERSON ID	2.5 What was (NAME's) second most important occupation in the last 12 months?	2.6 Is this occupation outside the place of residence? 1. Yes 2. No >> Q 3.1	2.7 What is the name of the place of (NAME's) current second most important occupation? (after 2006)	2.8 How many times per week does (NAME) travel between his/her place of residence and the place of this second most important occupation?
1				
2				
3				
4				
5				

Section 3: Housing conditions

3.1	3.2	3.3	3.4	3.5
<p>What is the major construction material of the exterior walls of your house?</p> <ol style="list-style-type: none"> 1. Bricks/Stones 2. Wood/off cuts 3. Mud 4. Tin 5. Straw 6. Iron sheets 7. Other, specify 	<p>Do you have a separate room for cooking?</p> <ol style="list-style-type: none"> 1. Yes 2. No 	<p>Does your household have electricity?</p> <ol style="list-style-type: none"> 1. Yes 2. No 	<p>What is the primary source of your drinking water?</p> <ol style="list-style-type: none"> 1. Piped water to resident 2. Public pump 3. Well stream 4. River or stream 5. Water truck/vendors 6. Rain water 7. Boreholes 8. Other 	<p>What is the main method of human waste disposal by the household?</p> <ol style="list-style-type: none"> 1. Pit latrine 2. Flushing toilet 3. Other, specify

Section 4: Land and livestock

<p>4.1</p> <p>Does your household currently own any land?</p> <p>1. Yes 2. No >> Q4.5</p> <p>If yes, how much land?</p>	<p>4.2</p> <p>What is the destination of the land you own?</p> <p>1. Cultivation for own consumption 2. Cultivation for market 3. Cultivation for own consumption and market 4. Rent for others 5. Building plot 6. For sell 7. Other, specify</p>	<p>4.3</p> <p>How many people are needed to cultivate the land in farming season A (September-January) and farming season B (March-June)?</p>	<p>4.4</p> <p>In the last ten years, how has the size of your land changed?</p> <p>1. Strongly decreased 2. Decreased 3. Unchanged 4. Increased 5. Strongly increased</p> <p>CODE</p>	<p>4.5</p> <p>Does your household currently own any livestock?</p> <p>1. Yes 2. No >> Q5.1</p> <p>CODE</p>	<p>4.6</p> <p>How many livestock does your household own?</p> <p>ANIMAL NUMBER</p>	<p>4.7</p> <p>In the last year, how has the size of your livestock changed?</p> <p>1. Strongly decreased 2. Decreased 3. Unchanged 4. Increased 5. Strongly increased</p>					
					<table border="1"> <tr><td>Chicken</td></tr> <tr><td>Goats</td></tr> <tr><td>Pigs</td></tr> <tr><td>Cows</td></tr> <tr><td>Other:</td></tr> </table>	Chicken	Goats	Pigs	Cows	Other:	
Chicken											
Goats											
Pigs											
Cows											
Other:											

Section 5: Household assets

Type of Household Assets	5.1	5.2	
	Does your household own the following asset at present? 1. Yes 2. No	Can give an estimation of the monthly sources of income for your household in the following categories?	
		CATEGORY	AMOUNT PER MONTH IN RWF
		(CODE)	1. Agricultural farming
		2. Husbandry	
MOVABLE ASSET		3. Business/enterprise	
1. Radio		4. Handicraft and other rural profession	
2. Phone without internet		5. Wage/salaries (labourer)	
3. Phone with internet		6. Money received from migrant household members	
4. Motorcycle		7. (Land) rent, interest, credit	
5. Car (without loading box)		8. Other, namely:	
6. Fuso			
7. Other, specify:			

Section 6: Migration of household members (FORMER HOUSEHOLD MEMBERS ARE MEMBERS OF THE HOUSEHOLD THAT HAVE MIGRATED AND ARE NOW LIVING IN ANOTHER PLACE!)

PERSON ID	6.1 Does your household currently have a (former) household member <u>living in a city?</u> 1. Yes 2. No >> Finished [If Yes, list all (former) household members living in a city below]	6.2 What is the relationship of (NAME) to the head of the household? 1. Husband 2. Wife 3. Children: boys 4. Children: girls 5. Other relatives 6. Non-relatives	6.3 Did (NAME) ask permission to migrate? 1. Yes 2. No	6.4 What is (NAME's) age in completed years? CODE	6.5 Was (NAME) able to read or write when he/she left the household? 1. Neither read nor write 2. Read only 3. Read and write	6.6 What was the highest level of schooling that (NAME) had attained when he/ she left the household? 1. No education 2. Primary at least 3 years 3. Primary complete 4. Secondary at least 3 years 5. Secondary complete 6. University	6.7 How many total years of schooling had (NAME) completed when he/she left the household? NUMBER OF YEARS
1							
2							
3							
4							
5							

Section 6: Migration of household members (continued)

PERSON ID	6.13 For how long has (NAME) lived there?	6.14 Does (NAME) ever come back in farming season A or B to engage in farming activities? 1. Yes; season A 2. Yes; season B 3. Yes; season A + B 4. No	6.15 Does (NAME) ever come back to engage in other activities for your household? 1. Yes 2. No >> Q 7.1	6.16 For what other activities does (NAME) mostly come back?
1				
2				
3				
4				
5				

Appendix II: Calculation of minimum sample size

With the formula of Alain Bouchard (1990) we have calculated the minimum sample size to be representative for the population of households in every individual selected cell:

$$n = \frac{N_0}{1 + \frac{N_0}{N}} \quad \text{where } N_0 = \frac{(t_\alpha)^2 \cdot p(1-p)}{d^2}$$

With: N_0 : Size of the sample for finite population (less than or equal to 1 million) ;

p : Probability (Estimated frequency per sample size n);

d : Allowable error (maximum < 10%)

t_α : Student value (from the student T -table, confidence level 90%)

Considering the diversity and the size of the households within the population we have chosen to take a allowable error of 10% ($P=0.1$). This is acceptable because an allowable error of 5% results in a too large minimum sample size to cover for all four cells. The probability for each household is 0.5 ($p=0.5$), since we give a household an equal chance to have members engaged in migration or to have no members engaged in migration. Following the confidence level of 90%, the Students-t value is 1.645 ($t_\alpha = 1.645$). Consequently we have made the following calculation for N_0 :

$$N_0 = \frac{(1.645)^2 * 0.5 * 0.5}{(0.1)^2} = 68$$

Now we know the size of the sample for the finite population ($N_0 = 68$), we can calculate the minimum sample size required to be representative for the total population of households within each cell with the following formula:

$$n = \frac{N}{1 + \frac{N_0}{N}} = \frac{N_0 * N}{N + N_0} \quad \text{with } N = \text{size of the total population of households for each cell}$$

We have retrieved the most recent total number of households within each cell from each executive local authority at the sector-offices of each cell. With $N_0 = 68$ the minimum number of households we should visit in each cell is:

- **Gakamba** with 1017 households (N):

$$n = \frac{68 * 1017}{1017 + 68} \text{ with } N=1017$$

$$n = 64$$

- **Rubona** with 1336 households (N):

$$n = \frac{68 * 1336}{1336 + 68} \text{ with } N=1336$$

$$n = 65$$

- **Ngoma** with 1346 households (N):

$$n = \frac{68 * 1346}{1346 + 68} \text{ with } N=1346$$

$$n = 65$$

- **Nyagasambu** with x households (N):

$$n = \frac{68 * 672}{672 + 68} \text{ with } N=672$$

$$n = 62$$

Appendix III: List of persons recorded livelihood trajectories

❖ Interviews with rural-urban migrants returned to the rural areas:

- Bayavuge, Emmanuel
- Bwenge, Thomas
- Kamali, Charles
- Uwizeyimana, Alice
- Kayinamura, Faustin

❖ Interviews with head of households moved from the city to the rural areas:

- Kabetsi, Marie Rose
- Ndayanbaje, André
- Uwimana, John
- Kabayanga, Bernadette
- Kankindi, Eugenie
- Rwicaninyoni, Augustin

Appendix IV: Table statistics

Standardized Scores Gakamba

Zscore(Own.land.dich)	Zscore(Own.Land) Owned.Acr.	Zscore(Own.livestock.dich)	Zscore(Total.Large.Live stock)	Zscore(Electricity.Dich)	Zscore(Kitchen.Dich)	Zscore(Total.P)	Zscore(Literacy.S tatus_m edian)	Zscore(Education. Class_m edian)	Zscore(Y ears.Edu cation_m ean)	Zscore: Total.I ncome	Zscore: Income. from.Mi grant.m oney
,1171930	-,0440465	,0745996	,1453865	-,2136936	-,0826126	,3335927	-,0875712	-,1450486	-,1074514	-,1128161	-,0247881

Standardized Scores Ngoma

Zscore(Own.land.dich)	Zscore(Own.Land) Owned.Acr.	Zscore(Own.livestock.dich)	Zscore(Total.Large.Live stock)	Zscore(Electricity.Dich)	Zscore(Kitchen.Dich)	Zscore(Total.P)	Zscore(Literacy.S tatus_m edian)	Zscore(Education. Class_m edian)	Zscore(Y ears.Edu cation_m ean)	Zscore: Total.I ncome	Zscore: Income. from.Mi grant.m oney
,0130214	-,1301437	,0414442	-,0090867	-,3036699	-,1156576	-,2577762	-,0766248	-,1279841	-,2183343	-,0648733	-,0277100

Standardized Scores Rubona

Zscore(Own.land.dich)	Zscore(Own.Land) Owned.Acr.	Zscore(Own.livestock.dich)	Zscore(Total.Large.Live stock)	Zscore(Electricity.Dich)	Zscore(Kitchen.Dich)	Zscore(Total.P)	Zscore(Literacy.S tatus_m edian)	Zscore(Education. Class_m edian)	Zscore(Y ears.Edu cation_m ean)	Zscore: Total.I ncome	Zscore: Income. from.Mi grant.m oney
,1171930	,1505752	-,0580219	-,1408432	-,3936461	-,0495676	-,2881028	-,0328392	-,0682582	-,0385370	-,2447118	-,1363659

Standardized Scores Nyagasambu

Zscore(Own.land.dich)	Zscore(Own.Land) Owned.Acr.	Zscore(Own.livestock.dich)	Zscore(Total.Large.Live stock)	Zscore(Electricity.Dich)	Zscore(Kitchen.Dich)	Zscore(Total.P)	Zscore(Literacy.S tatus_m edian)	Zscore(Education. Class_m edian)	Zscore(Y ears.Edu cation_m ean)	Zscore: Total.I ncome	Zscore: Income. from.Mi grant.m oney
-,2474075	,0236150	-,0580219	,0045433	,9110096	,2478378	,2122863	,1970352	,3412908	,3643227	,4186364	,1867660

Means standardized scores Research Areas

	Gakamba	Ngoma	Rubona	Nyagasambu
Natural Capital	0,084905561	-0,07123974	-0,07123974	0,007924591
Physical Capital	0,012428849	-0,22570124	-0,24377217	0,457044558
Human Capital	-0,11335705	-0,0465448	-0,0465448	0,300882903
Financial Capital	-0,06880209	-0,04629168	-0,19053884	0,302701244

Standardized Scores Extreme and Very Poor Households

Zscore(Own.land.dich)	Zscore(Size.Own.Land)Owned.Acr.	Zscore(Own.livestock.dich)	Zscore(Total.Large.Live stock)	Zscore(Electricity.Dich)	Zscore(Kitchen.Dich)	Zscore(Total.P)	Zscore(Literacy.Status_m edian)	Zscore(Education.Class_m edian)	Zscore(Years.Education_m ean)	Zscore: Total.Income	Zscore: Income.from.Migrant.money
,1533882	,1744841	,3878900	,4882922	,2449565	,5967710	,7980011	,6005677	,5476561	,6081940	,3998499	,3792457

Standardized Scores Poor Households

Zscore(Own.land.dich)	Zscore(Size.Own.Land)Owned.Acr.	Zscore(Own.livestock.dich)	Zscore(Total.Large.Live stock)	Zscore(Electricity.Dich)	Zscore(Kitchen.Dich)	Zscore(Total.P)	Zscore(Literacy.Status_m edian)	Zscore(Education.Class_m edian)	Zscore(Years.Education_m ean)	Zscore: Total.Income	Zscore: Income.from.Migrant.money
,1993594	,1180476	,0198547	,0872037	,0536196	,0385525	,0117545	,1059000	,0209669	,0399825	,2205253	,0225063

Standardized Scores Better-off Households

Zscore(Own.land.dich)	Zscore(Size.Own.Land)Owned.Acr.	Zscore(Own.livestock.dich)	Zscore(Total.Large.Live stock)	Zscore(Electricity.Dich)	Zscore(Kitchen.Dich)	Zscore(Total.P)	Zscore(Literacy.Status_m edian)	Zscore(Education.Class_m edian)	Zscore(Years.Education_m ean)	Zscore: Total.Income	Zscore: Income.from.Migrant.money
,2314924	,0685220	,2822813	,5563683	,2967967	,5580940	,6328575	,3023943	,4863394	,5700165	,7196997	,3507820

Mean standardized scores Poverty Classifications

	Extreme and very poor households [59]	Poor households [129]	Better-off households [72]
Natural Capital	-0,21931073	-0,06778411	0,301159
Physical Capital	-0,54657623	-0,02680587	0,495916
Human Capital	-0,58547257	0,014983549	0,452917
Financial Capital	-0,3895478	-0,12151579	0,535241

K-means cluster centres livelihood clusters

	Very poor disabled households [30]	Very poor female-headed [25]	Poor subsistence cultivators [32]	Poor market producers [26]	Better-off large land owners [11]	Better-off higher educated [6]
Natural Capital	-0,367114	-0,207098	-0,183794	0,64353	0,46841	-0,170602
Physical Capital	-0,59131667	-0,28990333	0,123923333	0,328886667	0,825336667	1,13395
Human Capital	0,049843333	-1,45536	0,487846667	0,239823333	0,771343333	1,123516667
Financial Capital	-0,41721	-0,21088	0,079575	0,65045	1,958125	2,273255

Means cluster centres scores Migration Strategies

	Survival Strategy [55]	Consolidation Strategy [58]	Accumulation Strategy [17]
Natural Capital	-0,287106	0,229868	0,148904
Physical Capital	-0,44061	0,226405	0,979643
Human Capital	-0,7027583	0,363835	0,94743
Financial Capital	-0,314045	0,365013	2,11569

Number of migrants from each livelihood profile

Profile Number of Case

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Poor subsistence cultivators	36	22,8	22,8	22,8
	Poor market producers	27	17,1	17,1	39,9
	Land rich producers	12	7,6	7,6	47,5
	Female-headed	36	22,8	22,8	70,3
	Disabled	41	25,9	25,9	96,2
	Educated wage workers	6	3,8	3,8	100,0
	Total	158	100,0	100,0	

Funds of migration and migration strategies

Migr.Fund * Migrant.Strategies Crosstabulation

		Migrant.Strategies						Total	
		Survival strategy		Consolidation strategy		Accumulation strategy			
		Count	% within Migrant.Strategies	Count	% within Migrant.Strategies	Count	% within Migrant.Strategies	Count	% within Migrant.Strategies
Migr.Fund	Savings	12	15,6%	19	30,2%	10	55,6%	41	25,9%
	Assistance from family or friends	38	49,4%	32	50,8%	5	27,8%	75	47,5%
	Sale assets, loan or other	27	35,1%	12	19,0%	3	16,7%	42	26,6%
Total		77	100,0%	63	100,0%	18	100,0%	158	100,0%

Seasonal migration and migration strategies

Season.Migration * Migrant.Strategies Crosstabulation

			Migrant.Strategies			Total
			Survival strategy	Consolidation strategy	Accumulation strategy	
Season.Migration	Neither farming seasons	Count	55	38	8	101
		% within Migrant.Strategies	71,4%	61,3%	44,4%	64,3%
	Only one farming season	Count	11	8	4	23
% within Migrant.Strategies		14,3%	12,9%	22,2%	14,6%	
	Both farming seasons	Count	11	16	6	33
		% within Migrant.Strategies	14,3%	25,8%	33,3%	21,0%
Total		Count	77	62	18	157
		% within Migrant.Strategies	100,0%	100,0%	100,0%	100,0%

Schematic presentation of rural-urban migration flows from four research areas (Map 4)

Cell. * Migr.Distr. Crosstabulation

		Migr.Distr.										Total	
		Gasabo		Kicukiro		Nyarugenge		Other city		Unknown			
		Count	% within Migr.Di str.	Count	% within Migr.Di str.	Count	% within Migr.Di str.	Count	% within Migr.Di str.	Count	% within Migr.Di str.	Count	% within Migr.Di str.
Cell. a	Gakamba	9	17,0%	11	33,3%	12	24,5%	0	0,0%	2	10,5%	34	21,5%
	Ngoma	14	26,4%	3	9,1%	17	34,7%	0	0,0%	7	36,8%	41	25,9%
	Rubona	17	32,1%	9	27,3%	6	12,2%	4	100,0%	9	47,4%	45	28,5%
	Nyagamba	13	24,5%	10	30,3%	14	28,6%	0	0,0%	1	5,3%	38	24,1%
Total		53	100,0%	33	100,0%	49	100,0%	4	100,0%	19	100,0%	158	100,0%