

# Assessing the Impacts of Rural-Urban Migration on Agriculture Production in Rwanda: A Case Study of Huye District, in Southern Province

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**Abstract:** Rural-urban migration is observed in different countries of the world and in Rwanda as a whole. It causes various problems in the countries, such as the development of slums, a high crime rate, drug abuse, and high unemployment in urban areas, prohibition of culture and the emergence of diseases. This has a particular impact on agricultural production in rural areas: Decline in agricultural production, increase in the price of agricultural production, loss of labor for agriculture and thus poverty, famine, and decline in economic growth. However, during the research, it was found that although the problem of rural migration is the same in both study areas, it is not the same in both studies. In Karama, the level of rural urban migration is higher than in Mukura. This is due to the difference in the degree of urbanization, with Mukura being more urbanized than Karama. In terms of agricultural production, Karama is better developed than Mukura. This article attempted to examine the impact of rural-urban migration on agricultural production using secondary data and primary data collected from Karama and Mukura sectors in Huye district, in southern province of Rwanda. This study found that rural-urban migration is caused by both push and pull factors. Push factors are unemployment, famine and drought in rural areas, loss of wealth, poor social services, leisure time, etc. In addition, there are pull factors such as job opportunities, better living conditions, pleasure, better social services, and security. A research has also shown that agricultural production is affected in different ways, but in general, labor mobility leads to a decline in agricultural production. Many respondents say that if this is not controlled, there will be famine, poverty, etc., because majority of those who are engaged in agriculture are adults, while the youth are fleeing it. The question is who will replace them. The government of Rwanda, as a developing country, is implementing some policies to reduce the number of migrants. These include the creation of second cities, the development of rural areas, and the mobilization of citizens on the impact of rural-urban migration. This will serve as a solution to rural-urban migration, as it is considered an evil of development. A researcher has also made some recommendations, such as cooperation between the government and rural youth, mobilizing people on the impact of rural-urban migration, and providing sufficient infrastructure in rural areas.

**Keywords:** Agricultural production, rural urban migration, pulls factors, push factors

## INTRODUCTION

### Background of the Study

According to the World Bank (2023), 56% of the world's population now lives in cities, and it is expected that 70% of the world's population will live in cities by 2045. This is putting pressure on governments around the world to consider how they can meet the needs of this growing population in the future. Various governments are responding to this problem by expanding urban infrastructure, providing affordable housing, developing sanitation facilities, creating new employment opportunities, and offering other related services.

In his work on rural-urban migration in Ethiopia, Amrevurayire (2016) shows that urban populations in Africa, Latin America, and South Asia increased by 60%, 52%, and 51%, respectively, between the 1960s and 1970s. While rural populations in these regions increased by 16%, rural-urban migration plays an important role in today's urbanization. The migration of people from rural areas to all parts of urban areas is increasing at a high rate. In most rural areas, rural-urban migration has led to rapid rural deterioration of agriculture and underdevelopment of rural areas. Rural-urban migration has a negative impact on rural economies, which may lead to extreme poverty in the long run. This is mainly due to the excessive out-migration of young people from the rural population, leaving only the elderly and old to form the rural labor force.

Wage and salary differentials, as well as the perception that people who live in cities have a better life than those who have remained in rural areas, are the main incentives for current rural-urban migration in developing countries. Studies by Black et al. (2006) and Kwankye et al. (2009) found that the most important pull factors for current rural-urban migration are income inequality, the desire to succeed in cities, and the lack of some social amenities in rural areas.

The migration of young people from rural areas to cities in search of a better life deprives rural areas potential young people who can develop agricultural production hence a decline in agricultural productivity and underdevelopment of rural areas. As more and more young people migrate to cities to earn a living, older people are now left to do the tasks associated with farming, especially the tasks reserved for the young. In most African countries, including Rwanda, agriculture is still labor-intensive, but some rural residents have abandoned farming and other related activities and moved to cities. Without solutions for this problem, some countries in Africa will find themselves in a situation of food scarcity and poverty since majority of them still depend on agriculture as basic source of income and food (Pam, 2014).

According to De Braun and Roselle (2003), rural-urban migration also affects households in rural areas. For example, when young people leave rural areas, households may not be able to work to survive. Despite the fact that they bring many resources with them when they return, some older families may experience extreme poverty because they do not have the support of children. They may not be able to farm to feed themselves, or they may not be able to pursue other activities that require energy to feed themselves. This can lead to household impoverishment. In general, the negative impact of labor loss can be very large because migrants tend to be younger and better educated than those who stay in the village.

Fischer (2009) shows that rural-urban migration is a form of so-called internal migration, where people move from less developed areas (rural or semi-rural) to urban areas to find better-paying jobs or to live a better life than before. Fischer goes on to say that rural-urban migration can also refer to people moving or relocating from rural or semi-rural areas to well urbanized areas for other benefits such as higher income and other social amenities such as roads, hospitals, and recreational facilities. This change of residence is often associated with labor out-migration and a change of occupation from the first to the second or third sector-but not necessarily, as it can also refer to the out-migration of people who are not engaged in agriculture.

In general, the movement of people from one place to another has inexorable effects on the economy, since it is a population change. It has both positive and negative effects on both sides. This movement results in a distinct, but not easily explained, pattern of flow across the temporal and spatial spectrum. It is these spatial features that are of concern to geographers. In the era of globalization, improved and sophisticated means of communication play a key role in facilitating the interaction of people around the world. As a result, the rate of migration is increasing at an alarming rate, both domestically and internationally. Generally, domestic migration is more pronounced in developing countries (Miheretu, 2011).

The Sustainable Development Goals include the eradication of poverty and hunger in the world. However, without agricultural development, poverty and hunger can persist. Agriculture is an important sector for many developing countries, both driving economic development and contributing to poverty reduction and improved food and nutrition security. Despite efforts by developing countries to eradicate poverty, hunger, and malnutrition, agricultural production is declining due to rural-urban migration. As a result, there is a possibility of future shortages of food and other agricultural products if nothing is done, as the rate of urbanization in developing countries is high and people are moving from rural to urban areas faster than before (UK AID, 2016).

The high rate of rural-urban migration in several countries puts pressure on available resources in both rural and urban areas. For example, rural areas lose labor that would help increase production, while urban areas experience pressure on the urban environment and other negative consequences such as poverty, crime, unemployment, political unrest, and other related problems. In addition, informal settlements pose a number of health and development challenges to governments, including access to water, sanitation, housing, and adequate health services, including HIV services (UNFPA, 2007).

Rural-urban migration is strong in Rwanda and its consequences are increasing. Rwanda's cities are developing at a faster pace due to various policies of the Rwandan government, including the creation of second cities and other incentives for urban development. According to the Rwanda Strategic Plan (2012-2018), urbanization growth is about 18% per year, while the urban population is growing faster than expected. The urban population is growing at a rate of 4.5% compared to 1.8% in the world. Nearly half of the urban population is concentrated in Kigali, a city of over a million people. However, various indications suggest that there is an imbalance between the growth of Kigali and other secondary cities. This may be due to various factors ranging from history to government policies. Challenges arising from rapid and unbalanced urbanization combined with land scarcity include: the proliferation of unplanned urban growth, inadequate and unevenly distributed or inappropriate housing and services for many residents, social instability, environmental degradation, and unsustainable, unhealthy cities.

This high rate of urbanization has a negative impact on agricultural development, as 70% of Rwanda's population depends on agriculture and agriculture will tend to decline in the coming days. The migration is mainly made by the youth (girls and boys) with the aim of finding work in urban areas. People aged 15 to 27 years are the most likely to migrate, compared to other age cohorts. Rural-urban migration can pose a threat to agricultural production. This is especially true when women, children, and the elderly stay in rural areas while men go to cities to find work. They leave old people in rural areas, which have less labor force for agricultural

activities. This leads to a decline in agricultural productivity in rural areas, resulting in poverty, hunger, famine, and low economic growth (Rwanda Strategic Plan, 2012-2018).

*The aim of this study is to justify the impact of rural-urban migration on agricultural productivity in rural areas. In this way, this study will contribute to the existing body of knowledge in the field of development studies, including the broader discipline of rural development.*

### **Problem Statement**

The development of sub-Saharan countries into modern economies has led to an increase in rural-urban migration. The reason for the high rate of migration is the great demand for labor by industry and investors, who expect high profits if sufficient labor is available, as well as the prospect of higher wages and other benefits than in agriculture. On the other hand, the agricultural labor force is declining and in some areas of Africa is almost zero (Lewis, 1954 and Fei & Ranis, 1961).

In their work on rural-urban migration in Rwanda, Uwimbabazi and Lawrence (2011) found that rural-urban migration is widespread in Rwanda. This can be attributed to three factors. First, there is little land, and people in rural areas do not receive the same income as people living in urban areas. Second, the Rwandan government has not yet taken effective measures to address the rural-urban migration problem; however, there are several policies adopted by the government to address this problem. For example, the Rwandan government has taken several measures to address the problem of land scarcity. Among these measures is the mechanization of agriculture, which citizens hope will increase production by using the little land available. In addition, the Rwandan government has sensitized its citizens to live in rural settlements in order to pool available land for better production. These settlements are also expected to provide citizens with easy access to various facilities such as modern roads, hospitals, electricity and other social services. Despite this positive-sounding strategy, people do not cope with the new living conditions in the group settlements and then move back to the big cities, especially the capital Kigali.

*This study analyzes the impact of rural-urban migration on agricultural production in rural areas of Mukura and Karama sectors in Huye District and provides recommendations on how to reduce rural-urban migration in these sectors.*

### **Research Questions**

1. How does rural-urban migration affect rural agricultural production?
2. What are possible solutions to mitigate the negative impact of rural migration on agricultural production in rural areas?
3. What are the consequences of rural urban migration to urban areas?

### **Theoretical Review**

#### **Definitions of Concepts**

#### **Introduction**

There are some terms that should be defined precisely: both rural urban migration and agricultural production. These terms include what rural urban migration is and how it differs from other forms of migration, what agricultural production is, and what rural areas are. This may be helpful in understanding the topic and the theories defining the key variables.

#### **Rural Urban Migration**

As cited by Fischer (2009), rural-urban migration is a form of so-called internal migration, that is, movement within a country, as opposed to international or intercontinental migration. It can also be defined as the movement of people from less developed areas, especially rural areas, to more developed areas, especially urban areas, for the purpose of obtaining better-paying jobs, better facilities, or other services that are not available in rural areas. This movement from one place to another is often associated with the movement of labor and a change of occupation from the first to the second or third sector-but not necessarily, because it can also refer to the migration of people who are not engaged in agriculture. Usually, people from the employed group migrate, leaving behind people from the elderly group in rural areas, leading to a decline in agricultural production. Rural-urban migration represents a fundamental change in the nodal structure of a society, with people moving from mostly smaller, mainly agricultural communities to larger, mainly nonagricultural communities. In addition to this spatial (or horizontal) dimension of movement, there is also a socioeconomic (or vertical) dimension that involves a permanent change in skills, attitudes, motivations, and behavioral patterns such that a migrant changes his or her behavior and previous lifestyles and becomes a new person who has

adopted urban life, which is different from that in rural areas. However, this can lead to negative behaviors such as prostitution, robbery, and other immoral activities due to the poverty and lack of jobs in urban areas (Mobunje, 1970).

On other side, the definition of rural areas depends on who defines it and the situation in each country. The meaning of the term differs significantly between developed countries, countries in transition, and developing countries. Nwanze (2000) defined rural areas as areas with populations between 5,000 and 10,000 that depend primarily on agriculture and/or natural resources for their livelihoods. This definition does not fully translate to the situation in Rwanda, as some people in some urban areas also rely solely on agriculture for their livelihoods. For example, USDA (2005) describes rural areas as areas consisting of open land and settlements with fewer than 2,500 inhabitants. Compared to urban areas, rural areas are inhabited by citizens who are dependent on agriculture and who have various rural resources such as land, livestock, and other agricultural activities (IFAD, 2001). In general, all of the above definitions share several characteristics of rural areas. These common features include low population growth, less infrastructure, dependence on agriculture and other forms of farming. Because of these characteristics, people in rural areas, especially in developing countries such as Rwanda, tend to have fewer assets.

## **Agriculture**

Agriculture is the cultivation and breeding of animals, plants, and fungi for food, fiber, biofuels, medicinal plants, and other products used to sustain and improve agricultural life, safety, and health (ILO,1999).Agriculture includes all activities related to farming in all forms such as tillage, livestock rearing and tillage, dairy farming, the production, cultivation, growing and harvesting of any agricultural and horticultural products, the raising of livestock or poultry, and all practices carried on by a farmer on a farm incidental to or in connection with such farming activities, but does not include the production or processing of sugar, coconuts, abaca, tobacco, pineapples or other agricultural products. (Labor Code of the Philippines) Agricultural production is a set of activities, the production process that results in a product that is ultimately sold at retail (Minnesota Department of Revenues, 2017).

## **Theories of Rural Urban Migration**

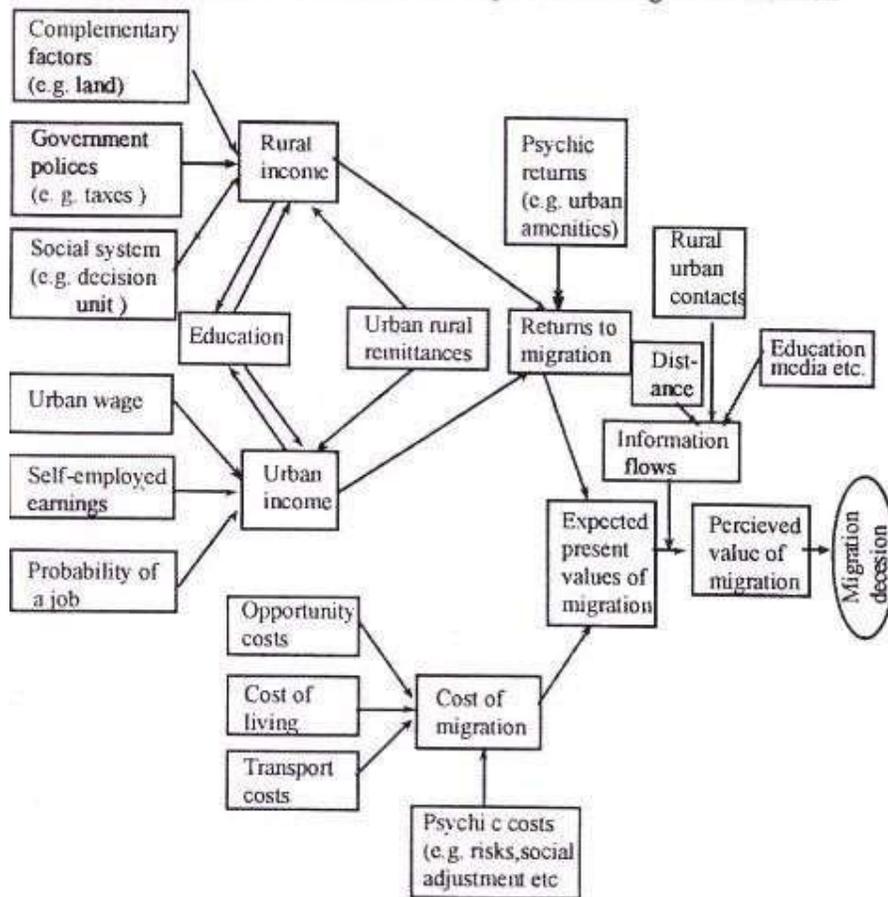
### **Introduction**

Various theories have been advanced to explain rural-urban migration and its causes. These theories include the Todaro model of rural-urban migration, the osmosis theory, the historical structure theory, and others. The good understanding of these theories will be useful for further understanding of the issues and linkage with the research problem in the field.

### **Michael P. Todaro's Model of Rural-Urban**

In his book *Migration, Unemployment, and Development: A Two-Sector Analysis*, Michael Todaro (1970) developed a theory of rural-urban migration. In his view, the models for an unlimited supply of labor presented by Lewis and Ranis-Fei paid no attention to migration. They emphasized saving, investment, growth rate, and productive efficiency. By the 1960s, however, economists recognized that the dual economic models presented by Lewis and Ranis-Fei did not explain well what was happening in UDCs because they differed from UDCs in certain social and economic structures. Despite the low availability of jobs and low pay for various activities, many people still come to the cities from rural areas. This indicates that unemployment in urban areas will be high due to higher mobility of people from rural areas to urban areas. Therefore, the Todaro model of rural-urban migration states, "Despite mass unemployment in cities, people migrate from villages to cities."

**A schematic framework for the analysis of the migration decision**



Source: Todaro (1970)

**Assumptions of the model**

- i) Migration is considered as an economic process.
- (ii) Migrants move to cities for economic reasons, even though they know that there is high unemployment in cities.
- (iii) Migrants are aware of employment opportunities in rural and urban labor markets. Accordingly, they choose one of the two markets where they can expect the greatest gain. Thus, migration occurs in response to urban-rural differences in expected rather than actual earnings.
- (IV) Expected earnings are measured by (a) the difference in real earnings between rural and urban labor and (b) the probability that a new migrant will obtain an urban job. The members of labor force, both actual and potential, compare their expected incomes for a given time horizon in the urban sector (i.e., the difference between returns and costs of migration) with the prevailing average rural incomes, and they migrate if the former exceeds the latter".

This theory assumes the case of labor who is unskilled or semi-skilled and he has to face a trade-off between working at farms where his average per day wage is \$50/- or he should migrate to city where he can earn \$100/- on the basis of his skill or education. In case of tradition models of migration, it will be more attractive for the labor to move to city. But such mobility from rural areas to urban areas will lead to reduce the wage differentials. This may happen in case of DCs, However, the UDCs having different economic and institutional framework may not experience such situation, and it is because of the reasons.

- (i) Those UDCs are having mass unemployment and a labor that is migrating to city cannot hope to get higher wages as well as employment in the developed industrial cities. However, when a rural person goes to the urban to find jobs, there is possibility of losing jobs there. This model also shows that these people when they migrate to the urban areas tend to have less jobs like waiters ,typists , security guards and other part time jobs that are not permanent

- (ii) When a worker move from rural to the urban areas will have to compare standards of living to the rural and urban areas. In addition, he may consider risks and other possibilities that come due to the unemployment in the cities. Even if when salary can be double in the urban areas in comparison in the rural areas, a worker may decide not to move due los availability of jobs in urban areas. For example , during one year , a worker may have probability of 1 out of 5 chances of having job which may discourage him to migrate

According to theory, as long as present value of the expected urban incomes exceeds the rural incomes the migrant will prefer to migrate. Thus, on the basis difference in rural and urban wages the migration will take place. As if the average urban income is \$120/- and average rural income is \$60/-, the chances of mobility from rural to urban areas will be high. All this will aggravate the problem of unemployment in the cities. Thus, as long as the difference in rural and expected urban wages will be existing the migration from rural to urban areas will continue taking place, even if the cities are flooded with heavy unemployed.

#### **Characteristics of the model:**

- (i) Migration is stimulated primarily by rational economic considerations of relative benefits and costs, financial as well as psychological.
- (ii) The decision to migrate depends on expected rather than actual urban-rural wage differentials.
- (iii) The probability of obtaining an urban job is inversely related to the urban unemployment rate.

#### **Evaluation of the Model:**

(i) If the wage and employment differential in rural and urban areas continue the migration from villages to cities will continue taking place.

(ii) Along with increasing job opportunities in urban areas, there is a need to devise an integrated rural development program whereby the incomes of rural workers could be increased. This will reduce the migration from rural to urban areas the most beneficial advice for the UDCs

#### **Ravenstein's Laws of Migration**

Ravenstein coined his idea in the 1880s, which is considered pioneering work in the field of migration, and he developed the laws of migration. According to him, most migrants migrate short distances, and as distance increases, the number of migrants decreases; migrants who travel long distances generally prefer one of the major commercial and industrial centers. In addition to that, migration occurs in phases (Rhoda, 1979)

i.e., migration occurs first to nearby towns and then to the fastest growing cities; each main current of migration generates a counterbalancing countercurrent; residents of cities are less likely to migrate than those of rural parts of the country; women seem to dominate among short-distance migrants; the scale of migration increases with the development of transportation industries and trade; and economic motives are predominant among the push and pull factors of migration. In general, Ravenstein's basic laws have since been systematized and extended by many researchers, and the importance of the economic motive in the migration decision, the negative influence of distance, and the process of gradual migration have been generally supported by empirical evidence, at least in some countries.

#### **Historical Structure Approach**

The 1973 oil crisis ushered in a period of global economic downturn, industrial restructuring, and rising unemployment (De Haas, 2007). It was also believed that the great age of international migration had come to an end. This more or less coincided with a turning point in thinking about migration and development. De Haas further noted that beginning in the late 1960s, optimistic views of migration and development in countries of origin were increasingly challenged due to the combined influence of a paradigm shift in the social sciences toward historical or structuralist views and an increasing number of empirical studies that often did not support optimistic views of migration and development.

More and more academic studies seemed to support the hypothesis that migration perpetuates or even exacerbates problems of underdevelopment, rather than the opposite. These "migration pessimists" argued that migration causes an outflow of human capital from traditional economies, leading to the collapse of traditional, stable village communities and their economies. This would then lead to the development of passive, unproductive communities dependent on remittances. (Mahama, 2013).

In addition, the massive out-migration of young, able-bodied men and women from rural areas is usually blamed for creating critical shortages of agricultural and other labor, depriving areas of their most valuable workforce (Lewis, 1986). This is because it is usually not the poorest who migrate the most, but because migration and remittances also increase inequality in communities of origin. Migration pessimists have also argued that remittances have been spent mainly on conspicuous consumption and "consumptive" investments (such as houses) and rarely invested in productive enterprises (Lipton, 1980).

The use of remittances by migrants for productive investment in the context of human migration and community development is curious. Apart from deteriorating local economies and increasing dependency in sending areas, increased consumption and land purchases by migrants have also been reported to exacerbate inflationary pressures (Russell, 1992) and high land prices (Rubenstein, 1992). In sociocultural terms, the effects of migration and remittances were also increasingly seen as detrimental. Migrant prosperity was thought to have led to a change in rural tastes that increased demand for imported urban or foreign-produced goods and foods. Hayes (1991), cited by De Haas (2007), claims that this further reinforces the cycle of increasing dependency. Migration is often blamed for sociocultural decline in communities of origin. Moreover, as a result of capitalist penetration, migration was seen as breaking with traditional peasant societies by undermining their economies and uprooting populations (Massey et al., 1993).

In particular, the development dependency school viewed capitalist infiltration and related phenomena such as migration as not only detrimental to the economies of underdeveloped countries, but also as the cause of "the development of underdevelopment" (Frank, 1966). In a process known as cumulative causation (Myrdal, 1957), increasing prosperity in the economic heartlands of the Western world has been linked to the outflow of capital and labor from peripheral areas. This approach is consistent with the ideas of development policy makers and neoclassical economists. According to them, however, migration does not reduce the number of people but causes regional imbalances and income inequality in the economy. Although these pessimistic views have been increasingly challenged in recent years, they remain prevalent in some recent studies.

### **Osmosis: The Unifying Theory of Human Migration**

This theory was developed by the Djete. Ancient migration theories are usually rooted in geography, sociology, or economics. They explain migration in specific time periods and spaces. In general, this osmosis theory defines the whole process of migration from one place to another. According to Djete (2017), human migration is divided into two main types: simple migration and complicated migration. Simple migration, in turn, is divided into diffusion, stabilization, and concentration periods. During these periods, water availability, suitable climate, security, and population density are the natural determinants of human migration. Complicated migration is characterized by rapid evolution and the emergence of new subfactors, particularly income, unemployment, networks, and migration policies.

Osmosis theory explains human migration analogously through the biophysical phenomenon of osmosis. In this context, countries are represented by animal cells, borders by semipermeable membranes, and people by water ions. As for the osmosis phenomenon, according to the theory, people migrate from countries with lower migration pressure to countries with high migration pressure. To measure the latter, the natural determinants of human migration replace the variables of the second law of thermodynamics used to measure osmotic pressure.

### **Lee's theory**

In his book called theory of migration published in 1966, Lee divided causes of rural urban migration into two groups: push factors and pull factors. According to him, push factors are those factors that are not favorable to the individual in his area of residence while pull factors are those factors that may attract an individual to go to live in another area. Pull and push are explained as below:

#### **Push factors**

There are different push factors and they include the following :lack of enough jobs ,less opportunities ,less social services ,poor climate and relief ,famine or hunger ,poor political climate ,harsh life conditions or slavery ,no developed medical care, poverty ,natural catastrophes ,fear of death, desire of different types of freedom ,different types of pollution ,poor housing conditions ,landlord problems ,bullying ,mindset, violence ,inability to marry ,condemned housing (radon gas, etc.)

#### **Pull factors**

There are different pull factors and they include the following: availabilities of opportunities, developed living conditions, the desire of having more political or religious freedom, leisure purpose, developed education, better medical care, attractive climates and relief, better security, availability family links, developed industry, better chances of marrying.

### **Empirical review**

According to Barrios, Ouattara, and Strobl (2008), agriculture is the main driver of economic growth in sub-Saharan Africa. However, feeding the growing population in sub-Saharan Africa is becoming a critical challenge for most countries in this region. In this context, Diao and Hazell (2010) point to two schools of thought or debate in Africa: The "lost labour force" of able-bodied (migrated) men and women is seen as playing a key role in the process of agricultural decline. Interestingly, internal migration is associated with rural and agricultural stagnation or even decline (Regmi and Tisdell, 2002).

According to Angba (2003), rural-urban migration is a problem that should not be underestimated, as many less developed countries would enter a period of prolonged hunger and poverty if measures were not taken to curb the problem of rural-urban migration. Those who migrate are, of course, the younger generation, who are still energetic, innovative, and educated, and who would contribute to the development of their rural areas. De haan (1999) adds that the out-migration of people from rural areas not only has an economic impact on the economy, but also on the livelihood of people in rural areas. When these people leave rural areas, they have less labour force to work in agriculture.

De Brauw and Rozelle (2003) also found that labor loss due to out-migration negatively affects household crop yields. Despite the fact that out-migration results in a loss of agricultural labor that subsequently affects productivity and farm income levels, some scholars have argued that migration has positive effects on agriculture. For example, Taylor et al. have argued that yield losses due to the decline in available labor can be (partially) offset by migrant remittances used to purchase additional inputs or hire replacement labor. However, migrants cannot send remittances until they are well settled in the cities. As cited by De Hass (2001), migrants can contribute to agricultural development in the long run by investing their income from urban jobs in agriculture to develop agricultural production. Rozelle also demonstrates that remittances sent home by migrants partially compensate for the effect of lost labor by contributing directly and indirectly to household incomes through the promotion of crop production. IFAD (2007) hypothesized that migration is likely to have a positive income effect on sending households and increase the ability of households to obtain essential food.

Furthermore, Fasoranti (2009) in his study on the perception of rural-urban migration in selected rural communities in Ondo State, Nigeria, found that more than 80% of the respondents agreed or strongly agreed with the statement that moving a family member to an urban location frees up more land for agriculture in the rural areas. This may eventually lead to increased farming and thus higher productivity. In general, the best way to understand the impact of rural-urban migration is to look at different areas. Here we can say that the impact is not the same in all parts. One part of the country may be more affected than another. This may depend on various factors, including social, economic, political and environmental factors.

In short, this apparent contradiction in the literature can be partially resolved by understanding that the impact of migration is not the same in different areas over time and space. Evidence suggests that the initial impact of migration on agricultural productivity was indeed negative due to an acute shortage of family labor, but may improve later when migrant remittances are invested in agriculture (Deshingkar (2004).

After reviewing a number of cases in Asia, Deshingkar concluded that a loss of labor through migration may or may not reduce agricultural production, that remittances may or may not improve access to assets by alleviating credit constraints: this in turn may or may not increase agricultural production and household income. It is common for migrants from environmentally marginal areas (e.g., semi-arid mountainous regions or certain oases) to make their agricultural investments in more favorable environments, such as the more fertile coastal or alluvial plains. Farmers prefer to make new investments in desert areas outside the traditional oases, where land is abundant in contrast to the microscopic land tenure in the old oases, and where the constraints of complex and inflexible collective arrangements for water distribution and maintenance of agricultural infrastructure are not a factor (Bencherifa, 1991, DeHaas, 2003).

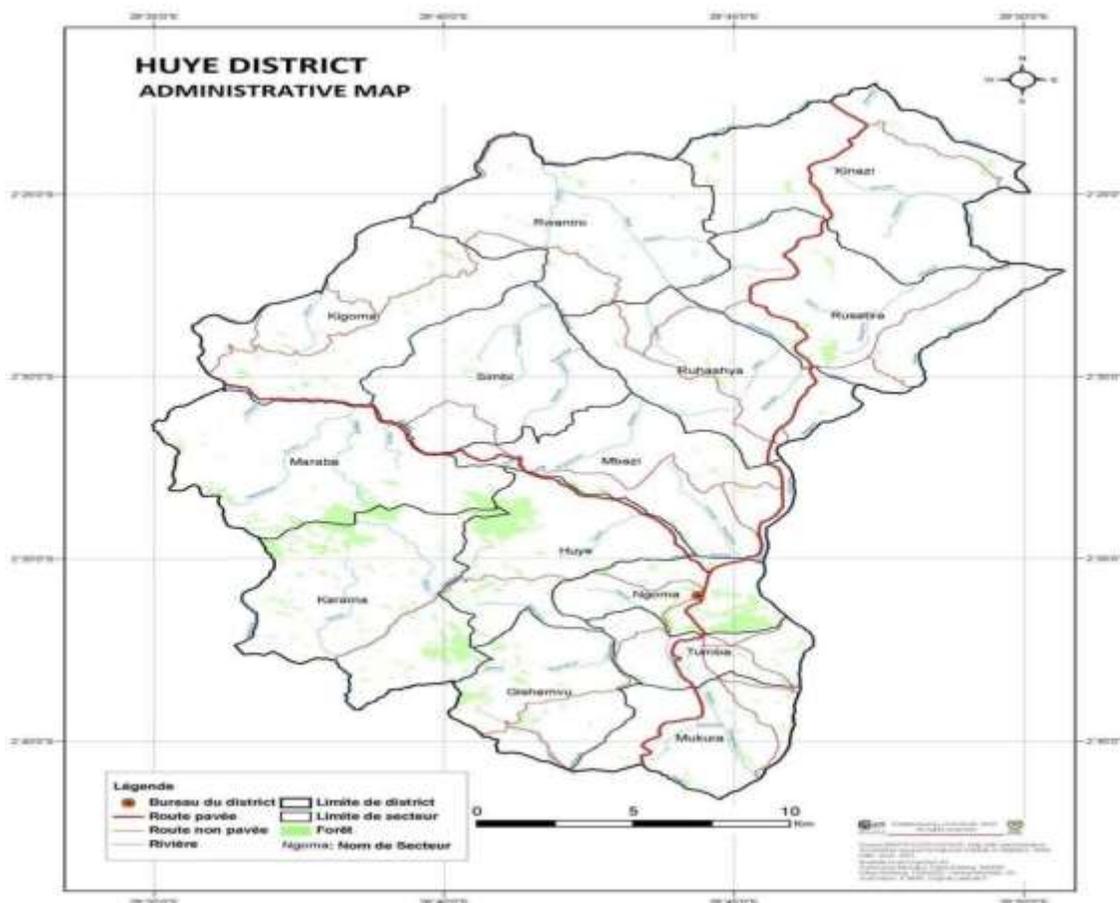
There are other factors that determine the level of in-migration in an area. Apart from geographic and environmental factors, government provision of social services such as roads, hospitals, electricity, water, security, schools, and other factors may be another factor that attracts migrants. Where this is the case, migrants seem to prefer to settle in nearby urban centers (Bencherifa and Popp, 2000).

### **Methodology**

This study uses descriptive research design and this descriptive research design ex post factor research design. It was used to know the impacts of rural urban migration on agricultural productions. Independent variable is rural urban migration while dependent variable is agricultural productions.

The study population is the people of Karama and Mukura sectors because they are ones who do agricultural activities and who know how rural urban migration affects their productions. The study used the sample random sampling so as to get studies areas and people to be interviewed and also it also used the Slovenia formula of the sample size determination so that to avoid errors in the sample size determinations. It also has measures that helped us to know the impacts of rural urban migration on agricultural production. The selected group was interviewed by using the lists of questions prepared by the researcher. In order to get rich results, I used the books from the university library and different websites and publications were consulted so as to accomplish my work.

**Figure 1: Huye map that shows location of Karama and Mukura sectors**



Source: Huye District (2013)

### Sample Size Determination

If you take a population sample, you must use a formula to figure out what sample size you need to take. Slovene's formula is essential to figure out what sample size you need to take, which is written as:  $n = N / (1 + Ne^2)$

Where **n** = Sample Size,

**N** = Total population,

**e** = Error tolerance,

Assume that a confidence level of 90 percent (which give a margin error of 0.1 was used)

$$n=36630 / (1+36630*0.12)$$

$$n=36630/36631*0.01$$

$$n=36631/366.31$$

$$n=100$$

## Results and Discussions

### Characteristics of Migrants

Using the sample size of 150 households, this study found that 80% of households in the urban areas of Huye, Muhanga, and Kigali have at least one migrant. In addition, the study found that at least 70% of households in the urban areas have a permanent migrant. In addition, the study found that 30% of respondents in the main areas have semi-permanent migrants. If you travel there, it is not easy to see young men aged 19-25. They have traveled to the big cities like Kigali, Muhanga and Huye to find money for their development. According to their families, some of them even leave school without finishing. The study also found that in the Karama and Mukura sectors, the main crops grown are maize, sorghum, potatoes, peas and bananas however, urbanization and heavy rural-urban migration have led to a decline in production.

According to the findings, many households in Mukura and Karama have migrants who have left their families for the big cities like Mukura and Karama. The study also found that many households with many migrants do not have enough land for farming or other agricultural activities. In addition, they come from families that are less affluent in rural areas. The study also found that those who migrate mainly have higher education. For example, the study found that 85% of the migrants have a high school, college or normal school degree. In addition, the study found that 15% of migrants have either no education or low education, such as special education or primary education. One respondent testified that some young people migrate immediately after completing their college or secondary education. The reason is that they consider the rural areas to be underdeveloped or it is not possible to find a job related to their studies, so they go to the urban areas.

In addition, these studies also found that the majority of those who emigrate are not married. According to the results, 78% of migrants are not married, while 22% of migrants are married. Respondents indicated that after arriving in urban areas, their families come there to live with them or they often send some money to finance their families' activities in rural areas. Finally, this study found that 92% of migrants are between 18 and 37 years old. This means that those who migrate are young people who have a lower age and are still strong enough to perform both energetic and service activities.

### Categories of Migrants and Remittances

This study found that 50% of migrants sent remittances to their families. For example, one elderly woman stated that her son sends money every month to support the family. In addition, one woman mentioned that her husband moved away but sends some money to pay school fees for students and buy other necessary things. On the other hand, the study found that 50% of migrants do not send anything to support their families, for example, one mother reported that her son might send something after one or two years, but only a small amount. In her opinion, this is because he got married after he left and started gambling and drinking. In general, the married tend to send money to their families more than the unmarried because they have responsibilities as mothers and fathers. Despite the remittances and other support they send to their families, they also take a few days, such as once a month or twice a month, to visit their families.

### Net returns by migration category

The results of the study show that migration can have both negative and positive effects on agricultural production. For example, those who migrate send money that helps their families meet their needs, including school fees for their students. In particular, they support agriculture by helping their families get wages for the people who dig their fields. Also, migrants can send money that can be used to buy fertilizer and other farming equipment and thus help develop agriculture. On the other hand, rural-urban migration can be very detrimental to agricultural production because there is less labor available that is needed for agriculture. In some areas, it has been noted that the areas are deserted. In some areas of the Karama sector, especially in the valleys, only old women and old men between the ages of 35 and 55 work on farms. In addition, in some areas there are only women and few men working in agriculture because the men are in urban areas looking for money. This has affected agricultural production at higher levels, where some land is not used. It was noted that some families consume purchased potatoes, beans and peas to survive, while in the past this was impossible, as they used to have higher production to help their families to use them for their own consumption.

## Effect of Rural Urban Migration to the Urban Areas in Rwanda

The 40% of the sample population in the two study areas see lack of the labor for the agricultural production as the main consequences of the rural urban migration. In the Karama , in the morning ,the majority of the agriculturists are the people with the higher ages between 27/and 50 years . They claim that the youth go at the school and others went into the cities to find the jobs. With the interview with agronomist of the Mukura sector, he showed that many meeting about agriculture are attended by almost people who are aged. Besides, rural urban migration has affected urban areas very negatively. the high crimes rate is among the consequences. For example, 10% in Karama and 30% of Mukura of the total population sample who were asked in the interview see rural urban migration as the main causes of the prostitution, drugs abuse, robbery and others

40% of the respondent in the Karama sector and 20 percent of the population of the Mukura see unemployment as the main consequences of the rural urban migration. Some families in both sectors claim that even if their children are in the urban areas, they are not employed. The others consequences according to the results from the results include: development of the slums Areas, loss of culture rural depopulation and others.

### The level of the price of the agricultural productions in the two study's areas before and after migrants

As shown in the table, the prices of goods and services have increased in the last two years. 60% of the total sample population confirms that the prices of goods and services have increased, including 37% from Mukura and 23% from Karama. According to the people from Karama sector, the increase in the prices of goods in their sector was caused by the natural disaster, high demand in the market and the decrease in labor force for agriculture, while according to the people from Mukura sector, the increase in prices was caused by the lack of land for agriculture, the natural disaster and the lack of labor force for agriculture. According to these people, the youth is no longer dedicated to agriculture as it was in the past in Rwanda. On the other hand, the decline in agricultural production was caused by agricultural development, the provision of pesticides and insecticides, and government policies. This was testified by 23% of respondents from Mukura and 37% from Karama.

### Impact of rural-urban migration on agricultural production

People in the surveyed areas, including the leaders, said that the main impact of rural-urban migration is the loss of labor for agriculture. Most people in Karama believe that if nothing is done to solve this problem, there will be a decrease in agricultural production and thus poverty, as many fields in rural areas are dug by adults.30% of all respondents see rural-urban migration as the main cause of the decline in agricultural production. As reported, 60% repeat this theme, 25% are from Mukura sector. They say that some old people are no longer able to go to the field and their children are not able to replace them because they are either in school or have gone to the cities to find work. According to these respondents, there is no will to return to the rural areas . They see not only rural-urban migration as the only cause of the decline in agricultural production, but also climate change, lack of fertilizer use, poor implementation of government policies, and other factors. In addition, the price increase of agricultural production is also a result of rural migration. People say that when agricultural production decreases, the price in the market increases because the demand in the market is very high. They say that agricultural production will increase sharply if the rural urban migration continues to increase.

### Solutions to the rural urban migrations

More people in the Karama and Mukura sectors suggest that the main solution to rural-urban migration is agricultural development, as more people go to the city to find work and improve their living conditions. In their opinion, there would be no reason to go to the cities if agriculture is well developed. They see agriculture as the basis for their lives. This argument is supported by 70%, including 50% from the Karama sector and 20% from the Mukura sector. The Mukura also see education as a means to curb rural-urban migration. According to 13% of respondents, there should be other mechanisms that complement rural development. These mechanisms include, in both sectors, the development of other economic sectors, not only agriculture, the improvement of education, and others.

### Conclusion and Recommendations

This study was conducted in Karama and Mukura sectors with general objective of finding out the impact of rural-urban migration on agricultural production in rural areas. It also aimed to find out possible solutions to the negatives impacts of rural urban migration on agricultural production, and finally to determine the consequences of rural-urban migration to urban areas. Since my study is a scientific study, I relied on observation and interview to collect data in order to obtain a comprehensive study.

The research I conducted in the two study areas shows that rural-urban migration has a significant impact on agricultural production. For example, 30% of the respondents said that rural-urban migration leads to a reduction in agricultural production, 10% said that it increases the price of agricultural production, and 60% of the respondents said that it leads to a shortage of labor for agriculture, which also affects the future development of Rwanda. Respondents in these study areas said that after finishing secondary school, the youth immediately go to the big cities like Kigali, Muhanga and Huye. Not only the youth but also they even said that even those who have completed college studies do not return to their home. According to them, it is almost people who are between 27 and 55 years old who cultivate.

The research showed that the main reason for rural-urban migration is employment, which was confirmed by 80% of all respondents. Other reasons for rural-urban migration cited by respondents include lack of infrastructure in rural areas, need for leisure, especially for youth, and belief in a better life in urban areas. Some respondents indicated that rural-urban migration can be a threat to urban development. For example, 20% of respondents indicated that it can lead to high crime rates in urban areas. Not only that, 30% of the respondents said that it can lead to high unemployment in urban areas. They further said that it will lead to some economic problems in the future such as famine, poverty, rural exodus and others. For these reasons, I would recommend that the government should develop the rural areas because it was found that one of the main reasons for migration is the lack of jobs and the lack of sufficient social services as in urban areas. In addition, the government should subsidize farmers so that they can increase their agricultural production and earn an income.

Finally, the author would recommend that people should develop their rural areas instead of leaving them, because it was found that some areas are inhabited only by old people who are no longer able to contribute efficiently to the development of rural areas

This type of argument from the respondents confirms my hypothesis that there is a close relationship between rural-urban migration and the decline of agricultural production in rural areas. I talked to the interviewees and got more information about the relationship between rural migration and agricultural production.

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## Appendices

