

**ACCESS TO AND UTILIZATION OF MICROCREDITS BY FARMERS IN  
RWANDA**

**Case study of MUSANZE DISTRICT**

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## **DEDICATION**

**To my Wife and Daughters**

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## **LIST OF ACRONYMS AND ABBREVIATIONS**

ADB: Asian Development Bank

AMIR: Association of Microfinance Institutions in Rwanda

BNR: Banque National du Rwanda

CIA: Central Intelligence Agency

CIP: Crop Intensification Program

COOPEC': Savings and Credit Cooperatives" (Coopérative d'Epargne et Credit)

DRC: Democratic Republic of Congo

EDPRS: Economic Development and Poverty Reduction Strategies

EICV3: "Integrated Household Living Conditions Survey 3"

e-MFP: European Microfinance Platform

ESGC: Enterprising Solutions Global Consulting

FAO: Food and Agriculture Organization of United Nations

GDP: Gross Domestic Product

GoV: Government of Rwanda

IFAD: International Fund for Agricultural Development

MFI: Microfinance institutions

MINAGRI: Ministry of Agriculture and Animal Resources

MINECOFIN: Ministry of Finance and economic Planning - Rwanda

MINICOM: Ministry of Commerce, Industry promotion, Tourism and cooperatives-Rwanda

MIX: Microfinance Institutions Exchange

NGO: Non-Government organizations

NISR: National Institute of Statistics of Rwanda

PRSP: Poverty Reduction Strategy Paper

RDB: Rwanda development Board

RIM: Réseaux Interdiocésain de Microfinance

ROSCA: Rotating saving and Credit associations

Umurenge SACCO: Sector Savings and Credit Cooperative

SMEs: Small and Medium Enterprises

TFP: Total factor productivity

UN: United Nations

USD: United States Dollar

USDA: United States Department of Agriculture

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## **ABSTRACT**

Economic growth of Rwanda is based on agricultural production. The farmers require some level of capital to invest in agriculture to increase the production. Most of the Rwandan farmers have not enough investment and do not have access to credit. When microfinance institutions were launched and spread in rural areas, they were believed to enable farmers to access to credit without or with moderate collateral. This study assessed the access to microcredit and its impact to increase the agriculture productivity and improve the livelihood of farmers in Rwanda, case study of Musanze District. Through a structured survey, the data were collected from 92 farmers selected purposively from members of MFI's Ibirwe SACCO Busogo, Twibumbe SACCO Gataraga and RIM Byangabo, 3 microfinance officers and 2 officers of Busogo and Gataraga sectors using different questionnaires designed to all categories of respondents. Probit model has been used to analyze the socioeconomic and demographic factors affecting accessibility of microcredit by farmers. According to the study results, farmers with high collateral assets, level of income, saving and level of education are more likely to access microcredit while farmers with high household size and age are less likely to access microcredit. However, farmers lack sufficient knowledge in business planning, they are very afraid to borrow and uncertain to pay MFI's loans. They are threatened by the high interest rates on borrowing, short payback period, lack of collaterals and MFI's slow decisions making on loan applications. As far as agriculture production is concerned, there is a positive relationship between use of microcredit and increase of agriculture productivity. With access to microcredit, farmers have the basic factors of production such as access to agriculture inputs, seeds and competent labor to increase the agriculture outputs. The investment made in agriculture has generated revenues which increased the income of farmers who had access to MFI's loans. This contributed, therefore, to the improvement of the livelihood indicators of farmers' households. These study results are very useful to MFI's, farmers and policy makers to enhance the role played by microfinance for the sustainable development of agriculture sector through access to microcredit by farmers.

**Key words: Accessibility, Utilization, Microcredit, Microfinance, Agricultural production**

## CHAPTER 1. INTRODUCTION

### 1.1 Background

The Rwandan economy is based on agriculture of small, semi-subsistence and increasingly fragmented farms. It supplies up to 80 percent of total export revenues and over 30 percentages of Gross Domestic Products (MINAGRI, 2009). Agricultural development is important for a growing economy countries including Rwanda. The sector is threatened by different factors such as a decline in soil fertility and poor crop management, unavailability of fertilizers to maintain crop yield, scarcity of farm land, poor agricultural practices and high population density (CIA, 2013a). According to Spio (2002), economists such as Falcon, Mellor, Ruttan and Timmer have made it clear that new technologies, price incentives and supporting infrastructure are primary determinants to agricultural growth. In addition the poor performance of agricultural sector in developing countries can also be attributed to lack of economic opportunities in agriculture and opportunities that are rewarding to farmers. Rwanda's long-term vision, as inspired by its "Vision 2020", is to raise the per capita income from 220 USD to 900 USD in 2020. One of the six pillars of Vision 2020 is to transform agriculture into a productive, high value, market oriented sector, with forward linkages to other sectors (MINECOFIN, 2009). The World Bank (2008) reported that to ignore the agricultural sector increases the risk of economic instability. Robust economic growth and development cannot be achieved without putting in place well-targeted programs and policies to reduce poverty, through increase in the access to the productive resources especially credit (Okeke et al. 2012). In this regard, Government of Rwanda has encouraged Microfinance Institutions (MFIs) to extend credit in the agriculture sector to meet the Poverty Reduction Strategy Paper (PRSP) development goals (KIT and IIRR, 2010). Famers also have been encouraged to work together in groups in form of agricultural cooperatives to improve and enhance their agriculture economic activities (MINECOM, 2009). According to Obisesan (2013), credit has been put forward as a tool for agricultural development. According to Rahman et al. (2011) about 90 % of the poor people in developing countries don't access to financial services for either saving or credit. This limits their capacity to access capital which affects farm productivity, domestic savings and ability of households to engage in business which would improve their household income. Access to credit reduces the costs relative to family labor and raises labor-productivity, a crucial factor for development, especially in many African countries (Delgado 1995; Zeller et al. 1997).

## 1.2 Problem statement

As mentioned above the economic development of Rwanda is based on the development of the agricultural sector. In order to increase productivity of high-potential food crops and to provide greater food security and self-sufficiency; the government of Rwanda has set up different policies among which land consolidation, crop intensification and increasing use of seeds and fertilizers. Based on the agro ecological potential, the land area available and contribution to the overall food security in each district, priority crops have been selected for promotion (Mbonigaba et al. 2012). Wheat, Irish potatoes, maize and pyrethrum have been selected and prioritized to be grown in Musanze District. Among those crops, wheat and Irish potatoes are more suitable and predominately source of income to farmers in the region. Despite the government attempts to increase agricultural production, small scale farming sector continues to live in a dilemma of financial problem and excluded to enjoy the benefits of using financial services. There are no efforts from financial institutions, formal lenders or commercial banks, to facilitate farmers to access credit which is a crucial in rapid development of the agriculture sector (Nkubito et al. 2012).

Moreover, there are studies conducted on financial and agriculture linkages but empirical studies on credit accessibility and utilization by farmers are still few in Rwanda. It is obvious that the role of financial institutions is crucial for the successful agricultural diversification. However, financial institutions find it difficult to get involved within farming businesses in the remotely rural regions due to the risks involved. A part from high cost associated with the provision of credit to farmers, they also unable to utilize their loans efficiently because they lack sufficient skills in credit management. Besides, there are no crop insurances for progressive farmers in the country which further increases the fear of financial institutions to offer credit in this sector. Adegbite and Adeleye (2011) have found that the major determinants of farmer's access to credit include age, education, marital status, land ownership, income, value of assets, farming experience and existence of credit institutions. In contrast, high transaction cost, administrative bottleneck, lack of collateral, non-adoption to new technologies, high interest rate, restricted credit procedures and requirements, low pay back ratio and lack of skills in utilization of loans reduce the propensity of farmers to access to credits (MINICOM, 2009; Ibiang et al. 2012; Okeke et al., 2012). It is believed that accessibility of credit can help to reduce poverty and food insecurities by increasing the rural incomes through agriculture

production. Since year 2000, the government of Rwanda has launched microfinance institutions and improved financial policies in order to extend microcredit accessibility to rural farmers (BNR 2008). Despite these efforts and importance of credit to farmers, they are still facing with many challenges in acquisition of financial facilities. Some of these challenges result from ineffective or non-accessible financial system.

### **1.3 Objectives of the study**

The main objective of the study was to assess the access to microcredits and its impact to increase the agriculture productivity and improve the livelihood of farmers in Rwanda, case study of Musanze District. The specific objectives include:

- To determine the factors that influence the access to microcredits by Farmers
- To determine the challenges faced by farmers to access to microcredits
- To assess the impact of access to and utilization of microcredit to increase agriculture productivity
- To assess the impact of utilization of microcredit to the farmers' livelihood

In this study the following hypotheses are tested:

- Microcredits accessibility to farmers is determined by the collateral assets and level of savings.
- Lack of entrepreneurship skills is the main challenge faced by farmers to access microcredits.
- Access to microcredits increases agriculture productivity
- Utilization of microcredits improves farmers' livelihood.

### **1.4 Organization of the thesis**

The thesis is organized into five chapters. The introductory chapter highlights the background information on agriculture and credit accessibility in Rwanda, statement of the problem, objectives and research hypotheses of the study. Literature reviews of agriculture and microfinance institutions are presented in chapter two. The materials and methods that include the study area, population and sample size selection, data collection procedures and data analysis techniques are discussed in chapter three while the major findings of the study are presented in chapter four. Finally, discussion, conclusions and recommendations for this study are covered in chapter five.

## CHAPTER 2. AGRICULTURE AND MICROFINANCE INSTITUTIONS

This chapter focuses on literature reviews related to agriculture production in Rwanda, microcredit and microfinance concepts, factors affecting farmers' access to microcredit and impact of microcredits on agriculture production.

### 2.1 Agriculture economy in Rwanda

The Rwandan economy is based on the largely rain-fed agricultural production of small, semi-subsistence, and increasingly fragmented farms. The agriculture sector has been given a high priority in the government's planning for development. The sector meets 90% of National food needs (RDB, 2013). Rwanda has few natural resources to exploit and a small uncompetitive industrial sector. The current national thrust is for the sector to move from subsistence to commercial mode of production. The strategy aims to increase household incomes and lead to 50 percent reduction in poverty over twenty years (MINAGRI, 2008). Agribusiness accounts for approximately 33.6% of Rwanda's GDP and 45% of total exports earnings (CIA, 2013a). In 2012, Rwanda's Gross Domestic Product (GDP) per capita rose to USD 644 increasing from USD 593 in 2011 (MINECOFIN, 2013a).

The sector is characterized by a low agricultural growth lied at the central core of under-performing economy pictured by limitation in resources base, declining soil fertility and exceptionally low utilization of modern agricultural inputs. Since 2007, Rwanda launched the Crop Intensification Programme (CIP) to increase agricultural productivity in high potential food crops and ensuring food security and self-sufficiency (Kathireshan 2011). This programme is focused on six priority crops namely maize, wheat, rice, Irish potatoes, beans, cassava and banana. CIP is implemented in conjunction with the land consolidation programme to join farms in order to cultivate the best performing crop in specific areas. From 2007 to 2011 the two programs have showed positive results in the utilization mineral fertilizers in agriculture which increased from 7% to 29%. This led to the strong agricultural sector performance in 2009 and pushed Rwanda to 4% GDP growth. This was well above the sub-Saharan average growth for the year (NISR, 2012a).

Although Rwandan government initiated the policies to boost the agricultural production, food production does not keep pace with demand and this pushes to food imports. Rwanda continues to receive substantial aid and money from different regional and international partners to support its agricultural economic policies and achieve its long term vision 2020 (CIA,

2013b). To raise agriculture production and reduce poverty especially in rural areas, massive injection of credit is required. The government of Rwanda voted a law allowing the creation of saving and credit cooperatives and microfinance institutions to minimize the incidence of loan defaults and allow farmers to earn from farm investments. "We are intending to reduce extreme poverty across the country from 45% to 30 % by 2018 and further reduce it below 20% by 2020" Minister Claver Gatete said (MINECOFIN, 2013b).

## **2.2 Definition of terms of Microfinance Institutions (MFI's)**

There are some terms or words that are frequently used in this study. The meanings of these words have been complied to easily understand the contents of the study. Their definitions are based on previous researchers' understandings.

### **Microcredit and Microfinance terms**

The terms microcredit and microfinance are frequently used interchangeably, but it is important to draw attention on the difference between them. According to Sinha and Martin (1998), the microcredit is defined as all types of loans that financial institutions, such as banks and insurance companies, provide to poor or unemployed individuals. Microcredit is the extension of very small loans to impoverished borrowers who typically lack collateral, steady employment and veritable verifiable credit history. Microcredit activities may help a small business owner with no credit reference or asset to provide as collateral.

The concept of microfinance can be defined in many ways and intersects with several different realities. Marc Labie proposed a comprehensive definition of relevance to define the characteristics of the beneficiaries. "We call microfinance, the provision of financial services (usually credit and or savings) to people developing a productive activity, usually craft and trade, and not having access to commercial financial institutions because of their socio-economic profile" (Labie, 1999). Microfinance is the provision of the financial services to those not included in the formal sector based not only on wealth but also social, cultural and gender barriers (Burrit, 2006). In this concept, microfinance refers to loans, savings, insurance, transfer services, micro-credit loans and other financial products targeted at low-income clients (United Nations. 2005a). Microfinance is a source of financial services for entrepreneurs and small businesses lacking access to banking and related services (CIA, 2013a).

Microcredit is a component of microfinance which consists of granting short-term loans either for the establishment of a revolving fund or for small investments. It is intended to finance micro projects and its use is closely linked to the activities of the informal sector. According to Menon (2005), microfinance or micro-credit is the extension of small loans to individuals who are too poor to qualify for traditional bank loans, as they have no assets to be offered as guarantee. According to ADB (2013), microfinance is a provision of a broad range of financial services such as deposits, loans, payments services, money transfers and insurances, to poor and low income households and their microenterprises. Microfinance is increasingly used as a grass-roots instrument for alleviating poverty and plays a central role in modern economies in improving the poor households' access to financial services especially in developing countries (Develtere & Huybrechts, 2005). In summary, the term 'microfinance' is used to mean small loans that are provided to the low income and or poor people.

### **Credit terms and credit accessibility**

Bohnstedt (2000) has defined 'Credit terms' as the minimum conditions set by lending institutions to which borrowers must adhere in order to qualify for loan. Lending institutions are strictly enforcing credit terms for screening customers so that only those who are credit-worthy are allowed to receive loans to do their businesses (Baydas et al., 2004). Credit terms have been the key in the determination of capital requirements of SMEs as set by bank. Normally, due to the possibility of default and lack of effective contract enforcement mechanisms, lenders have additional incentives to restrict the supply of credit, even if they have more than enough to meet a given demand and the borrower is willing to pay a high interest rate (Avery 1981; Stiglitz & Weiss 1981). It has, however, been found that large long-term loans have a comparative advantage over small loans because long term loans not only increase an enterprise's capital base considerably but also give the enterprise longer grace and repayment periods, which have been found to support business growth (Ismael, 2013). Credit accessibility refers to the ease or difficulty of acquiring credit by borrowers for purposes such as to enhance business performance (Salahuddin, 2006).

## **Microfinance institutions (MFI's)**

The term Microfinance institution has been used to refer to institution that provides microfinance services. Microfinance institutions offer financial services to unwarranted, poor communities and these services include savings accounts, insurance, health care and personal development (Brennan 2008). The microfinance institution may be registered formal financial institution depending on the legal status taken by the person/people registering the institution, provided that it falls in any of the tiers under the Financial Institutions Statute.

The year 2005 was declared the International Year of Microcredit in order to stress the importance of access to finance and particularly microfinance. The key objectives for the international year of microcredit were designed to unite member states and agencies and microfinance partners in their shared interest to build sustainable and inclusive financial sectors and achieve the Millennium Development Goals (U.N, 2005c). The objectives were to assess and promote the contribution of microfinance and micro-credit in the MDGs, increase public awareness and understanding of microfinance and micro-credit as vital parts of the development equation, promote inclusive financial sectors, support sustainable access to financial services and encourage innovation and new partnerships by promoting and supporting strategic partnerships to build and expand and outreach the success of micro-credit and microfinance (UN, 2005b). The world attention was focused on microfinance when Yunus and the Grameen Bank won the Nobel Peace Prize in 2006 (Jones S R, 2006). Funding for MFIs is provided by international finance institutions such as the World Bank, UN agencies, and the international Fund for Agricultural Development (Yunus, 2003).

### **2.3 Historical background of microcredit and microfinance**

Microcredit and microfinance are relatively new terms in the field of development, first coming to prominence in the 1970s (Otero, 1999; Robinson, 2001). Prior to then, from the 1950s through to the 1970s, poor households were excluded from financial services. This was because they were believed not bankable, meaning that, it was not possible to provide them financial services profitably. Governments and Donors initiated so-called direct credits to provide financial services in form of subsidized rural credit programs. With these programs, banks were required to lend a certain proportion of their liquidities to certain groups of poor farmers and small entrepreneurs. In this program, banks were also required to apply subsidized

interest rates to ignore collateral requirements. However, direct credit programs suffered a certain number of critics such as: continuing subsidies to cover the subsidized interest rates and low repayment rates; tending to fall into politicization resulting in diversion of credit to non-poor households; being prejudicial for financial intermediation due to their inhibition of savings incentives; and these resulted in investment misallocation because funds were directed into projects with low rates of return (McGuire & Conroy, 2000). They actually resulted in high loan defaults, high lose and an inability to reach poor rural households (Robinson, 2001). With the advent of Shaw (1973) and increasing criticism from McKinnon (1973) and many others, direct credits programs started slowly to fall into disrepute.

In the early 1970s, economists started writing for the first time about the informal sector in the developing countries where poor people who were unable to get jobs engaged in self-employment activities such as: small trade, hair-cutting, shoes-repairing, carrying small luggage for people, cooking food for sale, handicrafts, and others. In the late 1970s there was a growing acceptance that the lack of financial services was hampering positive changes in poor peoples' lives. This directed researchers to focus on new schemes of financial service delivery that could be able to reach the poor. In 1976, Professor Yunus set up the Grameen Bank in Bangladesh, with aim of providing financial services to the poor. To achieve its mission the Grameen Bank developed highly effective techniques such as: carrying out services to the village level, promoting and motivating groups of poor, use of group guarantees, compulsory savings mobilization, transparency of credit transactions, intensive supervision of borrowers, and decentralized and cost-effective operations (McGuire & Conroy, 2000). These small loans were used to start or expand small enterprises, such as vegetables farming, weaving, and livestock holding. The program of Yunus and Grameen Bank received no continuing subsidies, were commercially funded and fully sustainable, and could attain wide outreach to clients. They began to show that they could provide small loans and savings services profitably on a large scale (Robinson, 2001). It was also at this time that the term "microcredit" came to celebrity in development. The difference between microcredit and the subsidized rural credit programs of the 1950s and 1960s was that microcredit insisted on repayment, on charging interest rates that covered the cost of credit delivery and by focusing on clients who were dependent on the informal sector for credit (MIX, 2005). It was now clear for the first time that microcredit could provide large-scale outreach profitably. The 1990s saw accelerated growth in the number of

microfinance institutions created and an increased emphasis on reaching scale (Robinson, 2001). Subsequently, many other microfinance institutions were established in various countries and some like Bancosol in Bolivia and Bank Rakyat Indonesia managed to find new innovative lending techniques.

However, the Grameen Bank model was the most replicated in numerous countries with a variety of physical, cultural, and institution settings. Dichter (1999) refers to the 1990s as “the microfinance decade”. Microfinance had now turned into an industry according to Robinson (2001). It was not simply seen as the provision of financial services to poor, but as a key strategy for poverty reduction in its own rights (McGuire & Conroy, 2000). The importance of microfinance in the field of development was reinforced with the launch of the Microcredit Summit which took place in Washington DC in 1997. The Summit aimed to reach 175 million of the world’s poorest families, especially the women of those families, with credit for the self-employed and other financial and business services, by the end of 2015 (UN, 2005b).

## **2.5 Evolution of microfinance institutions in Rwanda**

The microfinance sector in Rwanda is a relatively new and fast growing market. In Rwandan culture, informal finance initiatives have existed for some years, such as small self-help peasant organizations (*tontines-ROSCA* or *ibimina*) used for agriculture, cattle breeding and the purchase of domestic equipment (Kantengwa, 2008). The first formalized microfinance system started with the creation of Union des Banques Populaires in 1975 duplicated from the “Caisses Raiffeisen” model under the agreement between Switzerland and Rwanda governments. The Banques populaires du Rwanda aimed at fulfilling two objectives: to offer reliable and affordable deposit products and to stimulate the creation of small and medium enterprises (SME) by democratizing credit. Since then microfinance market has followed different phases in its evolution.

The first phase, which was before the 1994 genocide, was characterized by slow growth and expansion of few financial institutions, which mainly offered services in the capital city of Kigali. After the genocide, many international NGO’s became involved in the financial sector by implementing relief oriented microfinance initiatives. In addition, the government granted a significant amount of financial assistance to the population through heavily subsidized credit and grants by means of a series of development projects. The different initiatives were not well structured and good practices were not promoted. This generates a contagion of delinquency

habits amongst the population including commercial bank clients, where 45% of loans were non performing. Due to Rwanda's sustained development approach, some of these NGO initiatives and government projects have gradually been formalized into MFI's (ESGC, 2005).

The formal Rwandan financial sector is considered to be relatively low and undiversified. The sector is dominated by commercial banks licensed by Rwanda's central bank (BNR), relatively characterized by high lending rates, low availability of long term debt, lack of mortgages, scarcity of insurance services, poor functioning and limited payments systems (BNR, 2011). The domestic saving ratio in Rwanda is at only 3% of GDP and is among the lowest in Africa. The formal Rwandan financial sector has a low penetration ration and informal financing activities are popular. But, the support of microfinance by the government of Rwanda and the international donor and relief of community after 1994 genocide has been a critical factor in the creation of access to finance for the population (MFtransparency, 2011a). The government of Rwanda considers financial sector development to be a high priority, seeking to expand access to credit and financial services, enhance savings mobilization and mobilizing long term capital for investment. It is aware that poverty reduction cannot be achieved without access to financial services by poor, and those objectives are seen as integral to Rwanda's plan for transformation to middle income country. As result, the current economic development and poverty reduction strategy paper emphasizes on microfinance as powerful tool to achieve its objectives.

A number of initiatives to boost the microfinance sector in Rwanda have been put in place so far, including the development of a legal regulatory framework relating to regulations governing banks and other financial institutions in Rwanda. This law states that, through National Bank of Rwanda, the government diversifies the efficiency of financial services and creates an institutional framework to increase mobilization of savings for financing investments. BNR is engaged in controlling inflation, stabilizing the financial sector, updating and securing payment system. It also entrusted in banking supervision of both formal banking and microfinance institutions and responsible for legislative frame work regulating the microfinance sector and its enforcement (GoR, 2002).

Since 2000, the government has promulgated laws and regulations to empower MFI's and COOPEC's (Saving and Credit Cooperatives) to facilitate credit accessibility to local investors.

Though the Rwandan Microfinance sector has experienced rapid growth in the last few years and has made significant contribution towards poverty alleviation in the country; the sector has experienced also many difficulties. In 2006, this financial chaos pushed Central Bank to close down some of COOPECs and MFI's collapsed which led to erosion of confidence on the part of unprotected depositors and the general public. According to the Rwandan Microfinance assessment produced by Enterprising Solutions Global Consulting (ESGC, 2005) the majority of COOPECs and MFI's were lacking credit management skills. The assessment reported that many MFI's were servicing more clients than the available resources. In addition, there was a lack of business mindset whereby there was no clear distinction between business and owners.

However, microfinance sector has a crucial role to play in providing financial services and increasing the individual saving of the population having a bank account (MFtransparency, 2011b). But, researchers have found that the outreach of financial services in rural areas is still very low (Okurut et al.2004). Those services are mostly a privilege of those living in cities and towns and generally target marketers and traders than people living in rural areas for agriculture businesses. Nonetheless, access to finance is also important to farmers to take advantage of new business opportunities and expend income generating activities and cope with shocks and life cycle events (Binswanger et al., 1993). It has also been discovered that the risk inherent in doing business in rural areas, being either in agriculture or in off farm activities is due to scarcity of information which resulted to information asymmetries between the borrower and banks(Okurut et al.2004). This was also qualified as an important factor that hampers bankers to invest in rural businesses. The banks usually attach collateral requirements to loans to address this problem (Okurut et al.2004). To ensure the sustainability of financial sector, central bank enforces all microfinance Institutions to abide to the law regulating the banks and other financial institutions in Rwanda (GoR, 2002).

### **Association of Microfinance Institutions in Rwanda (AMIR)**

AMIR is the national umbrella body of microfinance institutions in Rwanda created in June 2007. It is open to all MFI's registered by the regulatory authority. Members are in 4 categories: Microfinance institutions, limited companies, microfinance banks, union of credit and saving cooperatives and saving and credit cooperatives (AMIR, 2013). This association is seeking to build capacity in the microfinance industry in the county. It was also set up to enhance

collective action by microfinance institutions and other stakeholders for favorable policy and regulatory environment for microfinance in the country. AMIR is, therefore, a key supporting a healthy expansion of microfinance industry in Rwanda through lobbying, advocacy, networking, information dissemination and coordination of capacity building for its members. Members have opportunities to exchange and share experiences with various local and international stakeholders of microfinance sector (International microfinance institutions, NGO's and Donors). AMIR and its partners provide necessary resources required to run the microfinance sector. They are backbone of the industry as they provide both monetary and technical support to achieve the sector goals (idem).

The microfinance sector has achieved a speedy growth in terms of outreach and volume of gross loan portfolio and now addressing challenges of poor loan repayment culture among borrowers, issues of financial sustainability and consumer practices to promote responsible lending. In 2008, the sector counted 125 MFIs including 111 COOPECs, 11 SA and 3 limited liability companies. These numbers confirm the attractiveness of the COOPECs model within the entire microfinance sector. Indeed the user-owned financial cooperatives that offer savings, credit and other financial services to their members are easy to establish (low minimum capital) and are based on a common bond, a link age shared by savers and borrowers that can be based on a community, organizational, religious or employee affiliation. Currently, the sector counts 290 Microfinance institutions from which 146 are sectors' saving and credit cooperatives (umurenge SACCO) launched by the government in each local administrative sector to integrate the rural population to the financial system.

## **2.6. Factors influencing farmers' access to the microcredit**

Farmers as investors need long term investment to ensure the continuity and sustainability of their activities. They use financial credit to realize success of their investment which will generate income in future (Audretsch, 2002). According to Diagne et al. (2000), credit demand is influenced by a number of factors including borrower- lender characteristics, saving and withdraws operations and relationships associated with credit terms. Khalid (2003) and Chen et al. (2008) explored credit accessibility by smallholder farmers in Zanzibar and in Bosnia - Herzegovina respectively. They have found that age, gender, marital status, wealth, income levels and degree of credit awareness are the factors that influence credit accessibility. In

addition, Okurut (2006) found that household characteristics such as residence location, family size and household expenditure also have significant effects on household's access to credit. On the other hand, Devkota (2006) identified that being a female, farm operator or having secondary education level or above, are likely to improve credit accessibility. Virtually, lenders base their decisions to grant credit on applicant's creditworthiness information (Zeller, 1994). The character and reputation of the potential borrower is an important factor while lending institutions give out the credits (Okurut et al., 2004). However, to obtain a loan, borrowers must necessarily comply with some lenders' loan restrictions and conditions. When these conditions are not suitable for borrowers, they do not apply for loans or they find their application been rejected (see table1). Formal institutions deny the landless people access to credit for lack of tangible collateral as well as transactions costs of institutional credit (FAO, 1995). Collateral plays a big role in accessing credit. It assists in determining the creditworthiness of the borrowers; gives assurance to the credit institutions regarding the safety of loans and solves the asymmetric information problems.

Consequently, access to credit is restricted to a small proportion of the population who can overcome significant barriers to credit such as high minimum balance for account opening, heavy collateral requirements and long and costly bureaucratic processes (Okurut et al., 2004). Borrowers would be encouraged to approach lenders nearer to them (Zeller, 1994) and if such a lender offers better credit conditions (Atieno, 2001). Vaessen (2000) further pointed out that households access to networks or information plays a crucial role in obtaining credit. According to Barnett et al. (2000), the frequency of borrowing from financial institutions is often low for most of the small and medium scale enterprises. They suffer from their limited saving abilities and low revenues from their low farming investments. This constitutes a restriction to access long term loans from financial institutions. Acquisition of such credit is also difficult for the farmers because of high interest rates on lending, and this constrains them to apply for the microcredit (Kikonyogo, 2000; Collinson et al. 2005). Many borrowers who proceeded to access loans at high lending rates have undergone liquidation or lost their highly valuable collateral to lenders as a result of defaulting on repayments (Collinson et al. 2005). Another problem to access to credit is limited education in utilization of credit. Most farmers in developing countries are illiterate while borrowers need at least a reasonable level of literacy to understand loans conditions and sign loan agreements (FAO, 1995).

Therefore, some of the major challenges faced by rural financial institutions are to reduce transaction costs, mitigate the risk of the loan portfolio, and find new forms of guarantees, adapted to every context of intervention (e-MFP, 2013). Furthermore, delay approval /late arrival of loans, lack of collateral, low pay back ratio, non-adoption of new technologies and lack of skills in utilization of loans reduce propensity of farmers' access to credit (MINICOM, 2009; Ibiang & al., 2012). Okeke & al. (2012), has also found that high transaction cost and administrative bottleneck in credit application, inadequate credit information, bank stringent conditions, location of lending bank lead and bureaucratic processes in bank to late disbursement of loan facilities to farmers. However, some credits are restricted to a few sectors of the economy, for example in developing countries only few formal institutions are willing to extend credit to the agricultural. They perceive this sector to be as risky one with difficulties such as unexpected return and other seasonality aspect (Ismael, 2013).

The table 1 summaries of the factors that influencing access to credit as found by different authors.

*Table 1: Summary of factors influencing access to the credit*

Author	Country of study	Factors to access credit									
		Collateral	Min. Savings	Gender	Marital status	Family size	Age	Education of borrower	Income of the borrower	Relationship with lender	Distance and location
Barnett et al. (2000)	United Kingdom (UK)		✓								
Chen et al. (2008)	Bosnien-Herzegovina			✓	✓		✓		✓	✓	
Collinson et al.(2005)	Uganda	✓									
Devkota, D. (2009)	Chitwan district, Nepal,			✓						✓	
Diagne et al. (2000)	Bangladesh and Malawi		✓						✓	✓	
Ibiang & al. (2012)	Nigeria							✓			
Khalid (2003)	Zanzibar			✓	✓		✓		✓	✓	
Okurut et al.(2004)	Uganda	✓	✓								
Okurut (2006)	South Africa			✓		✓					✓
Zeller, 1994	Madagascar			✓		✓					✓
Vaessen (2000)				✓		✓			✓	✓	

## **2.7 Impact of Microcredit on agriculture production.**

Agriculture has turned to be a primary global concern and prices of agricultural goods are hitting on international markets and food security is no longer guaranteed (Guérin et al., 2007). Small-scale agriculture constitutes a key mechanism to poverty alleviation in many countries and has potentials to reduce food prices, to generate employment and increase farm income in rural areas (Kirsten & Van Zyl (1998), SASIX (2007). High-performing agricultural production and satisfying agriculture markets require huge investments; therefore access to credit is decisive for the development of farming operations (IFDA, 2013).

However, research has established the existence of a positive relationship between agriculture development and availability of credit to farmers (Olaitan, 2006). According to Adebayo and Adeola (2008), agricultural credit enhances productivity and promotes standards of living by breaking the vicious cycle of poverty of smallholder famers. Access to credit encourages labor-saving technologies, raises labor productivity, and it constitutes a crucial factor for agricultural development, especially in many African countries. Zohir and Martin (2004) give the example of microcredit utilized for agricultural production that resulted in an increase in the use of agricultural inputs and increased output. This creates employment opportunities in the agricultural sector, and leads to a reduction in the prices of goods produced due to increased supply.

In addition, Akinbode (2013) argued that lack of access to credit causes setbacks to productivity of farmers as result of fact that these farmers do not have resources to procure improved seeds, chemicals, and hire skilled labor which would improve the productivity, welfare and help to achieve economically sustainable production. Microfinance enhances the clients' quality of life, increases their self-confidence; helps them to diversify livelihood security strategies and increases their income (Robinson, 2001). The agriculture production is dependent on farm productivity and the farmers' effectiveness in the use of the inputs to operate it (Ismael, 2013). Famers are always willing to adopt new and more risky technologies to increase productivity and profitability of agriculture to improve economic development activities and living (Binswanger et al., 1993). Although limited availability of credit services and strong credit terms weaken rural income activities and prevent farmers to adopt improved farming systems, credit is considered to be the major factor weighted for the agricultural production (Olomola, 1990) and a prerequisite for agricultural development (table 2). According to Zeller et

al. (1997) access to credit reduces the opportunity cost of capital intensive assets relative to family labor, and make more household income available for financing family consumption, product inputs and investments for economic growth. Loans allow farmers to make better allowance for risks associated with the nature of the agricultural production such seasonality issues and afford larger investments. (Ismael, 2013).

Microfinance institutions have been launched over the last two decades and spread in the rural areas for being more readily available to farmers. It is believed that these microfinance institutions may easily enable farmers to access credit without or with moderate collateral (IFAD, 2003). By broadening financial inclusion, Microfinance institutions play an important role in fostering food security through its financial product and innovative partnerships with all stakeholders in agriculture (e-MFP, 2013). Nevertheless, the credit to farmers does not only serve for the farming activities, but also may serve for securing the family needs specifically in off-farming period. So, the introduction of sustainable credit and guarantee into agriculture will attract old and young, educated and non-educated farmers and this will obviously affect the production of food outputs and development of the economy (Adetiloye, 2012).

Table 2 summarizes some of the impact of microcredit on agriculture production.

**Table 2: Summary of Impact of microcredit on agriculture production**

<b>Author</b>	<b>Country of study</b>	<b>Impact of microcredit to agriculture production</b>				
		<i>Increase productivity (in TFP)</i>	<i>Access to inputs (fertilizers, pesticides, improved seed...)</i>	<i>Access to investment</i>	<i>Improved food security</i>	<i>Job opportunity</i>
Adebayo and Adeola (2008)	Surulere local government area of Oyo state- Nigeria	✓			✓	
Adetiloye (2012)	Nigeria	✓			✓	✓
Akinbode (2013)	Niger state, Northern Central Nigeria	✓	✓			
Ismael (2013)	Southern province- Rwanda	✓	✓	✓		✓
Zeller et al.(1997)	Asia and African countries	✓	✓	✓		
Zohir and Martin (2004)	Bangladesh	✓	✓		✓	✓

## **CHAPTER 3. MATERIALS AND METHODS**

This chapter presents the procedures used to design and conduct this study. It includes a description of the study area, study population, sample selection techniques, materials for data collection and methods for data analysis.

### **3.1 Description of the study area**

#### **Geography and location**

Musanze district is one of 30 districts of Rwanda and one of the five districts of Northern Province established by the law no 29/2005 of 23/12/2005, bearing organization of administrative entities of the Republic of Rwanda, relating to the number and the limits of the Districts. Musanze district is the most mountainous district of  $530.4 \text{ km}^2$  with  $60 \text{ km}^2$  of the Volcano National Park where most of mountain gorilla are found and  $28 \text{ km}^2$  of Ruhondo Lake. The district is delimited: to the North by the Republic of Uganda and the Democratic Republic of Congo; to the South by Gakenke district; to the East by Burera District and to the West by Nyabihu district (Western Province) (Musanze, 2009). Musanze has one of the agreeable climates in Rwanda. It is situated at an altitude of 1850m, latitude  $1^{\circ}30'6.94'' \text{ S}$ , longitude of  $29^{\circ}37'59.75'' \text{ E}$  with climate of  $18^{\circ} \text{C}/66.2^{\circ} \text{F}$  and average rainfall of 1000-1200mm. (Musanze District, 2013). Musanze district presents its uniqueness of being a city which is growing faster and presents investment potentials like soil fertility, good climate for agricultural projects, hub for tourists (volcanoes and natural forest with different species of wild animals including the rare mountain gorillas) and its location to the main roads Kigali-Rubavu-Goma (DRC).

#### **Economy and finance**

With the above climate description, 90% of district's population is employed in agriculture activities. Most of Musanze's countryside has been stripped of its foliage and farmed to grow pyrethrum, beans, potatoes, wheat and Maize. The district economy is dominated by the primary sector activities, agriculture and animal husbandry and few the tertiary sector activities concentrated in their near total in the town of Musanze. Based on its location, positioned at the crossroads of Kigali-Musanze-Rubavu and DRC axes and Uganda-Gisoro-Musanze axes, the district becomes a pole of attraction for business. There are more than 20 private financial

institutions and 15 SACCO's displayed in 15 sectors of the district commonly known as "Umurenge SACCO" initiated by local government to ease access to financial facilities (Musanze District, 2013).

## **Population**

According to NISR-EICV3 survey results, Musanze is relatively highly populated district in Rwanda with 416 thousand people to say an average density of 784 inhabitants per km<sup>2</sup>. This represents 3.9% of the total population of Rwanda. (NISR, 2012b). Some economic policies are needed to improve the quality of life of its inhabitants.

### **3.2 Questionnaire design**

The questionnaire was used to collect primary data. The researcher has designed three types of questionnaires for three different types of respondents: farmers, MFI's officers and sector administrative officers. Each questionnaire consisted of both open and close ended questions to allow the respondent to give maximum information on study. These questionnaires were translated into mother tongue "Kinyarwanda" to facilitate the communication with all respondents.

#### **➤ Questionnaire to farmers**

This questionnaire is made of five sections: Section A includes information related to socioeconomic and demographic situation of the farmer. Section B includes the questions about the awareness of MFI's services, access to microcredit and utilization of microcredit by farmers. Section C includes the questions related to the impact of microcredit to increase agriculture productivity and improve farmer's wellbeing. Section D includes questions about challenges faced by farmer to access and utilize credit. Section E includes questions related to the general perception of farmers on microfinance institutions services and suggestions to ease access to microcredit (appendix II).

#### **➤ Questionnaire to Microfinance institutions**

This questionnaire is made of 2 sections: Section A is for the identification of the MFI officer; section B is about questions related to category of customers, credit policy, credit requirements and challenges of MFI's to recover loans from farmers (appendix III).

➤ **Questionnaire to sector administrative officers**

This questionnaire is also made of 2 sections: Section A is for the identification of the sector officer; section B is about the awareness of the MFI's activities rendered to farmers and the different problems existing between farmers and MFI's in a sector (appendix IV).

### **3.3 The sample population**

Polit and Hungler (1999) refer to population as an aggregate or totality of all the objects, subjects or members that conform to a set of specification. The sample population of this study is composed by the farmers. These farmers are members of three microfinance institutions Ihirwe SACCO Busogo, Twibumbe SACCO Gataraga and RIM Byangabo located in two zones Busogo and Gataraga sectors. The two sectors have been randomly chosen among 15 sectors of Musanze District after taking into consideration the accessibility, the costs and limited time available to the researcher. This sampling technique has reduced the travel and other administrative costs during the data collection period. The members who participated in this study are into two categories: members who received the credit and members who did not receive credit. The total number of members were 1397 members who applied for loan (678 demands received loans and 719 demands were rejected).

*Table 3: Category of members of MFI's participating in the study*

Name of Microfinance	Members who applied for loans	Members who received loan		Members who did not receive loan	
		Number	Percentage	Number	Percentage
IHIRWE SACCO Busogo	385	179	46	206	54
TWIBUMBE SACCO Gataraga	592	288	49	304	51
RIM Byangabo	420	211	50	209	50
Total	<b>1397</b>	<b>678</b>	<b>49</b>	<b>719</b>	<b>51</b>

The 1397 members were too many to contact. In consultation with the managers of the three MFI's a limited number of members based on their willingness to participate in this study were purposely selected. A total number of 120 of the both categories (received loans and non-received loans) members agreed to respond to questions of prepared questionnaire as follows: Ihirwe SACCO Busogo 30, Twibumbe SACCO Gataraga 50 and RIM Byangabo 40.

### **3.4 Data collection methods**

The field work for this study was conducted between December 2013 and January 2014. After presenting the letter of recommendation for data collection to the managers of the host MFI, the executive committee of these MFI's authorized the researcher to conduct a study on their members. A schedule of meetings with members of MFI's was made and facilitated by the credit officers. During the meeting with selected members, the researcher distributed the questionnaires to the two groups of respondents (received loans and non-received loans) which were returned back to him immediately after being answered. To avoid biased answers questionnaires were given to literate farmers and a face to face interview was organized with illiterate farmers. The researcher explained the purpose of the study before answering to questions. Although 120 questionnaires were distributed to members, only 110 were returned and 92 answers were valid. Most of the non-returned questionnaires were distributed to the group of the non-received loans

A part from farmers, 2 credit officers (Twibumbe SACCO and RIM Byangabo), 1 microfinance manager (Ihirwe SACCO) and 2 sectors' administrative officers in charge of agriculture and economic development have also participated in this study ( appendices III and IV). Table 4 shows the number of farmers, MFI's officers and sector administrative officers surveyed.

**Table 4: Number of farmers, MFI's officers and sector administrative officers surveyed**

Name of Microfinance	Farmers sample size		Total	MFI's officers	Sector administrative officers
	Received credit	Not received credit			
Ihirwe SACCO	18	6	24	1	
Busogo					
Twibumbe					
SACCO	30	10	40	1	
Gataraga					
RIM Byangabo	21	7	28	1	
<b>Sectors' officers:</b>					
-Busogo					1
-Gataraga					1
<b>Total</b>	<b>69</b>	<b>23</b>	<b>92</b>	<b>3</b>	<b>2</b>

Table 5 summarizes the socioeconomic and demographic characteristics of the farmers

**Table 5: Socioeconomic and demographic characteristics of respondents (n= 92 farmers)**

Socioeconomic variables	Mean value
Mean age	38.4
Mean household size	4.1
Year of experience with the MFI	2.2
<b>Gender (%)</b>	
Male	67.4
Female	32.6
<b>Marital status (%)</b>	
Married-Divorced-Widow-Widower	73.9
Single	26.1
<b>Education level (in %)</b>	
Illiterate	13.0
Primary	41.3
Secondary	42.4
Diploma (A1)	2.2
Degree (A0)	1.1
<b>Main occupation (%)</b>	
Farmer	77.2
Others	22.8
Size of farmer's farm (ha)	1.2

### 3.5 Data analysis methods

This part includes both qualitative and quantitative, procedure and processes of data analysis. In this study, the first objective was to determine the factors influencing farmers to access to microcredit. In order to analyze this objective and provide a detailed analysis of the decision of farmers to access credit, a probit model was applied. The probability to access microcredit was a binary form (yes or no) which took a value of 1 or 0 whether a farmer's household accessed or did not access to microcredit from the microfinance institution. The regressed variable (dependent variable) was a dichotomous variable whereas independent variables were either discrete or continuous to represent a choice or a category from a set of choices or categories (Gujarati, 2004). The model can be specified as follows:

$$Y_i = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + \beta_4 x_{4i} + \beta_5 x_{5i} + \beta_6 x_{6i} + \beta_7 x_{7i} + \beta_8 x_{8i} + \beta_9 x_{9i} + \beta_{10} x_{10i} + u (1)$$

Where  $x_1, x_2, \dots, x_{ki}$  represent vector of random variables (**independents variables**),  $\beta$  represents a vector of unknown parameters,  $i$  represents a number (1, 2, ..., 92) farmer respondents and  $u$  represents a random disturbance term (Negler, 2002). From (1), the model to specify factors that influence the farmer's decision about whether to access or not to access to credit can be expressed as follows:

**Table 6: Variables of factors influencing farmer's decision to access to microcredit**

Variables	Variable names	Variable descriptions	Descriptive statistics (mean)
$Y_i$	<b>LEV</b>	The level of farmer's decision to access credit which takes the value of 1 if the farmer accessed credit, 0 otherwise	
$x_1$	<b>AGE</b>	Age of farmer (years)	38.4
$x_2$	<b>GENDER</b>	Gender of farmer, 1 if is a male, 0 otherwise	.69
$x_3$	<b>MARITSTAT</b>	Marital status of respondent, 1 if is married, 0 otherwise	.74

$x_4$	<b>EDU</b>	Education status of farmer, 1 if literate, 0 otherwise	.46
$x_5$	<b>HHSZ</b>	Size of farmer's household (number of people in the household)	4.1
$x_6$	<b>FARMEXP</b>	Farming experiences (years)	14.05
$x_7$	<b>OCC</b>	Main occupation of the farmer (1 if farmer, 0 otherwise)	.69
$x_8$	<b>COLLAT</b>	Collateral properties of the farmer, 1 if he has collateral, 0 otherwise	.30
$x_9$	<b>HHINCO</b>	Household income before credit (in Rwandan francs)	191,304

Mean, standard deviation, percentage and frequency distributions were also used to determine the challenges of granting credit to farmers, assess the impact of microcredit to increase agriculture production and to improve farmer wellbeing. The survey questionnaires to farmers, to MFI's officers and to sector's officers (Appendix II, appendix III and appendix IV) facilitated to achieve the study objectives as follows:

- ✓ Question 4.1 of appendix II and question 4 of appendix IV facilitated to determine the challenges faced by farmers to access to microcredit from MFI's
- ✓ Question 4.2 of appendix II served to determine the constraints of farmers to utilize microcredit
- ✓ Questions 3.1 and 3.2 of appendix II served to determine the impact of microcredit to increase agriculture production.
- ✓ Questions 3.3, 3.4, 3.5 and 3.6 of appendix II were used to measure the impact of microcredit utilization to improve the livelihood of farmers.

## CHAPTER 4: RESULTS OF THE STUDY

This chapter includes the results and major findings collected in accordance with the research objectives. It also presents extra information relating to microcredit utilization, farmers' perception on the MFI's services as well as their suggestions to ease access to microcredit.

### 4.1 Factors influencing access to microcredit by farmers

The table below indicates the result of statistical analysis on independent variables influencing the farmers to access to microcredit in the household. Using Probit model the test gave the results summarized in the table below.

*Table 7: Factors influencing access to microcredit by farmers (n=92)*

Parameter	Probit Estimation coefficients	Std. Error	Z- statistics
Constant <sup>a</sup>	-2.01	.14	-14.49
Age of respondents	-.73	.08	-.87
Gender of respondents	-.02**	.09	-.23
Education level of respondent	.08**	.12	.67
Marital status of farmers	.05**	.13	.37
Household size	-.11	.08	-1.34
Main Economic occupation (Employment)	-.09	.14	-.64
Farming experiences	.01**	.01	1.45
Farm income	.08**	.03	.58
Collateral properties of the farmer	.32***	.11	-.36
Level of Savings with MFI's	.05	.03	.41
Chi-square	116		
Number of farmer received loan	69		
Number of farmer did not received loan	23		

a. Corresponds to the grouping variable = Access to microcredit ( yes=1; otherwise=0),  
\*\*\*= significant at 1.0%; \*\*= significant at 5.0%; \*= significant at 10.0

The probit model has given the results of variables which are either positive or negative. The variables with positive signs indicate that their higher values increase the chances that the farmers have to access to microcredit while the negative signs indicate that the chances of farmers to access to microcredit decrease. The table shows that farmers with high coefficients of collateral properties (0.32), farmer income before credit (0.08), level of education (0.08) and level of savings within MFI's (.053) were likely to have more access to microcredit than others. MFI's based their decisions on the ability of the borrower to repay the loan; this implied that farmers with collaterals properties, enough savings and high education were more trusted to obtain a loan because they may be more confident in repaying loans if they borrow. However, the negative coefficients of household size (-.11), age (-.07), farmer economic occupation (-.09) and gender (-.02) indicated that they were less likely to access to microcredit. The chances of farmers to access credit decreased with household of more members. This is possible because large size households tend to have low repayment capacity resulting from smaller expected per capita income, which lowers also the probability of obtaining credit. This contradicted the findings of Vaessen (2000) and Okurut (2006) who concluded that probability of access to formal credit increases with household size. In the study area, male headed households had more access to credit than female, based to their control and decision powers they have on household financial resources. Microfinance institutions provide small loans paid in short term, focusing on collaterals gives guarantee to MFI's for loan repayment.

According to microfinance institutions officers, before farmers receive loans, they must exhibit their loans security. The most accepted loan securities are depicted in the table below.

**Table 8: Types of security required by the MFI's to obtain a loan (n=69)**

<b>Types of collaterals or security accepted</b>	<b>Frequency</b>	<b>Percentages</b>
Land	28	41
House	13	19
Individual initial savings	11	16
Group lending ( members of cooperative)	13	19
Others	4	6
Total	69	100.0

The table above revealed that the chances to obtain a loan depended more on the collateral assets (**60%**) and initial saving (**16%**), compared to (**19%**) of being member of cooperatives. MFI's attach high importance on collaterals to reduce the risks of payment defaults by farmers. Once farmer fails to pay, these collaterals are ceased and sold to cover the defaulted loan.



**Figure1: MFI's servicing to Farmers**

#### **4.2 Challenges faced by farmers to access microcredit**

Farmers were asked to point out the main challenges encountered to access to microcredit from their respective MFI's (See question 4.1 appendix II). This aimed at knowing their views about the hindrances to ease access to microcredit. Farmers mentioned that being afraid to borrow (65%), high interest rate (63%), little payback period (54%) and lack of collaterals (51%) are very high challenges; Bureaucracy (46%), lack of entrepreneurship skills (45%), uncertainty to pay (36%) and lack of enough savings (35%) are moderate challenges while inadequate information (20%), long distance from the credit facilities (14%) and corruption (4) are considered as low challenges to microcredit accessibility. The table below depicts diverse challenges encountered by farmers to access to microcredit.

**Table 9: Challenges for farmers to access microcredits from MFI's (n=92)**

Rank	Challenges	Frequency	Percentage
1	Afraid to borrow	60	65
2	High interest rate	58	63
3	Little payback period	50	54
4	Lack of collateral	47	51
5	Bureaucracy (SDM)	42	46
6	Lack of entrepreneurship skills in business planning	41	45
7	Uncertainty of payment	33	36
8	Lack of enough savings	32	35
9	Inadequate information about MFI's services	18	20
10	Long distance from microcredit facility	13	14
11	Corruption or bribery	4	4

Farmers have revealed that they fear to borrow after considering the high interest rate (18% for RIM and 24% for SACCO's) as well as little period allowed to reimburse the loans invested in agriculture. They have also declared that the slow decision making on loan application and lack of sufficient skills in business planning hinder them not to meet their project expectations as planned. This has also been declared by the sector officers who reported that the high interest rate, payment defaults and lack of collaterals are among the main claims registered that annihilate the relationship between farmers and MFI (question 3 appendix IV). In conclusion, the research hypothesis is rejected; lack of entrepreneurship skills is associated to other challenges faced by farmers to access microcredit.

#### **4.3 Utilization of microcredits in agriculture production**

The agriculture production is the main economic activity in the study area. Microcredit programs aim to help rural farmers to invest in agricultural inputs, as well as enabling them to use their time effectively on their farms by reducing time spent on income generating non-farm activities. The aim is to increase agricultural production and thus improve their food security (Siyoum et al. 2012). According to sector officers, farmers as other investors derive their financial investments from the banks and microfinance institutions. The most cultivated cash crops are Irish potatoes, maize, wheat and vegetables (cabbages and carrots).



**Figure 2: Cash crops cultivated in the study area**

The credit officers have revealed that farmers borrow money to invest in their agricultural activities and to meet family needs such buying food and family materials, paying health insurance and paying school fees for the children. 100% of farmers who received microcredit have reported that microcredit had a positive impact on the increase of their agricultural productivity and household food security. This impact is observed in the increase of the farmer abilities to meet the basic requirements in production. The table below shows the impact of microcredit on agriculture production measured in the total contribution of factors of production to the agricultural outputs.

**Table 10: Impact of microcredits on agriculture production (n=69)**

<b>Rank</b>	<b>Impact of microcredit in agriculture production (measured in TFP)</b>	<b>Mean</b>	<b>Std. Deviation</b>
1	Access to inputs (fertilizer, pesticides)	.96	.21
2	Access to modern agricultural technology	.91	.28
3	Access to improved seeds	.83	.38
4	Hiring competent labor	.78	.42
5	Buying or increase size of my land	.64	.48
6	Access agric. Products market	.54	.50
7	Access to agriculture skills (trainings, seminars...)	.51	.50
8	Access to modern agri. Materials (tractor, mechan...)	.33	.47
9	Buying livestock (cow, goats and sheep)	.17	.38

Accessibility to money has helped the farmers to satisfy the basic factors of production and enjoy themselves all the market advantages. It allowed farmers to access the agriculture inputs, seeds, competent labor agriculture markets and other advantages without any

intermediary charges. This confirmed the findings of Zeller et al. (1997), Zohir and Martin (2004) and Akinbode (2013). Access to credit reduces the transaction cost and increase the use of agricultural inputs to increase output. Lack of access to credit is an impediment to productivity which might result from the fact that farmers should not have resources to procure improved seeds, chemicals, and hire skilled labor. Thus, the 3<sup>rd</sup> hypothesis “**Access to credit increases the agriculture production**” is supported.

#### 4.4 Effects of microcredits on farmers' livelihood

The accessibility and utilization of microcredit, is designed to have a positive effect on the family livelihood. Based on the responses to question 3.3, 3.4, 3.5 and 3.6 (appendix II) the microcredit has added a value to the farmers' livelihood as indicated in tables 11 and 12 indicators.

**Table 11: Effect of microcredits on household income (n=69)**

Monthly income	Before access to microcredit (%)	After access to microcredit (%)
<50000	13	4
50001-200000	42	26
200001-350000	32	41
350001-500000	9	17
>500000	4	12

The results of this study have shown that access to microcredit raised the income thresholds for the households who received the microcredit. Based on table 11 the percentage of low income households has decreased while the number of high income households has increased. Furthermore, those households had more opportunity to expand their farming and other business activities. This facilitated also to increase the profit and saving for future households expenses. The study has also shown that there is a high correlation between monthly income of farmer and an amount of credit accessed from the MFI ( $R=63\%$ ). The increase of farmer income based on access to credits is remarked when other factors like increase in price and others are held constant. However, these results are not compared to the income of no received loans because they have not indicated anything on the progress of their income.

**Table 12: Mean effect of utilization of microcredit to livelihoods indicators (n=69)**

Rank	Livelihoods indicators	Before	After	Mean difference
1	Regular payment of Health fees	.41	.86	.45
2	Regular Payment of school fees	.29	.72	.43
3	Improve the physical appearance of my family (clothing, clear skin)	.59	.96	.37
4	Increase the savings	.15	.5	.35
5	Building modern house	.35	.65	.30
6	Increase the abilities to feed the family	.72	.99	.27
7	Financing recreation and social ceremonies	.03	.27	.24
8	Livestock ( cow sheep,goat,pig)	.03	.28	.25
9	Buying new land	.16	.38	.22
10	Buying a bike or motorbike or car	0	.04	.04

Based on the table above, farmers who obtained credit, have realized a great change on their livelihood characterized by their increased abilities to pay health insurance fees, paying school fees for their children, improving their physical appearance, increased abilities to save and to feed their families.

Nevertheless, in the interview with the microfinance officers, they have declared that farmers usually have problems to repay their loans due to much deviation of the loan purposes. Sometimes, farmers failed to appropriately use the MFI's loans in agricultural businesses indicated in their application, and had fun either in meeting some family and social needs (paying school or health insurance fees, cloths, drinks, buying TV's, etc.) Therefore MFI's penalized such farmers by seizing the properties presented to guarantee the loans and enforce them to pay as per signed contract between borrower and the Microfinance institution. This resulted in lacking credit management skills.

#### **4.5 Perception of farmers on Microfinance Institutions**

The existence of microfinance institutions in rural areas is founded on their role to increase financial abilities of unwarranted, poor communities through credit grant. In this study, all farmers (n=92) were asked to give their views on the MFI's services rendered its clients. Though 72% of respondents recognized MFI's policy to encourage them to save, others (64%) deplored of the high interest rates (18% for RIM and 24% for SACCO's) charged on loan per year, (61%) expressed their worries about many MFI's required documents to complete

before obtaining credit, which is tedious to farmers. Though, table 11 showed that the access to microcredit has increased the income of the farmers, (55%) claimed of slow decisions making on loan application which delayed their plans, (51%) others suffered from insufficient loan offered which did not allow them to implement their project plan. The lower income earners could not afford the requirements to obtain credit. During this study, other threats to the efficient utilization of MFI's loans were discovered. These included price fluctuation of inputs (50%), low skills in credit management (40%), climate change hazards and crop diseases (45%). Risks associated with seasonal changes like rainfall and drought, crop diseases (pest and insect) have impeded farmers' attitude towards the use of credit in their agricultural activities. There were also low investment returns (39%), sometimes high taxes charged on agriculture products (36%) and lack of market for their products (20%) due to unstructured food markets. Those constraints experienced and reported by the majority of farmers were the basis of their default on loan payment.

## **CHAPTER 5: DISCUSSION , CONCLUSIONS AND RECOMMENDATIONS**

In this chapter, the results are compared to literature, a conclusion and recommendations are formulated.

### **5.1 Discussion**

This discussion section addresses some limitations encountered, criticisms on research processes and comparison between the results of this study with other findings of the previous studies.

#### **Representative of research sample**

The study covered Musanze district, one of 30 districts of Rwanda. The fact that microfinance institutions in Rwanda are still young, they have common characteristics as far as access to microcredit by farmers is concerned; hence studied MFI's in Musanze district would be considered representative of other MFI's countrywide. The sample of 92 farmers randomly selected from members of three different microfinance institutions (Received or not received credit) and different zones is considered representative. To obtain the data from the members of MFI was authorized by MFI's managers who invited the members to participate in this study. This created a bias in selection of the respondents as far as every member did not participate in the research. Another point to raise in this part is the questionnaire design. There are some questions asked to respondents not analyzed which were probably not important to this study. So a better and concise questionnaire might be taken into account.

#### **Data analysis model**

Probit model has been chosen from other analysis models, Logit model and Ordinal linear regression model for its convenience. Probit regression model is more popularl and appropriately used for social sciences studies, where this study is fitting. The model is used for the binary dependent variable which is either 1or 0 (access to credit or not access to credit).

### **The results of the study vis a vis the literature**

The results are somehow supporting the findings of the previous research but also they are contradicting to some others. The study has found out that the willingness of female headed households to access credit is still limited, only 33% female for 67% male were involved in this study. Devkota (2009) in his study on agriculture and livestock farmers in Chitwan district, Nepal found that female farm operators are more likely to access credits, which contradicts with the results of this study where females are not more involved in credit procedures due to patriarchal nature of rural society in Rwanda about credit management. As far as influencing factors are concerned, MFI's are more focused on collaterals, income, level of education and level of savings of farmers than household size, age and gender factors. MFI's were considering the welfare status of applicants before providing a loan. These results supported the findings of Barnett et al. 2000 who found that Credit is restricted to population with high minimum balance on their account and the borrower's reputation to the lender. Lenders attach collateral requirements to loans to reduce the problem of the information asymmetry. But the results contradicted to the findings of Voessen (2000) and Okurut (2006) who concluded that probability of access to formal credit increases with household size, age, gender and residence location. 100% of farmers who accessed to microcredits reported that by access to credit play a considerable role on agriculture production. This supported again the findings of Zohir & Martin (2004), Ismael (2013) and Adebayo & Adeola (2008) who found that microcredit utilized for agricultural production resulted in an increase in the use of agricultural inputs and increased output. The microcredit increases agriculture productivity and improves standards of living by breaking the vicious cycle of poverty of smallholder famers.

## 5.2 Conclusions

Microfinance in Rwanda is considered as one of the most important and effective mechanism in the implementation of government program of poverty reduction and the increase economic growth. This is based on the availability of microfinance institutions in rural areas to overcome the hindrances of accessibility and utilization of credit, inadequate savings and other related financial problems. The study was conducted on 92 farmers selected from members of three MFI's Ibirwe SACCO Busogo, Twibumbe SACCO Gataraga and RIM Byangabo. The questionnaires designed for Farmers, MFI's and sectors' officers were used to collect data. The study objectives were achieved as follows:

➤ *The factors that influence the access to microcredit by farmers*

The results have shown that farmers with high collaterals assets, income, level of education and level of savings fulfill the preconditions to apply and are more likely to obtain credit from MFI's. These factors are very hard for poor, vulnerable and other unbanked farmers who usually lack investment for their agricultural activities. These results contradict with the main of purpose of Microfinance of providing financial services to the excluded people from the formal financial system.

➤ *The challenges faced by farmers to access microcredit*

While looking for the challenges face by farmers to access to credit, the study has found that farmers are afraid to apply for credit and uncertain to pay due to high interest rate on borrowing, little payback period, lack of collaterals, bureaucracy in decision making and lack of entrepreneurship skills in business planning . Farmers lack sufficient knowledge in credit management is the basis of failure of credit utilization in agricultural businesses.

➤ *The impact of access and utilization of microcredit to increase agriculture production*

There is a positive relationship between agriculture production and availability of credit to farmers. This study has also found that credit plays a key role in the agriculture production for farmers who received loans. Through access to credit, farmers satisfied the basic factors of production such as access to agriculture inputs, seeds and competent labor. Farmers also accessed agriculture markets and enjoyed related advantages without any intermediary charges. Therefore, lack of access to credit might be an obstacle for agricultural productivity.

➤ *The impact of utilization of microcredit to the farmer's livelihood*

Farmers as other investors intend to generate revenues from their huge investments to improve their living conditions. The study has shown that income thresholds of farmers who received loans increased. This also lead to the increase of farmers abilities to meet family needs and improve family livelihoods indicators such as feeding the family, paying health insurance fees, paying school fees for their children, improving their physical appearance, building modern houses and paying social ceremonies.

Based on the above findings, whatever challenges declared by farmers to obtain credit, microfinance institutions play a key role to uplift the standard of living of rural farmers. Therefore, both farmers and microfinance institutions might solve together the obstacles in the applicability of the main role of microcredit to increase the agricultural productivity.

### **5.3 Recommendations**

Based on the findings of the study, the following recommendations are formulated:

➤ **To microfinance institutions**

MFI's are recommended to revise the procedures used to provide loans to farmers, time take to decide on loans application and payback period for agriculture loans. They may organize the training programs on saving and use of credit to farmers.

➤ **To farmers**

Farmers are recommended to improve their planning skills to reduce the credit defaults and respect the use of loans for profitable agricultural activities as presented in their applications.

➤ **Policy makers**

The policy makers are recommended to harmonize the interest rate paid on microcredit offered by MFI's to enable low income earners to have access to microcredit. The government may inject subsidies within microfinance institutions to enable them to satisfy the credit demand. They may also stimulate insurance company to invest in agricultural activities to guarantee the risks associated with crop losses.

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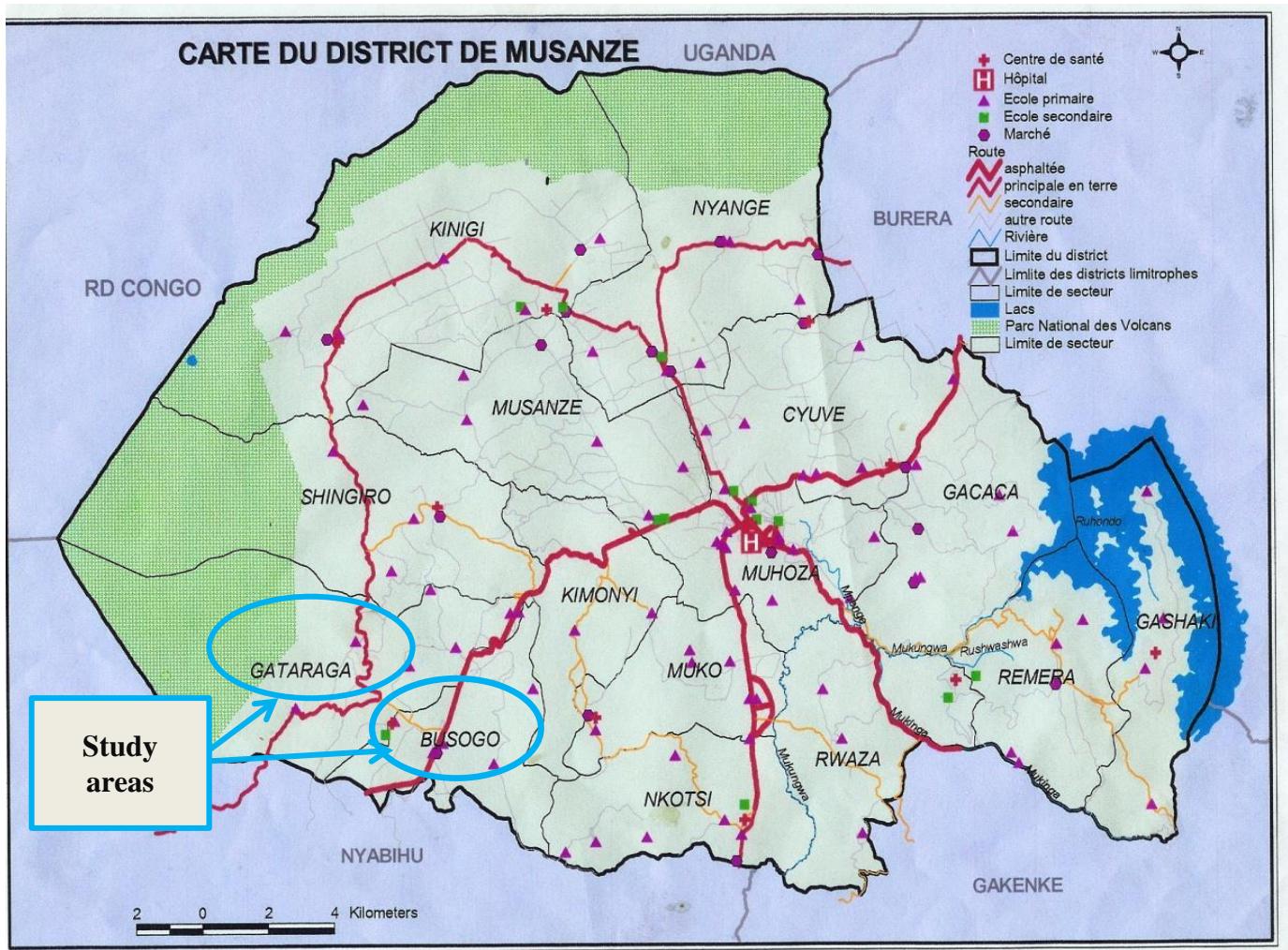
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## APPENDICES

## Appendix I: Administrative map of Musanze district



## **Appendix II: Survey questionnaire to farmers**

District: \_\_\_\_\_

Sector: \_\_\_\_\_

Cell: \_\_\_\_\_

### **Section A: Background Information of the respondent**

1.1 Name of respondent: .....

1.2 Age of the respondent: .....years

1.3 Sex:      Male       Female

1.4 Highest level of studies:

Never studied       Primary

Secondary       Diploma

Degree       PhD

If studied, please specify the domain of studies received .....

1.5 Marital Status:

Single       Married       Divorced       Separated       Widow/ Widower

3.3 Household size

1. Between 1-3

2. Between 4-6

3. Between 7-9

4. More than 9

1.7 Main economic occupation .....

1.8 Farming experience.....

1.9 Farm size:

1. less than 0.5 ha

2. between 0.5 ha – 1ha

3. between 1 ha -5ha

4. between 5 ha-10 ha

5. More than 10 ha

1.10 Which type of crop do you mostly cultivate by respondent?

Types of crop mostly cultivated	Ranks		
	1	2	3
Maize			
Sorghum			
Beans			
Wheat			
Irish Potatoes			
Carrots			
Cabbages			

Key: 1. Mostly cultivated 2. Sometimes cultivated 3. Not cultivated

### Section B: Respondent's awareness, access and utilization to microcredit

2.1. Are you member of a microfinance institution?

Yes  No

If yes, indicate the name of the microfinance institution:

.....

2.2. How long have you been a member of the microfinance institution?

No	Membership Duration	Tick (V)
1	Less than 1 year	
2	2-3 years	
3	4-5years	
4	More than 5 years	

If no, give two brief reasons: .....

2.3. Are you aware of microcredit services/facilities the microfinance institutions offer to farmers in your village?

Yes

No

2.4. If yes have you ever accessed on one of those microcredit services over the past 5 years?

Yes

No

2.5 If answer 2.4 is yes, in which ways have you accessed the microcredit services (can be more than one)

No	Ways of access to credit	Tick (V)
1	Friends	
2	Relatives	
3	Neighbors	
4	NGO's	
5	Banks	
6	Microfinance	
7	Church	
8	Others (specify)	

If answer 2.4 is no, why (Give 2 reasons):.....

2.6. If answer 2.4 is yes, which types of microcredit services available to farmers have you obtained?

No	Types of microcredit obtained	Tick (V)
1	Group lending (cash)	
2	Individual lending (cash)	
3	Group lending in kind (agriculture inputs, Fertilizers, seeds, pesticides,...)	
4	Individual lending in kind (agriculture inputs, fertilizers, seeds, pesticides,...)	

2.7 If answer 2.3 is yes, how much the size of the loan was obtained (Rwf)  
 (Tick any possible answer according to your income)

No	Amount received	Tick (V)
1	< 50000	
2	50001-200000	
3	200001-350000	
4	350001-500000	
5	>500000	

2.8 Did the microcredit require any security or collateral?

1. Yes  2. No

2.9. If yes, which category of security or collateral required by MFI's?

1. Collateral assets properties of the farmer  2. Level of saving with MFI's

2.10 What types of collaterals accepted by MFI's?

No	Type of security or collateral	Tick (V)
1	Land	
2	House	
3	Individual initial savings	
4	Group lending ((Being members of cooperative))	
6	Others (specify)	

2.11 For what have you used the microcredit from Microfinance institution (tick any possibilities)?

No	Use of Microcredit of Microfinance	Answer	
		Yes	No
1	Starting a new business activities		
2	Buying fertilizers		

3	Buying improved seeds		
4	Buying land		
5	Hiring or buying agriculture machineries		
6	Buying Food & materials for the family		
7	Buying livestock		
8	Payment to farm workers		
9	Paying health insurance (mutual)		
10	Debt repayment		
11	Social ceremonies		
12	Paying school fees		
13	Others (please specify)		

2.12 Was the microcredit obtained sufficient for your planned activities or business plan?

1. Yes

2. No

If no why?

.....  
.....

2.13 Have you paid back the microcredit obtained from your microfinance institution?

1. Yes

2. No

If the answer is no why? (Give your reasons)

.....  
.....

2.14 Did you continue to work with your Microfinance after repaying your loan?

1. Yes  2.No

If the answer is no why? (Give your reasons)

.....  
.....

### **Section C: Impact of microcredit to increase agriculture productivity and improve farmer's wellbeing**

3.1 Does access to microcredit have an impact on the quality and quantity of your agriculture production?

Yes  No

If no why?

.....  
.....

3.3 If yes, how did access to credit increase your agriculture production? (Tick any possible answer according to its contribution)

No	Contribution	Ranks			
		1	2	3	4
1	Buying or increase size of my land				
2	Access to inputs (fertilizer, pesticides, improve seeds)				
3	Access to improved seeds				
4	Access to modern agri. Materials (tractor, mechan...)				
5	Hiring competent labor				
6	Access agric. Products market				
7	Improved agriculture production				
8	Buying livestock (cow, goats and sheep)				
9	Access to agriculture skills (trainings, seminars...)				

Key: 1. VeryHigh contribution 2. Satisfactory contribution 3. Low contribution 4. Very low contribution

Others (specify).....

3.3 What is your monthly income before and after accessing and utilizing microcredit? Tick any possible answer according to your income)

No	Household income	Before access to microcredit	After access to microcredit
1	< 50000		
2	50001-200000		
3	200001-350000		
4	350001-500000		
5	>500000		

3.4 How do you rate your household wellbeing to the rest of community after access to microcredit?

(Tick any possible answer according to your choice)

No	Family wellbeing rate	Before access to microcredit	After access to microcredit
1	Very high		
2	High		
3	Moderate		
4	Low		
5	Very low		

Give explanation to your choice.....

.....

3.5 What are the livelihood indicators of your household wellbeing in relation to the rest of community before access to microcredit? (Tick all possible answers according to your achievement

<b>Indicators</b>	<b>Ranks</b>			
	1	2	3	4
Increase the savings				
Regular Payment of school fees				
Buying new land				
Regurar payment of Health fees				
Building modern house				
Increase the abilities to feed the family				
Livestock ( cow sheep. Goat, pig)				
Buying a bike or motorbike or car				
Improve the physical appearance of my family (clothing, clear skeen)				
Financing recreation and social ceremonies				

Key: 1. VeryHighly achieved 2. Satisfactory achieved 3. Low achieved 4. Never achieved

3.6 What are the livelihood indicators of your household wellbeing in relation to the rest of community after access to microcredit? (Tick all possible answers according to your achievement)

<b>Indicators</b>	<b>Ranks</b>			
	1	2	3	4
Increase the savings				
Regular Payment of school fees				
Buying new land				
Regular payment of Health fees				
Building modern house				
Increase the abilities to feed the family				
Livestock ( cow sheep, goat, pig)				
Buying a bike or motorbike or car				
Improve the physical appearance of my family (clothing, clear skeen)				
Financing recreation and ceremonies				

Key: 1. Very Highly achieved 2. Satisfactory achieved 3. Low achieved 4. Never achieved

Others (specify).....

#### **Section D: Challenges to access and utilization of microcredit**

4.1 What are the challenges do you face (farmers) in accessing funds from microfinance institution? (Tick all possible answers based on the big challenges)

<b>Challenges</b>	<b>Ranks</b>			
	1	2	3	4
Inadequate information about MFI's services				
Afraid to borrow				
Uncertainty of payment				
High interest rate of loan				
Lack of enough savings				
Little payback period				
Lack of collateral				
Long distance from microcredit facility				
Bureaucracy (SDM)				
Corruption or bribery				
Lack of entrepreneurship skills in business planning				

Key: 1. Very High 2. Moderate 3. Low 4. Very low

Others (specify).....

4.2 What are the constraints do you have in utilizing the microcredit(tick all possible answers according to the main constraint faced)?

	Ranks			
Constraints	1	2	3	4
Long distance from the microcredit facility				
Low investment returns				
Small microcredit for many activities				
Price fluctuation of agriculture produce				
High taxes of agric. Products				
Lack of skills in using credit				
Lack of market for agric. Products				
Climate change and crop diseases (rainfall or sun....)				

Key: 1. Very High    2. Moderate    3. Low    4. Very low

Others (specify).....

## Section E: Perception of farmers about the Microcredit institutions

5.1 What is your perception about your Microfinance services ? (Tick all possible answers)

No	Farmer Perception on Microfinance services	Answer	
		Yes	No
1	Female headed householders are main microcredit targeted		
2	Very poor Farmers are the main microcredit targeted		
3	Married members are better preferred for microcredit loans		
4	Slow decision Making on microcredit application		
5	Loan size Microcredit offered by MFI'S does not satisfy farmers' needs		
6	Interest rate paid on a loan offered is very high		
7	Microfinance requires many documents to complete to obtain credit		
8	Microfinance encourage farmers to save		
9	Interest rate on deposit is sufficient		
10	Time and distance is a problem to save in microfinance		
11	Others Specify.....		

5.2 .How did you perceive utilization of microcredit in agriculture activities?

1. Very easy
2. Easy

3. Difficult

4. Very difficult

Give 2 explanation to the selected answer.....

.....

5.3 In your views, what suggestions can you give to ease access and utilization microfinance in Musanze

.....

**Thank you for the information given**

### **Appendix III : Survey questionnaire to microfinance institutions**

Name of microfinance: \_\_\_\_\_

Sector: \_\_\_\_\_

#### **Section A: Background Information of the respondent**

1. Name of respondent: .....
2. Sex:      Male       Female
3. Function: .....

#### **Section B: Questions**

1. Which category of customers are you dealing with?

1. Cooperatives of farmers
2. Big traders
3. Small traders
4. Individual smallholder farmers
5. Handcraft customers

2. Do men and women have equal opportunities to access credit in your Microfinance?

1. Yes
2. No

If no why? .....

3. What are the target groups of customers for your credit system? (tick any possibilities)

1. Individual Smallholder farmers
2. Poor farmers
3. Only women farmers
4. Only men farm
5. Both men and women farmers
6. Traders
7. Handcraft customers
8. Other (specify).....  
.....

4. What are the requirements to obtain credit from this microfinance? (tick any possibilities)

1. Between 18 -20 years

2. Between 21-30 years

3. Beyond 30 years

4. Having enough savings on his account

5. Having a valuable collateral security

6. Having land property certificate

7. Having a well-structured profitable project

8. Being member of a cooperative

5. What percentage of farmer applicants succeeded to receive credit in last 5 years

1. None

2. 10%-30%

3. 31%-50%

4. 51%-70%

5. Above 70%

6. All applicants

7. Don't know

6. What the maximum amount are farmers allowed to obtain from your microfinance?

1. below 10,000

2. between 10,000 – 50,000

3. between 51,000 – 100,000

4. more than 101,000 – 500,000

5. more than 500,000

6. All

7. What is the interest rate do you charge to a loan offered to farmers?

1. Below 5%

2. Between 6%-10%

3. Between 11%-20%

4. Between 16%-20%

5. Between 21%-25%

6. Above 25%

8. How long do you allow the farmers to pay back the loan?

1. Below 1 year
2. Between 1-2 years
3. Between 3-5 years
4. Above 5 years
5. All categories

9. What percentage of farmers succeeded to payback their credit in last 5 years?

1. None
2. 10%-30%
3. 31%-50%
4. 51%-70%
5. Above 70%
6. All applicants
7. Don't know

10. What percentage of farmers failed to payback their credit in last 5 years?

1. None
2. 10%-30%
3. 30%-50%
4. 50%-70%
5. Above 70%
6. All applicants
7. Don't know

11. How many times do you monitor and evaluate your credit to farmers?

1. Once per month
2. Twice per month
3. More than two per month
4. Never

12. Do farmers repayment respect the payback period?

1. Yes
2. No
3. If no why?.....

13. How you collect the money back to your microfinance?

1. In microfinance office
2. Door to door at farmers houses
3. Other (specify).....

.....  
14. What are main challenges do you face to recover your loans from farmers?  
.....

**Thank you for the information given**

#### **Appendix IV: Survey questionnaire to sector administrative officers**

##### **Section A: Background Information of the respondent**

1. Name of Respondent:
2. Sex: Male  Female
3. Function:
4. Sector:

##### **Section B: Questions**

1. Do you have microfinance institutions in this sector?  
Yes  No

2. If yes are aware of the activities rendered to farmers by those MFI's?  
Yes  No

3. If yes, what are the services rendered by MFI's to the development of Farmers?

No	Services rendered to Farmers by MFI	Yes	No
1	To offer short term credit to farmers		
2	To provide inputs to farmers		
3	To offer job to farmers and local people		
5	To stimulate farmers to save		
6	To train farmers to use credit		
7	Participate in other activities of a sector (specify)		

4. What are the main problems do you receive from MFI's and their farmers?

No	Main problems between MFI's and Farmers	Yes	No
1	High interest rate charged to farmers		
2	Mismanagement of MFI's resources		
3	Corruption in offering credit		
4	Poor utilization of loans		
5	Farmers payment defaults		
6	Farmers lack their collateral securities sold by MFI's		
7	Others (specify)		

5. What are your suggestions to ease access and utilization of microcredit to farmers in this sector?.....

**Thank you for the information given**