

Farmers' Perspectives on Male out-Migration and the Future of Agrarian Livelihoods in Rwanda

- Case Studies from Rudashya and Kiryango Villages

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Cover picture: The picture shows men and women farmers working in the field. It was taken from the Northern Province of Rwanda. Source: Eric Nisingizwe

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Abstract

Rural out-migration is prevalent phenomenon throughout the Global South. In this study, I explore the effects of male out- migration on the agrarian livelihoods of the farmers' households in Rwanda. The study seeks to understand how male out- migration shapes agriculture and how the absence of men in the villages affects the workload of the left behind women and gender relations in farming activities. For data collection, the research employed qualitative methods; both semi-structured interviews and Focus Group Discussions were used in combination with personal field observation. The thesis is informed by phenomenological theories and I draw on the sustainable livelihood framework to interpret the empirical findings. The research revealed that the exodus of male farmers engenders both efficacious and detrimental effects on the agrarian livelihoods of the migrants' households. The positive effects, which are seldom, pivotally include the shift from subsistence farming to modern and commercial agriculture. On the other hand, the research unveiled the detrimental effects of male out-migration, which mainly stem from the withdrawal of workforce in farming activities. This affects adversely agriculture production in migrants' households because the earned remittances are not sufficient to recoup the shortage of labor force entailed by the absence of men. The agrarian change in migrants' households is contingent on the remittances and can only be beneficial when migrants are skilled enough to secure well - paid jobs.

Keywords: Agrarian Livelihoods, Migration, push factors, pull factors, Livelihood Strategies, gender relations, remittances

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Abbreviations

CGIS	Center for Geographic Information Systems
CIP	Crop Intensification Program
DAP	Diammonium Phosphate
DFID	Department for International Development
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
GDP	Gross Domestic Product
MINALOC	Ministry of Local Administration
MININFRA	Ministry of Infrastructure
NISR	National Institute of Statistics of Rwanda
REMA	Rwanda Environment Management Authority
Rwf	Rwandan Francs
SLF	Sustainable Livelihood Framework
USAID	United States Agency for International Development
USD	United States Dollar
WBG	World Bank Group
WDA	Workforce Development Authority

1 Introduction

1.1 Research problem

The exodus of rural dwellers towards the cities in search of jobs is a common phenomenon in different parts of the world and it is attributed to various reasons which include rural unemployment, land scarcity, low agricultural productivity and rural poverty (Adhikari, 2015; Singh, 2018; Roy and Nangia, 2013). More than 60% of the poor population lives in the rural areas of the global south where livelihood is predominantly based on subsistence farming and exploitation of natural resources (Hoglund, 2015). In addition, the livelihoods of 2.5 billion of the world population is agrarian and most of them are small - scale farmers (FAO, 2016).

Due to the prevailing situation of rural poverty, male out- migration is considered as one of the coping mechanism adopted by rural dwellers to surmount agriculture – related challenges in the Global South (Singh, 2018; Ellis, 2000). Similarly, in the countries where subsistence agriculture is predominant, outmigration is considered as one of the strategies of livelihood diversification (WB &FAO, 2018).

As observed in many other parts of the world, rural poverty in Rwanda has given rise to male out- migration (Musahara, 2001, Leeuwen, 2001; Schutten, 2012) and the rate of internal migration has considerably increased both within rural Districts and from rural to the cities (MININFRA, MINALOC, 2013, Rwanda National Habitat, 2015). However, it is still dubious if the adopted strategy yields fruitful results in the agrarian livelihoods of the migrants' original villages in Rwanda because numerous researchers conducted in low and middle income countries have found both detrimental and positive impact of male out-migration on the sending areas (see WB &FAO, 2018; Tiffen et al. 1994; Roy and Nangia, 2013; Singh, 2018).

Scholarly attention to Rwanda has merely sought to understand the root causes of rapid urbanization and the bulge of rural out- migration after the 1994 genocide (see Uwimbabazi and Lawrence, 2011; Havugimana, 2009; Musahara, 2001, Leeuwen, 2001; Schutten, 2012) but the effects of male out – migration on the agrarian livelihoods in the sending areas have received less attention. This fascinating subject is largely unaccounted for and constitutes a critical research gap in the social sciences in Rwanda. Moreover, similar researches that have conducted elsewhere in the world have revealed that the massive male out - migration for employment has changed the livelihood and social structure in rural areas but they

are context - dependent and hence, cannot be generalized (Adhikari, 2015; Greiner & Sakdapolrak, 2012; Sijapati et al. 2017; Sugden et al. and Maharjan et al. 2012). It is therefore, of paramount importance to explore the agrarian livelihoods which are associated with the male out - migration in these particular villages of Rwanda.

Considering the current surge of male- out migration in Rwanda which, most often, is associated with the rapid population growth, land scarcity and poor living conditions in rural areas (Rwanda National Habitat, 2015), taking into account the dynamics around the economic viability of this movement and considering the fact that the majority of those migrants are farmers, it is worthwhile to scrutinize the changes in agrarian livelihoods which are associated with male out -migration.

The purpose of this study was to understand, from the perspectives of members of rural households who experienced male out-migration, the changes in agrarian livelihoods which are prompted by male out- migration in Rudashya and Kiryango villages. Attention has been paid on labor migration which is mostly conducted by heads of households from Rwamagana to Kigali City because of the massive exodus of rural dwellers in search of employment opportunities. Much focus has been put on exploring the social and economic changes in agrarian livelihoods which are mediated by the withdrawal of labor in agriculture caused by male out – migration and the remittances sent to the left behind family members. Furthermore, the study was intended to depict the image of the future agrarian livelihoods based on the current trend of male out- migration.

This study is part of my academic work and will complement similar researches conducted by other scholars in the domain of migration and livelihoods. Moreover, the results will serve as a handy tool for policy makers in charge of local administration, agriculture and rural development in Rwanda.

1.2 Objectives of the study

General objective

To explore the effects of male out- migration on the agrarian livelihoods in Rudashya and Kiryango Villages

Specific objectives

- i. To understand how male out- migration shapes agriculture in Rudashya and Kiryango villages
- ii. To find out how the absence of men in the villages affects the workload of the left- behind women farming activities
- iii. To explore the gender relations in agricultural tasks prompted by male out - migration
- iv. To explore the future of agrarian livelihoods in Rudashya and Kiryango villages based on the current trend of male out –migration

1.3 Research questions

The research questions are designed in line with the purpose of the study. I have chosen one main research question to investigate the case from the general perspectives and three sub- questions to break down the focus of the study and provide details.

Main question

What are the effects of male out-migration on agrarian livelihoods in Rudashya and Kiryango villages?

Sub-questions

- i. How does male out- migration shape agriculture in Rudashya and Kiryango villages?
- ii. How does male out- migration affect workloads of the left - behind women in farming activities?
- iii. What are the gender dynamics in agriculture engendered by the male out – migration?
- iv. How do farmers perceive agricultural change in the future due to out-migration of men?

1.4 Summary of conceptual and methodological approach

In this study, two theoretical approaches have been adopted; these are the phenomenology which is about how people act and make sense of their own action (Inglis, 2012). This theory has been chosen because the case has been investigated through hearing farmers' perceptions on the outmigration of men and its impact on the

agrarian livelihoods. Since the phenomenological research concerns with describing the lived experience of people about a phenomenon as delineated by the participants (Creswell, 2014), the case has been approached from the standpoints of farmers who experience rural out- migration. Second, I have used the theory of livelihoods because the research touches upon the livelihoods of farmers and the expected changes are analyzed through the Sustainable Livelihood Framework. The SLF is a toolkit for analyzing how regulations affect the livelihoods of poor people and can be applied on individual, household or neighborhood level. It therefore, enables researchers to understand the complexities of local realities, the livelihood strategies and poverty outgrowth as well as the dynamics of connectedness between them (Majale, 2002). SLF has been chosen for this study because it presents an outstanding conceptual base to analyze the effects of regulations on people's livelihoods and the coping mechanisms used to adapt to the external stresses and shocks (Majale, 2002). Regarding the methodology, I have used the qualitative methods in which I employed the Individual interviews, Focus Group Discussions as well as personal observation.

1.5 Thesis outline

This thesis is divided in eight chapters; the first chapter introduces the study with the research problem, objectives of the study and research questions. The second chapter presents the contextual background of the study; it shed more light on male out - migration and agrarian livelihood in the global south and Rwanda in particular, while the third one provides a detailed description of the case study sites. The fourth chapter concerns with theories and concepts that are relevant to the study in question and the fifth one is about methodologies used to collect empirical data. A comprehensive narrative of the empirical results obtained is developed in chapter six. The seventh chapter is about discussion which links the empirical results to the literature and concepts, and the last chapter summarizes the study outcomes and draws utilitarian recommendations.

2 Contextual background

Across the world and throughout history, rural –urban migration has been pervasive and has attracted considerable attention of researchers in social sciences (Adhikari, 2015). The movement of people from one place to another occurs in different forms and is due to various reasons. Migration of all kinds, particularly income seeking migration is intrinsic to human nature: *“the need to search for food, pasture and resources, the desire to travel and explore but also to conquer and possess”*(Brandt, 2012, p. 4).

In the global south, rural based households engage in the flows of rural-urban migration because the constraints of their livelihoods are too difficult to overcome (Brandt, 2012). This may be due to exacerbated rural poverty coupled with the dearth of employment opportunities (Adhikari, 2015). Furthermore, opportunities of urban development outweigh the very scarce benefits of living in rural areas and thus encourage migration (Schutten, 2012). This explains the push and pull factors of this movement – what deter migrants from their original place and what attract them to the new destination (Malmberg, 1997).

A number of reasons are associated to the increase of exodus in the world and the global south in particular. This mainly includes the dearth of non - farm activities, unemployment and scarcity of arable land (Adhikari, 2015; Singh, 2018). Scantiness of job opportunities in the rural areas, increased population pressure which deteriorates the resource base, food insecurity emanating from land fragmentation and which hamper food production are the major push factors (Adhikari, 2015). And thus, male out- migration is mainly prevalent in poverty stricken areas (Roy and Nangia, 2013). On the other hand, the root causes of movement of people from the rural areas to the cities or towns are associated to a big number of expected advantages (Lykkes, 2002). In most cases, rural dwellers are attracted by better employment opportunities in the cities and diversified income generating occupations that increase people’s income (Adhikari, 2015).

Regarding the end product of rural – urban migration, various researches conducted have come up with controversial findings. These mainly concern with confirming whether this movement yields fruitful results in relation to socio- economic development of the people engaged in it or if it generates detrimental effects in the sending areas (Greiner & Sakdapolrak, 2012; Schutten, 2012; Tiffen et al. 1994; Gray, 2011; Smucker and Wisner, 2008). Moreover, rural out – migration is considered as a coping strategy under conditions of environmental stress because migrants earn remittances which are used to buy food during the drought periods

(Smucker and Wisner, 2008) and households respond to low agricultural yields by adopting temporal migration as an income generating strategy (Gray, 2011).

Furthermore, labor migrants are not only considered as financiers, but also bring knowledge and innovations in their respective villages (Tiffen et al. 1994).

Although, farmers interpret rural out - migration as a coping mechanism to poverty and food insecurity in the rural areas (Smucker and Wisner, 2008), findings have revealed that not all migrant are successful in cities; some decide to come back for negative reasons (Schutten, 2012). In some instances, the value of labor power drained from farming activities in rural areas outweighs the revenues from the wage labor flowering back in the countryside (Greiner & Sakdapolrak, 2012).

Across the globe, rural out- migration is mostly undertaken by men (Mueller et al. 2015) and has direct effects on the social- economic change of the rural sending areas (WB &FAO, 2018 and Adhikari, 2015). Similarly, Roy and Nangia (2013) argue that in the global south, rural – urban migration is the most dominant of all kind of internal migration and is mostly conducted by men (Roy and Nangia, 2013). To illustrate, rural out- migration is dominated by males in Nepal where 93 of the total number of migrants are men (WB &FAO, 2018). Similarly, in Senegal, only 17% of the internal migrants are women (WB &FAO, 2018).

Male out- migration has become a global phenomenon. It is considered as a life-line to the poor and remarkably contributes to poverty reduction (Adhikari, 2015). In the global south, male out-migration plays a vital role in social and economic development (Singh, 2016). Migration is integral to economic growth and is closely linked to agriculture in many parts of the world (Mueller et al. 2015). A research conducted in Kenya revealed that nearly 33% of Kenyan households opt to split their members between rural and urban homes (Agessa, 2004). Male out-migration is a livelihood strategy adopted by households to meet the basic subsistence needs and to cope with agrarian shocks (see Sugden, 2016; Dowell and Haan, 1997; Sakdapolrak, 2008). It is one of the survival strategies adopted by rural dwellers to surmount agriculture related shocks and to diversify income (Singh et al. 2018).

A number of researches conducted in different places of the world have concurred that male out - migration has both detrimental and positive impacts on the livelihoods of the family members left in the rural areas (Singh et al. 2018; Adhikari, 2015). Labor migration may be a convenient strategy to cope with rural poverty (Singh et al. 2018, Banerji, 2008) and it is regarded as the common strategy of livelihoods diversification for the poor (Singh et al. 2018, Ellis, 2000) but may not be always the best option for the poorest (Kothari, 2002). In most cases, the increase of households' income resulting from male out migration is offset by the heavy work burden endured by left-behind women in farming activities (Singh et al. 2018).

2.1. Migration in Rwanda

Migration in Rwanda is integral to the relationship between population and development, together with fertility and mortality. Rwanda is described as a country of severe demographic stress which relies for subsistence on a limited base of resources (Uwimbabazi and Lawrence, 2011). It is amongst the most densely populated countries of the world (The conversation, 2017; United Nations Economic Commission for Africa, 2016) as it has an estimated population of 10,515,973 and it is the second most densely populated country in Africa (United Nations Economic Commission for Africa, 2016) with about 415 inhabitants/km² (The National Institute of Statistics of Rwanda, 2012).

Rwanda is among the world's least urbanized countries (NISR, 2012, Rwanda National Habitat, 2015) and urban dwellers are only 16.5 % of the total population (NISR, 2012; Rwanda National Habitat, 2015). The rate of internal migration has considerably increased from 9% in 2011 to 11% in 2014 both within rural Districts and from rural to the cities (MININFRA, MINALOC, 2013, Rwanda National Habitat, 2015). Due to the high prevalence of economic activities, the city of Kigali is the main host where 48% of all urban resides; it is the major urban center hosting about 48% of all urban dwellers (Rwanda National Habitat, 2015).

Landlessness, lack of employment opportunities and a variety of family related issues in rural areas are the root causes of male –out migration in Rwanda (Rwanda National Habitat, 2015).

Since mid -1990s, rural – urban migration has increased in Rwanda due to shortage of land for agricultural production in rural areas which has been prompted by the rapid increase of population density. This is evidenced by the fact that 60% of the Rwandan population has less than 0.5 Ha of land per capita in comparison to the 1950s where more than 50% of people each had, on average, access to more than 2 Ha (Uwimbabazi and Lawrence, 2011).

With a diminishing availability of land for agricultural production, which is due to a high demographic pressure, migration has become an alternative livelihood strategy for many Rwandans (Uwimbabazi and Lawrence, 2011). In this regards, poverty is considered as the major cause of rural – urban migration in Rwanda where households use migration as a survival strategy because they are not able to create a sustainable livelihoods in their original localities.

Households who, mostly depend on subsistence farming, opt to send some of the members in the cities with the hope to find better employment opportunities and hence help the remaining family members who are left behind. This is mainly fueled by low agricultural productivity and high population growth (Uwimbabazi and Lawrence, 2011).

Men migrate seasonally to cities but leave their family members to benefit the less expensive living conditions in the rural areas while earning income from urban employment (Uwimbabazi and Lawrence, 2011). Rural out-migration may be problematic due to elusive jobs and high cost of living in the cities (Uwimbabazi and Lawrence, 2011). Moreover, pronounced rural-urban migration may, in some instances, result in a decline in food security as production diminishes in populated rural sectors (Uwimbabazi and Lawrence, 2011).

2.2. Effects of male out-migration on agrarian communities

2.2.1. Household income and agriculture

The nexus between male out-migration and agricultural change in the rural setting is mediated by remittances, withdrawal of labor in agriculture and gender dynamics (Greiner & Sakdapolrak, 2012). The increase of remittances and other earnings from non-farm activities drastically reduces the agriculture-based income in the general household income (Khatriwada et al. 2017). As it is ubiquitous in many other countries of the global south, the remittances earned from labor migration play a vital role in the livelihoods of rural households of Kenya (Black et al. 2006 and Gould, 1995). To exemplify, the agrarian revolution in Kenya, which mainly involves the shift from subsistence farming to market-oriented agriculture and the adoption of off-farm activities, stems from remittances obtained from out-migration (Orvis, 1993; Sakdapolrak, 2012).

Neoclassical economists agree that both off-farm income and income earned from labor migration provide a salient impulse for agricultural development (Greiner, & Sakdapolrak, 2012). Some migrants invest in buying assets base such as land which are then used to increase agriculture production (Sugden, 2016) while others have increase the area under irrigation as they earn money that permit them to rent the irrigation equipment (Sugden, 2016).

On the other hand, a number of migrants prefer to invest in non-farm activities which in return generate income, others prefer to invest in education in order to secure better-paying jobs and a small amount is invested directly in agriculture (Tiffen and Mortimore, 1994). Men from impoverished households migrate enormously but the earned money is used for direct consumption because it is not sufficient enough to be invested in agriculture (Olson et al. 2004; Ekbom et al. 2001). Research by Sugden et al. (2016) has revealed that few migrants can use the remittances to invest in agriculture i.e. buying land or machinery because the larger amount of the earned money is used to meet the basic subsistence needs such as food and clothes (Third alliance, 2012). Some are indebted prior to the migration process and the earned money is used primarily to pay the loans (Sugden et al.

2016) and thus, they are trapped in a vicious cycle of poverty (Third alliance, 2012; Paris et al. 2005). In the research conducted in the densely populated district of Kenya Crowley and Carter (2000) reported that only well off migrants invest in agriculture.

2.2.2. Remittances and workload in farming activities

Male out - migration entails the increases of work burden for the left -behind women during the peak agricultural season and consequently affects their physical conditions (Roy and Nangia, 2013; Ekbom et al. 2001). Wives of non-migrants' households are much more engaged in agriculture than migrants' wives and this was interpreted as a consequence of labor shortage engendered by the absence of men (Roy and Nangia, 2013). Also, the work burden of left behind women in farming is doubled especially when they don't have adult sons to help them (Nandini, 1999). Similarly, migrants' women in Baihati, Nepal shoulder a higher physical work burden compared to their counterparts in non - migrants' households (Maharjan et al. 2012). The study carried out in India unveiled some cases of men who migrated and never returned abandoning completely their wives and children. This negatively affect agrarian livelihoods as the withdrawn labor force is not compensated and women are overly saddled by working alone in farming activities coupled with other household chores (Roy and Nangia, 2013).

Conversely, the results of the research conducted by Maharjan et al. (2012) in Syangja, Nepal revealed the opposite; women in migrant households are less burdened compared to those who live with their husbands (Maharjan et al. 2012). In some instances, migrants return home to help family members to work in the field during peak agricultural season (Roy and Nangia, 2013). Also, in extended families, relatives of the spouse may take on the responsibilities of the migrant and hence the woman is not overly saddled (WB &FAO, 2018). According to Olson et al. (2004), there is no difference between migrants' households and non- migrant households in terms of agriculture production because migrant households hire workers to compensate the loss of labor (Olson et al. 2004).

Even though some research revealed that rural out migration lessen the work burden as remittances permit women to hire wage laborers for farm and non - farm activities (Van , 2000), the remittances are not received immediately after male out migration; it takes time to get a job and save money to send. In some cases, households take bank loans prior to male migration and the remittances received are used first to pay the debt incurred and during that period, the workload of the left behind women increases (Paris et al. 2005; Sugden et al.2016).

Another point to consider is that the effects of labor migration on the workload of those family members left behind varies depending on the amount of earned remittances which impact on the ability to hire labor (Maharjan et al. 2012).

Migrants who are engaged in formal sector earn more money and differ profoundly from those which are employed in the informal sector (Maharjan et al. 2012). In many cases, larger remittances relieve women from the work burden whereas small remittances produce the opposite effects (Maharjan et al. 2012).

2.3. Male out- migration and gender in agriculture

In the case of male out- migration, left behind women are considered as *de facto heads* of households because the husband is absent for a long period of time (Doss, 2002). According to Doss and Morris (2001), the gender of household head plays a crucial role in dealing with constraints and making decision in agriculture. Male and female – headed households face dissimilar challenges and solve them differently (Doss and Morris, 2001). To exemplify, there is a remarkable difference in the adoption of agricultural technologies between men and women; women are less likely to uptake improved technologies in agriculture because they have limited access to resources such as land, agricultural inputs and labor (Doss and Morris, 2000; Doss, 2001).

Moreover, Studies conducted have revealed that female farmers are less likely to receive extension services in agriculture compared to men (Doss, 2001) and this due to the fact that extension agents do not generally reach poor farmers with small landholdings and most of female farmers fall in that category (Doss, 2001). Furthermore, female headed households are overly prone to agricultural labor shortage when they have less or no adult man and they are less capable to mobilize labor, and particularly during land preparation (Doss, 2001).

A number of studies have concurred that male out- migration profoundly alters the traditional gender division of labor in farming activities and amplifies the feminization of agriculture (Maharjan et al. 2012; Bever; 2002, Quisumbing, 2003). Throughout Africa, labor in agriculture is divided according to gender (Doss, 2001); Men and women farmers are assigned different tasks in agriculture. However, these divisions are not rigid; they can change depending on the prevailing situation (Doss, 2001).

Due to the absence of men in the villages, the existing pattern of gender division of labor is altered in destitute agrarian households. In this regards, women engage in male duties which, to some extent, are labor intensive compared to their physical strength (Jackson, 1999). Subsequent to male out- migration, women tend to engage in traditionally male - dominated domains of work. These mainly include labor intensive tasks such as threshing, irrigation, digging and making terraces (Kasper, 2005; Maharjan et al. 2012; Lokshin and Glinskaya, 2009).

2.4. Agriculture Sector in Rwanda

Agriculture is among the key sectors of the Rwandan economy, employing around 72% of the working population (FAO, 2019) and contributing 39% of the national GDP (WB, 2013). It contributes about half of the Country export earnings (Giertz et al. 2015) and provides 90% of the food needs in the country (WB, 2013). Agriculture is a dominant source of export earnings (Giertz et al. 2015) but over time its share is declining to the detriment of services (WDI, 2013).

The government of Rwanda has made agriculture a priority and has set measures and allocated resources to improve productivity, promote sustainable land use management and supply chain activities. The sector of agriculture has followed an uninterrupted and positive growth trend from 1999 onward and from then agriculture value added per worker has remarkably increased (Giertz et al. 2015). Farmers' own food production is aggregately a source of food in Rwanda at household level as domestic food demand nearly equals domestic food production (Giertz et al. 2015).

Despite the tremendous efforts made in boosting the country's economy, Rwanda is still relatively poor as it ranks 36 out of 48 SSA countries in terms of per capita GDP (WDI, 2013) and 63% of the total population live on less than 1.25\$ per day (World Bank, 2013). Nearly 45% of the Rwandan population still lives in poverty and the majority is located in rural areas (Giertz et al. 2015). Agriculture sector is mainly characterized subsistence farming; nearly 70% of the population grows crops for domestic consumption (Global IDP, 2002:50). It is mainly rain-fed and is practiced with restricted skills in agronomic practices (Giertz et al. 2015). Irish potato, cassava, sweet potatoes, beans banana and maize are highly produced throughout the countries as food crops and in some agro- ecological zones, tea and coffee are grown as cash crops (NISR, 2012a).

Landlessness and land scarcity are among the major challenges that agriculture faces in Rwanda (Giertz et al. 2015; Rwanda National Habitat, 2015). In Rwanda, 98% of the total land is regarded as rural, with around 49% allocated for agriculture (FAO, 2019). More than 80% of landholdings are less than 1 ha and, in many cases one ha is divided in three or four plots (Giertz et al. 2015). The average of agricultural land per household is 0.76 Ha (NISR, 2010), and due to the topography of Rwanda which is predominantly hilly, over 70% of arable land lies on mountainous terrain (Giertz et al. 2015). Under these circumstances, it is impracticable for farmers to adopt intensive and mechanized agriculture which necessitates the use of modern agricultural equipment (Giertz et al. 2015).

Supported by the major international donors, the government of Rwanda is committed to modernize and professionalize agriculture in order to reduce poverty and boost economic growth (The conversation, 2017).

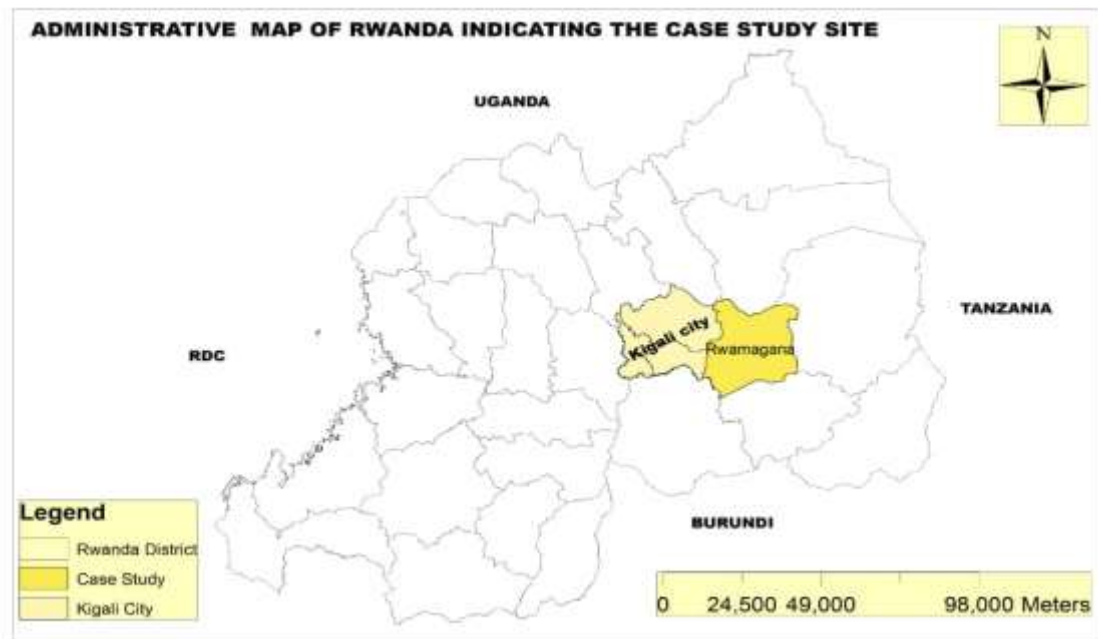
In this regards, different agricultural policies are geared to increase productivity (Giertz et al. 2015) and a number of programs are in place to promote “inclusive agricultural growth” with an emphasis on increasing productivity of the targeted staple crops and improve the rural livelihoods throughout the country. Moreover, the private sector involvement in agriculture is encouraged by the government to invest in agriculture and thus promote competitiveness (USAID, 2018; WB2013, FAO, 2019).

As a remedy to the issue of land fragmentation which hinders intensive agriculture, the government has launched a program of land use consolidation and Crop Intensification program (CIP) by grouping farmers in cooperatives. With the initiation of these programs, the use of fertilizers has increased conspicuously and agricultural inputs such as seeds and fertilizers are subsidized (Giertz et al. 2015).

3 Description of case studies

Rwanda is a land locked country situated in the East African Rift Valley and has a tropical temperate climate (REMA, 2009, 97). Temperatures vary with altitude throughout the country and the average ranges between 16°C and 20°C. The eastern and southern parts of the country are characterized by prolonged drought periods while the western and northern regions see heavy rains and floods (Giertz et al. 2015). The country is characterized by diverse topographic features which are predominantly hilly.

Figure 1. Administrative map of Rwanda indicating the case study site



Source: CGIS, 2019

The mountainous terrain entails differences in agro- ecological conditions and a variety of crops and farmers socio-economic backgrounds throughout the country (The conversation, 2017).

Agricultural calendar is essentially divided in 3 cultivable seasons; the most important are season A (September to January) and season B (February to June) which are used for upland cropping, and season C (June to August) during which vegetables are grown in the marshlands (Giertz et al. 2015).

Rwamagana District is one of the 7 districts that make the Eastern Province of Rwanda. It covers an area of 682 km² and has a population density of 460/ km² making it one of the densely populated districts in the country (NISR, 2012). The distance from the District capital to Kigali city is only 47.6 km, which spur local residents to migrate seasonally to Kigali city (MINALOC, 2018). The District of Rwamagana counts 68,000 households divided in 474 villages out of which two villages namely Rudashya and Kiryango have been chosen (District Development Plan, 2013). According to District Development Plan (2013), these sites have a relatively huge number of labor migrants in the nearest town and Kigali City. This caught my attention and triggered me to choose the above mentioned villages as case studies.

The two villages are both located in in Nkungu cell, Munyaga Sector of Rwamagana District (Rwamagana District, 2018). Rudashya village has 273 households (District Development Plan, 2013) while the entire village of Kiryango is inhabited by 141 households and the majority of them are farmers (Rwamagana District, 2018). The studied villages are geographically located in the same area and their agro- ecological conditions do not differ so much. The only difference is that Rudashya village touches the Cyaruhogo marshland which is under rice production and a big number of rural dwellers in this village are grouped in a cooperative of rice producers known as COCURIKI. This is a very big and organized farmers' cooperative which counts 249 farmers who grow rice in Cyaruhogo marshland. These farmers are, to some extent, market-oriented; they don't grow rice for domestic consumption but they rather sell the production to the local factory (District Development plan, 2013).

Like in many other rural areas of Rwanda, the livelihood in these villages is predominantly agrarian. Agriculture is one of the dominant economic activities in the District employing the majority of citizens in the working age. According to Rwamagana District (2018), the working population in Rwamagana is merely agrarian with 80.7% of women and 51.6% of men. The production of export is still at low level and the majority of households rely on subsistence farming (District Development plan, 2013). There is a limited access to the market for agricultural produces and this is exacerbated by the poor conditions of the roads that should link the production sites to the market and service centers (District Development plan, 2013). In Ramagana District, poverty has been reduced from 45% in 2005 to 30% in 2010. Extreme poverty – meaning severe deprivation of basic human needs such as food, drinking water and shelter- is at 12.1 % of all residents.

Rwamagana topography is characterized by lowland and undulating small hills separated by swampy valleys. These features present potential opportunity for small scale irrigation and mechanized agriculture (District Development Plan, 2013). The climate is moderate tropical with relatively large quantity of rainfall and the soil is prominently loamy and sandy and clay in the marshlands. Irrigated land is only 6.1% of the total arable land and erosion is estimated at 88.3% (District Development plan, 2013).

The above - mentioned ecological conditions make the two villages suitable for the cultivation of different crops such as banana, rice, maize, beans, cassava and pineapple. However, rice is mainly grown in Rudashya village due to its vicinity to Cyaruhogo marshland compared to Kiryango village (Rwamagana District, 2018).

4 Theories and concepts

The use of various theories is of vital importance in describing and analyzing the phenomenon for this study. According to O'Reilly (2015), the theoretical orientation in social sciences provides an analytical framework through which the social phenomenon is examined. In this regards, phenomenology and sustainable livelihood framework which are found to be relevant to this study, are herein outlined and explained. These theories serve as important tools to clearly understand and scrutinize the perceptions of farmers on rural-urban migration and agrarian livelihoods in Rudashya and Kiryango villages.

4.1 Phenomenology

Phenomenology is understood as the study of how things occur in the world from the perspectives of the community one is studying (Inglis, 2012). Similarly, Frykman and Nils (2003), argue that phenomenology is about understanding people's everyday experience of realities in order to gain an understanding of the phenomenon in question. Studying the effect of male out - migration from the perspectives of farmers was a convenient and concise approach because phenomenology concerns with how people act and make sense of their own actions (Inglis, 2012). As the name indicates, the subject matter of phenomenology is the idea of phenomena, which refers to ourselves, other people and the events around us. It also includes the reflection of our own consciousness as we experience them and human consciousness should be seen as the ultimate root of all social phenomena (Inglis, 2012). This theory has been chosen because the case has been investigated by hearing the farmers' perceptions on male out- migration and its impact on agrarian livelihoods; information was collected from rural dwellers whose living depends on agriculture. The data emanated mostly from the migrants themselves as well as their family members such as wives and children.

Moreover, Frykman and Nils (2003), defines phenomenology as "*the core meanings mutually understood through a phenomenon commonly experienced*" (p. 9). It is about understanding people's everyday experience of realities in order to gain an understanding of the phenomenon in question (ibid). This goes in line with Bourdieu's concept of "*habitus*" which refers to skills, dispositions and habits acquired through life experience (Bourdieu, 1990). Phenomenology was therefore an invaluable tool that I used in both methodology of data collection and analysis to of

rural livelihoods of farmers based on their everyday experiences in their respective villages.

The analysis of the effects of male out-migration through a phenomenological approach provided a critical reflection on the experience of male farmers who migrate temporarily and the wives who are left home. I used the theoretical framework of phenomenology because I wanted to understand how the migrants themselves and their family members experience their own situation. The phenomenological approach gave me a very open understanding of how the interviewees see the effect of migration. Moreover, from the phenomenological point of view, research participants must be able to articulate their own thoughts and feelings about the experience being studied and it may be difficult to express themselves due to language barriers, embarrassment and other factors (Inglis 2012). This aspect was so important for this study because the researcher and participants had the same mother tongue and could smoothly communicate. However, some impediments of culture and gender norms could impinge on interaction between the male researcher and female informants.

4.2 Livelihood theory

The theory of livelihoods has been employed to assess the changes in agrarian livelihoods in the original localities of the migrants. According to Chambers and Conway (1992), livelihood concerns with all capabilities and assets that are required for a means of living and it is considered sustainable when it can cope with shocks and enhance its capabilities for both the present and the future.

Livelihood assets, which are capitals that people draw upon to make a living (Ellis, 2000) are used to assess and analyze the change in agrarian livelihoods in the chosen case studies. Much emphasis is put on analyzing the *social, human, financial* and *physical capital*. In addition, more light is shed on *livelihood strategies* which comprises of how people assess and use the assets (Ellis, 2000). In this case, the analysis is not merely on the means acquired and changes engendered by male out migration but also on the access that left behind farmers have to different opportunities and services in relation to agricultural development. The analysis brings in the term of “*capabilities*” which stands for the ability of individuals to realize their potential as human beings in the sense both of being and doing. It refers to sets of alternative of beings and doings that a person can achieve with his/her economic, social and personal characteristics (Sen, 1993; Chambers and Conway, 1992) and can also be defined as the “freedom” employed by households or individuals to choose activities that can improve the quality of their life (Bennett, 2010).

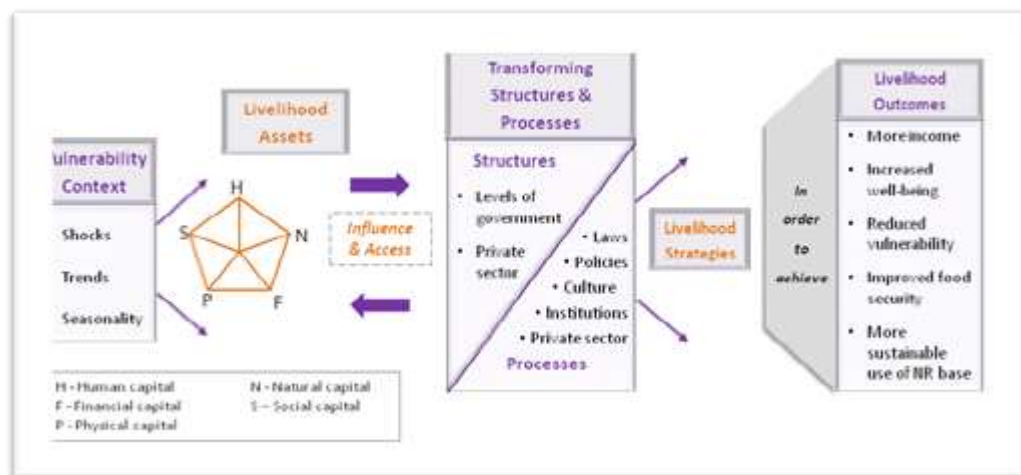
4.2.1 Sustainable livelihood framework

According to Arce (2003), the use of sustainable livelihoods framework started when policy makers ascertained nation states to be of less political importance compared to worldwide interdependence of national governance. The proliferation of literatures on poverty reduction and sustainable livelihoods in the political arena resulted in the adoption of livelihood definitions, frameworks and models (Bennett, 2010).

...“*Livelihood comprises the assets (natural, physical, human, financial and social capital), the activities and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or the household (Ellis, 2000, p.10).“ A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain its capabilities and assets both now and in the future, while not undermining the natural resources base (Carney, 1998, p.4)*

SLF is an invaluable toolkit for analyzing how regulations affect the livelihoods of destitute people and can be applied on individual, household or neighborhood level. Moreover, SLF enables researchers to comprehend the complexities of local realities, the livelihood strategies and poverty outgrowth as well as the dynamics of connectedness between them.

Figure 2. Sustainable Livelihood Framework



Source: Department for International Development (DFID, 2001). (Adapted from Carney, 1988)

It presents an outstanding conceptual base to analyze the effects of regulations on people's livelihoods and the coping mechanisms used to adapt to the external stresses and shocks (Majale, 2002).

In this particular case, the livelihood framework is used to analyze how the withdrawal of human capital affects the agrarian livelihoods of rural dwellers in the two villages. Moreover, the expected financial capital flowing back in the rural areas as a result of urban employment is a benchmark of the changes in agrarian livelihoods.

The assets or capitals mentioned in the sustainable livelihood framework are *Natural capital* which concerns with natural resources such as land, water and biodiversity, *Physical capital* which mainly include infrastructures, housing and other kind of production equipment, *Human capital* which concerns with health, skills, knowledge and ability to work. *The social capital* stands for social relations and resources, gaining trust, networking ability and access to institutions and lastly, the financial capital which is about financial resources which may originate from different sources of income and which are utilized for a means of living (Majale, 2002).

.... “A livelihood is characterized by a comprising assets and activities, access to which is mediated by institutions and social relations”... (Ellis, 2000).

Livelihoods are shaped by institutions, policies and mediating processes from household to international level. These policies and process do not merely determine the access to different capitals but also their substitutability. The policies are the deciding factors of different options of livelihood strategies and the access to decision making organs (Majale, 2002).

Many factors impact on the “livelihood strategies” and income; these mainly include livelihood assets that are used to achieve the livelihood outcomes and cope with shocks, trends, seasonality and vulnerability. For this to be realized transforming structures (government, private sector or civil society) and processes (laws, policies and culture) are needed to mediate the access to the capital. See figure 1.

A number of factors influences the rural livelihood outcome; This mainly involve, secured land tenure, effective governance, access to natural resources and a diversified livelihood base as well as the knowledge and awareness of livelihood opportunities and initial financial means (Bennett, 2010). In this regards, land ownership, access of farmers to available resources and the intervention of the government institutions including local administration and municipalities in the process of male out migration, cannot be overlooked.

The sustainable livelihood approach has been proved to be an invaluable measurement tool in many areas and particularly in community development research. It serves as an overriding benchmark for poverty analysis and provides an evidence based view of development challenges and opportunities (Bennett, 2010).

Overall, the sustainable livelihood approach leads to a thorough and systematic understanding of the poor people's lives, the challenges they face and inter - group nuances.

4.2.2 Livelihood strategies and diversification

A few decades ago, theoretical and practical literatures on livelihood diversification have seen a rise (See Ellis, 2000; Chambers and Conway, 1992) and for a number of authors, rural livelihood diversification is considered as an invaluable toolkit for poverty reduction and rural development (Ellis, 2000).

“Diversity refers to the existence at a point in time, of many different income sources, thus also typically requiring diverse social relations to underpin them ... Diversification, on the other hand, interprets the creation of diversity as an ongoing social and economic process, reflecting factors on both pressure and opportunity that cause families to adopt increasingly intricate and diverse livelihood strategies”(Ellis, 2000, p.14).

In rural development context, both diversity and diversification are invoked to imply means of increasing the sources of income. Traditionally, agriculture is deemed to be the most dominant, if not the mere source of income in rural areas. “Rural livelihood diversification”, thus, involves, in other words, deviating from agriculture and rely on non-farm activities for a means of living. However, rural dwellers might be diversity within agriculture itself; agricultural technology has brought about many other forms of off-farm activities, in the whole value chain, that differ from farming per se (Ellis, 2000).

This brings in the concepts of rural entrepreneurship by which rural dwellers, facilitated by the administration, create different kind of income generating activities. For this study, male out - migration epitomizes the livelihood diversification in the studied area and it may be an effective mechanism to preclude rural dwellers from putting too much pressure on the natural resource base.

Overall, this study used both phenomenology and livelihood theories to analyze the empirical findings. Livelihood theory was employed to assess the changes in agrarian livelihoods which are engendered by male out-migration. Phenomenology played a key role in reflecting on the experience of male farmers who migrate in the cities, leaving behind their family members. Moreover, phenomenology was used as a methodology because it helped to understand how interviewees perceive the effects of migration. Details on the methodology used in the process of data collection and analysis are thoroughly explained in the next chapter.

5 Methodology

This section describes the research design and the methods used in data collection and the analysis. It highlights the limitation of the study and some of the challenges encountered in the course of collecting data. The field work has been conducted in two villages of Rwanda, namely Rudashya and Kiryango and has covered a period of 2 months, from January 28th, 2019 to March 29th, 2019.

5.1. Epistemology and Research design

According to Creswell (2014), it is imperative to choose appropriate research design in qualitative study. These designs are called the “*types of inquiry*” and are used to provide a specific direction in the research process. For this study, the livelihood changes caused by male out-migration were investigated through phenomenological lens. The case has been approached from the standpoints of farmers who experience rural out-migration and farmers served as key informants of the study, in which individual interviews, focus group discussion and observation were used. The chosen design matches the qualitative research which concerns with “*exploring and understanding the meaning individuals or groups ascribe to a social or human problem*” (Creswell, 2014, p. 3).

Qualitative methods also involve the collection of in-depth data, thorough detailed description of the phenomena in question (Flick, 2006). In this research, I drew on the “Constructivist” perspective that people possess different personal experiences and it is very crucial to take into account actor’s views in order to properly explore and comprehend a particular situation (Creswell, 2014).

As Creswell (2014) argues, the case to be investigated must involve several individuals who have all experienced the phenomenon, In this case, the description of male out-migration through a phenomenological approach provided a critical reflection on the experience of men who migrate seasonally, the wives who are left home and other family members.

5.2. Methods for field work

Research methods involve the forms of data collection, analysis and interpretation that match a particular study (Creswell, 2014). For this study, I used qualitative methods which are concerned with meaning (Silverman, 2015) and which use words rather than numbers (Creswell, 2014).

Prior to the field work, key informants have been identified with the help of the village leaders and the local agricultural extension officers. I have selected 2 villages namely Kirayango and Rudashya and, in each village, I conducted 10 interviews, 2 focus group discussions and all these methods were accompanied by regular and in-depth field observations. To collect data, I used the voice recorder for both FGDs and individual interviews. In addition, I used camera to take visual images in the villages and the notebook and pen to take notes.

Research participants were male and female farmers of the above mentioned villages whose living depends on both agriculture and remittances from urban employment. In addition, I used insights from the migrants' landlords. The informants were men who migrate seasonally to the cities, their wives or some of other family members such as children, daughters in law or mothers in law. Research participants were selected based on age, gender, religion and social class; for the sake of balance, all categories were represented in both interviews and Focus group discussions. I conducted two FGDs with men and women mixed, one with male only and another one with female only.

Furthermore, I contacted the village administrative Committees of the two selected villages. This was an obliging initiative as these local leaders served as gatekeepers which according to Creswell (2014) are pivotal in the early stages of research process. The local leaders knew well their respective villages and could easily reach the right informants. By having their permission and keeping their company, I was not seen as an outsider and hence the respondents freely provided detailed information.

I also have to mention that my former position as an employee of Rwanda Agriculture Board was a valuable social capital that put me in a strategic position to smoothly collaborate with the local agriculture extension officers who work with farmers on a daily basis. Moreover, I was trusted as someone who could solve farmers' problems to the extent that some asked me to deliver their message to government officials, but this had nothing to do with my tasks as a researcher.

5.2.1. Open - ended interviews

Open - ended questions are convenient for qualitative research method as they allow the researcher to listen thoroughly to what respondents say and how they share their views (Creswell, 2014). As the overall purpose of this research was to capture and grasp the participants' views of the situation studied, the use of broad and general questions enabled informants to construct the meaning of the situation which is forged through discussion and interaction with others. I used semi- structured interviews which accorded flexibility in asking follow up questions and thus, I could collect in depth data. The topics for discussion were chosen in advance but the sequence and wording was determined during interviews.

Prior to each interview, participants were introduced to the purpose of the research and were assured the confidentiality and anonymity of their answers as per the research ethics. Qualitative face to face interviews took place in the participants' homesteads and some were carried out in the fields under the shade of trees. Interviews were mostly conducted in the afternoons and lasted between 15 and 25 minutes each.

The main topic which is the effects of male out- migration on agrarian livelihoods was divided in three themes – how male out-migration shapes agriculture in the village, gender relations in farming activities in farming activities and the future of agrarian livelihoods in the village. Interviews were recorded under the permission of respondents, and due to ethical considerations, I took notes in case respondents did not accept to be recorded. The recordings were eventually transcribed and notes were carefully read to capture the major points discussed. Contrarily to the unstructured interviews, this method could not allow the free flowing of the discussion which could bring in some additional relevant topics. To counteract, I decided to complement this method with the focus groups discussion in order to triangulate the sources of information.

5.2.2. Focus group discussion

Focus Group Discussion is a useful method in data collection especially when the researcher's intention is to gather information from different standpoints of the subject matter (Kvale & Brinkmann, 2009). In an interactive discussion, the identified groups discussed about their insights on the effects of male out migration on the agrarian livelihoods of rural households. With the help of the village leaders and the agricultural extension officers, I managed to find group of farmers gathered in their usual communal activities in their respective villages.

The discussion started by introduction of the researcher and the research purpose by the local leaders and then I brought in greetings and informal conversations related to crop production just to break their eyes and attract their attention before embarking on the topic in question.

In the groups, participants talked spontaneously and openly about the topic without specific questions. This instigated an easy flow of information among participants and as suggested by Silverman (2015), I played the role of a facilitator. Discussions lasted between 35 and 45 each and we concluded by thanking participants for their contribution. Furthermore, this method allowed me to save time because I reached a relatively huge number of respondents within a short time.

Following Silverman (2015), the only weakness of this method is that some people in groups tend to dominate the discussion. Therefore, to mitigate this, I formed groups that are composed differently based on gender (men alone, women alone and the mixed one). Also, the logic behind making gender based groups was that the perceptions of men and women on the study topic may differ because men are supposed to migrate for labor while women stay in the villages. For this method, I found helpful to focus much on farmers grouped in cooperatives in that particular locality. By doing so, I had a quick and easy access to information from the target informants: the right person to be interviewed such as farmers' households whose at least one member of the family migrates seasonally to the city.

The method of Focus Group Discussion was advantageous and effective in many ways. For instance, I was able to collect data from several farmers concurrently and had control over the discussion by acting as a mediator. However, due to the fact that I was not asking specific questions, participants could lose track and go off topic and I had to reorient the discussion. Another pitfall of this approach is that not all questions were fully covered during the discussion and some were shallowly tackled.

5.2.3. Observation

I also collected additional information through observing the people and their surrounding in the villages. This approach was essential as it helped me to understand things that people do not explain in words. *"Certain kind of questions can best be answered by observing how people act or how things look"* (Otto, 2018).

Observation was used to connect the information obtained from interviewees with the realities noticed on the ground; triangulating data between stories and tangible facts. These involved field observation in the rural setting; that is, who does what? when? and where? Observation is particularly important for this kind of research but is it also time consuming (Vinten, 2014). In observing, I focused on the change in agriculture which results from the remittances sent by migrants and the withdrawal of labor in farming activities. Moreover, this method was used to observe body language of informants, which revealed ample messages.

The approach of participant observation is interpreted as *"immersing yourself in a culture and learning to remove yourself every day from that immersion so you can ... put it into perspective, and write about it convincingly"* (Bernard, 2006: 344).

The participant observation helped me to deeply understand the reality of the field by thoroughly watching farming activities in the rural setting and to better understand the culture of the people I was studying. Observation helps to perceive events as they occur and to evaluate the prevailing situation for oneself (Flick, 2006). I, therefore, used this method to compare what farmers said and the reality on the ground.

However, observation method presents some drawbacks which mainly stem from the fact that it provides only the snippet of the current condition of the field from the outsider perspectives. Since everything could not be observed, I combined the observation method with semi-structured interviews and Focus Group Discussions. I have to mention that taking field notes was of paramount importance in the process of data collection. This mainly concerned with taking notes about the observation of the village setting such as cropping pattern in the migrants' fields as well as the activities that were being conducted.

5.3. Data analysis

For data analysis, I compared different responses from different informants to identify the patterns, ideas and themes that emerged from the interviews. Major themes and ideas were then listed and hand coded according to the pattern they emerged. This was done by classifying interview statement into themes and the most recurring key words. Some of these statements were taken directly from informants (emic terms) while others emerged from own interpretation due to scholarly experience (etic terms).

The obtained data were analyzed through the lens of the chosen theoretical framework in order to answer the research questions. In the course of analysis, gender, age, religion and social class of research participants were taken into account. Also, the collected data from the interviews, group discussions and observations have been analyzed in reference to the selected concepts and theories and the relevant literature as well. Based on the summary of the key findings, I could easily see the commonalities and nuances in the two villages. In some instances, the message provided during interviews were not straightforward and, interpretation was done based on what they said and what they meant by what they said. Moreover, Information gathered from the literature was invaluable in the process of data analysis since it was used to back up the primary data. These mainly concerned with books, research articles, organizations and different websites.

5.4. Validity of the project results

The validity of qualitative research concerns with certain procedures employed by researchers to check for accuracy of the research findings and the results accuracy is based on the standpoint of the researcher, participants or the audience (Creswell, 2014). For this study, various strategies were used to ensure the trustworthiness of the research findings and to persuade the readers on the accuracy of the results.

As aforementioned, I used different methods for data collection and by doing so, the validity of the results was ensured through the triangulation of data sources. In addition, information was obtained from the specific target participants (farmers who experience rural out-migration) deemed to be in a good position to provide accurate and reliable information. Participation in the research process was voluntary and interviewees were allowed to freely express their thoughts regardless their religious or political affiliation. Considering and respecting the research ethics was an added value to the credibility of the research findings and conclusions. From the phenomenological perspective, research participants may be able to clearly express their own thoughts and feelings about the experience being studied (Inglis, 2012). For this research, the interviewees were from my home country; we use one mother tongue and share the same culture.

All interviews and group discussions were conducted in my mother tongue and hence, I didn't need translation. This avoided any kind of distortion of the original information that may occur in the process translation; the interpreter could negatively affect the validity of the results by misinterpreting the participants' answers. On the other hand, the fact of being a former agricultural extensionist in that zone allowed me to have an idea on the questions I was asking and I was likely to have assumptions and pre-conceived ideas about the situation I was studying.

To avoid bias, I created an open and honest discussion; I described the situation from different angles and perspectives and didn't hesitate to bring contradictory arguments that emerged. I managed to make sure that I spend enough time to the field in order to deeply understand the case. This permitted me to better describe the site and the people studied. Moreover, I kept in touch with the participants after the interviews so that I could ask for more clarifications. All the above - mentioned strategies added to the validity of the findings and conclusions of the study.

5.5. Challenges and Limitations

The research has been conducted in propitious conditions and I had the minimal prerequisites to collect reliable data and come up with credible results. However, I came across challenges, which to some extent have affected the research process.

Due to the time constraints and insufficient financial means, the research was geographically limited to two villages.

I have chosen two villages which were not too distant and as far as similarities and divergences of the results in the two villages are concerned, this may have infringed on the results.

Another point to consider is that some of the respondents were females and some would not accept to have private conversation with a man. In this case, I allowed other family members to assist. Also, some respondents could not feel free to provide information to a researcher deemed to be an outsider. This is where gate keepers intervened to introduce me to the research participants - Gate keepers (Village heads) were all males and we could easily communicate without any cultural barrier. Some respondents refused to be recorded and I was supposed to take notes of the summary of the interview. Also, I came across one lady who has been identified as a potential research participant but has categorically refused to be interviewed and we had to substitute her with a new one.

Even though it was expected, these changes were cumbersome and time consuming in the course of data collections. During the field work, I had to postpone many interviews due to various reasons; some respondents were not available and in some instances, the rain prevented us to reach the participants and we had to schedule other appointments. Also, during interviews a few participants could not provide answers to some of the questions without consulting their partners.

6 Empirical findings

This section depicts a comprehensive narrative of the empirical findings obtained from the field. The results collected from individual interviews, focus group discussions and field observation are arranged according to research objectives (cf. chapter 1). The first part is about understanding how male out - migration shapes agriculture in Rudashya and Kiryango villages. The second section assembles all the findings related to how the absence of men in the villages affects the workload of the left- behind women in farming activities. The third part of this chapter describes the key findings in relation to the third objective which is to explore the gender relations in agricultural tasks prompted by male out – migration and the last but not least sheds more light on the fourth objective of the study and explore the future of agrarian livelihoods in Rudashya and Kiryango villages based on the current trend of male out –migration.

The results presented in this section emanate from the empirical data collected from January 28th, 2019 to March 29th, 2019 in both Rudashya and Kiryango villages. In combination with personal observations in the village, I conducted 10 interviews in Rudashya village and 10 in Kiryango village as well as 2 FGDs in each village. Participants were farmers chosen from different categories of rural dwellers - youth, adults and elders, males and females. They were all Christians (mostly Protestants and catholic) and they belong to the lower social classes with little or no educational backgrounds.

6.1. Reasons for migration

Men migrate due to a number of reasons which mainly stem from poor living conditions of rural dwellers in both Rudashya and Kiryango villages; the resources required to meet the basic needs such as food, clothes and shelter are scant and job opportunities are very limited (FGD1, Rudashya Village, 24/03/2019; FGD 2, Rudashya Village, 26/03/2019). In a focus group discussion conducted in Rudashya village, participants concurred that poverty, land scarcity and landlessness are the pushing factors and farmers which belong to the lower social classes asserted to have relatively small pieces of land compared to their family size and hence, are prone to migration (FGD1, 24/03/2019).

A woman who dwells in Rudashya village and whose husband has migrated said,

“it is very seldom to find a farm of more than 0.5 Ha in the village and thus the production obtained from that particular farm is not enough to feed a family of 6 children and their parents. For that reason, my husband decided to migrate to Kigali city in search of a job because the family could no longer survive on subsistence agriculture” (Interviewee 3, 12/03/2019).

Similarly in Kiryango Village, respondents in a focus group discussion argued that the causes of male out- migration, in most cases, emanate from economic reasons; the land is so scarce to the extent that the yield is not enough to meet the dietary needs of the household and they opt to send a family member (mostly a man) to the city to look for employment opportunity. As one farmer migrant asserted,

“land scarcity is the root cause of male out- migration in this village because our families are rapidly proliferating while the land size is not increasing. So, we have to diversify our livelihoods, otherwise we will starve. Male out- migration is one of the options because we expect to get jobs in the city even if our dreams are not always real” (A farmer in FGD 3, 28/03/2019).

Land scarcity is exacerbated by the fact that land is accessed on heritage basis. The more, the family size is, the tinier is the land share of offspring.

“A father who owned 2 ha of land had 5 sons. He had to divide it in small pieces so as to give a share to each of his sons and it obvious that none of them could get more than 0.4 ha... simple calculations.. now they are all married and the grandsons are also in need of land to cultivate and to install their new homesteads. Do you think they can survive on that small piece of land? Never! They will have to look for other means to survive and migration is one of the plausible options (Interviewee 11, 19/03/2019).

The situation is different for rice growers because they are well organized and yield is not only used for home consumption but also the surplus is sold on a relatively high price. Cooperative members can earn money to meet other needs and they have access to bank loans as they have collaterals (rice fields).

An interviewed farmer who belongs to the cooperative of rice producers pointed out that her fellow cooperative members never migrate because rice production is remunerating enough (Interviewee 8, 16/03/2019).

At harvest, the yield is used for home consumption and the surplus is sold to cover the basic expenses such as medical insurance, schooling of children and clothing.

“When you have enough agricultural land, you cannot decide to leave the village. Only those who are landless migrate to look for jobs in the cities but they remain poor. In this cooperative, we grow rice and when we harvest, we can sell the production and save some to eat at home. For us, there is no need to migrate (Interviewee 8, 16/03/2019).

In this particular case, rice growers are self-reliant and don't see any opportunity in migration since they can still earn money in their respective villages.

Land scarcity and land ownership are also deciding factors of male out-migration in Kiryango village. The lack of access to land entails underproduction which also leads to food insecurity and finally encourages migration. In Kiryango village, some rural dwellers do not have land at all; they work in their neighbors' farms and share the harvest – A system commonly known as “TUGABANE” in the local language, which literally means “*Let us share*”. The little portion obtained is used for direct consumption which, to some extent, is not enough to meet the dietary needs of the households (FGD 4, 29/03/2019). Since the farmer is supposed to share the yield with the landlord, the small portion obtained is not enough to feed the entire family and meet other household needs. As a coping mechanism to the prevailing starvation, men decide to leave agriculture to their wives and migrate to look for other income generating activities that can complement agriculture. In this case, male out-migration is viewed as the only way to cope with starvation because migrants expect to get urban employment and earn money which is sent back home to help the left behind family members. An interviewed man from Kiryango village who migrates temporarily said,

“I decided to migrate in 2015 because I wanted a job in Kigali City. We could not produce enough food from the very small farm we have which is almost a half of a hectare. In addition, our farming is only for subsistence, we don't have surplus yield to sell and yet we need money to cover other family expenses such as school fees for children and medical insurance” (Interviewee 18, 22/03/2019).

Similarly, interviewed young men who experienced migration consonantly pointed out that they leave their villages to look for financial means in the cities and towns because they need the basics to found new families (FGD 1, 25/03/2019).

For them, there is no promising future in the village and they prefer to look for jobs in the cities and food insecurity impels them to leave the village. An interviewed young man said,

“When you finish the secondary school and you are not admitted to University, you better go to the city to look for a job so that you can earn money to build a house in the village and pay for the dowry, but when you stay in the village, you starve and remain jobless and impoverished. You need to look for a job in the city because you can no longer depend on your parents when you are grown up” (Interviewee 6, 14/03/2019).

This research divulged some men who left the villages without consent of their wives and they were mostly pushed by internal conflicts in their families. During the Focus Group Discussion in Kiryango Village, a woman testified that she was not in good terms with her husband because he used to drink irresponsibly and couldn't properly manage finances. The entire family was in constant dispute and eventually the husband left without prior consent and went to the city.

“My husband was a drunker and we were always quarreling because he used to sell the yield and spend the money extravagantly. One day he left without informing any of our family members and we heard from our friend that he was in the city and had married a second wife” (Interviewee 14, 20/03/2019).

Moreover, in Rudashya village, an interviewed woman pointed out that some men migrate because they want to live an easy life in the cities. They flee their responsibilities as head of households and they leave without any consent with their partners.

“Some men are just lazy, they no longer want to cultivate and decide to leave the farm to their wives while they are enjoying in the cities. Actually, they don't migrate for the interest of the entire family; they prefer to live in the city and they want to look smart and clean because agriculture is regarded as a dirty profession. Surprisingly, they do all of these in disagreement with their wives” (Interviewee 5, 13/03/2019).

Overall, there are plenty of reasons that push male farmers to migrate and these stem from the poor living conditions in which they live in their respective villages. The problem of land scarcity and landlessness is very common in the studied village and is the root cause of male out-migration. This is because the yield obtained from the small landholdings is not enough to meet their dietary needs and other domestic needs.

In this case, the men, who are normally the head of households, decide to migrate in search of a job in the city. Moreover, in some cases, men migrate in disagreement with their partners fleeing internal family conflicts.

6.2. How male out – migration shapes agriculture

There are diverse effects of male out - migration on agricultural production, the size under crop production, the choice of crop to be grown, the adoption of technology in agriculture and access to agricultural extension services in the sending villages. The production for different crops remarkably decreases with male out-migration in Kiryango Village (FGD 3, 28/03/2019). This is due to the fact that the absence of adult men in the villages entails the withdrawal of workforce in farming activities which, in some cases, is not compensated (FGD 4, 29/03/2019).

Men migrate and leave farming activities to their wives and the little remittances sent are used for domestic consumption rather than being invested in agriculture to compensate for the loss entailed by the withdrawn workforce (absence of men). A woman in Kiryango village, whose husband has migrated, testified that she receives only 15000 Rwf (USD 16.39) every two months as remittances. She uses this little money to buy foods and to pay for the medical insurance but she can't invest in agriculture (FGD 4, 29/03/2019).

Some farming tasks require special physical strengths and in most cases they are assigned to men. Subsequent to male out- migration women need extra labor to perform those tasks in the absence of their husbands. In case they don't receive enough remittances to hire laborers, these tasks remain poorly performed or they are simply not done because women alone cannot manage to do it. Walking in the village and visiting different households, I saw a man working in banana field – he said he used to have large field of banana and he could harvest and sell some to earn money. When he migrated to the city, the plantation was partly destroyed and the yield diminished drastically due to the fact that the woman could not perform all the required agronomic practices in banana production. By the time I visited him, he was refilling empty spaces with new suckers. He said,

“I migrate to Kigali in 2004. I was newly married and had to leave my wife in the village because I was told by a friend of mine that urban life is a little bit easier than the rural one. I worked for 5 years in a construction company but the salary was not sufficient enough because I had to pay for the rent and food. I could manage to save and send only 21000 Rwf (USD 22.95) to my wife via MTN mobile money each three months and I could only visit my family once in 6 months. My wife could use the money to buy food and pay for the medical insurance. Since my wife alone could not manage to cultivate all the fields, she had to leave some in fallow. From

the beginning I thought I was progressing economically but later one I realized it was the opposite. I have decided to come back and as you can see I am trying to rehabilitate my banana orchard which has been destroyed when I was not around (Interviewee 15, 21/03/2019).

It is therefore evident that male out- migration jeopardizes farming activities in the case the remitted money is not enough to recoup the loss entailed by the absence of men. Left - behind women focus on crops of their choice depending on their physical strengths or dietary needs and they completely forsake other crops (FGD 4, 29/03/2019).

However, the study conducted in Rudashya village divulged converse findings. One of the positive impacts of this phenomenon on agriculture found in this village is the acquisition of domestic animals - mostly goats and cows – that provides organic manure to increase the soil fertility.

Figure 3. Livestock acquired from remittances in Rudashya village



Photo: Eric Nisingizwe, 2019

An interviewed woman opined that migrants who succeed to get jobs in the cities contribute to the agricultural productivity of their original areas. This is done by buying livestock, mostly goats and cows for some, which provide manure to improve soil fertility and hence increase the production. *“The yield has remarkably increased after my husband’s migration. He bought two cows which provide organic manure for our fields and the nutrition has improved as well because we drink milk (Interviewee 3, 12/03/2019).*

Another interviewed farmer in the same village asserted that from the remittances sent by her husband, she managed to buy chemical fertilizers that are applied to improve crop productivity because the organic manure alone was not enough.

“I did not benefit much from my husband’s migration but I have been able to buy DAP and Urea to apply in the maize so as to increase the productivity from the money he sent me. With the combination of organic and chemical fertilizer, maize grows faster and can easily withstand with the harsh weather conditions (Interviewee 16, 21/03/2019).

Walking in Rudashya village, I met a former migrant who testified that he has not been able to earn enough money for the last two years but at least he has bought a bicycle which eases the harvesting activities as it is used to carry the yield from the farm to the homestead (Interviewee 9, 18/03/2019). In some instances, the dreams of migrants do not become real in their destinations. Some do not get the expected jobs and others get the lower paid jobs from which they cannot manage to cover their living allowances in the cities and save some money to send back home. In a FGD conducted in Rudashya village, a man who had migrated uttered that he did not get the expected job and eventually returned back when he was extremely destitute. He also argued that even those who are employed have unskilled jobs which pay insufficiently - Some are security guards, others are work in construction.

“I decided to come back and work in my farm because life was too difficult in the city and my salary was very low. I could only stay if I were not married. The city is for well- off and educated people. Us who are not educated, we should stay in our villages and work in our farms even if they are not that much productive (FDG 1, 25/03/2019).

None of the interviewed farmers has been able to increase the size of the land under crop production or the adoption of agricultural technology such as mechanization or irrigation as a result of remittances because the earned money from labor migration is not enough to cover the cost. In a group discussion conducted in Kinyango village, farmers uttered that the remittances are not enough because migrants cannot secure well-paid jobs since they have little or no educational background and thus, the little money earned cannot be used to invest in long run projects.

“It is difficult to buy land from the remittances since we cannot get well - paid jobs in the cities. We are farmers and we are not highly educated and

thus, when we migrate, we find ourselves in the most popular jobs which are unskilled. Many work in construction companies, others work as security agents and the younger ones works as house boys. I, for example was working for a construction company and it was not easy to save money to send back home since life was expensive and I could only get 2500 Rwf per day from which I had to pay the rent and food. I worked four years, the job was not fulltime and I never had a contract. The very little money I could send back home was only used for home consumption and was not enough to invest in buying more land. We still have the very small piece of land we had when I migrated (A man FGD 3, 28/03/2019).

For some, migration has rather shrunk their assets “Men opt for selling their goats or a piece of land before embarking on migration and the money obtained is used to cover the cost of transport and installation in the city (FGD 2, 26/03/2019).

However, migrants who succeed to secure well - paid jobs in the cities positively impact on agriculture in their respective villages. This is due to the fact they earn enough money from which they can invest in intensive agriculture. While conducting FGDs in the Rudashya village, I came across two migrants who have successfully managed to shift from subsistence farming to market – oriented agriculture in Rudashya Village. They shifted from growing food crops such as beans, sorghum, cassava, maize, tomato and banana (which are normally grown in that village) to commercial horticultural crops. With the money earned, they helped their left-behind family members to adopt intensive cultivation of tomatoes which are sold in the towns and they employed landless neighbors.

Figure 4. Passion fruit production in Rudashya village



Photo: Eric Nisingizwe, 2019

Asked about the secret behind the success, they said they were skilled prior to their migration (in comparison to those who failed).

They had driving licenses and one got employed as truck drivers while the other one is engaged in motorbike taxi. Since they were employed, they bought land and managed to invest in passion fruit production which is considered as a cash crop in the village. The production is sold both locally and in the neighboring town and the project has enormously changed the lives of their family members and neighbors (FGD 1, 25/03/2019).

Regarding marketing and negotiating prices of agricultural commodities for the left behind women, this has nothing to do with most of the migrant families as they only rely on subsistence farming and do not have surplus for sale. *“We normally grow food crops, just for home consumption. So we don’t need skills in marketing since we are not doing business”* (A woman in FGD 3, 28/03/2019).

In the neighboring village of Rudashya which is close to Cyaruhogo marshland, some farmers are engaged in rice production and horticulture because water for irrigation is abundantly available. In an interactive discussion, I asked a migrant’s wife how women go about marketing tomato produces in the absence of their husbands and she replied *“there is no special skill in marketing and negotiating prices for a particular gender. We perform it the same way as our husbands would do”* (FGD 1, 25/03/2019).

Also, the access to extension services among all participants remained the same before and after migration, which implies that it is not influenced by migration.

6.3. How the workload in agriculture is affected by male out – migration

This question was intended to investigate how the absence of men in the village affects the work burden in farming activities for the left behind women and other family members. In addition, I wanted to scrutinize potential changes in gender relations in terms of assigning tasks in farming. Although the above - mentioned few cases revealed minor changes in agriculture productivity engendered by male out- migration in Rudashya village, other respondents in the neighboring village pointed out the opposite scenario. For the left- behind women, male out – migration is a constraint rather than a solution to their livelihoods and agriculture in particular. For them, men migrate and earn money but it is never used to improve agriculture back home.

In a Focus Group Discussion that was exclusively made of women, some asserted that men benefit from being away of their family and enjoy a luxurious life in the cities, trivializing and neglecting the work burden and poverty endured by their family members. One woman said,

“My husband went to the city, secured a job, but spent the money extravagantly, and even when he comes back, the little money he brings is used for direct consumption and not invested in agriculture. He buys fancy clothes but can’t even give me money to pay for labor in agriculture, he still behaves like an urban man and he does not want to cultivate anymore” (FGD 4, 29/03/2019).

They declared that they are overly saddled - They have too much work in the farm combined with other responsibilities like taking care of kids and other domestic tasks that are traditionally assigned to women. The work takes a long time to be done when women are working alone. One landowner said that the woman who works in her farm has to spend the morning and afternoon hours in the field while others (couples) work only until noon (Interviewee 19, 22/03/2019). Moreover, in observing, I saw some ladies performing tasks such as digging and bush clearing which are physically challenging for left - behind women and they do not even receive enough remittances to hire extra labor. Walking in the village, I saw a woman digging to plant banana suckers, a task which is traditionally assigned to men. In an informal and friendly discussion, I asked her why she was performing such a ‘male task’ and she replied,

“I do it because I don’t have any other choice. My husband went to look for a job in the city and I am staying alone at home. If I don’t do it myself, I will have to sell the production of the previous season to pay for labor. And this would put our household in perpetual food insecurity” (Interviewee 1, 11/03/2019).

Furthermore, an interviewed woman in the same village reported that she has been saddled by the work burden entailed by the absence of her husbands. She has to work doubly, which take time and even lead to delayed planting. *“This land used to take 5 days to be cultivated and now it takes 10 days because I work alone. Also, transporting manure alone from the kraal to the field is very laborious” (Interviewee 13, 20/03/2019).*

Women share this idea with some of the men who migrated and returned. In a Focus Group Discussion carried out in Rudashya Village, men said it was too difficult for their wives to work alone and men could not send enough money to compensate their absence. *“It is too difficult for a woman to work alone especially*

when she has many children to feed and when she does not have land and only works in others' fields" (FGD 2, 26/03/2019).

Discussing about male out - migration and gender relations in agriculture in Kiryango village, a young lady opined that when men migrate and don't immediately secure jobs, they prefer not to come back in the village because they feel ashamed to return without money and the woman continues to struggle alone in farming activities.

"Some men in this village, migrate in search of employment opportunities in the cities and in some cases, they don't find the jobs they expect and decide to live as street men in the cities or go far away in the remote villages. They do so because they feel ashamed to go back home without bringing money they were supposed to bring" (Interviewee 17, 21/03/2019).

Notwithstanding the complaints of migrants wives in the studies villages, I surprisingly came across a labor migrant who reported that he comes back home according to the agricultural calendar to help his family members in farming activities especially at plowing and harvesting stages.

"I don't stay for so long in city. I know some farming activities are labor intensive and too physically challenging for my wife and children. Since I cannot send enough money to hire an extra worker, I prefer to come back home twice a season to help my family at the stage of land preparation and when they are harvesting because it is when they need help most. I then migrate again to look for money when the work is not too much in the farm" (Interviewee 12, 19/03/2019).

6.4. Male out migration and nutrition at household level

In a Focus Group Discussion, participants asserted that the nutrition is remarkably affected by the absence of men in the households. The trend varies in families depending on their economic situation before male out – migration. Different family members interviewed have declared that malnutrition persisted even after the migration; men migrate with the intention of earning money and solve the problem of malnutrition but do not succeed. *"My husband can send little money only once in three months and can be used to buy food for only one week"* (A woman in FGD 3, 28/03/2019). An interviewed woman pointed out that, households with large family size face that issue because women alone, cannot manage to have sufficient and balanced diet for their children. In other cases, the situation

is aggravated by the absence of men; some have reduced the number of meals to be taken per day.

“Before, we used to grow different food crops. I could focus on cereals and my husband could grow sweet potatoes which entail making mounds during cultivation and it is labor intensive. For now, I can’t manage to do both since he is not around and that is why it is difficult for us to have a balanced diet” (Interviewee 20, 23/03/2019).

However, the benefits of male out- migration on the rural livelihoods should not be overlooked even if they are scanty and infrequent. In Rudashya village, I met a woman whose a son has migrated and secured a job in Kigali and by the time I met her, she was the only one to mention the positive effects of male out migration on the rural livelihoods in Rudashya village. Her son has sent money and the woman initiated a petty business in the village. For her, this was like a triggering initiative because she is now self- reliant and can still invest in agriculture and the nutrition has improved as well. Asked about the secret behind her son’s success, she said he had completed high school and was in a good position to find a job in the city.

“From the time my son migrated, my life has remarkably changed economically and psychologically. My husband has passed away in the 1994 genocide and it was difficult for me to my raise my children. My son has completed secondary education and got a job in one of the factory in the city. He sent me money and I invested in this business of selling vegetables and from the money I earn, I can pay the labor in agriculture and food security has improved because we can buy different food commodities. So, this business helps me to practice agriculture in a relatively improved and easy manner because I have money to invest in and I am relieved because I don’t work in the field anymore but rather I pay the workers to do it” (Interviewee 2, 12/03/2019).

6.5. Expected agricultural changes in the future

The study revealed that some farmers, in both villages, have discovered the detrimental effects of male out- migration especially those who are not skilled enough and who are not in a good position to get well - paid jobs in city. In a focus group discussion which was exclusively made of male farmers, former migrants were regretting for the loss entailed by their absence in the village and the work burden endured by their wives. They all decided not to leave the village anymore and they all concurred that they wouldn’t advise anyone to migrate.

“I prefer to stay in the village and work together with my wife no matter how life is difficult because migration did not solve the problem of poverty we had, rather it has been aggravated and agriculture production has been terribly decreased when I was not around”(A former migrant in a FGD 2, 26/03/2019).

The adverse effects of male out- migration on agriculture are very conspicuous especially for those who did not secure well - paid jobs in the cities. They are regretting about the loss engendered by their absence and most likely will no longer opt for migration.

In a FGD conducted in Rudashya Village, a young lady uttered that male out - migration is affecting agriculture in a sense that farming activities are left to women in the migrants’ households and the production may shrink due to the lack or insufficient labor force.

“In the migrants’ households, when a woman stays alone at home, she cannot easily manage to work in the farm and perform other domestic chores at the same time. This will result in increased fields fallow and hence the production will decrease” (FGD 1, 25/03/2019).

While walking and doing observation in the field, I found a farmer who had migrated and returned back in the village. Asked about the future of agriculture in relation to male out migration, he argued that some crops which are labor intensive are likely to disappear in the village or simply their production will be diminished.

“From my own experience, I have realized that, when women are left home, they tend to focus more on particular kind of crops of their interest, and in many cases they only grow crops which are less labor intensive and which have a short production cycle. They never go for cash crops because their main priority is household food security (Interviewee 10, 18/03/2019).

Regarding the future agricultural changes in relation to male out- migration, one farmer who dwells in Rudashya village postulates that due to current trend of male out – migration which entails the dearth of labor, agriculture production is likely to decrease in migrants’ households and farming activities will be dominated by women (Interviewee 7, 15/03/ 2019). However, another farmer argued that the change is not likely to be very conspicuous because male out - migration is merely done by farmers which are categorized in the lower social classes and which are not the major actors in agricultural production (Interviewee 4, 13/03/2019).

In a similar way, a former migrant who finally decided to stay permanently in the village assumed that since many of the returnees have unveiled the side effects of migration and especially its unbearable consequences on agriculture, the current surge of uneducated migrants will decrease and hence agriculture will be revitalized due to the regained workforce (Interviewee 9, 18/03/2019).

All in all, the results herein presented emanates from the field work conducted in both Rudahya and Kiryango villages of Rwamagana District. The data obtained from the individual interviews, Focus Group Discussions and personal observations revealed that male out migration entails both efficacious and negative effects on the farming activities of the selected villages. A few cases of migrants who succeeded to secure well - paid jobs, due to their educational and professional background, have in return improved agriculture in their respective villages by adopting intensive and market - oriented agriculture.

Farmers, in the both villages, view outmigration as a coping mechanism to the prevailing situation of land scarcity, landlessness and rural poverty. On the other hand migrants who lack appropriate technical proficiencies prior to migration cannot secure well - paid jobs and they are forced to go back home because the urban life is expensive compared to their monthly earning. The absence of men, which in many cases is not compensated by the remittances, endangers agriculture in the migrants' households due to the fact that women alone cannot perform all the farming tasks and decide to curtail the production.

7 Result discussion

This chapter concerns with the discussion which links the empirical results to the literature, theories and concepts and draws out key themes and insights about the effects of male outmigration on agrarian livelihoods. More light is shed on the connection between the empirical findings emerged from data collection and the livelihood framework presented in the fourth chapter of this thesis (See Figure 1).

In reference to the literature, this section responds to the research questions with comprehensive in - depth answers based on empirical material viewed through the theories. The empirical results found in this research are analyzed and interpreted in comparison to similar researches conducted in different countries of the global south.

7.1. The surge of male out-migration – An opportunity or treat to agricultural sector?

The findings of this research have revealed that male out – migration entails both advantageous and detrimental effects on agriculture in Rudashya and Kiryango village. Throughout the research, participants have repeatedly unveiled the multi-faceted nature of male out- migration, in relation to agriculture, and which is context – dependent. For some farmers, in the studied villages, migration has noticeably improved agriculture whilst others divulged disastrous effects of male out-migration on agriculture and regret for the loss incurred. The main concern of this section is to explore the logic behind those differences – why some labor migrants manage to secure jobs in the cities and eventually impact on agriculture in their respective villages, while for others, agriculture sector has been jeopardized or not affected at all by male out- migration? It is therefore worthwhile to find out the *structural constraints* that hinder some migrants as well as the silver bullets which ignite the success of others.

As pointed out by farmers in Rudashya village, *successful* migrants manage to remarkably improve farming activities in their respective villages in a number of ways which mainly include the shift from subsistence farming to market- oriented agriculture and the use of fertilizers which in return increase the yield (FGD 1, 25/03/2019). However, the same participants recognize the adverse effects engendered by male out - migration on agriculture which are most often undergone by the so called “*unsuccessful*” migrants.

The unsuccessful migrants are the ones which do not get jobs in the cities as expected or the ones who get the lower paid jobs which cannot cover their living allowances in the cities and remittances to be sent home. (FDG 1, 25/03/2019). This reflects the research of Maharjan et al. (2012), who found out that the effects of labor migration on the agrarian communities in India varies depending on the amount of earned remittances. Migrants who are engaged in formal sector earn more money and differ profoundly from those which are employed in the informal sector (Maharjan et al. 2012).

From the results presented in the sixth chapter, the effects of male out – migration on the agrarian livelihoods of the sending villages depends on the amount of remitted money. This reflects the findings of Greiner & Sakdapolrak, (2012) who concluded that male out - migration conspicuously affects the agrarian livelihoods in the sending villages and the changes engendered by male out- migration are molded by remittances, withdrawal of labor in agriculture and gender dynamics in farming activities (Greiner & Sakdapolrak, 2012).

In both villages, fewer farmers recognize the positive impact of male out-migration on agriculture compared to those who confirm the opposite. In Rudashya village, two men successfully shifted from subsistence agriculture to the production of commercial horticultural crops in the villages (FDG 1, 25/03/2019). The secret behind their success lies in their social status and the skills they had before migration. Their knowledge served as invaluable “*human capital*” and was a pre- requisite for their success and achievements. Having driving licenses put them in a good position to get employed in transport companies as drivers.

Similarly, the interviewed woman whose son has migrated, confirmed that the secret behind her son’s success lies in his educational background – he managed to sponsor the petty business of selling agricultural commodities for his left behind members (*Interviewee 2, 12/03/2019*). This situation reflects to the conclusion of a similar research conducted in Nepal. Following Sugden (2016), male out – migration in Nepal is only beneficial for the households that are better – off prior to migration. This is because they have access to capital and some are educated and are in a good position to find remunerating jobs in the cities. Similarly, Singh (2016) opined that the lack of technical skills preclude male migrants from accessing job opportunities in the cities. The majority of uneducated migrants ends up in unorganized and informal sector and earn less compared to the skilled ones who are more likely to be employed in formal sector. It is therefore very common that those who earn meagerly cannot easily improve agriculture in their sending villages since they don’t have money to invest in.

In some instances, agricultural production goes worse due to male out – migration and as farmers pointed out in (FDG 2, 26/03/2019), migrants take loans or sell some of the resources including their land and livestock. By so doing, they invest in migration expecting to earn money in return, that will recover the cost of the

sold resources and in most cases, due to their poor educational background, they don't secure jobs and even when they are employed they have lower paid jobs. This recalls the research conducted by Third alliance (2012) and Paris et al. (2005) who found out that some rural dwellers are indebted prior to the migration process and the earned money is used primarily to pay the loans and thus, they are trapped in a vicious cycle of poverty.

Another point to consider is that age and marital status of migrants matter in their success in urban as well as in how they impact on agrarian livelihoods back home. The interviewed men who are married attribute their failure to the fact that they have relatively multiple responsibilities compared to their income. They have two homes for which they are considered as sole breadwinners; they have to pay for the rent and food in the city and at the same time they have to send money back home to cover the basic needs for their left behind wives and children. In addition, young migrants have more physical strengths to perform laborious tasks which are easily available than the aged ones. Old migrants who returned assert that it was too late for them to migrate and would not advise anyone of their age to commit the same 'mistake' (FDG 1, 25/03/2019).

Resultantly, having a minimal wage, which is supposed to be fractioned, does not allow migrants to positively impact on the agriculture production in the sending villages. On the other hand, migrants who are single independently manage their budgets and can easily save for their anticipated projects in the near future.

7.1.1. Outmigration – A livelihood and diversification strategy for farmers

Throughout the studied villages, male out – migration is one of the *livelihood strategies* employed by farmers to surmount some of the agrarian constraints mentioned in the previous sections of this chapter. Since agricultural, alone, cannot keep them busy all year round and is not remunerative enough to satisfy their basic needs such as food, medication, schooling and proper shelter, farmers opt for labor migration in the cities with the intention of earning money and send it back in their respective villages. This prevailing situation matches exactly what is termed '*livelihood strategy*' and which comprises of how people assess and use the assets (Ellis, 2000).

In the process of data collection in the two villages, I came across some cases of farmers, who migrate following agricultural calendar in their respective localities. They migrate during the less labor intensive periods of the agricultural seasons and come back when the intensity of farming tasks is at its peak (Interviewee 12, 19/03/2019). This epitomizes the concept of '*seasonal migration*' which stands for temporary migration conducted in correspondence to farming seasons and is considered as a *livelihood strategy*. Normally, rural dwellers migrate during the slack seasons and they return back in their villages at the critical stages of the growing

seasons - when the demand in labor is intensive especially during land preparation and harvesting (Ellis, 2000).

Admittedly, the phenomenon of rural out – migration in form of *livelihood strategy* is pervasive in many parts of the global south and the literature has covered much ground in this field. A similar research conducted by Uwimbabazi and Lawrence (2011), has revealed that with a diminishing availability of land for agricultural production, migration has become an alternative livelihood strategy for many Rwandans. This goes in line with the situation in Kenya, a middle income country located in east Africa region, where nearly 33% of Kenyan households opt to split their members between rural and urban homes and this exodus is considered by Agessa (2004) as a livelihood strategy to meet the basic needs and to cope with agrarian shocks.

Moreover, interviewed farmers have asserted that they migrate simply because they need to diversify the means of living; for them agricultural yield cannot merely solve all their problems and they opt for other “*non- farm*” opportunities and labor migration is one of the plausible options, otherwise, they would starve (A farmer in FGD 3, 28/03/2019). This reflects what Ellis (2000) called ‘*rural livelihood diversification*’, which is about deviating from agriculture and rely on non - farm activities for a means of living. “*Rural livelihood diversification is defined as the process by which rural households construct an increasingly diverse portfolio of activities and assets in order to survive and improve their standards of living*” (Ellis, 2000, p.15).

Following many research, authors have resultantly, concurred that, migration, among many others, is a form of *livelihood diversification* (See Ellis, 2000; Chambers and Conway, 1992; Dowell and Haan, 1997; Sakdapolrak, 2008).

In light of the above mentioned empirical findings which are apposite to the concepts and relevant literature, it is therefore beyond any doubt that the exodus of males from Rudashya and Kiryango villages occurs in a form of *livelihood diversification strategy* for farmers.

7.2.2. Remittances – Compensation for labor shortage in agriculture

One of the motive that ignites farmers to migrate is the desire to earn money which is subsequently sent back home to improve the rural livelihoods in their respective households. In the studied villages, the financial means acquired by male migrants, also known as remittances, are expected to ameliorate the agrarian livelihoods of the left-behind family members. However, the absence of men in the village engenders a shortage of workforce in farming activities, which drastically affects agricultural production.

In light of relevant literature and concepts, this section builds on the empirical evidences of this study to explore and analyze the balance between the withdrawn labor force and the remittances flowing back in the villages.

Notwithstanding the fact that only a few migrants can secure well- paid jobs and send money back home, in some instances, the remittances are not sufficient enough to cover the basic needs of the households and to hire extra labor force as a substitute for the head of the household who is absent. For the migrants who get lower paid jobs, the money is entirely used to buy food and to pay for the medical insurance, which is compulsory in Rwanda. Many studies carried out across the global south have pointed to similar dynamics. A research conducted in Senegal found that only 30% of the surveyed households invest remittances in agriculture and in buying land.

The remitted money is mostly used to purchase food commodities but also to buy clothes, to pay for healthcare services and schooling of children (WB &FAO, 2018). Similarly, the research by Third alliance (2012), has revealed that only a handful of migrants can use the remittances to invest in agriculture. For instance, buying land or machinery because the larger amount of the earned money is used to meet the basic subsistence needs such as food and clothes. Another point to consider is the *behavior change* among migrants who returned.

Due to the fact that they spend a long time experiencing urban life, which to some extent has nothing to do with agriculture, some migrants do not want to work in the farm even when they return back. They are used to enjoy a relatively luxurious life in the cities and agriculture is regarded as a dirty profession which is not prestigious but rather laborious for them (FGD 4, 29/03/2019). To theorize, I assimilate this situation to Bourdieu's concept of "*habitus*" which refers to skills, dispositions and habits acquired through life experience (Bourdieu, 1990). This concept has informed research in livelihoods and it focuses on the conditions of individual behaviors which are molded by dispositions, rather than rational actions (Bourdieu, 1990). In this particular case, the experience of migrants in the cities shaped their life style; they still behave like urbanites even in the villages.

The labor shortage engendered by the withdrawal of men's work force in agriculture far away exceeds the remitted money which is supposed to compensate the loss. This is evidenced by the fact that agriculture production decreases in both quality and quantity in many of migrants' households of the studied villages. Left behind women reduce the variety of crops grown and focus more on the ones which are not labor intensive. Also, they fail to timely conduct farming tasks and they leave some fields in fallow since they can't manage to work alone (Interviewee 20, 23/03/2019). This reflects to the research conducted by the World Bank and FAO which revealed that opt to curtail the production due to the shortfall of labor (WB &FAO, 2018).

Moreover, the research by Sugden et al (2016) divulged that some stayed - behind women reduce the area under crop production because they cannot manage to work alone (Sugden et al. 2016).

In brief, the imbalance between the withdrawal of labor force and the remitted money is prevalent in the households of the so called '*unsuccessful migrants*' described in the previous section of this chapter. They are the ones who find it difficult to secure jobs in the cities or get the lower paid ones. This category is made of migrants whose wives are overly saddled because they receive insufficient remittances or do not receive anything at all. On the other hand, for '*successful migrants*', larger remittances lessen the physical workload for the left behind women and improve agriculture production.

7.2. Outmigration and Gender relations in farmers' households

One of the key findings that emerged frequently in the course of the research process was the changes in gender relations in farmers' households that result from the exodus of men. However, due to cultural and social norms, these changes are not serenely welcomed by rural dwellers. In this section, I discuss different forms of gender – related changes in farming activities which are prompted by male out – migration and how those changes are perceived by rural dwellers.

The outmigration of male farmers entails a shortage of labor force in agriculture, and consequently, left behind women opt for sticking on crops of their choice or leave some fields in fallow (Interviewee 20, 23/03/2019). This affects remarkably the crop productivity and food security as well, because both the quality and quantity of agricultural production are altered.

As mentioned above, migrants' wives who do not receive enough remittances find it difficult to work alone in the farms. This is common in many areas many parts of the world which are prone to the outmigration of men and this is confirmed by Singh, (2018) who found out that the benefits of male out- migration for the left behind women are counteracted by the heavy workload in agriculture and domestic chores engendered by the absence of men.

In the course of interviews, I came across some women in the migrant's households who prefer to solely grow certain crops of their choice because they can't manage to cultivate the entire farmlands in the absence of their husbands. For instance, they would not go for crops that entail making mounds because it is too labor intensive for them. Also, in non - migrants' households, men focus too much on banana production- a very staple crop in the studied villages and which is considered as cash crop because it is processed into local wine (*Urwagwa*).

However, in migrants' households, left- behind women tend to abandon banana orchards because the production requires agronomic practices which are too laborious for them. These findings points to Doss's conclusions from the research conducted in Ghana. He concluded that gender is incorporated in agriculture development and this becomes very striking where some cash crops are viewed as men crops and subsistence food crops are considered as women crops (Doss, 2002) and the explanation lies in the fact that women are responsible for feeding the entire family whereas men are in charge of raising income (Doss, 2001).

7.2.1. Upheaval of responsibilities in farming activities – Women as *De facto* heads of households and decision making in agriculture

Throughout the discussions, both male and female farmers affirmed the shake-up in farming tasks which follows the male out – migration. These changes are viewed and analyzed through gender lenses since they touch upon the relations between male farmers and their wives at household level.

Traditionally, men and women are assigned distinctive tasks in farming activities depending on their physical strengths or due to the cultural routine in in the society (FGD 1, 25/03/2019). Subsequent to the exodus of men in search of job opportunities in urban areas, women take over men's responsibilities (FGD 4, 29/03/2019). This situation is not a particularity to Rwandan farmers because similar research conducted elsewhere in the global south have pointed to similar dynamics.

Previous studies have revealed that male out-migration in agrarian communities is associated with momentous changes in women's roles in farming activities (WB &FAO, 2018). To illustrate, Maharjan et al. (2012), in the research conducted in Nepal, confirmed that there is a distinction in farming duties between men and women in Nepal and these duties are altered subsequent to male out- migration.

In a Focus group discussion that was exclusively made of women, farmers testified that it is a cumbersome experience for a woman to perform male tasks in the absence of her husband. This reflects to the research conducted by Roy and Nangia (2013) in which they confirmed that the absence of men in the villages detrimentally and inexorably affect s the lives of left behind women especially in farming tasks. Similarly, Singh (2018) argues that migrant's wives experience the increased work burden after male out-migration because the absence of men in the villages pushes women to engage in a number of agricultural tasks which are traditionally assigned to men.

Another fascinating point to consider is that in the studied villages, adult men are by default heads of households and they are naturally considered as *breadwinners*. Men are in charge of raising income and provide all the basic necessities of the households whilst women are mostly involved in domestic chores and children's health and education. In the case of male out-migration, women find it difficult to

accomplish the newly acquired responsibilities incurred by the absence of their husbands.

The adverse effects of male out- migration on the workload of left- behind women become more severe in the case of men who completely abandon their families. Some migrants delay to return back home and rarely send remittances while others never return and never send remittances to their family members because they fail to get jobs in the cities and they feel ashamed to return without money, or they want to enjoy a luxurious urban life (Interviewee 17, 21/03/2019). In both cases, left-behind women endure a difficult life and struggle alone to work in the farms without any support from their husbands; they lose a workforce which is never compensated. Similarly, these cases are found in Bihar, India, where migrant's women have to wait for their husbands many years and they never return. These women opt to borrow money from moneylenders in order to survive (Roy and Nangia, 2005).

Due to the nature of this research which took a relatively small sample and which has been conducted in a short period, one would not confirm that outmigration of men in these particular villages will turn agriculture into a female - dominated domain. This is because both men and women in the households who experienced migration, recognize the setbacks of male out – migration on agriculture and some prefer not to migrate anymore. Thus, the rate of male out migration is likely to decrease in the near future. However, there is a tendency to feminize many of the agriculture tasks which are traditionally assigned to men.

8 Conclusions

This section briefly highlights the key findings of the study. It sheds more light on the importance of the issues raised in the introductory and discussion parts and practical recommendations are drawn accordingly.

8.1. Concluding remarks

The overall purpose of the study was to comprehend, from the perspective of farmers, the changes in agrarian livelihoods which are prompted by male out-migration in Rudashya and Kiryango villages. The study sought to understand how male out-migration shapes agriculture and how the absence of men in the villages affects the workload of the left behind women in farming activities. In addition, more light was shed on gender relations in agricultural tasks prompted by male out-migration. For a thorough understanding of the subject matter, much emphasis has been put on the social and economic changes in the studied villages.

In an attempt to answer the question regarding migration and agriculture, the study has revealed that male out-migration engenders both negative and beneficial benefits to agriculture in the studies villages. The positive effects of migrations mainly include the shift from subsistence agriculture to intensive commercial agriculture. This is found in a relatively few cases of the successful migrants who manage to send enough remittances to family members which are left behind. Most of the migrants in this category have educational and technical proficiencies and are in a good position to get well-paid jobs in the cities and eventually can intervene in the economic development of their village which is predominantly based on agriculture. In this case outmigration is regarded as a '*livelihood strategy*'.

On the other hand, migrants who are mainly characterized by poor '*human capitals*' (peasants with little or no technical or educational proficiencies) make a category of unsuccessful migrants because they are hired in informal and disorganized sectors in which they have lower paid jobs or simply they can't manage to secure urban employment. Thus, they cannot manage to cover their living allowances in the cities and save some money to send back home. The latter category makes the majority of migrants and this affects negatively agriculture production in their households because the shortage of labor force entailed by their absence is not fully compensated.

Unsuccessful migrants do not send enough remittances and consequently their family members opt to curtail the production by leaving some fields fallow or by deliberately growing a few crops of their choice (mostly the less labor intensive crops). In light of the previous research such as Sugden (2016) and Singh (2016), which stress the importance of social and financial capital in migration, I concluded that agricultural production is jeopardized in the households of unskilled migrants since they don't earn money to invest in.

The manifold effects of outmigration was also explored through the balance between the withdrawal of labor force and the remitted money; sufficient remittances sent by successful migrants are invested in hiring labor to compensate the absence of men. On the other hand, in the households of unsuccessful migrants, women are overly burdened because they work alone. They receive insufficient remittances which are not invested in agriculture but are rather used for domestic consumption. Due to the absence of male farmers in the villages, agricultural production is negatively affected in the migrants' households. This mainly concerns with the size under crop production, the choice of crop to be grown, the adoption of technology in agriculture and access to agricultural extension services.

Male out- migration also alters gender relations in agriculture; the exodus of male farmers prompts the upheaval of responsibilities in farming activities and women become *de facto* heads of households. Traditionally, men and women are assigned distinctive tasks in farming activities depending on their physical strengths or due to the cultural routine in the society. Subsequent to male out- migration, women take over some of the male tasks and they are overly saddled. On the other hand, larger amount remittances lessen the workload for the migrants' wives and improve agriculture production.

Briefly, the exodus of rural men in search of jobs entails both efficacious and detrimental effects on agriculture in the sending villages. The reasons behind the differences are inherent to the social and educational background of farmers who are engaged in migration. Only those who have educational and technical proficiencies get remunerative jobs in the cities and eventually intervene in the economic development of their village which is predominantly based on agriculture. The agrarian changes are shaped by remittances, withdrawal of labor in agriculture and gender dynamics in farming activities.

8.2. Implications for policymakers in agriculture in Kiryango and Rudashya villages

Migrants are pushed by the deplorable living conditions which mostly include rural poverty, unemployment and high demographic pressure (Push factors) and they are enticed by the urban employment opportunities (Pull factors). As mentioned in the second chapter, the Government of Rwanda has put in place different programs which focally aim at alleviating rural poverty and agricultural policies are geared to increase productivity (Giertz et al. 2015). However, these programs merely prioritize a few targeted food crops while cash crops are slightly forsaken for smallholder farmers (USAID, 2018; WB2013, FAO, 2019). Agriculture sector is mainly characterized subsistence farming; nearly 70% of the population grows crops for domestic consumption (Global IDP, 2002:50).

This research has revealed that lack of income generating activities in rural areas is among the root causes of male out- migration in the studied area. To cope with this, the government of Rwanda which is considered as a *transforming structure* in SLF, should put more emphasis on the production of commercial crops. This will increase the rural income and hence thwart the surge of outmigration of farmers who are most likely unable to secure jobs in the cities.

The exodus of rural dwellers is also fueled by small landholdings coupled with landlessness in Rwanda where the average of agricultural land per household is 0.76 Ha (NISR, 2010). This situation is prevailing in the Rudashya village where the majority of households' farms are less than 1 ha (Interviewee 3, 12/03/2019). In this regards, administrative entities and policies makers in charge of agriculture and local administration should put in place mechanisms that ease the *rural livelihood diversification* and entrepreneurship based on off-farm activities. By doing so, migration will cease to be the mere coping mechanism to the issue of rural poverty which prompt the current surge of male out - migration.

Moreover, rural dwellers, especially farmers should be sensitized and warned about counterproductive effects of male out- migration for those who lack appropriate and required capital to get a well - paid job in the city. Changing the mindset of rural dwellers will preclude the massive outmigration of male farmers towards the cities and the withdrawn workforce will be regained in farming activities.

8.3. Recommendations for further studies

This study has been carried out with the intention of answering all the research questions highlighted in the first chapter. The study has been conducted in propitious conditions to the extent that all the objectives have been met satisfactorily. However, due to unforeseen circumstances, the research has gone through some impediments which need to be tackled in order to exhaustively explore the effects of male out- migration on the agrarian livelihoods.

Moreover, throughout the research process, I came across similar questions which are still not answered. In this regards, relevant recommendations for further studies are herein drawn.

Due to the nature of the subject matter, it is worthwhile to carry out an ethnographic research and come up with in- depth data. This would necessitate the researcher to be integrated in the communities he/ she is studying and be involved in their daily activities in order to deeply understand their culture. By spending much time with farmers, being actively engaged in the daily activities, mimicking their way of doing and participating in their cultural events, the researcher will deeply and thoroughly comprehend the dynamics around migration and its impact on agrarian livelihoods. As suggested by Halstead et al. (2001) in their study, “*Food sharing is a positioned social mediator*”. This will remove the barriers between the researchers and the research participants and hence they will feel free to provide detailed information since he/she will no longer be seen as an outsider.

Moreover, further research on this matter should consider using a holistic approach and investigate the case from a wide range of participants. It would not suffice to only collect data from the farmers who migrate in their respective villages but it is also indispensable to take into account the views of migrants’ stakeholders in the cities (landlords or employers). Furthermore, I would suggest conducting a similar study with an attention paid on the use of remittances in agriculture production of the rural households. This will entail the use of quantitative methods which will clearly show the exact figures of remitted money and crop yields. Finally, a comparative study between migrants’ households and non- migrant households would lead to a comprehensive analysis and a thorough grasp of the phenomenon.

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Appendix 1. Details for respondents of individuals interviews

Identity in the text	Gender	Age	Social Class	Religion	Marital Status	Highest Level of Education attained	Occupation	Interview format	Date of interview
Rudashya Village									
Interviewee 1	F	36	3 rd Category	Catholic	Married	P 6	Farmer	Semi- structured	11/3/2019
Interviewee 2	F	66	2 nd Category	Catholic	Widow	None	Farmer& business woman	Semi- structured	12/3/2019
Interviewee 3	F	55	2 nd Category	Protestant	Married	P 4	Farmer	Semi- structured	12/3/2019
Interviewee 4	M	52	1 st Category	Protestant	Divorced	P 2	Farmer	Semi- structured	13/3/2019
Interviewee 5	F	48	1 st Category	Catholic	Widow	P 3	Farmer	Semi- structured	13/3/2019
Interviewee 6	M	20	2 nd Category	Adventist	Single	S6	Farmer	Semi- structured	14/3/2019
Interviewee 7	F	25	2 nd Category	Protestant	Single	S3	Farmer	Semi- structured	15/3/2019
Interviewee 8	F	57	2 nd Category	Adventist	Married	P 6	Farmer	Semi- structured	16/3/2019
Interviewee 9	M	40	3 rd Category	Catholic	Married	P 6	Farmer and Carpenter	Semi- structured	18/03/2019
Interviewee 10	M	34	2 nd Category	Protestant	Married	P 5	Farmer	Semi- structured	18/03/2019
Kiryango Village									
Interviewee 11	F	44	1 st Category	Protestant	Married	P 6	Farmer	Semi- structured	19/03/2019
Interviewee 12	M	51	1 st Category	Adventist	Married	P 5	Farmer	Semi- structured	19/03/2019
Interviewee 13	F	34	2 nd Category	Adventist	Married	P 6	Farmer	Semi- structured	20/03/2019
Interviewee 14	F	39	3 rd Category	Catholic	Divorced	P 2	Farmer	Semi- structured	20/03/2019
Interviewee 15	M	37	2 nd Category	Catholic	Married	P 6	Farmer	Semi- structured	21/03/2019
Interviewee 16	F	24	2 nd Category	Catholic	Married	P 4	Farmer	Semi- structured	21/03/2019
Interviewee 17	F	19	1 st Category	Protestant	Single	S 6	Farmer	Semi- structured	21/03/2019
Interviewee 18	M	37	2 nd Category	Catholic	Married	S 2	Farmer	Semi- structured	22/03/2019
Interviewee 19	M	32	3 rd Category	Catholic	Married	P5	Farmer and Taxi driver	Semi- structured	22/03/2019
Interviewee 20	F	50	1 st Category	Catholic	Married	P6	Farmer	Semi- structured	23/03/2019

F: Female **M:** male **P:** primary (School) **S:** Senior (Secondary School)

Appendix 2. Details for FGDs

Identity in the text	Village	Gender	Number of participants	Date
FGD 1	Rudashya	Mixed	29	25/03/2019
FGD 2	Rudashya	Male	26	26/03/2019
FGD 3	Kiryango	Mixed	30	28/03/2019
FGD 4	Kiryango	Female	25	29/03/2019