

# **INNOVATIVE APPROACHES FOR GAINING ACCESS AND SECURITY TO LAND BY WOMEN THROUGH COOPERATIVES: A CASE STUDY OF RWANDA**

PIERRE CELESTIN UJENEZA

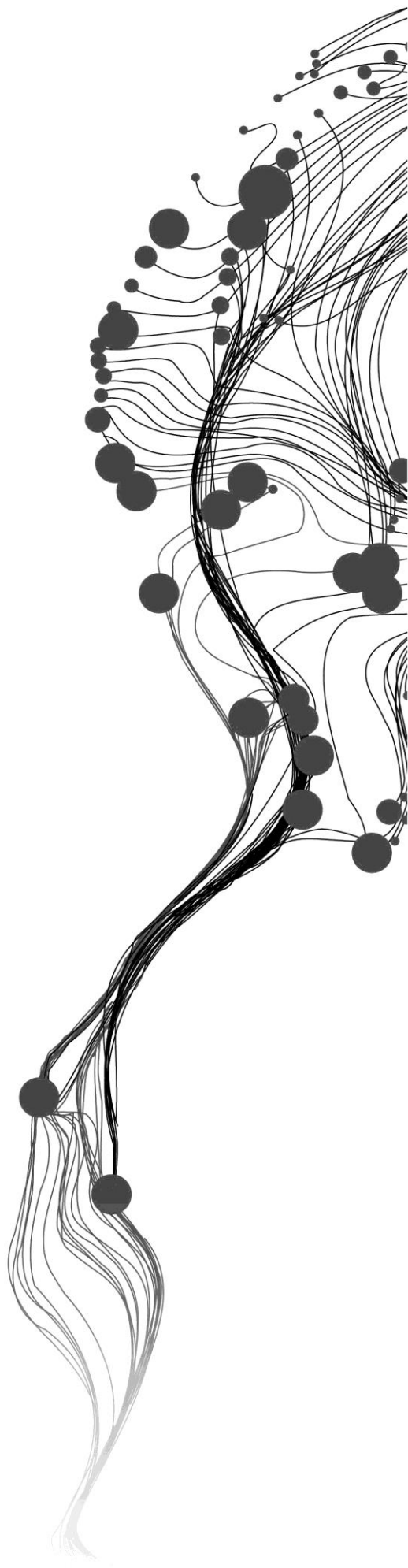
February, 2018

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Enschede, The Netherlands, February, 2018

Thesis submitted to the Faculty of Geo-Information Science and Earth  
Observation of the University of Twente in partial fulfilment of the  
requirements for the degree of Master of Science in Geo-information Science  
and Earth Observation.

Specialization: Land Administration

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## ABSTRACT

The government of Rwanda has developed a proper legal and institutional framework for Land administration system. It has established the land policy in 2004 and an organic land law which was amended in 2013. As a result, it has developed an adequate land administration system that ensures equal rights to land for every citizen without any discrimination. It has also achieved a land tenure regularisation programme where every landowner in the country has received land titles. However, women face gender inequality in household's land. This issue is linked to the social and cultural norms still existing within the community. The majority of women in rural areas are engaged in agricultural activities which are the primary source of livelihoods for their family. For achieving food security in their families in particular and for the community in general, women need to be provided with access and security to land to be able to conduct whatever land related projects. Consequently, women cannot achieve economic development due to social and cultural norms that consider women as inferior to men.

As the human being adapts to any situation that impedes her or him to realise any goal, women are seeking another way by which they can gain access and security to land for developing themselves and their families. The present research aims to explore the effectiveness of cooperatives as innovative approaches through which women gain access and tenure security to land. As unity is strength, the vulnerable women pool their resources in the cooperatives and achieve a significant common goal. They could purchase collectively land by which they develop buildings and grow various plants. In this regard, the cooperation can be the source of empowerment for the vulnerable people in the sense that the powerful cooperative members raise the weak one to a higher level of living.

The findings of this research revealed the innovative ways by which the cooperatives enabled women members to gain access and security to land. These approaches through which the women obtain land for use in their daily activities like cultivation and commercial are as follows; owning or renting land collectively and purchasing individually land. The cooperative land refers to that land bought or received as gift collectively. This cooperative land is used and managed by all cooperative members. The women bought land using funds earned from the activities conducted in the cooperatives. Another option women could have access to land is by renting either individually or collectively. In order to extend the field crop, the women lease another land from private landholders or the state using the income obtained from their cooperative. The members rent land through the cooperative from the government. This is the case of rice cooperatives that rent public marshland. The cooperatives contribute to the empowerment of women regarding decision making on land. Women in the cooperatives learn the skills, gain knowledge and information that enable them to claim their rights to land. They dare to raise their voice in public and before their husbands and participate in decisions related to the use of household's land. Also, the study showed that the agricultural cooperatives are located in suitable agrarian zones and near the infrastructures and facilities. The cooperative members prefer to join the nearest and accessible cooperative hence the majority of women found that they live closely and near to the location of cooperative.

**Keywords:** Cooperative, access and security to land, land rights, spatial location, and women.

## ACKNOWLEDGEMENTS

Foremost, I thank my God for blessing and keeping me sane during my study in the Netherlands. I experienced the goodness and unconditional love of God during this research.

I am grateful to the Government of Rwanda for providing with me the opportunity of pursuing my Masters of Science Degree. I thank former General Director of former Natural Resource Authority for approving my Scholarship. I acknowledge my employer Mr Rwamurangwa Steven, Mayor of Gasabo District who recommended me to improve my knowledge in land administration.

I am substantially indebted to my supervisors, Dr Monica Lengoiboni and Dr Ir. Paul van Asperen for their kindness, guidance, valuable comments and motivation throughout this work. They inspired me the spirit of self-confidence and hardworking which were essential values that supported me not only to achieve this research but also in my future career.

I would like to thank Prof. Mr Dr Ir. Jaap Zevenbergen for critics and advice during the research proposal and midterm presentation; they played an essential role in improving the orientation and quality of this research.

My acknowledgement extends to the leaders and members of DUFATANYE NYANZA, KOPABAKAMU, KOKIUNYA, CORIMARU, TWEGUKIRE UMURIMO AGASEKE, HUGUKIRWA MUKO and UNAMA UKORE cooperatives for accepting and providing me with reliable and valid data. I appreciate various government officials who provided me with the needed information related to the cooperatives.

I would like to express my gratitude to the elderly Rwandan students in ITC Nyandwi Elias, Mukashema Adrie, Nikuze Alice and Uwiringiyimana Vestine, they welcomed and informed me about the study in ITC and Enschede situation. I recognise my colleagues, Nyandwi Emmanuel, Gasuku Oscar and Mukagashugi Chantal for their work team spirit and encouragement.

My most profound gratitude goes to my whole family for encouraging and praying for me, mostly my wife, Nirere Eliane and my daughter Ganishya Ujeneza Lily.

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## LIST OF ABBREVIATIONS

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ANGOC	: Asian Non-governmental organizations Coalition
ECA	: Economic Commission for Africa
EPRS	: Equitable Pioneers of Rochdale Society
FAO	: Food and Agriculture Organization
GDP	: Gross domestic product
GIS	: Geographic Information System
GLTN	: Global Land Tool Network
GoR	: Government of Rwanda
GPS	: Global Positioning Systems
IFAD	: International Fund for Agricultural Development
ILO	: International Labor Organization
NGOs	: Non-governmental organizations
NISR	: National Institute of Statistics of Rwanda
OECD	: Organization for Economic Cooperation and Development
PGIS	: Participatory Geographic Information Systems
RCA	: Rwanda Cooperatives Agency
RLMUA	: Rwanda Land Management and Use Authority
SACCOs	: Savings and credit cooperatives
SPSS	: Statistical Package for the Social Sciences
UN	: United Nations
US\$	: United States dollar
USA	: United States of America
USAID	: United States Agency for International Development

# 1. INTRODUCTION

## 1.1. Background and justification

Land remains the main source of livelihood for women living in the rural area specifically in Africa because it is used for crops growing. Land improves women economic and social status in the society. It can transform the identity of women into meriting and productive persons of their families in particular and their community in general (UN Women, 2015). Unfortunately, African women, while they are relying mainly on the agricultural activities they face challenges of restricted equal access to land, information, credit, capital, agricultural inputs and land rights due to social constructs and norms limiting women to gain tenure security (Quisumbing et al., 1995).

As solutions joining women's cooperatives is one of the ways through which women could find answers to different social, economic problems including access and security to land. Self-help voluntary associations have played a significant role in women empowerment in Ethiopia (Teshome, Zenebe, Metaferia, & Biadgilign, 2012). Edwards (2000) demonstrated that participating in voluntary associations improve the development and mutual support of members. Raniga (2017) argued that through economic development cooperatives women can break the circle of poverty by stopping reliance on state social support and raise their level of self-confidence. Raniga (2017) continued asserting that cooperatives are support systems of reducing women vulnerability whereby joining cooperatives women get empowered for self-employment, a strategic to strive for economic self-reliance and improving the skills and knowledge by gaining different training. He advanced that cooperatives can provide for women the opportunities of strengthening their social networks, of having access to land resources, to credit and education services. In her study in Uganda, Lecoutere (2014) observed that agricultural cooperatives prompted to shift from traditional to modern farming and lift up their power in decision making in their families and generally at the community level.

In the wake of ignorance, lack of capacity, social and cultural barriers, women can find an alternative way to gaining land tenure security through women's cooperatives. As stated Lind (1997), women's cooperatives have played key roles in generating women's involvement in community decision-making and addressing the daily impacts of economic restructuring. Women in the groups could gain more knowledge, share experiences and talk about strategies for gaining access and security to land and how can get profit from it. A significant emphasis on organised formal cooperative groups by women to obtain tenure through the collective purchase of land is stated in Gray and Kevane (1999). Gray and Kevane argued that women's tenure security may be strengthened through concerted group action to mobilise support from different actors with an example to different southern African countries.

## 1.2. Research problem

In many cases, people confound tenure security with just having a land title. However, landowners have the security of tenure if they perceive and enjoy legal protection and enforcement of their rights to land (FAO, 2002b). Security of tenure is the certainty that others will recognise somebody's land rights and the protection when there are specific challenges against these rights (FAO, 2005; UN-Habitat, 2008). Women

being in subordinate position may affect her access and security to land in the way her decision is limited to the household land management.

The extent of tenure security has significant implications for land-related investments, access to credit and protection of women land rights. According to UN-Habitat (2008), enjoying equal rights to land for women and men are necessary to social and economic gender equality. Namubiru-Mwaura (2014) argues that security of tenure enables women to decide about land to be used in the agricultural production. While women access to land proves beneficial to individual household and society as a whole, cultural practices present a social hindrance. These traditional biases could be handled by establishing and enforcing gender-sensitive legislation. As FAO (2012c) puts it forward, policies and laws that ensure tenure rights should be nondiscriminatory and gender-sensitive. To this, it is fortunate that different countries have recognised equal rights of both women and men to land by establishing a proper legal and institutional framework, including international laws and treaties (UN-Habitat/GLTN, 2008). To this, Namubiru-Mwaura (2014) put forward that the effectiveness of such laws depends on knowledge about them, the abilities to realise them, and to what extent social values and traditions are applied and obeyed instead of these formal laws. This gives rise to the need of investigating how women would cope with limited awareness of the legal framework.

In Rwanda, the national land policy adopted in 2004 is considered the foremost step towards establishing an appropriate land administration system that ensures land tenure security for all citizens. After the land policy, the inheritance law (GoR, 1999), organic land law 2005 (GoR, 2005) amended in 2013 are used to safeguard, protect and enforce land rights of women and female orphans (Uwayezu & Mugiraneza, 2011). However, as noted by Polavarapu (2011), in spite of the demonstrated will by the extensive legal changes of the government, social barriers still hinder women to enjoy their rights to land. For instance, the fact that inheritance is a donation on will (GoR, 2016) and patriarchal thinking may favour boys over girls to inherit. This calls for the necessity to investigate how women manage to get access to land in response to these patriarchal obstacles.

The Government of Rwanda established a cooperative policy as a potential vehicle through which people could generate employment and promote access to income-generating activities (RCA, 2006). A study by Verhofstadt and Maertens (2013) on maize and horticulture cooperatives whose dominant members are women, found that cooperative members own significantly more land and livestock compared to non-cooperative women. It is necessary to note that Rwanda is one of the most densely populated countries in Africa with a total population of 10,515,973 inhabitants of which 51.8% are women (National Institute of Statistics of Rwanda, 2014). Despite skyrocketing population, Rwanda has limited land resources where arable land is about 52% of the total surface area (1 385 000 ha), and about 60% of the rural farmers hold less than 0.5 hectares of farm size (ECA, 2004). The scarcity of land makes land the most contentious resource in most cases in the disadvantage of women. As stated by Polavarapu (2011), women land rights are partially affected by patriarchal practices, the size of land and household composition. While Verhofstadt and Maertens (2013), provide a glimpse on how cooperative enabled women compete to access land, broad research is needed to explore how cooperatives contribute to empowering women in making decisions over land. It is essential to investigate how cooperatives could empower women, not only concerning access to land but also their control and how due to cooperative women are mutually enabled both economically and mentally to defend their right to the land.

In Uwayezu and Mugiraneza (2011); Ayalew et al. (2014) and Place (2009), the efforts of the government of Rwanda are highlighted for establishing a legal framework that aims to grant tenure security to all, and impacts on women. However, Polavarapu (2011) noted the persistence of social malpractices such as lack

of will of men to provide women with their land rights, adherence to the belief of female inferiority, and persistence of illegal marriage in which wives cannot acquire rights to land belonging to the husbands. But, still unknown are the practices which women are adopting as alternative ways other than a formal legal framework for attaining tenure security alongside ignorance towards land laws, lack of capacity, social and cultural barriers. This research will thus, explore innovative approaches by mean of cooperatives through which women gain access and security to land.

### 1.3. Research objectives

#### 1.3.1. General objective

The main objective of the research is to explore the effectiveness of cooperatives as innovative approaches through which women gain access and tenure security to land.

#### 1.3.2. Specific objectives

- To describe the nature and composition of members in cooperatives
- To assess how cooperatives are contributing to access and use of land and tenure security for women
- Assess the spatial location of cooperatives members and factors associated with women's choice to join cooperatives activities at a given location.

#### 1.3.3. Research questions

The following are the research questions corresponding to the mentioned specific objectives:

Table 1: Research questions

Specific objectives	Research questions
To describe the nature and composition of members in cooperatives	<ul style="list-style-type: none"> <li>➤ What are the socioeconomic characteristics of cooperative members?</li> <li>➤ What are the factors that determine women's choices to join and stay in cooperatives?</li> </ul>
To assess how cooperatives are contributing to access and use land and tenure security for women	<ul style="list-style-type: none"> <li>➤ What types of land do women collectively acquire?</li> <li>➤ How do cooperatives empower women to own and gain security on land?</li> </ul>
Assess the spatial location of cooperatives members and factors associated with women's choice to join cooperatives activities at a given location.	<ul style="list-style-type: none"> <li>➤ What are spatial factors that determine the location of the cooperative?</li> <li>➤ What are spatial factors that determine women to join such kind of cooperative?</li> </ul>

#### 1.3.4. Research matrix

The research design matrix shows the planning of research process (Choguill, 2005). For this research, a research matrix as shown in table 2 outlines the process of addressing specific objectives, research questions, data collection methods, methods of data analysis and anticipated results.

Table 2: Research matrix

Specific objectives	Research questions	Data sources	Data collection methods	Methods of data analysis	Anticipated results
To describe the nature and composition of members in cooperatives	1.What are the socioeconomic characteristics of cooperative members?	Cooperatives members	Questionnaire	Content analysis, statistical analysis	Demonstrated socioeconomic factors that motivate women to join cooperatives
		Leader of cooperatives	Semi-structured interview		
	2.What are the factors that determine women's choices to join and stay in cooperatives?	Cooperatives members	Focus group	Content analysis	Demonstrated different factors that determine women's choices to join and stay in cooperatives
		Leader of cooperatives	Semi-structured interview		
To assess how cooperatives are contributing to access and use land and tenure security for women	3.What types of land do women collectively acquire?	Leader of cooperatives	Semi-structured interview	Content analysis	Determined types of land women collectively acquire
	4.How do cooperatives empower women to own and gain security on land?	Cooperatives members	Focus group, Questionnaire	Content analysis, statistical analysis	Demonstrated strategies cooperatives use to realise tenure security for its members
Assess the spatial location of cooperatives members and factors associated with women's choice to join cooperatives activities at a given location.	5.What are spatial factors that determine the location of the cooperative?	Leader of cooperatives	Semi-structured interview	Spatial analysis	Demonstrated spatial factors that determine the location of a cooperative
	6.What are spatial factors that determine women to join such kind of cooperative?	Cooperatives members	Focus group	Spatial analysis	Determined spatial factors that influence women to join such kind of cooperative
		Leader of cooperatives	Semi-structured interview		

### 1.3.5. Research design

A research design provides guidelines and procedures to follow during research from the beginning point until achieving the objectives (Bryman, 2012). The research design shows the efficient plan of data collection, analysis and discussion. It is designed to provide reliable and valuable information with

spending sufficient effort. There are three main activities in this research namely pre-fieldwork, fieldwork and post-fieldwork. The pre-fieldwork stage consists of reviewing the literature to describe the research problem. It also involves the description of the research objectives, research questions and the organisation of the field work. The fieldwork phase includes the methods and tools to be used to collect primary and secondary data. Primary data were collected using questionnaire, semi-structured interview, and focus group discussions from cooperatives. Secondary data involves GIS data that were collected from Rwanda Land Management and Use Authority (RLMUA) and cooperatives information from Rwanda Cooperatives Agency (RCA). Post-fieldwork includes data analysis, discussion, conclusion and recommendations.

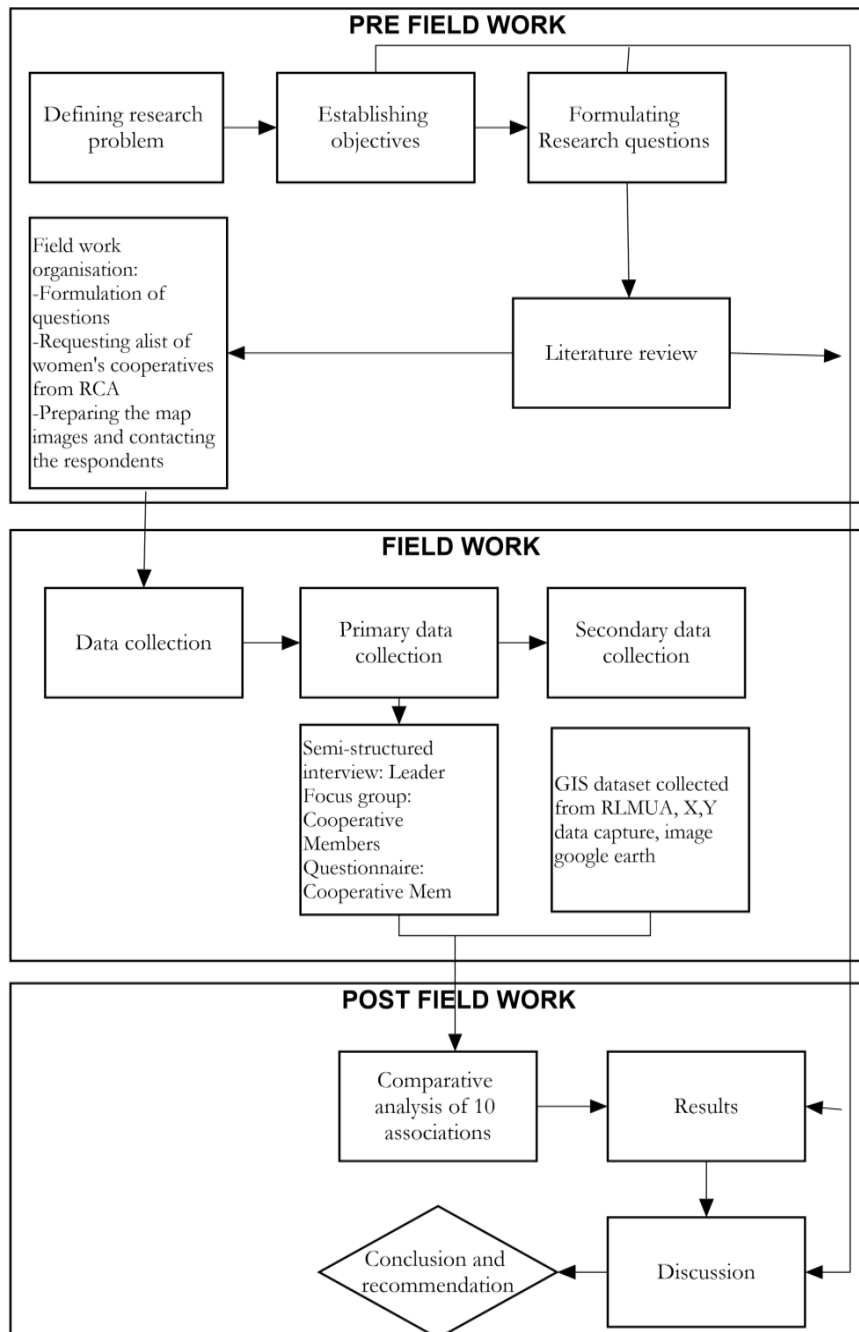


Figure 1: Research design

## 1.4. Thesis Structure

The thesis is structured as follows:

### Chapter 1: Introduction

This chapter incorporates the background and justification, research problem, general objective, specific objectives, research questions and conceptual framework.

### Chapter 2: Literature review

This chapter provides an overview of concepts of tenure security, cooperatives, and spatial location.

### Chapter 3: Methodology

This chapter demonstrates and explains the methods used for data collection and data analysis. It describes data collection methods, data sources, data types and case study area.

### Chapter 4: Results

This chapter presents the results of data collected from the fieldwork through semi-structured interviews, questionnaire, focus group discussions and secondary data collected from different sources.

### Chapter 5: Discussion

This chapter discusses the results found in chapter four using literature review and verify the research objectives and questions of this study.

### Chapter 6: Conclusion and recommendation

This chapter presents the conclusions and recommendations about the research objectives and questions of this study.

## 1.5. Conceptual framework

This section discusses the main ideas related to the objectives of research in a nutshell. The conceptual framework presents the key concepts to be explored in the study and relationships among them (Miles & Huberman, 1994). The conceptual scheme presents the following main concepts: access to land, tenure security and cooperatives.

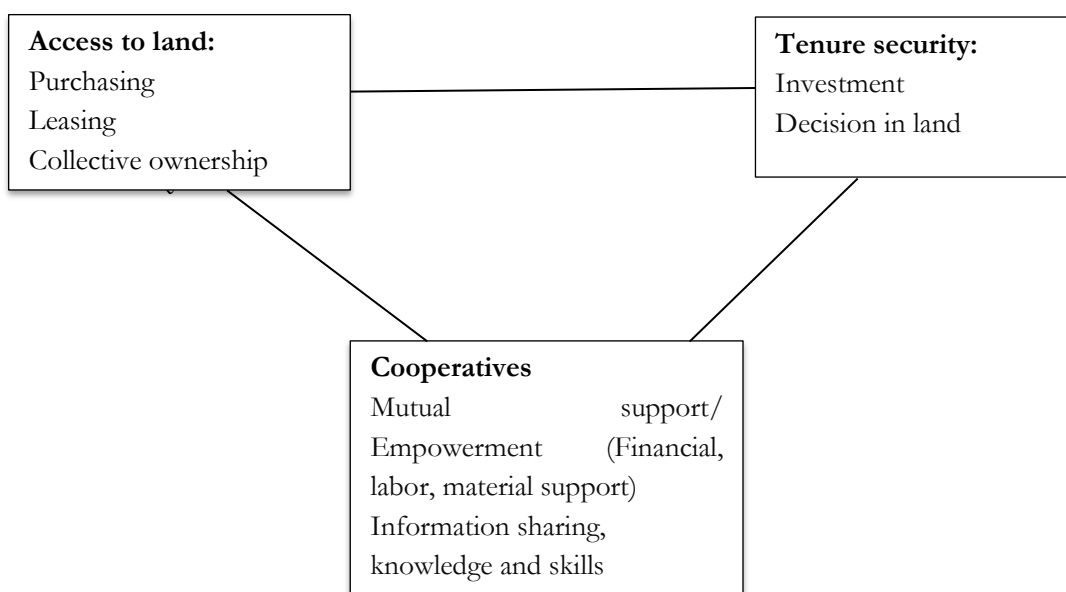


Figure 2: Conceptual framework

This conceptual framework could be explained as follow; cooperative provides mutual financing, labour support, material support, information, knowledge and skills to the members. In turn, this capital, i.e. having financial means, shared ideas empower women to access land, women having money, can buy land.



Ultimately, being economically and mentally empowered allow women to make investment and decision on land and their respective homes. For cooperatives, to generate the said capital, it needs to have tangible activities and wealth.

## 2. LITERATURE REVIEW

This section presents key concepts to come up with an analysis and answer the research questions. These key concepts include tenure security, women's cooperatives, and spatial location. Table 3 presents the link between the research question and related key concepts for each.

Table 3: Objective and underpinning concepts

Research sub-objectives	Key concepts
To describe the nature and composition of members in cooperatives	Cooperatives
To assess how cooperatives are contributing to access and use land and tenure security for women	Land tenure security
Assess the spatial location of cooperatives members and factors associated with women's choice to join cooperatives activities at a given location.	Spatial location

### 2.1. Land tenure security

Land tenure consists of the manner land is held or possessed by persons or set of rules related to land established by society. The set of rules defines the relationship between people and land and also between persons and groups of people in case of land transactions (UN-Habitat, 2008; Zevenbergen, 2009). Rules of tenure mean how property rights in land are to be allocated among individuals and groups in a particular society (FAO, 2002a). The bundle of rights to land are rights to use, exclusion, and transfer, as well as associated responsibilities and restrictions (FAO, 2002a; Enemark, 2009; Paasch, van Oosterom, Lemmen, & Paulsson, 2015). Nguyen (2014) argued that the way of organising land tenure within societies have significant implications on social economic and political success. He continued saying that it is a governance system that designs land tenure, therefore, it should meet the essential society's aspirations to improve the prosperity of people and the government could guarantee to the citizen's security of their rights to land.

The concept of land tenure security emerged in the 1970s by World Bank in finding the way of helping urban settlers in developing countries to provide for decent housing by granting them property rights which could be used to mobilise financial resources (van Gelder, 2010). Therefore the research on tenure security are ongoing, and there is no consensus on the definition of tenure security mainly in the context of the underdeveloped nations (Nguyen, 2014; Simbizi, Bennett, & Zevenbergen, 2014).

As argued by Ubink, Hoekema, and Assies (2009) and FAO (2002b) tenure security may refer to an element of certainty of land rights or perception of the certainty of a person's right to land. According to FAO (2002b), the certainty of land rights and personal perceptions are essential when defining tenure security in the context of rural areas where social and cultural practices may challenge rights to land. Durand-Lasserve (2007) defined land tenure in the context of urban informal settlements context as when rights to land are protected against eviction by states or private power.

Place et al. (1993, p. 19) have defined land tenure security *“as exist when an individual perceives to have rights to a piece of land on a continuous basis, free from imposition or interference from outside sources, as well as ability to reap the benefits of labour and capital invested in that land, either in use or upon transfer to another holder.”* Nguyen (2014) realised that this definition encompasses all categories of land in the rural and urban areas, and all types of land use such as land designed for commercial, industrial, residential and agricultural usages. Further,

Nguyen (2014) extended the understanding of this definition to include the notion of the breadth of land rights and their duration.

Socioeconomically, the level of tenure security determines the degree of incentives to invest in the land relates activities or such as agriculture and housing. (Simbizi, 2016). Specifically, within a gender context, UN-Habitat (2008) advances that providing secure land rights for women makes economic comprehensible and is essential for poverty and hunger eradication in society. Researchers revealed a connection between women's land rights and poverty eradication; that if women gain decision power over household land management, this could improve household welfare, as women's cash incomes are spent on food, children's health care and education (UN-Habitat 2008; Landesa, 2012; USAID, 2002). UN-Habitat (2008) advances that secure land rights for female farmers and businesswomen can improve investment, access to credit and better land management. When there are not equal tenure rights between women and men, children in particular and the society, in general, will suffer (Namubiru-Mwaura, 2014; UN-Habitat 2008).

## **2.2. Cooperatives**

It is essential to start this section with a brief history of cooperatives in general and come up with women's cooperatives. As stated by Brahme (1984) the idea of cooperative emerged in Europe during the early stages of capitalism. The social-economic underpinnings of the association have been economics competition, unemployment, and the economic recession that forced vulnerable people to protect themselves by organising associations. The modern cooperative movement was established by twenty-eight persons composed mostly of textile workers in Rochdale, England, in 1844. These group of people were known as "Equitable Pioneers of Rochdale Society" (EPRS) because they were the first to develop the modern cooperative based on principles. They have pooled their limited resources with the aim of achieving welfare of the group. Based on their success, many cooperatives movement emerged in the United Kingdom in particular and in Europe in general (Sentama, 2009; Gibson, 2005; Holmen, 1990).

In sub-Saharan Africa, formal cooperatives started in colonial times (Holmen, 1990; Poole & Annabel, 2010; Satgar, 1999). As explained Holmen (1990), Poole and Annabel (2010), such cooperatives consisted of native farmers producing cash crop for export sales. After independence, many sub-Saharan African governments considered cooperatives as only suitable instruments for agricultural development (Satgar, 1999).

By definition, ILO (2004, p. 59) defines a cooperative as an *"autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically controlled enterprise"*. However, the concept of an association of persons refers mainly to the member that own the wealth of cooperatives (Satgar, 1999). This definition argues that in association individuals act voluntarily, the major incentives are not materials recompense but achieving the well-being of each group member. The norm of fairness is also an important factor that can motivate people to join the group and to provide a good production. Also, group cohesion is driven by shared identification or shared aims among cooperative (Thorp et al., 2003). Furthermore, this definition meets the international cooperatives principles as stated in Holmen (1990) as *"voluntary membership without artificial restriction or discrimination, democratic administration and control, limited interest, if any, on share capital, surplus if any should be distributed equitably in proportion to the members transactions, promotion of education, collaboration with other cooperatives at local, national and international levels"*.

Cooperatives are meant for mutual support. Yan (2004) argued that mutual support is vital to humankind to progress and to attain social well being. Only through a reciprocal connection among people would the progress of the whole human race be possible (Yan, 2004). Promotion of cooperative organisations in developing countries has multiple benefits. It improves crops production through the pooling of resources and establishment of modern farming techniques. It facilitates to have access to credit and agricultural inputs, as well as the marketing of the farm product, it provides basics needs for the poor people and minimises social inequality, and it influences the creation of cooperative awareness between members (Holmen, 1990).

### **2.2.1. Cooperative values**

Cooperative values are in general norms that cooperatives members should share and which influence the activities and understanding of the cooperative. They are the basis upon which cooperatives principles stand. Cooperatives are based on the six basic values. Basic values are self-help, self-responsibility, democracy, equality, equity, and solidarity. The ethical values are honesty, openness, social responsibility, and caring for others (Hoyt, 1996; International Co-operative Alliance, 1995).

### **2.2.2. Cooperative principles**

The cooperative principles refer to the guidelines by which cooperatives can put their values into practice. They are: democratic member control, voluntary and open membership, autonomy and independence member economic participation; cooperation among cooperatives; and concern for community education, training and information (Hoyt, 1996; International Co-operative Alliance, 1995; Birchall, 2004)

#### **i. Voluntary and open membership**

Cooperatives are voluntary organisations which means that persons must not be obliged to join a cooperative. Cooperatives are open to all individuals who can use the services provided and is willing to comply the responsibilities of membership (Hoyt, 1996).

#### **ii. Democratic member control**

This principle emphasises that every member has a democratic influence on the cooperatives policies and other programs. A cooperative is an organisation democratically controlled by its members. Every member, man and woman, can lead a cooperative based on the fair election (Hoyt, 1996).

#### **iii. Member economic participation**

This principle means that the cooperative members have to contribute equitably the shares designed for executing the activities of cooperatives. The member can democratically control the wealth of the cooperative. According to this principle, cooperative members can also receive a portion of the profits as dividends on their investments (Zeuli & Radel, 2005).

#### **iv. Autonomy and independence**

According to this principle, a cooperative has to be self-governed, controlled by its members and must be free of intervention from public authorities or other influences. The destiny of cooperatives is in the hands of their members (Hoyt, 1996).

#### **v. Education, training and information**

In cooperatives, members gain new information, knowledge and skills through the programs of education, workshop and training, in this way, the cooperatives can efficiently contribute to the development of the cooperative in particular and the community in general (Sentama, 2009; Hoyt, 1996).

vi. Cooperation among cooperatives

This principle argues that cooperatives should serve their communities adequately and collaborate with other cooperatives by sharing information and experiences (Sentama, 2009).

vii. Concern for community

According to this principle, cooperatives should establish clear policies that ensure sustainable development of society through developing their members and environment protection (Sentama, 2009; Hoyt, 1996).

### **2.2.3. Cooperatives and women**

In developing countries, rural women are engaged in agricultural activities for providing sufficient food and securing nutrition for their families. However, rural women face the issue of inequality compared to men in accessing resources such as land, water, and forests. In this way, cooperatives can empower women economically and socially and promote gender equality (Birchall, 2003). The empowered women could gain access to and control over natural resources such as land, technology and infrastructure for generating income. Moreover, they could reach markets for goods and food distribution. They could also gain knowledge and skills development that enables them to increase self-reliance and to participate actively in decision-making. (FAO, 2012; ILO, 2012; Maleko & Msuya, 2015).

### **2.2.4. Cooperatives in Rwanda**

#### **2.2.4.1. Evolution of cooperatives in Rwanda**

The spirit of cooperation among Rwandans has manifested itself through a long history of Rwanda. It still exists in Rwanda various forms of mutual help practices such as the formation of savings group known as “tontines<sup>1</sup>” (ibimina), community work (umuganda), labour support (umubyizi) and neighbours assistance to cultivate a field (ubudehe). These cultural practices have lived even before the colonialism days (Musahara, 2012; ILO, 2008; Rwanda Cooperative Agency, 2006). The first cooperative ordinance was enacted in 1949, and the modern primordial cooperatives were established since 1953. These cooperatives engaged in mining activities and cash crop production such as coffee and tea (RCA, 2006; Sentama, 2009).

After independence of Rwanda (1962), the cooperatives were not so well known, and cooperative members have considered the cooperatives as a means of getting financial support from external donors. In 1966, the government of Rwanda officially established the law governing the cooperatives, with the aim of rural development through promoting cash crop production. In that period, many coffee and tea cooperatives have been created in the suitable regions for these plants. As results of government interventions from 1970 to 1990, the agricultural, industrial, craft and trade cooperatives increased considerably (Musahara, 2012; Sentama, 2009; RCA, 2006)

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<sup>1</sup> In the context of Rwandan community, tontine or ibimina in Kinyarwanda is a mode of savings through credit rotation among the members of groups (RCA, 2012). Every member saves agreed amount of money in the savings group per certain period of time (daily, weekly or monthly) and in turn he/she can acquire a loan with affordable conditions.

#### **2.2.4.2. Legal and institutional framework of cooperatives in Rwanda**

The national policy of cooperatives was adopted in 2006 with the aim of promoting the cooperatives in Rwanda in order to make a considerable contribution to the national economy (RCA, 2006). In this regard, the law n° 50/2007 of 18/09/2007 determining the establishment, organization and functioning of cooperative organizations in Rwanda was adopted. According to this law “*cooperatives are associations that are physical or moral persons in nature with legal personality, based on the values of promoting their members by principles of mutual responsibility and self-help, democracy, equity and equal participation to the assets of a cooperative*” (GoR, 2007 article 2). This law defines four types of cooperatives in Rwanda namely production; commercial and consumer; services and multipurpose cooperatives (GoR, 2007). The government of Rwanda established the Rwanda Cooperatives Agency (RCA) in 2008. This institution is in charge of implementing government cooperatives policy, registering, regulating, setting standards, promoting and assisting cooperative organisations (RCA, 2011).

#### **2.2.5. Contribution of cooperatives to gain access and security to land**

Access to housing, water and other resources is determined by access to rights in land (FAO, 2002a). Birchall (2003) argued that housing cooperatives in developed and underdeveloped countries played an important role in providing their members to have access to land in which they have built the houses at affordable cost. This model of cooperative housing was achieved because of government subsidy (Birchall, 2003). Thus, to attain sustainable development in different economic sectors, it requires gaining access to land rights as well as their security (FAO, 2002a).

Cooperatives may contribute to poverty reduction. In Kenya and Rwanda, for instance, the people used a loan from SACCOs (savings and credit cooperatives) to buy land, build houses, invest in businesses and agriculture activities (ILO, 2015). Such cooperatives facilitate producers to have access to land and agricultural inputs. Cooperative members can benefit from markets and services that enable them to achieve higher production and higher incomes (Chiyoge, 1991). The cooperatives can facilitate women getting self-employment, social inclusion and empowerment (ILO, 2015). Chiyoge (1991) argued that agricultural cooperatives enable small producers to participate in decision making at all levels and to speak with a collective voice to advocate for their interests. They can also support cooperative members to secure land rights and to discuss favourable terms in contract farming and reasonable prices for seeds, fertilisers and agricultural equipment (IFAD, 2012). The cooperatives can be a valuable environment in which different land-related issues, land rights and land use policies can be discussed in detail (ANGOC, 2010).

### **2.3. Spatial location**

The spatial factor linked with climate conditions and facilities influences the location of cooperative depending on the type of activities. Aznar-Sánchez and Galdeano (2011) and Veldkamp and Fresco (1997) found in Costa Rica and Spain that the spatial distribution of crops such as coffee, banana, maize, rice, beans, fruit and vegetables is a function of natural drivers such as soil, climate and topography. They also found human drivers namely demography, infrastructure, technology and institutions. Similarly, Mukashema et al. (2016) found that the spatial distribution of coffee and its washing station in Rwanda is determined by socio-economic demographic factors, local climate, topography, soil properties and coffee production infrastructure. For farmers and group members, they prefer to join an area where they have transport facilities. In her research, about 94% of coffee fields are located within 1km from primary or secondary roads.

The location is determined by latitude, longitude and heights and these can have a significant impact on agricultural productivity. Spatial interactions among cooperatives impact the productivity growth in the sense that spatial interactions could facilitate technology change and share between cooperatives (Carmen Martínez-Victoria et al. 2016). The geographical accessibility of the facilities such as the market is a positive factor regarding cost and time (Aznar-Sánchez & Galdeano, 2011). Market conditions like customers and suppliers availability, faster flow of information within the sector and a promptly spread of innovation, adequate infrastructure to facilitate access to the market, financial institutions and labour, all constitute the spatial factors that can determine the preferences of locating the production activities in the specific area (Aznar-Sánchez & Galdeano, 2011). Giacomini and Mancini (2015) argued that the knowledge and skills belonging to the people in a particular area, as well as the teamwork derived from sharing these, are again limiting factors. Geographical proximity can also facilitate the coordination of group members, especially if most of them live approximately near the cooperative location.

## 3. RESEARCH METHODOLOGY

### 3.1. Introduction

A methodology is a system of ways and principles, to analyse and interpret the concepts to address the research question and objectives (Choguill, 2005). This section discusses the methodological strategy that was used to put into operation theories and concepts into measurable facts to answer predefined questions. The methodology, tools for data collection and data analysis are discussed.

### 3.2. Research approach

The study used a case study approach. The cooperatives were used to collect data about access to land and tenure security in order to measure the impact on women who have joined the cooperatives. Regarding the type of data to be collected, a mixed method was adopted. Mixed methods refer to both qualitative and quantitative techniques for collecting and analysing data (Bryman, 2012). Tashakkori and Teddlie (2010) argued that mixed methods are more powerful than the single approach in the sense that they present an opportunity to get a higher quality result of research. For this study, quantitative methods used a questionnaire to answer the questions requesting the estimation of the size or amount of a phenomenon of interest like the amount of money income of a cooperative and its members per year. Whereas, a qualitative method was used to answer qualitative questions related to the cooperative's information and its contribution to women empowerment.

### 3.3. Case study area

The study area of this research locates in Rwanda. Rwanda is a landlocked country situated in East Africa with a total surface area of 26338 km<sup>2</sup> (Porter, 2008). It has five provinces divided into 30 districts. It is a hilly country where about 90% population live in rural areas and practice subsistence agriculture. According to (NISR (2014), the people of Rwanda is composed of 52% of women. The most rural women are engaged in agricultural activities as their primary source of livelihoods. In this way, the research was carried out mainly in rural areas where the women's cooperatives need to use land in their daily activities. Six out of seven cooperatives are located in rural provinces. Since the cooperatives are distributed across the country, study sites were selected after identifying and locating the cooperatives with mostly female members. Seven cooperatives were identified of which four are composed of women others are mixed as indicated by the table 4.



Table 4: The selected cooperatives and their attributions

Number	Cooperatives name	Location	Cooperative members	Activities
1	HUGUKIRWA MUKO	Northern province: MUSANZE District	Women	Agricultural and handicrafts
2	KOPABAKAMU	Southern province: KAMONYI District	Mixed	Agricultural
3	UNAMA UKORE	Western province: RUBAVU District	Women	Handicrafts: Sewing the clothes and selling
4	KOKIUNYA	Eastern province: BUGESERA District	Women	Agricultural
5	CORIMARU	Eastern province: BUGESERA District	Mixed	Agricultural
6	TWEGUKIRE UMURIMO	Kigali City: GASABO District	Women	Handicrafts: weaving of baskets
7	DUFATANYE NYANZA	Southern province: NYANZA District	Mixed	Agricultural, pisciculture

Figure 3 indicates the location of seven cooperatives across the country where the study was conducted.

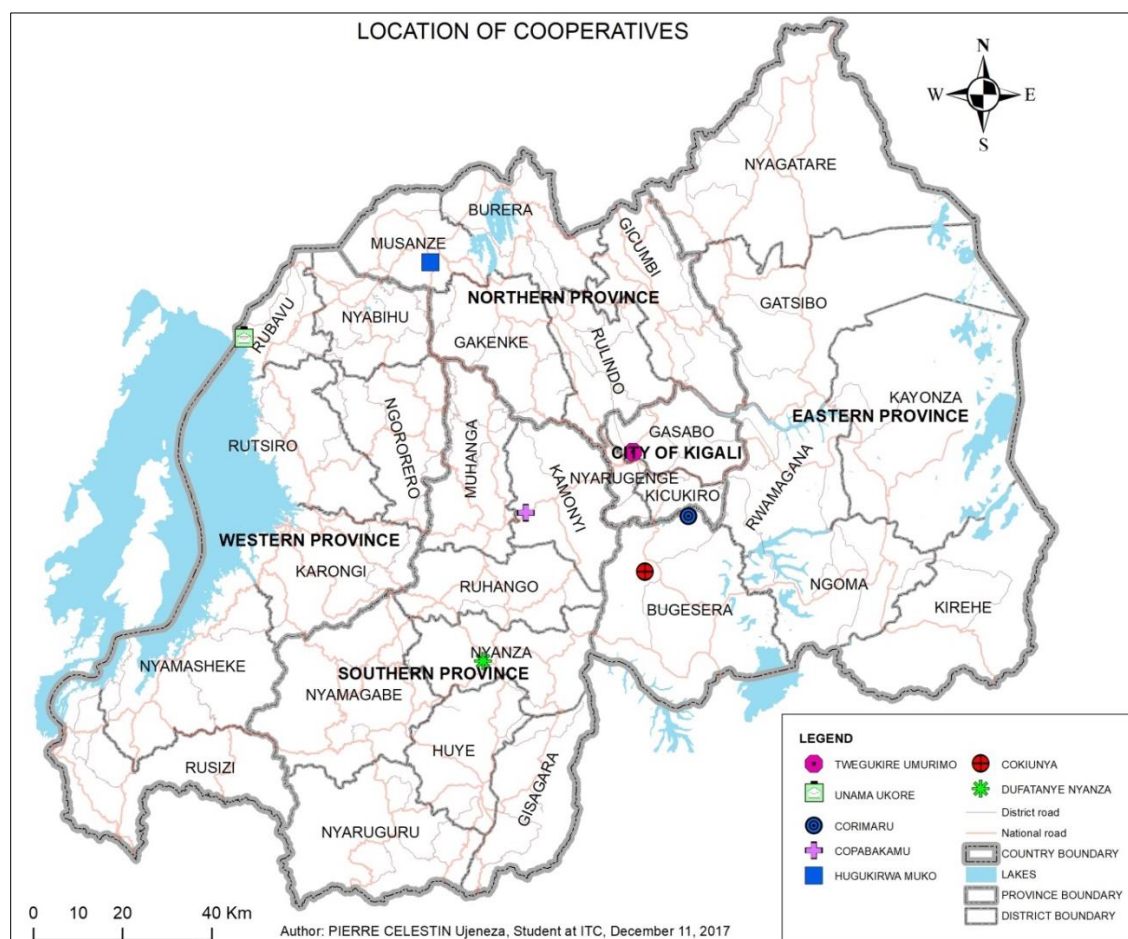


Figure 3: The map of Rwanda that shows the location of researched cooperatives.

### 3.4. Data collection

This section explains about data collection methods, data sources, tools and types of sampling used to achieve the objectives of this research.

#### 3.4.1. Data sources

The primary and secondary sources were used to achieve the objectives of this research. The primary data were collected through the interview with the leaders of the cooperative, questionnaire survey and focus group discussions with the women cooperatives members. The locations of households of participants were collected using the Participatory Geographic Information Systems (PGIS). In addition to these primary data, the geographical coordinates of each cooperative location were collected on the ground. Secondary data were collected from Rwanda Land Management and Use Authority (RLMUA). Table 5 presents the data and tools that used to collect them.

Table 5: Data and tools required

Data	Sources	Tools
The shapefiles of roads, markets, rivers, administrative boundary etc.	RLMUA	Geographic Information Systems (GIS) software
Household's location	Cooperatives members	Participatory GIS, orthophoto
Interviews, questionnaires and focus group discussions	Cooperatives members	Recorder
Geographic coordinates of cooperatives location	Fieldwork	GPS receiver

#### 3.4.2. Sampling

Sampling means the process of selecting some units from a large population of interest for conducting research by which the results of the sample are generalised back to the whole population (Kumar, 2011). For this study, women in the cooperatives constitute the target population from which a sample of nine women was selected randomly on the one hand and the leader on the other side. Due to the limited time and resources allocated to the fieldwork, the seven cooperatives were chosen from each province of Rwanda using purposive sampling. The purposive sampling is based on the choice of the researcher which she/he intends to attain the objective of the study (Sahu, 2013). As stated above, Rwanda is composed of five provinces including the City of Kigali. Thus one cooperative was selected from each provinces and City of Kigali. Two additional cooperatives were drawn in East and South provinces which are the most agricultural provinces. The selection of these seven cooperatives was based on the prevalence of female members and their activities. To get different and richness information these cooperatives were composed of two handicrafts cooperatives and five agricultural cooperatives. One of the handicraft cooperatives weave the baskets using traditional tools, and other sew and sell the clothes. The agricultural cooperatives grow different crops namely the rice, maize, beans, soja and vegetables.

#### 3.4.3. Primary Data

Primary data is the original data collected from the field by a researcher or by other persons supervised by an investigator (Hox & Boeije, 2005). Primary data of this research are data collected from the field through the semi-structured interviews with cooperative leaders, focus group discussions and questionnaire surveys. During the focus group discussions in every cooperative, information related to the

geographical location of cooperative households were collected. Also, the geographic coordinates of cooperative location were captured using a Global Positioning System (GPS) receiver.

#### **3.4.3.1. Interview survey**

In this research, the semi-structured interview was used to collect information from each leader of cooperatives. A semi-structured interview is a conversation where a researcher asks a list of questions to an interviewee around a specific topic, and she/he responds from her/his views in narrative ways (Bryman, 2012). The leader provided for in-depth information about the cooperative itself and its members. The semi-structured interview enables the interviewer to question each respondent directly. It facilitates the provision of additional information, and the researcher can easily record the respondents' replies. However, it requires expert skills for the interviewer to persuade respondents because they may feel uncomfortable in receiving a stranger in their homes or offices (Bhattacharjee, 2012).

#### **3.4.3.2. Focus group discussions**

The study used one focus group discussion of women in each cooperative. A focus group refers to the discussion that aims to capture different views and perceptions of participants about the defined topic of interest (Bryman, 2012). The group size adopted in this research was nine women for each cooperative; they answered the questions and after they provided the opinions about their spatial knowledge through the PGIS sessions. The participants were asked to show and mark a sign on the printed image map where they live. The image map used was clear; it had the administrative boundary of the village and its name so that it facilitates the participants to find where they live. Focus groups were enabled by the researcher to establish cooperation with the participants, to clarify questions and to make a follow-up of conversation. Figure 4 presents the focus group discussion session in DUFATANYE cooperative which is located in Nyanza District.



Figure 4: Focus group discussion session

Source: Author

#### **3.4.3.3. Questionnaire survey**

The questionnaire is a written set of structured questions put to a respondent for collecting data (Giesen, Meertens, Vis-Visschers, & Beukenhorst 2012). There are two types of questions: unstructured and structured. The respondents give the answers to unstructured questions using their own words, while for structured questions, the respondents provide the solutions by selecting from a list of choices (Bhattacharjee, 2012). The latter can be designed in a way it leaves some room for a few open-ended questions, i.e. semi-structured questions. For this research, semi-structured questions were used to collect mainly quantitative data but also some qualitative information. The questionnaire was used because it allows dealing with many respondents and it could adapt to any circumstances in the sense that it can be self-administered or administered by an interviewer as suggested in Bryman (2012). Semi-structured questions were convenient because of limited time allocated to the fieldwork activities.

#### **3.4.4. Secondary Data**

Secondary data refer to the data collected already and can be found from different sources such as census data, reports from the government, maps, photographs, videos, open-access websites, GIS data available at various custodians (Bhattacharjee, 2012). Secondary data has benefits of being cheaper and accessible (Hox & Boeijs, 2005). Secondary data of GIS were collected from RLMUA for use in the spatial analysis of cooperatives. The high-resolution image maps were used in PGIS where the local spatial knowledge of women was mapped. A woman was asked to show on an image map where she lives. ArcGIS was used to analyse the geographical accessibility of cooperatives. The idea of PGIS as a practice has emerged in 'Mapping for Change' conference which was held in Nairobi in July 2005. PGIS had been considered as entirely practice rather than being a useful collection of tools (Verplanke, McCall, Uberhuaga, Rambaldi, & Haklay, 2016).

PGIS practice use community participation and it enable them to collect, store and analyse the stakeholder data in a geographical way. PGIS technic can be used in the allocation of natural resources, urban planning, land and environment management (Fagerholm & Käyhkö, 2009). The applications of PGIS to communicate the people about local and regional land use planning has augmented remarkably over the last years (Brown & Raymond, 2014). In this way, a PGIS may enable local people to better understand the interactions between them and their surrounding environment through practice and local spatial knowledge.

Spatial knowledge refers to the collection of information that mentions a geographical location of features on the earth like an area, a building unit or road networks (Pfeffer et al., 2010). PGIS brings together a collection of geographical information management tools and technics such as aerial photographs, satellite imagery, sketch maps, GIS and GPS to show and explain the local spatial knowledge of the community. PGIS can display this spatial knowledge using digital, two or three dimensional or analogue maps. The participants use any these maps as interactive vehicles for spatial learning, information sharing, discussion, advocacy and, decision making (Rambaldi et al., 2006).

### **3.5. Data analysis**

Content analysis method was adopted to analyse the substance of the texts. To do this the themes that emerged from the different interviewees were the basis for the text analysis (Bhattacharjee, 2012). ATLAS ti software was used for conducting the qualitative content analysis. Spatial analysis was used to assess spatial factors that determine the women to join a particular cooperative. The distance between cooperatives sites and home residence of members and infrastructure facilities was assessed after digitising

the image maps from the PGIS. Point distance analysis tool in ArcMap was used to calculate the distance between the household's members and cooperatives location. The descriptive statistical analysis was utilized for quantitative data, and the frequency distribution of a variable was used to estimate the percentage of variables. The central tendency was adopted to calculate the arithmetic mean of values obtained during data collection. SPSS software facilitated the analysis of this statistical data. Tables and the graphs are used to present the results of the research.

#### **3.5.1. Data reliability and validity**

According to Bryman (2012), collected data is valid and reliable if it addresses research questions and the survey tools are consistent. Consequently, questionnaire surveys have been derived from the research objective and questions. The respondents were asked the same questions using semi-structured to ensure reliability.

#### **3.6. Ethical Considerations**

A researcher has to take attention to ethical considerations during data collection in order to obtain reliable and valid data (Bryman, 2012). In the context of this research, women and cooperative leaders were involved to gain the consent of respondents before collecting data. The researcher informed the participants the objectives of the study and guaranteed anonymity of respondents. Participants were informed of the duration of the conversation. The permission for recording was requested before the discussion was undertaken.

#### **3.7. Data collection challenges**

Although the process of data collection has succeeded, some challenges have been encountered. One of challenges was an issue of venue. As some respondents were agricultural workers, it was necessary to meet them at their working place. Thus, it was very challenging to discuss and interview people in the field, in the open air outside the building and distracting area like near roads. Sometimes the respondents were distracted by noise. Another challenge was that some respondents were not good at writing and reading, they have done slowly. Therefore, data collection could take a long time in order to be completed by all respondents.

## 4. RESULTS

The study aimed to explore the effectiveness of cooperatives as innovative approaches through which women gain access and tenure security to land. In that vein, this chapter presents the results of collected data from interviews with cooperatives leaders, from the questionnaires and focus group discussions with cooperatives members as well as from secondary sources. This chapter also presents the spatial factors that determine the location of the cooperatives and the spatial factors that determine women's choices to join a cooperative.

### 4.1. Description of nature and composition of members in cooperatives

#### 4.1.1. The socioeconomic characteristics of cooperative members

The results of this section are related to the educational background, marital status and number of dependents of cooperatives members. It also presents the requirements for selection of members and the purpose of each cooperative.

##### 4.1.1.1. Educational level

As shown in figure 5, most of the members of the cooperatives have primary and secondary education level. The respondents who have higher education are few. The results also indicated a small number of cooperatives members who do not receive a formal education. Instead, they learnt reading and writing through informal education especially provided by the cooperatives.

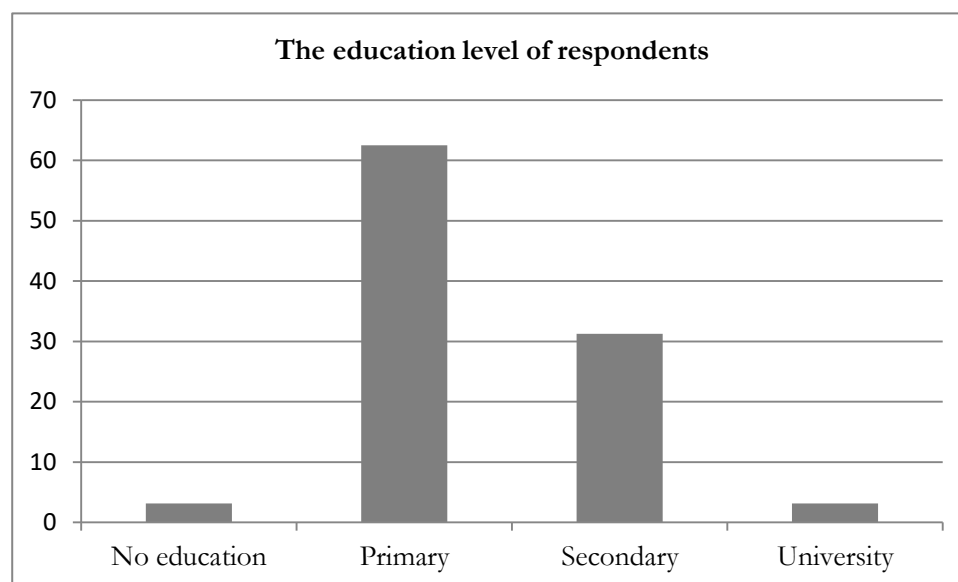


Figure 5: Educational level of respondents in percentages.

##### 4.1.1.2. Age of respondents

The collected data demonstrated that most respondents were above 30 years old. In general, in this age range, women can take responsibilities in their respective families like childcare and the society. As a result, the ideas of joining a particular cooperative emerge so that the economy of the family can increase.

A person of such age starts to understand the benefit of mutual help and joint action which occurs in the cooperative. Table 6 presents the classification of respondents by age group.

Table 6: Classification of respondents by Age group

Age group	Percent
Between 20-30	23.44
Between 31 and 40	25
Between 41 and 50	31.25
Above 50	20.31
Total	100

#### 4.1.1.3. Marital status

Marital status is an essential social characteristic that helps to get insights into the socioeconomic conditions of respondents. The results indicated that most participants were married. As stated above, the married cooperative member accede cooperatives overwhelmingly so that they can meet their families needs. The cooperatives are essential also to the single, divorced and widowed because it facilitates them to develop themselves.

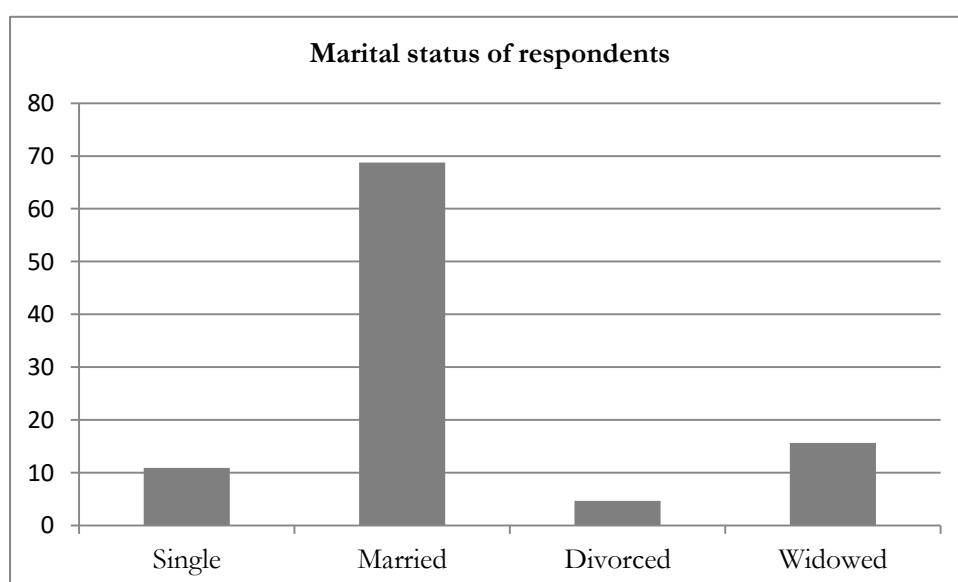


Figure 6: Marital status of respondents in percentage.

#### 4.1.1.4. The dependents of respondents

The dependents refer to the persons who belong to the household of the member and who are taken care of by the member. The dependents who study in the nursery, primary and secondary school and higher education were considered. Figure 7 shows that most respondents do not have dependents in schools. Nevertheless, some respondents could afford school fees of one to five and more children in schools. The majority of dependents are in primary and secondary schools.

The cooperatives support their members to cover the school fees of their children in different ways. The members can use the money from their activities done within the cooperatives or money borrowed by cooperatives. They afford school fees also by using loans from the savings group of the members. In this way, the cooperatives play an important role in developing the families' members in particular and the society in general through supporting the education of children.

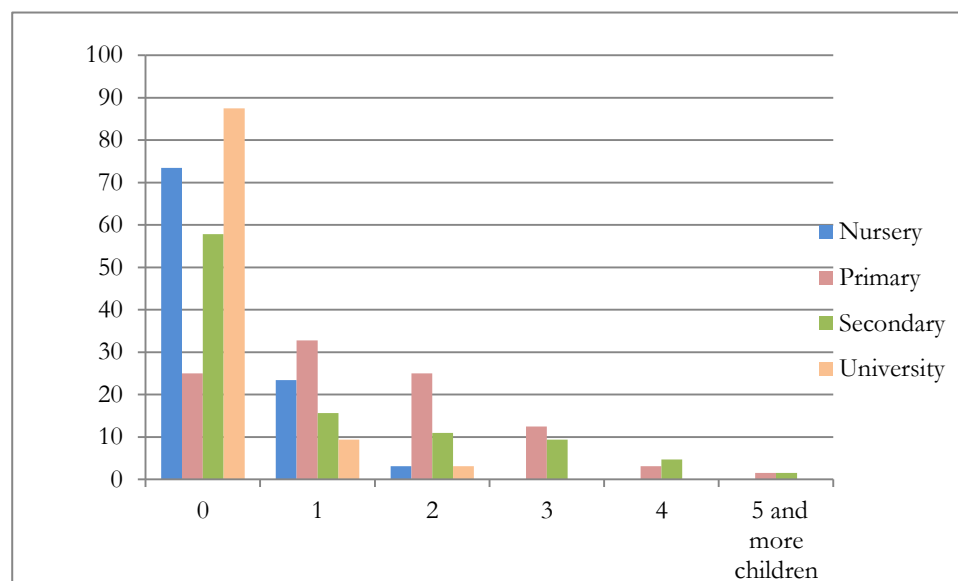


Figure 7: The number of dependents in different education level

#### 4.1.1.5. The income of respondents

The results showed that the majority of respondents earn the income varying between sixty USA dollar (60 US\$) and five hundred USA dollar (500 US\$) per year as indicated by a box plot figure 8. The estimation of an average income of the respondents was three hundred eighty USA dollar (380 US\$). The minority of respondents got the income vary between five hundreds thirty-nine USA dollar (539 US\$) and one thousand two hundred ninety-three USA dollar (1293 US\$). As figure 8 indicates, one respondent can earn more one thousand and four hundred USA dollar (1400 US\$). Therefore a member who works hard can reach the income of one hundred forty-four USA dollar (144 US\$) per month. This wage is more than a primary school teacher monthly salary who gain about fifty-three USA dollar (53 US\$) per month. In this way, a cooperative is an excellent opportunity improving the livelihood of women

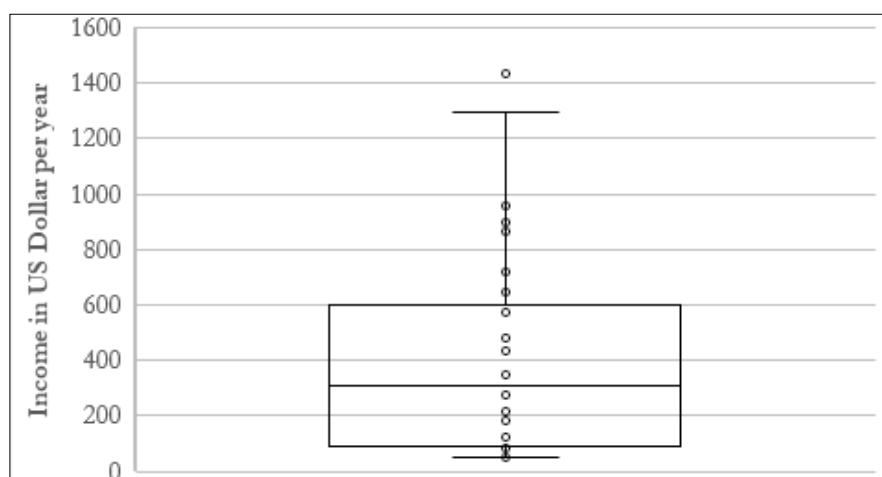


Figure 8: Yearly income of cooperative members in USA dollar



#### 4.1.1.6. The cooperative's information, the conditions for selection of members and the purpose of the cooperative

Through friends, public meetings and media women get to know and join the cooperatives. The results indicate that friends and personal links form the firm basis to communicate the ideas of benefits of joining cooperatives for women. The government also encourages people to become members of the cooperatives through public meetings. Hence the promotion of cooperatives is one of the government policies aiming at the development of citizens. The results indicate that the conditions for membership are as follows: provide the required shares, be at least eighteen years old, able to respect the values and principles of the cooperative and to apply for joining cooperative. The needed shares of the cooperatives vary between four (4 US\$) and sixty (60 US\$) USA dollar per capita as shown in table 7. However, this amount has increased over time due to the increasing wealth of cooperatives. The majority of the cooperatives have private internal regulations. One of the leaders of a cooperative gave the following example of internal regulation of his cooperative: *"The cooperative members are required to harvest the crop together at the same period, and they have to sell it through the cooperative"*. Also the leaders of cooperatives said that the purpose of the cooperatives is to develop the cooperatives members as well as the surrounding people through cooperative activities and employment creation.

Table 7: The initial and current shares for each cooperative

Cooperatives name	Initial shares in (US\$)	Period	Current share in (US\$)
HUGUKIRWA MUKO	45	2007	54
KOPABAKAMU	11	2002	48
UNAMA UKORE	23	2013	60
KOKIUNYA	5	2011	24
CORIMARU	8	2013	19
TWEGUKIRE UMURIMO AGASEKE	4	2007	24
DUFATANYE NYANZA	35	2004	60

#### 4.1.2. The factors that determine women's choices to join and stay in cooperatives

##### 4.1.2.1. The factors that motivate women to accede the cooperative

According to the respondents, factors that influence women to join cooperatives include the wish of development of the family, social integration, empowerment, employment creation and land use consolidation<sup>2</sup>. Most of the participants show that they accede the cooperatives in order to develop their families. Other respondents revealed that to adhere to a cooperative, it helps them to socialise with other people which in turn bring new skills, knowledge, and information. Some women replied that cooperatives empowered them in decision making in their respective families as well as in society. To participate in a cooperative is one of the way of employment creation by which they gain new skills facilitating to perform different professions. Few respondents said that in a cooperative, they could implement a land use consolidation policy. The findings are summarized in the table below.

<sup>2</sup> In the context of Rwanda *"land consolidation is the unification of land parcels with an estimated easier and productive farming than the fragmented plots"*(GoR, 2010). However, this operation does not lead to dissolving parcels boundaries.

Table 8: The factors that determine women to accede the cooperative

Factors	Percent
Development of the family	46.51
Social integration	41.86
Empowerment	4.65
Employment creation	4.65
Land use consolidation	2.33
<b>Total</b>	<b>100</b>

#### 4.1.2.2. The factors that determine women to stay and leave in cooperatives and membership period

Based on the interview with leaders of cooperatives, the results indicate that the factors that motivate members to stay in the cooperative are proper management of cooperative properties and a fair share of benefits among members. The reasons for leaving the cooperatives are as follow: violating the rules and principles of cooperatives, residence area relocation of the member, and false expectations. For instance, robbing the property of cooperative, premature harvesting or selling the crops outside cooperative, in these cases one can be dismissed. The leader of all cooperatives said that there is no maximum duration of membership. If the members leave the cooperative, they get their shares and interests based on regulations.

#### 4.1.2.3. The fluctuation rate of memberships in cooperatives

As table 9 indicates, many cooperatives increased in numbers whereas a few cooperatives were losing members. The leaders of the cooperatives revealed the excellent leadership of cooperatives as a reason that influences the cooperatives to gain more members. It is the basis for getting the valuable and beneficial activities. For the dropouts, the leader of KOKIUNYA cooperative noted that too high expectations of benefits and aid from partners caused the reduction of the members. Concerning TWEGUKIRE UMURIMO AGASEKE cooperative, a loss of their members was caused by the mindset of short-term expectations. However, recently the cooperatives are receiving applications for some more potential members. For the cooperatives which have succeeded, CORIMARU is the best example. As table 9 indicates, the members have doubled in four years. The growing number of members can be explained by the benefits that they obtain. Members grow rice in the developed marshland of NYABARONGO located between BUGESERA and KICUKIRO districts. The marshland presents opportunities for agriculture of rice; it has fertile soil, it is also accessible, and the government provided the necessary infrastructures and equipment like water channels and the machines for irrigation. Hence, the increasing number of cooperative members.

Table 9: Indicate the fluctuation rate per year of memberships in cooperatives.

Nº	Cooperative name	Initial number of members	Year	Members in 2017	Change rate (per year)
1	HUGUKIRWA MUKO	25	2007	30	0.5
2	KOPABAKAMU	628	2002	818	12.66
3	UNAMA UKORE	65	2013	115	12.5
4	KOKIUNYA	184	2011	48	-22.66
5	CORIMARU	680	2013	1630	237.5
6	TWEGUKIRUMURIMO	100	2007	26	-7.4
7	DUFATANYE NYANZA	20	2004	56	2.76

In this subsection, the results show the nature and composition of members in the cooperatives. They indicated that the respondents are literate persons. Reading and writing are fundamental skills for the women cooperative members that enable them to take all the opportunities provided by the cooperative and other stakeholders. The majority of respondents were adults persons who have to face challenges related to the livelihoods. However, the cooperatives do not exclude the illiterate persons. They have dependents like children in schools and other family members, that is why they join the cooperatives to search the income so that they can satisfy their families' needs.

The social network serves as a primary factor that facilitates the women to join the cooperatives. The results also indicate the involvement of government in cooperatives policy. The government mobilizes people to join the cooperatives as a channel of development and job creation. However, to accede the cooperatives is a voluntary, not a compulsory process. The membership is a result of transparent and fair management of the property of the cooperative.

## 4.2. Assessment of cooperatives contributions to access and use and tenure security for women

### 4.2.1. The types of land that women acquire collectively in the cooperatives

The results demonstrated that the land women acquire collectively are those owned and rented by the cooperatives. Five out of seven cooperatives own land and the remaining lease public or private land. The cooperatives own land by buying; other land are obtained through a donation from either government or non-governmental organisations.



Figure 10: Agricultural land of HUGUKIRWA MUKO cooperative

Source: Author



Figure 9: Marshland rented by COPABAKAMU cooperative where it grows soya and maize.

Source: Author

The results indicated that the cooperatives bought land using their wealth. They also showed the source of cooperatives wealth which are the shares of members, gifts from different partners, loans from financial institutions and cooperatives activities like agricultural and rent from their land and houses. The leaders of the cooperatives revealed the significant participation in activities of the cooperatives of various non-governmental organizations (NGOs) such as World Vision, African Development, Food and Agriculture Organization of the United Nations (FAO), Faith Victory Association and Action Aid Rwanda. For instance, the African Development had considerably supported the women of KOKIUNYA cooperative to gain three parcels; the house designed the conference and office and greenhouses in which they cultivate the vegetables. Faith Victory Association and Action Aid Rwanda supported women of HUGUKIRWA MUKO cooperative to obtain the moderate maize milling factory. This maize mill is shared with other 50 farmers cooperatives in MUSANZE district united in IMBONI Z'ITERAMBERE MUSANZE association. Moreover, FAO has provided DUFANYE NYANZA cooperative with a fish incubator machine. World Vision donated goats to the women of KOKIUNYA cooperative.

Figure 11 indicates the buildings of maize mill of this association.



Figure 11: The buildings of maize mill of IMBONI Z'ITERAMBERE MUSANZE association

Source: Author

The cooperative land is registered under the registration number and name of the cooperative, and the president of cooperative represents it. In case of changes in leadership committee, the president is voted by the general assembly. The general assembly takes any decision related to the property of cooperative including the cooperative land such as land use planning, and it assigns the committee the responsibilities of executing and implementing. Figure 12 indicates an example of a type of land title issued to the cooperative of HUGUKIRWA MUKO which is a long-term lease with the accompanying certificate of land registration.

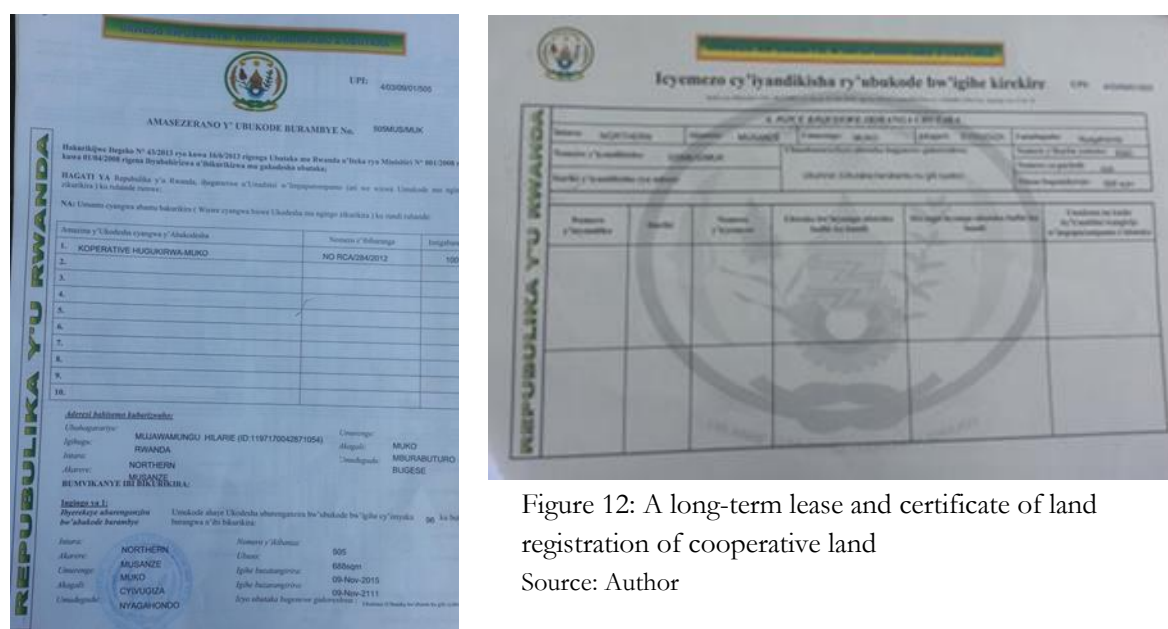


Figure 12: A long-term lease and certificate of land registration of cooperative land

Source: Author

For the cooperatives which do not own land, leasing land from the government or private landowners is the only way to obtain land to use for their activities. The land rented from State are those located in the marshland. The leaders of the cooperatives demonstrated the way of paying the rent to the public authority. They explained that it is cooperative itself that pay rent to the district authority after gathering it from members. The amount of money ought to be paid vary from the cooperatives to another. In the rice cooperative, 25 acres are rented for two thousand Rwandan francs (2000 Rwf), and it is paid twice per year. Whereas in maize cooperatives one acre is leased for three hundred Rwandan francs (300 Rwf). Table 10 shows a brief status of cooperatives land; the mode of land acquisition, the year of land acquisition and land uses.

Table 10: Brief cooperatives land status.

Cooperatives	Mode of acquiring land	The year in which the land obtained	Land uses
HUGUKIRWA MUKO	Purchasing, renting	2013	Agricultural and Industrial
KOPABAKAMU	Purchasing and renting	2010, 2011 and 2012	Agricultural and residential
UNAMA UKORE	Purchasing	2015	Commercial and Residential
KOKIUNYA	Donation from NGOs (African Development)	2011, 2013 and 2015	Agricultural and residential
CORIMARU	Renting state marshland	It started to lease in 2013	Agricultural
TWEGUKIRE	Borrowing by District	2007	Residential
UMURIMO AGASEKE			
DUFATANYE	Purchasing, donation from Ministry of Agriculture	2015	Horticulture and residential
NYANZA			

Source: Field data

## 4.2.2. How cooperatives empower women to own and gain security on land

### 4.2.2.1. The proportion of respondents who own land, the source of that land and its land use

The results showed that the majority of the respondents own land. The women members of cooperatives use land in their daily activities aiming to develop their families as well as the society. The land is used for residential, agricultural and commercial purposes. The majority of respondents acquired land through purchasing and marriage. There were also participants who obtained land through inheritance from their parents or gifts from a private landowner. There were a minimum number of respondents that owned land from the government like the plots in village settlement sites<sup>3</sup> (Imidugudu). Figure 13 indicates the source of the acquired land of respondents.

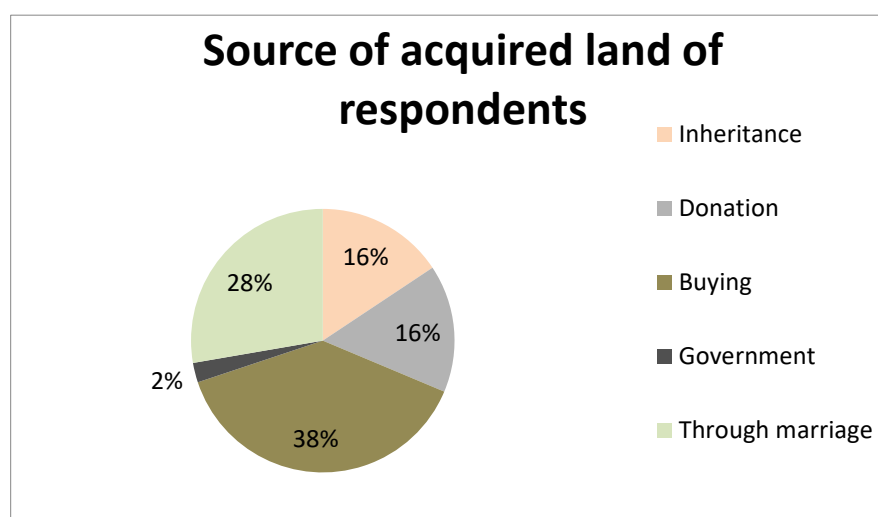


Figure 13: This figure indicates how respondents obtain land

### 4.2.2.2. The ways through which cooperatives have enabled their member to gain land

The results showed various ways that the cooperatives allowed their members to acquire land. They achieved it through the collective land, borrowing money, buying land and providing a guarantee for members so that they get a loan from the banks.

❖ **Collective land:** The majority of respondents said that cooperative enabled them to gain access to collective land. Collective land refers to the land purchased or rented by cooperatives. Some cooperatives, have managed to purchase their own land other still lease state land mainly marshland. Each member of the cooperative has the shared rights to that land like use and control rights. Decisions related to the use of cooperative land are undertaken in the general assembly.

The leaders of the cooperatives said that the organization of production on collective land and marketing of the crops differ across the cooperatives. In maize and rice cooperatives, the members are allocated a specific plot in the collective land that they cultivate individually. The cooperative members grow and harvest the maize and rice at the same time. Further, the farmers sell their crops through the cooperatives. After collecting the rice, its storage is operated jointly by the cooperative member and after the leader of cooperative brings it to the processing factory, and then the rice is sold by the cooperative. For maize cooperatives, after harvesting, they dry it in barns, and the cooperative sell it to

<sup>3</sup> Village settlement sites in Rwanda are residential areas that allow settling rural people in a grouped manner. These sites are serviced with adequate infrastructures and facilities.



the processing factory. For horticulture and beans cooperatives, the members cultivate the cooperative land collectively. The members harvest and store together with the crops. Then the cooperative sell the produce, and in return, it paid the member the net money after reducing all costs<sup>4</sup>. Therefore, the cooperatives permit their members to sell their crops production at a reasonable price.

❖ **Borrowing money in order to purchase land:** Other participants have answered that their cooperative has enabled them to gain land through lending money. A majority of the cooperatives have a save and credit program recognized as *tontine*. The latter is considered as a secondary activity of a cooperative. Hence it is usually conducted after finishing the main activities of cooperatives. The main activity refers to the activity that complies with the objectives of cooperative like agriculture, weaving baskets, etc. The respondents said that this tontine has a vital role for them because it is where they get a loan with minimum transaction costs and interest. They took the credit and added some amount of money and bought the land individually from private owners. The tontine also facilitates the respondents to meet the basic family needs like the education fees for children, to pay mutual health insurance and clothing.

❖ **Buying the land through earnings in the cooperative:** Buying land using the money earned from the cooperative is another way help its members to obtain land. There were two sources of money in the cooperative. The first is a dividend, the money that is earned after each year. The second source is money generated from the activities conducted within the cooperative by their members, like agricultural and handicrafts activities. The members grow the crops on the cooperative land or land leased by the cooperative. Money is then earned from selling agriculture produces through the cooperative, for instance, rice, maize, soya, and beans. The cooperative repay the cash to each member based on the quantity of harvest she/he supplied. In this way, after the season, depending on land prices and earnings, a member can buy land.

❖ **Guarantee of cooperative for getting a loan:** The research has revealed another way that the cooperative can help its members to gain loan from banks. In general, the banks provide with loan to the clients who are able to pay monthly. However, some banks, especially in rural area, can provide with loan to the members of agricultural cooperatives. Normally, the members sell their crops through the cooperatives. Therefore, the cooperative assures a financial institution by signing a contract that it will pay back the money to the member through an account bank. In this way, the cooperatives become a guarantee for their members. This account bank has to be in the bank from which a member needs to get a loan. Therefore the banks issue a loan to the client and by which the members can buy land or build a house. The loan is paid in quarterly installment following the crop season.

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<sup>4</sup> The costs refer to the money used to buy agricultural inputs (fertilizers, medicines and equipment).

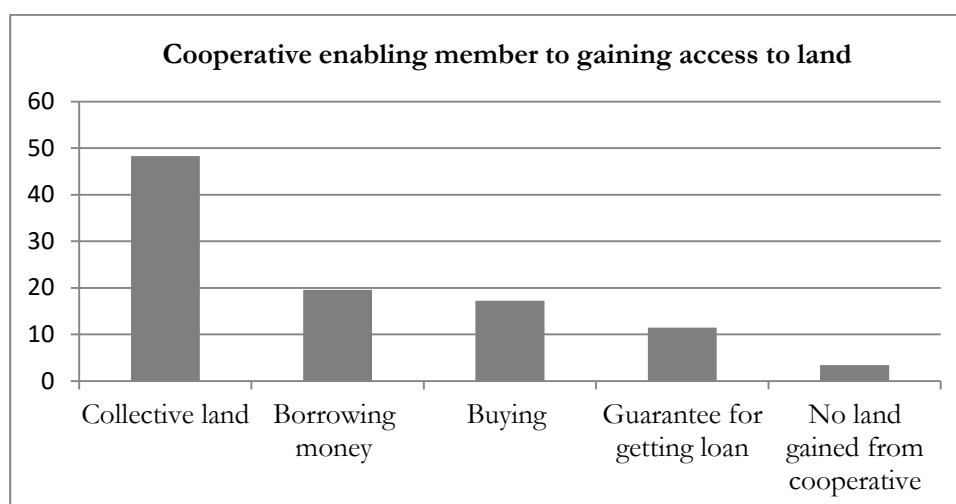


Figure 14: Cooperatives ways to enable their member to gain land

Outside collective land, the respondent bought land using money from different sources as stated above. They purchased land from private landholders. The majority of respondents used that land for agricultural purposes in order to extend their crop production; others are used in residential and commercial activities.

#### 4.2.2.3. The assets gained after joining the cooperatives

People join the cooperatives to improve their livelihoods. The respondents were asked what kind of new assets they acquired after joining the cooperatives. The new assets obtained as shown in figure 15 below were fixed assets like the houses and land, livestock and household's equipment. The respondents have replied that they built their houses using money directly earned from the cooperatives or money borrowed from banks with a guarantee of the cooperatives. Other participants said that they received the houses as a donation from the cooperative and others obtained the support through materials or workforce of members. About 14% of the respondents bought land.

Currently, in Rwanda, the government has established a policy aiming at the development of citizens, recognized as "One cow, one family." This program aims to ensure that each family in Rwanda has to get at least one cattle so that it can improve milk and crop production. Different partners have been involved in this policy through their actions plans. Through the partnership with stakeholders like non-governmental organizations (NGOs), some cooperative members receive the cattle; others got the goats, pig, and chickens. Finally, the cooperatives help their members to get households equipment like the mattresses, electricity and the women clothes recognized under the Kinyarwanda name "Igitenge." This kind of women clothes has the meaning beyond being the usual garments. In the cultural aspects, it is a symbol of prosperity, love, and value for women. Therefore the cooperatives can provide their members not only with material things but also with happiness, value, and self-confidence.





Figure 15: The assets that respondents got after joining the cooperatives

#### 4.2.2.4. Access to credit and investment

Access to credit and investment in land-related activities were considered as the indicators of tenure security by women. This study needed to know whether the women have ever obtained a loan from financial institutions using their land as collateral. This indicates whether they have security in their households' land. The results showed that a few women respondents had got a loan.

Some respondents said that they had conducted the investment in land-related activities using the loan and their current money. The study indicated that the majority of respondents have invested in agricultural and livestock activities. The majority said that they practised the subsistence agriculture and small cattle farms, like keeping goats, pigs and chickens. They enable them to reach the food security in their family and to get the needed financial support quickly. Other women invested in housing construction. They have built the houses for renting which enabled them to gain the monthly rent.

#### 4.2.2.5. The decisions of women in household's land

To get to know if the women could make decisions about land use and management of their land, focus group discussions were used. In order to analyse these discussions, ATLAS ti software was used to operate an open coding process to get the themes that recapitulate the ideas of respondents in the text. Table 11 shows the results of how respondents have experienced their decision making on their land.

Table 11: Views of women about making decision on land of their households

The themes summarise the main idea	Description
The existence of social and cultural barriers.	<p>Women participants, on the whole, asserted that there are social practices and cultural norms that still hinder them to make decisions on land. A woman did explain the reasons which were behind a land conflict with her husband, she argued in these words <i>“The cause of these issues is the culture and norms of the ancestors. I come on this earth, and I heard them saying that the women are under men. Women have to respect men in all things. The women cannot raise the voice or speak before the men. There is a Kinyarwanda proverb says that «Nta nkokokazi ibika isake zihari» means no hen makes cock-a-doodle-doo in the presence of a cock. The dominant cause is the cultural and social values of our ancestors and exists till now”</i>. She said.</p> <p>The longstanding patriarchal thinking has a significant influence on household land management. The respondents asserted that their husbands said that the land of household belongs to them because they got it from their ancestors. The women should not take control of that land. The results also indicate the custom of polygamy in some regions. The respondents said that the women who have a concubine lose their security to land because the husbands bring the crops to the second wife giving rise to conflict in the family.</p>
Gender inequality	<p>The respondents said that they face gender inequality in the sense that men have control over all household’s properties. They use the property for whatever they want. Men waste the wealth of their family for their own needs. Women use a smaller amount of money gained from land exploitation. One woman provided her testimony that <i>“I experienced the gender inequality in my home because sometimes I could find the person who comes to my home and pick up the cattle or crop and says to me that he bought them from my husband”</i>. Another respondent argued in these words <i>“The men decide where what and how to grow even how we use the crop after harvesting”</i>.</p> <p>Some respondents said that they could make decisions about land use and management only by consent with their husbands or their children in the case of widows.</p>
Lack of women empowerment	<p>The participants said that the men consider women as incapable persons who can misuse and waste the land property. A woman reported that <i>“My husband disobeys me saying that I do not have the power of producing on the lands, he thinks that I could misuse and mismanage the land.”</i></p>
Relationship between wife and husband	<p>The respondents said that the ability of women to make decisions depends on the relationships between the family members. If there is love between partners, respect each other, in this case, women enjoy the fruit of land property. Men and women decide together on household planning and implementation.</p>
Women empowerment	<p>Cooperatives enabled women to dare to raise a voice in public. One woman</p>

	<p>said “<i>Cooperative has much importance; before I join the cooperatives; I have been thinking that women have to stay at home caring for the children and working in subsistence agriculture. However, after joining the cooperative, I dared to raise my voice to the public and speak whatever I want</i>”. In this way, women could claim their land rights in front of their husbands.</p> <p>Another witness attested that the cooperative improved her social and economic status in the following testimony “<i>It facilitates me to step up the social ladder. I am confident and self-reliant because I can satisfy my needs.</i>”</p> <p>Cooperatives provided their members with new skills, knowledge and information through training on land law, human rights and on modern agricultural practices. They have visited other cooperatives, and other stakeholders also made a study trip with the aim of gaining the innovative ideas. It teaches the illiterate members reading and writing in partnership with government. These skills empower women to gain access and security to land.</p> <p>The participants revealed that through cooperatives they had earned fixed assets like land and houses, livestock like the cattle, goats, chickens and pigs. They also got the household’s equipment.</p> <p>Some respondents answered that they focus on the cooperative land because it is on which they can make decisions and use the income gained through the cooperative for whatever they need.</p>
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In a nutshell, the participants indicated that they are still facing insecurity of land. They argued that the women land rights are there, and they are written in the documents, but they are not fully upheld in practice due to the social and cultural barriers. However, the cooperatives enable the women to tackle these issues through collective land or gaining another land in addition to those of their household. They continued arguing that currently, the men are recognising the role of gender balance in the development of families in particular and communities in general. This is the result of the change of women’s mindset and the government that keeps up to raise awareness on women land rights among the people.

#### **4.2.2.6. The role of cooperative to empower women to gain security to land**

The study has investigated if there is a role of cooperatives for women empowerment and gaining security to land by women. The Likert Scale question was used to ask the respondents to demonstrate their perception about the decision in land they could make before and after joining cooperative. Figure 16 shows how the respondents could make a decision in the land before joining cooperatives.

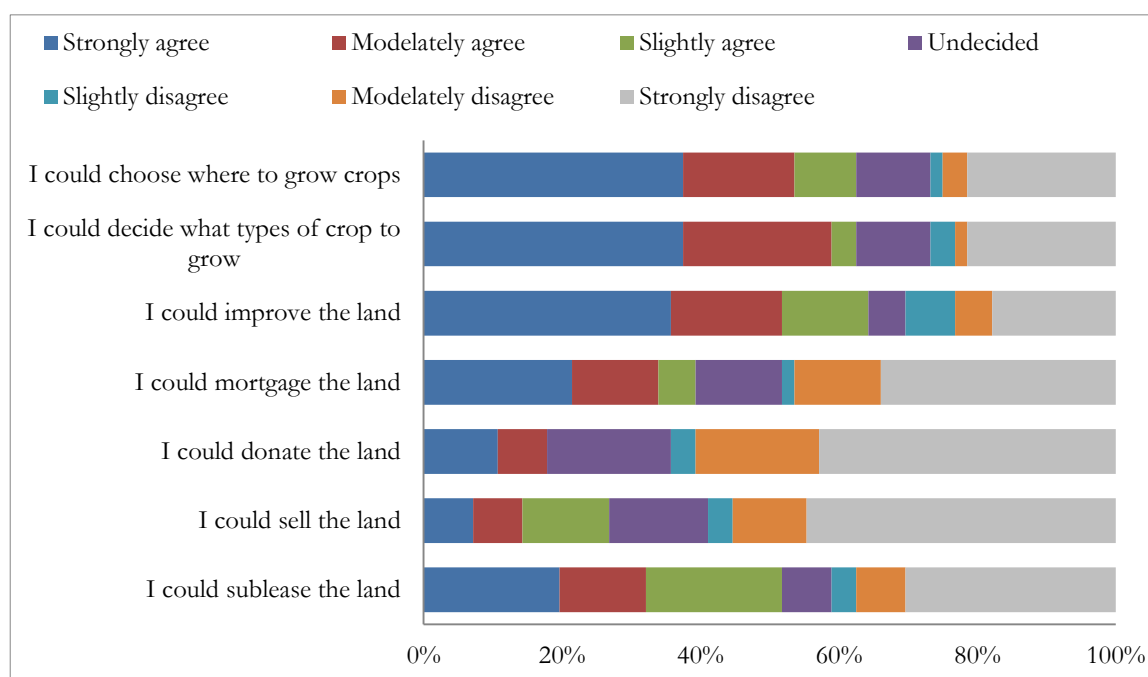


Figure 16: Decision in land before joining cooperatives

The respondents were also requested to provide the rights to land after they have joined cooperatives as shown by the figure 17.

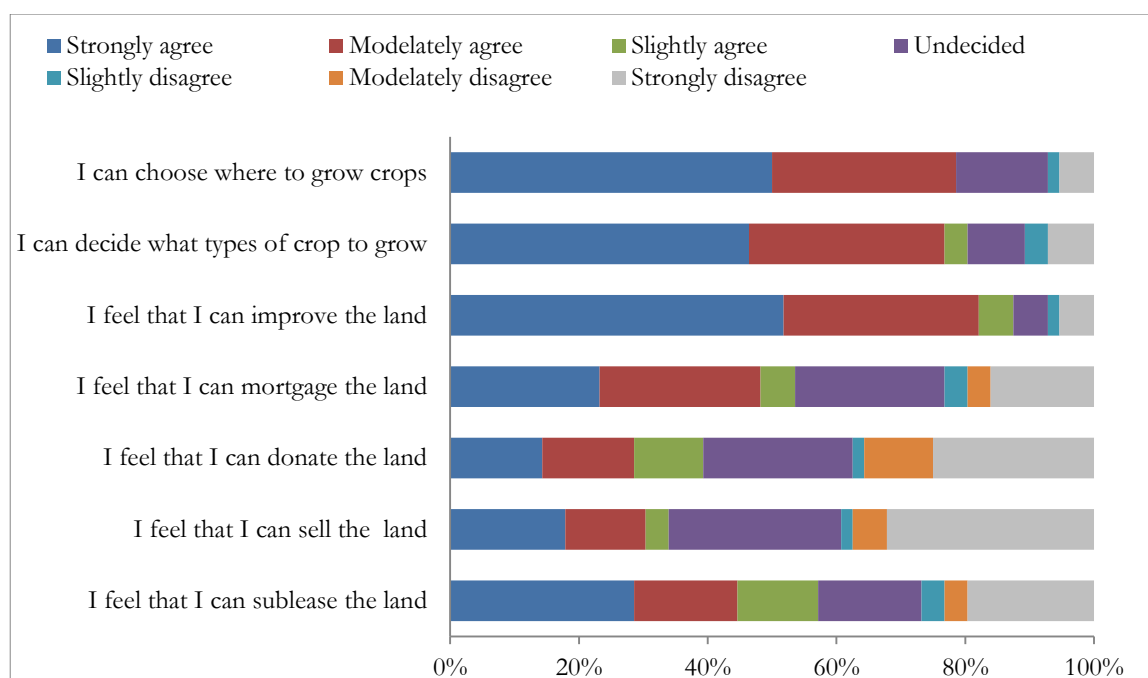


Figure 17: Decision in land after joining cooperatives

If you compare the results presented in figures 16 and 17, it is evident that before the respondents join the cooperatives, the decision making power for most women was weak in relation to household's land. However after joining the cooperatives the power of making a decision on land has improved. This is

evident in figure 17, where the degree of those who moderately agree has increased most aspects compared to figure 16. The women who gain the skills and income could raise voice within their families because their statute has been changed. The cooperatives, therefore, play a significant role to empower women.

In a nutshell, the results of section 4.2 indicate how cooperatives are contributing to access and use land and tenure security for women. The cooperatives enable the women to acquire collectively land through owned land and rented land. The majority of the cooperatives own land through purchasing and donation. They bought these land using the money from the shares of the members and the activities of the cooperatives. The purchased land is owned and used collectively by the members of the cooperatives. The results showed that some cooperatives received land as a gift from non-governmental organisations and also these land are managed and owned by the members. The agricultural cooperatives that conduct their activities in the marshland rent it from the government because the marshland is categorized into the public land. The members rent together these land through the cooperatives that collect rent from the members and paid to the local government authority.

Also, the results under these sections specified above demonstrated the strategies that the cooperatives used to enable their members to own and gain security to land. Apart from owning collectively land, the cooperatives enabled the women to obtain individually land. The women bought land using the money earned from the activities of cooperatives and banks by mortgaging land and agricultural production. After joining the cooperatives, the women did not earn only the land but also the movable assets, livestock, skills and knowledge. In this way, women have been empowered economically and mentally to claim their rights to land.

### **4.3. The spatial factors of cooperatives and members location**

#### **4.3.1. The spatial factors that determine the location of the cooperative**

The secondary data and primary data were used to answer the research question regarding the spatial factors that determine the location of cooperatives. The secondary data collected include the shapefiles of roads networks, markets, water, wetland, built-up areas, administrative offices and boundaries. They were collected from Rwanda Land Management and Use Authority (RLMUA). The primary data collected by the researcher in the study area were the geographic coordinates of the location of cooperatives. They were collected using a GPS receiver. The analysis of these data was done using the ArcGIS software.

DUFATANYE NYANZA cooperative was taken to represent the location of the cooperatives in relation to the various spatial features as indicated by figure 18; the remaining cooperatives maps are in appendices. The location of cooperatives lands has depended on the usage of that land. The results indicate that the agricultural cooperatives were located in or near marshland and source of water, or in relatively flat land with suitable agricultural soil. The handicrafts cooperatives were located in the village and urban areas. Both agricultural and handicrafts cooperatives were found near roads network, trading centres and other facilities like electricity and water. The agricultural zone is characterised by fertile soil, favourable climate and water availability. These conditions facilitate the agricultural cooperatives to grow different crops in different seasons. In Rwanda, there are four seasons; long dry season, short rainy season, short dry season and long rainy season. In general, the people cultivate in two seasons; in short rainy season and long rainy season. However, some cooperatives said that they could grow the crops in all seasons because they make irrigation in dry seasons and they practise modern agricultural methods. To

locate near the roads network and trading centres, facilitate the cooperatives to transport and sell their products.

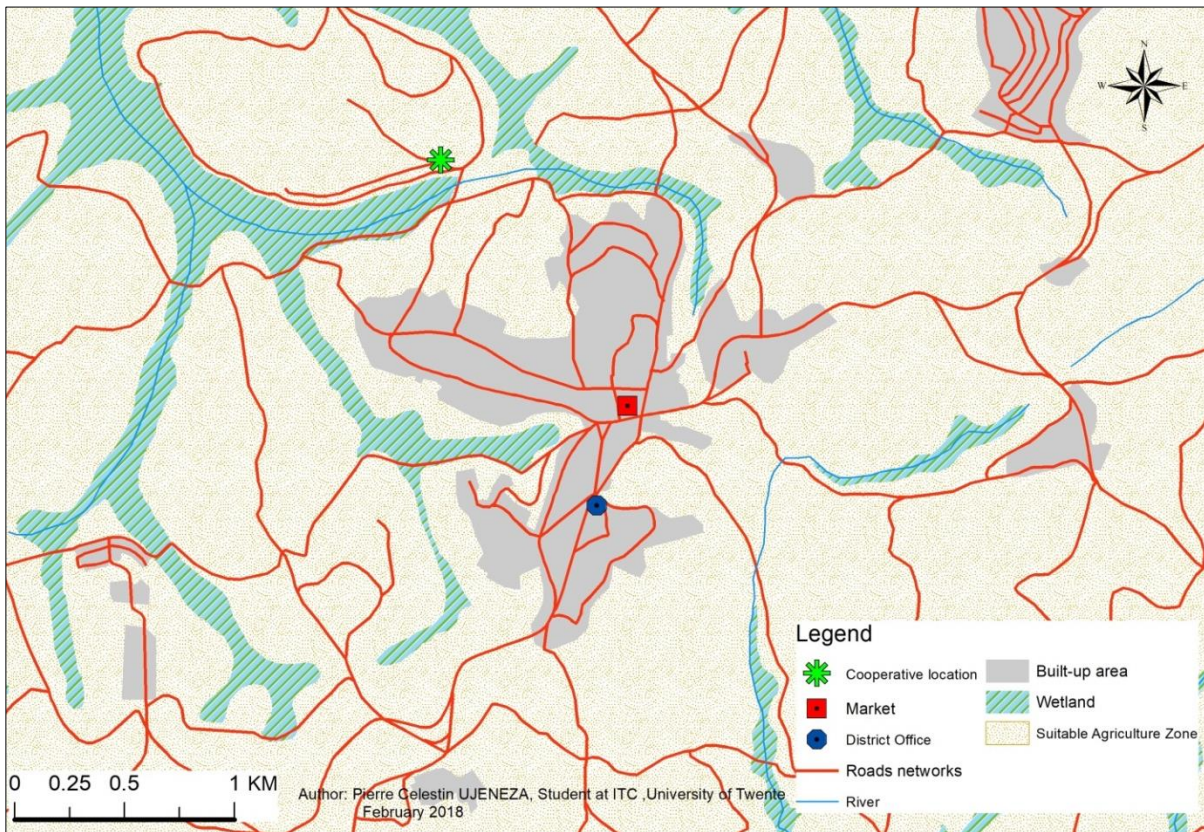


Figure 18: Location of DUFATANYE NYANZA cooperative

#### 4.3.2. The spatial factors that determine women to join cooperatives

The participatory GIS approach was used to answer the question related to the spatial factors that determine women to join the cooperative. The women were able to show where their households are located and the residence of other cooperatives members because the map was clear with the administrative boundary of the village and its name. Figures 19 and 20 indicate the participatory mapping session; the women are discussing together and expressing their local knowledge about their residence.





Figure 19: The clear image map.  
Source: Author



Figure 20: The women mark where they live  
Source: Author

The data collected from the participatory mapping were entered in ArcMap by digitizing. Further, the distance between the residence and cooperative location was calculated. The results indicate that the members live near the roads in the village of the rural area and in residential zones for those who live in the urban area as noted in the maps below. Figure 21 indicates the households of members around the cooperative location and other geographic features. Other cooperatives maps are in the appendices section.

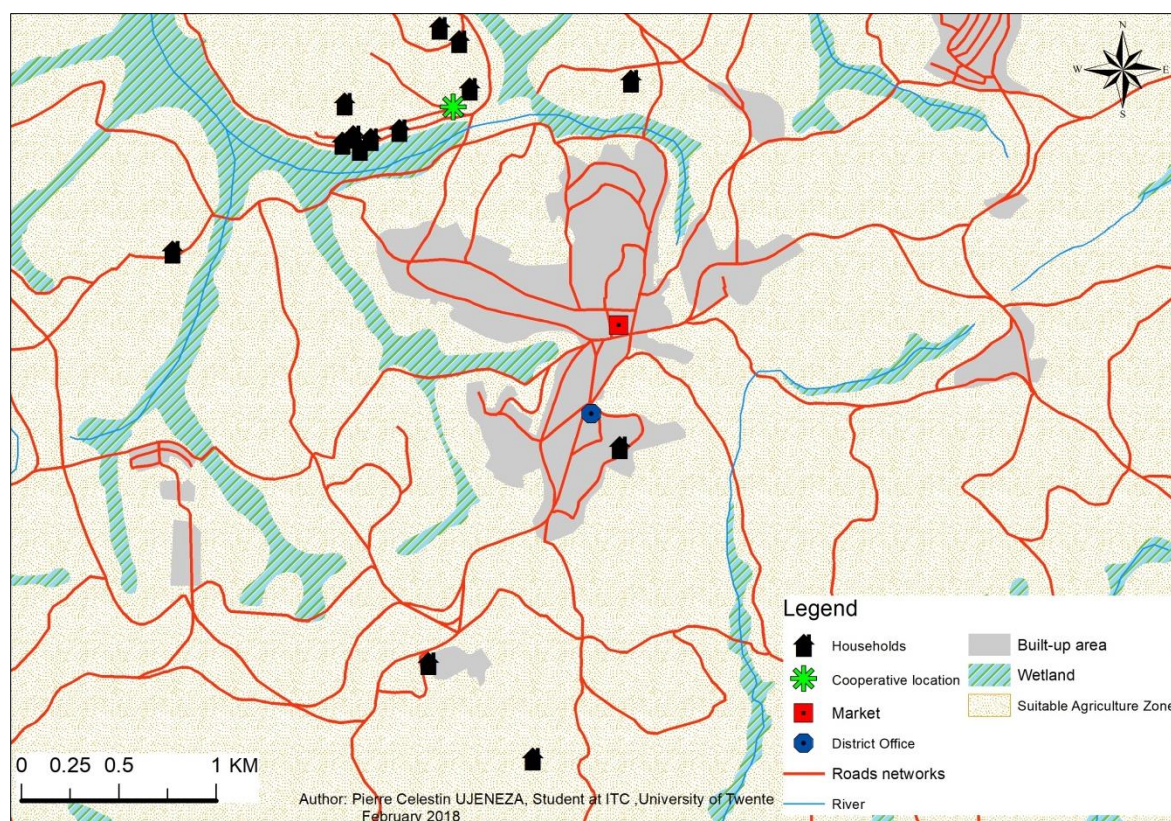


Figure 21: Households distribution of members of DUFATANYE NYANZA cooperative

The box plot in figure 22 indicates the travel distance in meters from home to cooperative sites. The box plots indicate the variability in the distribution of households and the location of the cooperatives. The short box plots indicate that the members of the cooperative live closeby. The long box plots present the households of members which locate further from the cooperative. Figure 22 also indicates that the majority of members lives close to the cooperatives and generally within a range of 5 km. The members of HUGUKIRWA cooperative live very closely in the agglomeration whereas the members of CORIMARU cooperative are more scattered. In some cases, members can walk up to seven kilometres (KOKIUNYA) to reach the cooperative site for this particular case a discussion with the person revealed that the cooperative provide many benefits to her that she decided to hire a bike to go to the cooperative. The distance, residential areas and roads networks are the factors that determine the women to join a certain cooperative.

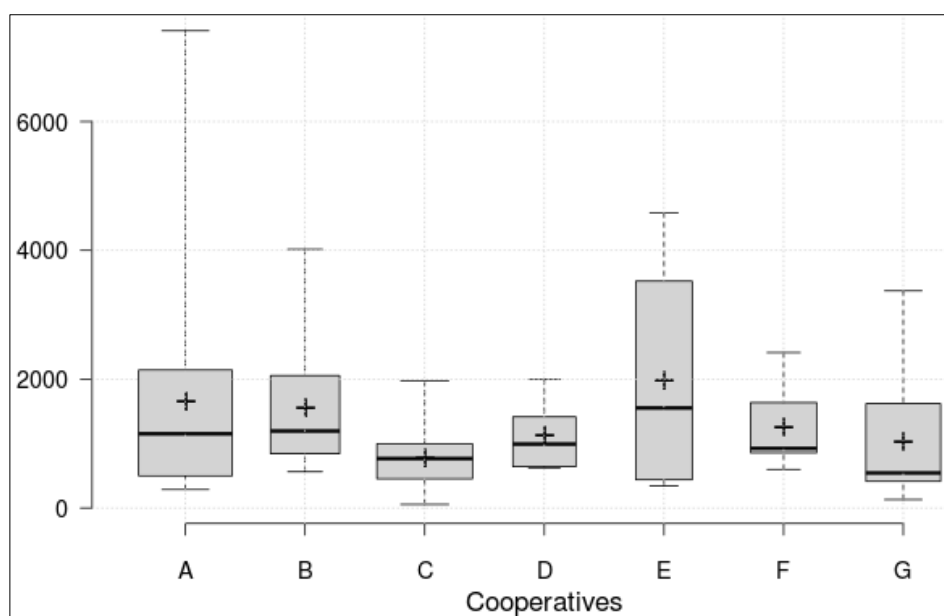


Figure 22: Indicates travel distances to cooperatives location by members

The meaning of letters replace the cooperatives names for better visualisation in figure 22:

**A:** KOKIUNYA

**B:** UNAMA UKORE

**C:** HUGUKIRWA

**D:** KOPABAKAMU

**E:** CORIMARU

**F:** TWEGUKIRE UMURIMO AGASEKE

**G:** DUFATANYE NYANZA

The results indicate the correlation between the cooperatives activities and households distribution. The majority of members of agricultural cooperatives live close to the fields on which they cultivate the crops whereas the members of handicrafts cooperatives reside a bit far from the cooperatives location. The residence areas for members of agricultural cooperatives facilitate them to perform their daily activities in the farm because the agricultural activities require many works and time. The handicrafts cooperatives conduct their activities in trading centres, and their members live in low-income residential areas which are located mainly in urban periphery.



#### **4.4. Summary**

This chapter presents the results generated from the data collected using interviews, questionnaires and focus group discussions with women members of seven cooperatives. The main objective of the study was to explore the effectiveness of cooperatives as innovative approaches through which women gain access and tenure security to land. This main objective was broken into specific objectives whose findings are summarized below.

This paragraph presents the summary of the findings of the first specific objective which refers to the nature and composition of members of cooperatives. The results indicated that all women respondents know reading and writing, some of them have learnt reading and writing in the cooperatives. The majority of members were adult persons. They have dependents like children in schools and other family members. Under these conditions, the persons face many challenges related to their livelihoods. That is why they join the cooperatives to increase their income so that they can satisfy their families. They get the income that could cover the basic needs of their families even some members can receive a monthly income which is more than the salary of some state's servants.

The second sub-objective is to assess how cooperatives are contributing to access and use land and tenure security for women. The results indicated that the cooperatives own land from different sources. Most of them gain land by purchasing, others by leasing the public land like marchlands and private land from landowners. The collective land is registered on the cooperative name represented by presidents of the cooperatives. The majority of women acquire land by inheritance, spouse and by purchasing. They bought land using money earned from the activities of the cooperatives.

The cooperatives have empowered the women by providing them with the valuable skills, fixed assets, household's equipment and income from their production. By joining the cooperatives, the women dared to raise their voice in public, and they have started to claim their land rights in their homes. The cooperatives create an atmosphere that strengthens the social network and unity among the members of the cooperative.

The third objective is to assess the location of cooperatives members and spatial factors associated with women's choice to join cooperatives activities at given location. The spatial factors that determine the location of the cooperative were the roads, market, water and good soil for agricultural cooperatives. The results indicated that the women like to join the cooperatives which are located near them and near the roads for facilitating the transport of products.

## 5. DISCUSSIONS

This chapter discusses the results presented in the fourth chapter of this study. The discussions compare the findings on the effectiveness of cooperatives as innovative approaches through which women gain access and tenure security to land with the theories from other studies. It explains the implications and the significance of the results from the data collection.

### 5.1. The socioeconomic characteristic of women in cooperatives

The first research question of this study sought to determine the socioeconomic characteristics of cooperative members. It also includes the ways through which the women get the information related to the cooperatives. The findings indicated that the majority of women in the cooperatives had primary and secondary education level and all respondents know reading and writing. These results do not mean that any educational degree is required for joining the cooperative. There is not a regulation that excludes the illiterate people. Thus, these findings indicate the contribution of the cooperatives in the education for all program adopted by the government of Rwanda (Nkurunziza, Broekhuis, & Hooimeijer, 2012). The cooperatives themselves help their members to learn reading and writing. These necessary skills open for the women the door to gain other required skills and knowledge. These results are in agreement with Bello's (2005) findings which indicated that in Nigeria, the cooperatives provided with their members the opportunities to improve their basic skills through workshops and training. Through these, they have contributed to social development as the education is the basis for development of a country. The results also indicated that women who gain access and security to land were able to pay school fees for their children. Similar results are found in the UN Women (2015) report on India, where it was found that the children of women who have access and control over land were more lucky to attain at least junior high schools by age less than seventeen. Therefore, having access and security over land by women not only enable their children to achieve schools but also the achievement of nutrition of family.

With respect to the first research question, it was also found that the cooperatives enabled the women to gain income. The average yearly income of the respondents women is estimated at three hundred eighty USA dollar (380 US\$). Therefore, income can reach up to one thousand and four hundred USA dollar (1400 US\$) for hard-working women in the cooperative. The activities women performed within the cooperatives are like agricultural, handicrafts and selling the clothes to generate income. The income of women earned through the activities of the cooperative is supplemented with income from other sources. Currently, the GDP (Gross domestic product) per capita in Rwanda is seven hundred fifty-four USA dollar (754 US\$ Gusev, 2017). Therefore the income from cooperatives contributes significantly to the GDP. In this way, the cooperatives play an essential role in developing the economic status of women members in particular and the national economy in general. These results are consistent with those of Castillo and Mercedes (2017) found in the Philippines cooperatives study. They argued that various types of cooperatives predominated by agriculture cooperatives have enormously improved the economic development of rural people, in particular, and the national economy, in general. Further, the Government of Nepal (2013) showed the significant role of the cooperatives in developing the national economy where it states that the contribution of the cooperatives to the GDP of Nepal was about 3.0 percent.

The findings revealed that friends and public meetings are the principal sources of the cooperatives information for the women who seek to become a member. Through the social networks, the citizens inform and motivate other people about the opportunities available in the cooperatives. Moreover, the

results also indicate the role of government in cooperatives enforcement. The government raises awareness of people to join the cooperatives as a channel of development and job creation, through the public meeting organised especially by local government. The government has adopted a clear legal and institutional framework as stated earlier in section 2.2.4.2 to promote the cooperatives in Rwanda. Further, the government of Rwanda has established the cooperative's policy (2006), the cooperative law (2007) and the institution (2008) in charge of promoting and assisting the cooperatives (RCA, 2011).

These results match those of Nugussie (2013) who investigated the determinants that influence rural people to join agricultural cooperatives in Ethiopia. He found that participating in the public meetings, media access, members of local authorities committee, and education level of people and infrastructures service availability are determinants influencing people to join the cooperatives. In the public meetings, the public authorities explain the people about the government policies and require them to participate in implementation. It is the approach used by the developing countries to mobilize their citizens. In this way, the people understand the importance of joining the cooperatives through that public meeting. The people who participate in local authorities committee are considered as the local leaders, and she/he has to be a model for implementing the government policies like joining the cooperatives. In addition, the results indicated that the majority of members are the oldest persons. Similarly, Othman, Kari, Jani, and Hamdan (2012) found in their study that the age and occupation are factors that influence the people to become the members of the cooperatives in Malaysia. They found that the oldest people were more likely to join the cooperatives than the young people. While in Uganda women should have access and ownership of land to be able to become a member of cooperative (Selhausen, 2014), our findings in Rwanda indicated the contrary. The women join a cooperative in seeking the lands for using in agricultural or residential purposes in order to improve the economic status of their families. Therefore no condition of owning land in order to join the cooperatives was found in the present study.

## **5.2. The contribution of the cooperatives to enable women gaining access and tenure security**

The results of this study indicate that the cooperatives supported their members to gain access to land through various ways namely: the collective way, buying the land through earnings in the cooperatives, borrowing money guaranteed by the cooperative for getting the loan.

First, the women members had gained access to land through the collective land. The collective land comprises both owned and rented land. Some cooperatives owned land by purchasing it collectively, or through donation and others rented land, mainly the marshland from the government. These findings corroborate with previous studies by Verhofstadt and Maertens (2013) and Gray and Kevane (1999) who found that in Africa the women in the cooperatives purchased and rented land collectively in order to respond to the lack of access to land. An important aspect of the findings is that cooperative, not only allow women to purchase individual land using accrued earnings from the activities of cooperative but also it supports women to have access to credit, which was not reported by Gray and Kevane (1999). Women can obtain a loan to buy land after the cooperative has assured lenders its contribution in repayment of credit.

Also, the results reveal that some cooperatives gained land from the donation of non-government organisations (NGOs). Various NGOs have participated significantly in activities of the cooperatives in order to support them to achieve their objectives efficiently. The majority of the cooperatives, in their initial stage of emergence, have received financial, technical and material support from donors. They were given the amount of money to purchase especially the land. The results indicate that the partners have trained the members of the cooperatives about the modern agricultural practices, land law, women rights

and marketing skills. These findings match those found by Elbehri and Lee (2011) in Africa and India. They argued that the donors and NGOs supported the women cooperatives by providing them with funds, inputs, credit, marketing services, education and technical training. They trained members about production, processing technics and conservation of agricultural products in order to add value and maximise the benefits. NGOs supported women to use their land resources efficiently in order to earn more agricultural production. Further Elbehri and Lee (2011) revealed that in India, the local NGO had advocated the cooperative women to obtain land for farming the forest and the local authority gave them ten hectares of the plot. They put forward that after gaining this land, women produced not only the agricultural and forest products but also the processed food and drinks. In order to increase the income, these women extend the activities by providing the ecotourism service. These NGOs, therefore, have contributed not only to the welfare of women but also to accessing land. However, the advocacy of NGOs to gain access to land by women cooperatives was not found in this research. In contrast, FAO (2012) argued that even the support is necessary for the cooperatives which are in beginning stage of formation due to the inadequate financial means of the members; it could inhibit the cooperative to innovate, to be competitive and it can create the dependencies. Women in cooperatives can afford or are given advantages, incentives by the government or other supporters to use state land which would otherwise not be possible for an individual to access.

Second, the members were able to purchase individual land with money accrued from cooperative activities. Members receive money from dividends and loan gained from banks. Similarly, Gray and Kevane (1999) found that women have used the income earned through cooperatives in dealing with the problem of lacking land tenure security by purchasing land on which they can enjoy full rights to use and allocate or donate. Therefore, the cooperatives is a way through which women gain access and security to land.

Third, the cooperatives have lent money to women for buying and lease the land. Alternatively, women borrow money from savings groups operated within the cooperatives, or the cooperatives helped the member to gain a loan from banks by providing them with the loan guarantee. The saving group has brought benefits to the women. It enhanced for the women the culture of savings, use the money they earn from the cooperatives efficiently and income diversification. Each woman saves about one fifty cents USA dollar (1.50 US\$) per week. The money gathered in the saving group serves for providing the loan. The saving group member could borrow any amount of money from which they buy land or other needed items. These results corroborate the findings of the study by Action Aid in Rwanda where it was found that women who purchased plots used the money borrowed in the saving group and the money earned from their products (Mbonyinshuti and Nkurunziza, 2014). Elbehri and Lee (2011) found similar findings in India where the women cooperatives have facilitated the organization of savings and credit groups for members to access loans through which they purchased the assets including land.

Apart from what has been discussed, another importance of cooperative could be to ensure optimal use of land. In this study, it was found that cooperatives use leased land. All over the country, there is still land that is not properly exploited particularly for agricultural land even though the government of Rwanda has established land use and development plan. Enforcement of land use plans could benefit cooperatives where the government can force owners of unexploited land to lease or dispose that land to cooperatives. This land use issue can be resolved by organizing the people in the cooperatives where the vulnerable or weak landowners could unite with other people and exploit the land efficiently.

### 5.2.1. The contribution of cooperatives about decisions of women in household's land

On the question related to the ability of women decisions making on household's land, this study found that there are still difficulties. The findings showed the existence of social and cultural barriers, gender inequality, lack of women empowerment and the polygamy issue. The women asserted that they face social and cultural norms that hinder them from making decisions on household's land. The men gain more profit from household's land saying that it was owned by their ancestors many years ago and they treat the women as strangers on that land. In general, patriarchal thoughts are inherent of culture that still put men over women as it has been revealed by a woman using the Kinyarwanda proverb «*Nta nkokokazi ibika isake zihari*», meaning no hen makes cock-a-doodle-doo in the presence of a cock. It is similar to the proverbs of the Akan (Ghana) that have been noted by Asimeng-Boahene (2013) saying that “when a woman buys a gun, it is kept in a man's room” and “if a woman has thousands and thousands, it is a man that looks after her”. Both the proverbs show how men treat the women in African society. They think that women do not have the physical and mental capacity to manage the valuable property (Kamwendo & Kaya, 2016).

The results further show the impact of polygamy in some regions. This custom provokes the insecurity to land for women. The respondent said that the men, who have more than one wife, focus on the concubine and provide with her many things including the crop production. A possible explanation for this situation might be that the polygamy impacts both sides, the legitimate and concubine woman. The property rights of the legitimate wife may be hindered by the husband's behaviour while the concubine faces the rule of laws which condemns the polygamy practice. These results are in agreement with those obtained by Polavarapu (2011) which indicated that the polygamous marriage impacts immensely on the wives who are subjected to disempowerment, gender inequality and limited marital property.

However, the results showed that cooperatives empower women to gain security to land. They showed that after the women joined the cooperatives their economic and value status have improved. They could transfer, donate and mortgage household's land. These are primordial rights to land. The women asserted that the cooperatives enabled them to raise voice and claim their land rights before their husbands. These results corroborate the findings of Mbonyinshuti and Nkurunziza (2014), who noted that the life of women after joining the cooperatives has improved and they were self-confidence in making a decision to land. Also, these results are similar with those found in the UN Women (2015) report on India, where it was found that having security to land for women can diminish their vulnerability and improve their making decision power in their families.

Another important finding is that the cooperatives strengthened the social life of members. The link between members was enhanced by working together, and mutual support exists within the cooperatives. This social network constitutes the social capital <sup>5</sup> which is the origin of the economic development of cooperatives members. These results are consistent with those of Clemens (1999), OECD (2001) and Guiso et al. (2008). Clemens (1999) pointed out the role of associations in generating social capital through interactions among individuals, social networks of trust and working together, which can help understand the benefits of women cooperatives. Social capital creates the environment in which collaboration and innovation facilitate achieving a common goal (OECD, 2001). Moreover, Guiso et al. (2008) investigated the correlation between the level of social capital and economic prosperity. They found that social capital could impact the economic efficiency of a group of people because of trusting each other. In additional, Teshome, Zenebe, Metaferia and Biadgilign (2012) found that the social capital in

<sup>5</sup> Social capital is defined as “networks together with shared norms, values and understandings that facilitate cooperation within or among groups” Keeley (2007, p.103)

women's cooperatives allows members to overcome emotional stress, interchange information, strengthen unit, enhance mutual support and trust, and gain material and labour supports.

### **5.3. Spatial factors that influence the women and of the cooperative**

The findings showed that the geographical location of a cooperative depends on the primary activity of cooperatives. The agriculture cooperatives are located in the suitable area for agriculture. Moreover, the location of these cooperatives differs based on the crop types they grow. The rice, maize and horticulture cooperatives are located in marshland which is suitable for the cultivation of these crops. The marshland contains water and fertile soil which are needed by the plants. The beans cooperatives are located on lands favourable for beans cultivation, especially on the moderate top hills with fertile soil. The results also indicated that the cooperatives are located near to the roads network, markets and other facilities like water and electricity facilities. The roads facilitate the transport of inputs and outputs to the markets. Further, they are located near residential areas in rural areas as well as in urban areas. These results are in accordance with those of Gian (2009) who found that the dairy cooperatives in Ethiopia were located based on the availability of raw materials (milk) and the topography of an area. The most dairy cooperatives were located in the highland which facilitates the introduction of milk cows.

Concerning cooperative members, the results indicated that the distance from home to the cooperatives and the residential area are spatial factors that determine women to join the cooperatives. The majority of members households are located close to the location of the cooperatives. The women members choose to join the cooperatives which are near them, vice versa the majority cooperatives locate their office or another important place in the residential area. This result could be justified by the fact that geographical aspects affect the interactions and communications between members. Further, it allows the cooperatives to be accessible and perform better. These findings are in accordance with those noted by Bauwens (2015) who argued that the degree of spatial closeness of cooperatives members increase the level of trust, mutual help, solidarity and commitment within the members.

## 6. CONCLUSION AND RECOMMENDATIONS

### 6.1. Introduction

This chapter summarizes and provides conclusions for each specific objective of this study, followed by the main conclusion. It also gives the recommendations for institutions in Rwanda and for possible future research.

### 6.2. Reflection to research objectives

In order to carry out this research, the case study approach was used. Seven cooperatives were selected using purposive sampling. The target population in the cooperatives were women from which a sample of nine women were selected randomly. Data about gaining access and security to land by women were collected from these cooperatives. Both qualitative by way of interviews and focus groups and quantitative techniques using a questionnaire to collect data were used. In order to analyse the data collected, content, statistical and spatial analysis methods were used. Cooperatives allow women to gain access to land through cooperative land that is owned collectively by the members of the cooperative. Additionally, cooperatives allow members to buy their own individual land using accrued earnings from cooperative activities. On top of that cooperatives facilitate members to access loans for purchasing land as well. Cooperatives empower women economically and socially which rise their decision-making power at home for matters related to land.

The study addressed specific objectives and research questions as follows:

#### **Sub-objective 1: To describe the nature and composition of members in cooperatives**

*What are the socioeconomic characteristics of cooperative members?*

The majority of women have primary and secondary educational level. Consequently, they can read and write. This basic skill is essential for women because it is a channel through which they gain advanced skills and knowledge about women land rights, land laws and modern agricultural practices. They learnt these skills and knowledge through training and workshops facilitated by the experts from government and non-government organisations. Concerning the ages of members, the majority of respondents are adult women who have responsibilities for caring for their dependents. They can afford the school fees of their children due to the money gained from cooperatives. Further, the economic status of women has changed after joining the cooperatives. The women could meet the basic needs of themselves and their families without relying on the income of their husbands. Gaining access to land through the cooperative is everything for women because with the land they can develop themselves and satisfy their needs.

*What are the factors that determine women's choices to join and stay in cooperatives?*

Women join the cooperatives according to the following determinants: improving the economic situation of their families and establishing relationships with cooperative members. The income that women gain from the cooperatives enables them to improve the economic situation of their families. In order to avoid loneliness, women want to socialise with other members hence social links within group members are enhanced. Through these social connections, women share with others experiences, skills and information that facilitate them to improve their livelihoods. According to the term of membership, it depends on different conditions. The members stay in the cooperative when the leadership and financial management are performed in a transparent and fair way. The members also can leave the cooperatives in case of breaking the rules, changing the residence area, facing chronic illness or dying.

**Sub-objective 2: To assess how cooperatives are contributing to access and use land and tenure security for women***What types of land do women collectively acquire?*

Women acquire land collectively according to the following types: the cooperatives use their own and rented land. The cooperatives acquire land through purchasing and donation from partners. They purchase from private landowners using the money from the shares and activities of cooperatives members. The majority of cooperatives bought land for agriculture and residential purposes. It is used for residential, commercial, administrative and agricultural purposes. Other cooperatives rent land from the state and private landlords. The public leased land are those located in the marshland which for cultivating maize and rice. Furthermore, the non-governmental organisations have granted funds to the cooperatives through which they purchased the land. The majority of this land is reserved for building the cooperative offices. The cooperative land is registered under its registration number, and the general assembly determines the management of this land.

*How do cooperatives empower women to own and gain security on land?*

The cooperatives have adopted various approaches by which they enabled the members to gain land. The first way is to allow the members to own land collectively. This cooperative land acquired either by purchasing or donation. All legitimate members have the right to use, to transfer and to control the crop production from this land. It is the innovative approach to gaining access to land particularly for poor women who are unable to buy land themselves. Through the mutual help and solidarity, the women in the cooperatives pool their limited resources and purchase land. The cooperative land is the starting point for the socio-economic development of the women. Through this land, along with other members, they produce the crops which in turn generates income. The women buy land using that income, eventually added on from other sources. From using collective land, the women gain money to buy and own more lands individually.

The cooperatives help their members to become private landowners through borrowing money and providing guarantees. A member can gain a loan directly from a cooperative ( for example through the savings group), or financial institution ( for example through SACCO, Savings and Credit Co-operative). Women members can also get loans by mortgaging land or agricultural production under guarantee of the cooperative. Some women used the loan in extending their agricultural and handicrafts activities so that they could obtain a high-value crop and handicrafts products.

The cooperatives have also contributed to the economic and social empowerment of women. The women in the cooperatives gain skills, knowledge and information that help them to resolve issues caused by the social and cultural norms. The lives of women have changed after joining the cooperatives. Their rights to land have enhanced because they dared to claim them. The cooperatives improved the self-esteem of the women in the family because they were no longer depend on their husband's income only. Also, the cooperative favours the strengthening of social networks which facilitates the experiences and information sharing among the members.

The cooperatives have played an essential role in empowering women financially and mentally which facilitate women to gain access and security to land. This indicates how women react to the issue of diminished land access and tenure insecurity caused by the social and cultural norms. They resolve these issues by forming the cooperatives through which they put together their financial means and technical skills in order to have access and security land.



**Sub-objective 3: Assess the spatial location of cooperatives members and factors associated with women's choice to join cooperatives activities at a given location**

*What are spatial factors that determine the location of the cooperative?*

The location of the cooperatives is a function of the nature of cooperatives activities. The agricultural cooperatives are located in the suitable agricultural regions. This region is characterised by fertile soil, favourable climate, adequate temperature and water availability. The activities of some cooperatives are in marshland areas whereas others are located on top of moderate plateaus. The handicrafts cooperatives were found in urban areas. Both, agricultural and handicrafts cooperatives were found near the physical and socio-economic infrastructures like roads and trading centres. They are also close to the services like electricity and water.

*What are spatial factors that determine women to join such kind of cooperative?*

The spatial factors that influence the women to join the cooperatives are the distance between home and the location of the cooperative, residential zone and physical infrastructures. The majority of members live within five kilometres of the cooperative. The closeness between cooperatives and their members enhance the trust and solidarity which are the basis of economic development. The study revealed the correlation between the households distribution and land uses where the members of agricultural cooperatives live near their farms.

**6.3. Conclusion**

The main objective of the study was to explore the effectiveness of cooperatives as innovative approaches through which women gain access and tenure security to land. In conclusion, the study was able to find various strategies adopted by the cooperatives in order to enable women members to gain access and security to land. The study was also able to find some gender inequality issues hampering women security to land, like polygamy. The women, notably in rural areas, are still struggling to attain full rights to the household's land. As for implication more deep research are required to assess gender policy implementation from papers to real life.

**6.4. Recommendations**

The study was able to explore the innovative approaches to gain access and security to land by women through cooperatives. However, due to the issues mentioned in conclusion, the following recommendations are made:

**To the Ministry of Land, Ministry of local government and RLMUA**

Community gender education to ensure that land policy, laws and regulations protecting women rights in lands are clear and implemented adequately by the local authority. This will help in halting gender discrimination in land occurring especially in rural areas.

Encourage vulnerable and landless women to join the cooperatives in order to gain access to land and learn them how to claim their land rights.

Rethink or amend the new law of 2016 governing matrimonial regimes, donations and successions because it gives room to patriarchal thinking where vulnerable women could be victims in land-related matters.

As revealed by cooperative members, polygamy brings about intra-familial land conflicts which also impacts on cooperatives. Thus, implementing measures to prevent these disputes occurring within families should be a priority of public authority.

#### **To the RCA and local government**

Provide the right information and true motivations during the mobilisation and foundation of cooperative for avoiding the false expectation of benefits from cooperatives. This will ensure sustainability of membership and the cooperative's projects.

As the success of the cooperatives is based on the physical capacity and skills of the members, the public authority in charge of cooperatives in partnership with the local government authorities should increase efforts in the mobilisation of young people to join the cooperatives. This will ensure the successful and sustainable future of cooperatives in Rwanda.

As the researched cooperatives are composed of small-scale producers, government or stakeholders should augment financial and technical support provided for cooperatives. This could help women to switch from low to higher income people. It would also allow women to conduct larger land-related investments.

#### **6.5. Further research**

As there is a little research on how women are seeking ways to overcome the difficulties linked to patriarchal thinking which hinders them from gaining access and security to land, further study should be undertaken to explore how the cooperatives can be used to resolve the issue of land that is not properly used in case of Rwandan land use plan implementation. Another research should analyse the ampleness of polygamy in relation to land tenure insecurity of women.

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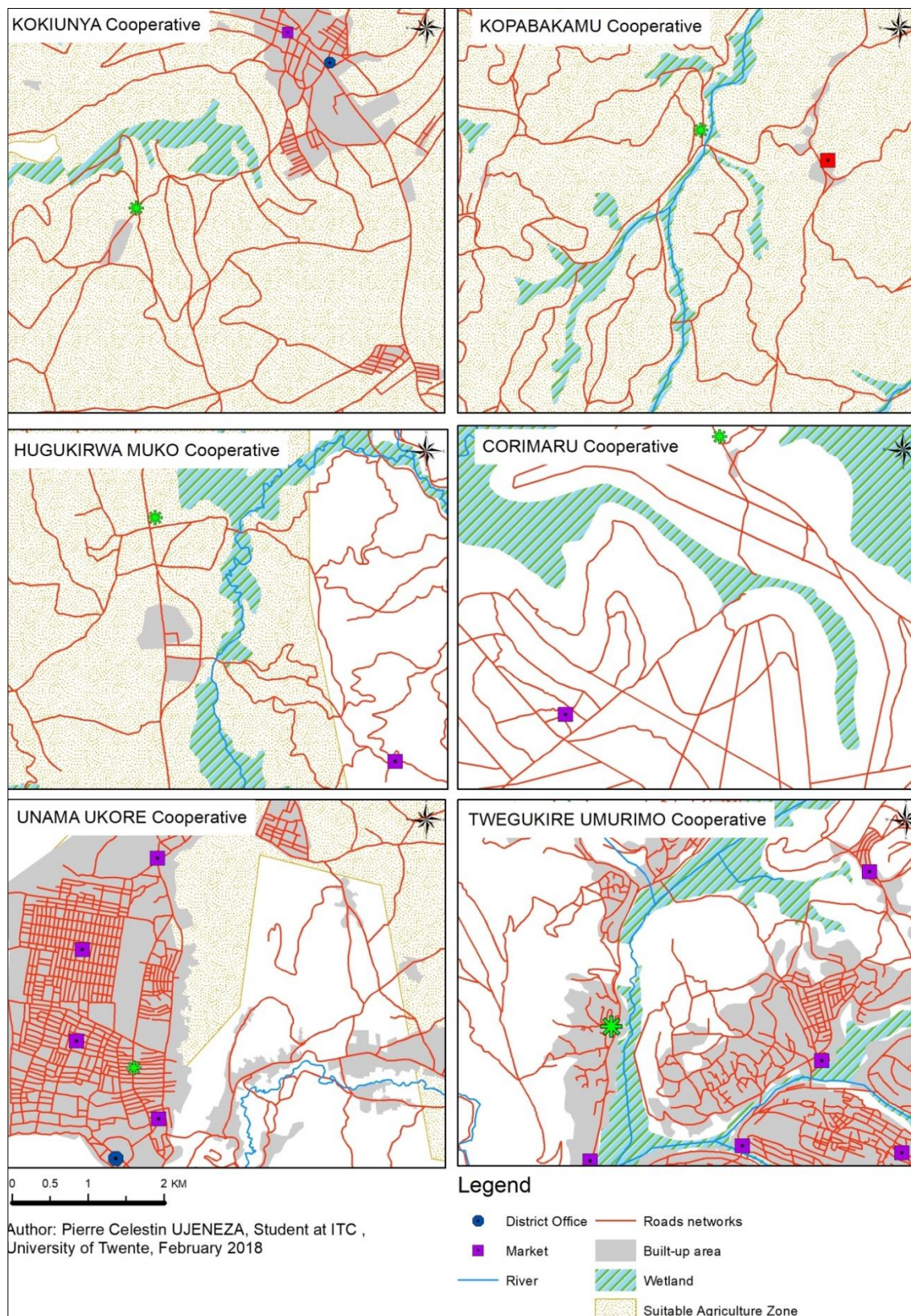
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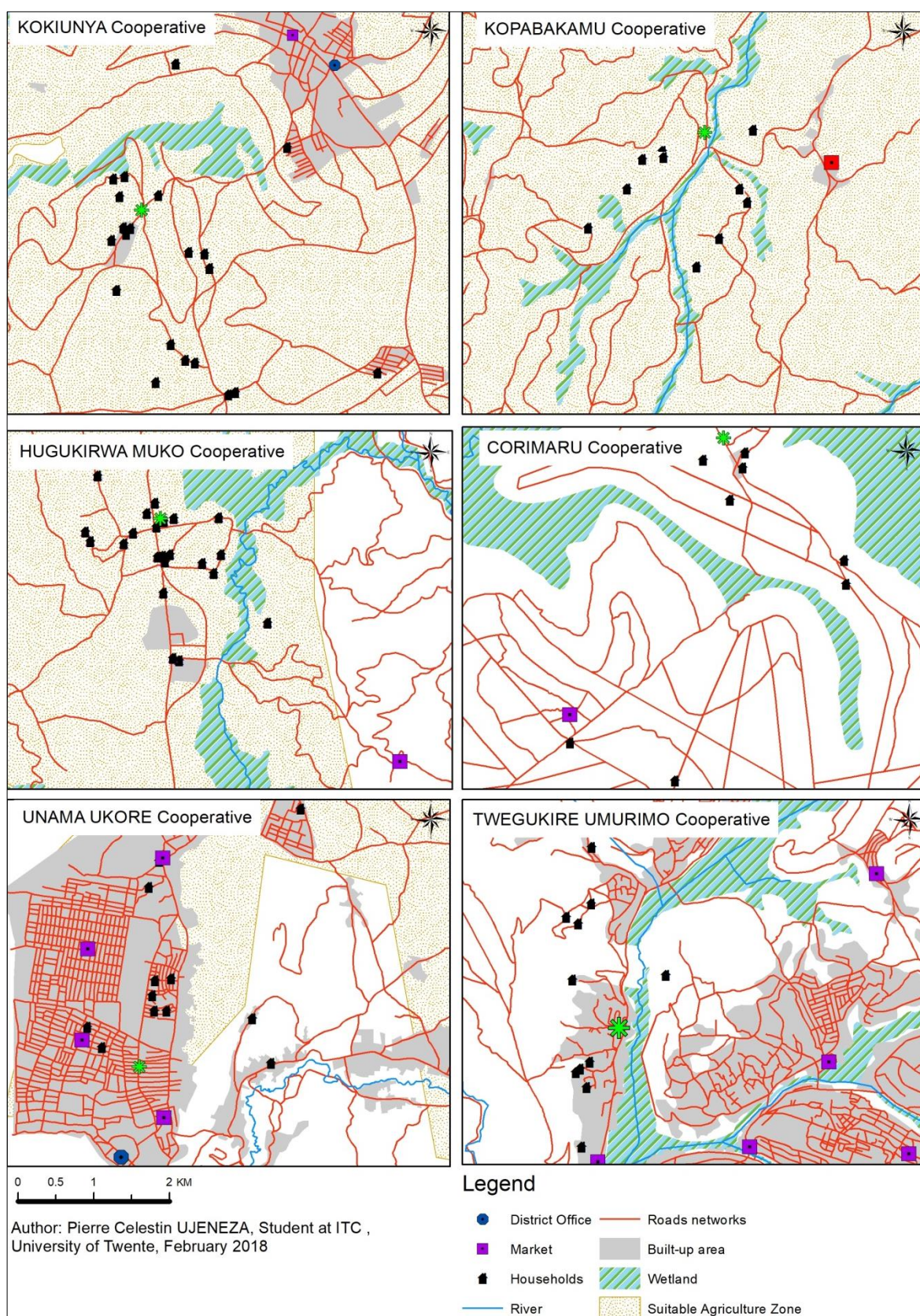
# APPENDICES

## LOCATION OF COOPERATIVES ACTIVITIES





## DISTRIBUTION OF HOUSEHOLDS OF COOPERATIVES MEMBERS



## QUESTIONNAIRE GUIDE

### I. Questionnaire survey to cooperative members

#### a. Introduction:

My name is Pierre Celestin UJENEZA. I am MSc student at the University of Twente, Faculty of Geo-Information Science and Earth Observation, Land administration. I am researching on the cooperatives as innovative approaches through which women could gain access and security to land. I have a list of questions that need your participation and your responses. Your information will be kept confidentially and anonymously, and it will be used for education. This survey will take about forty minutes of your time. If there is any question you do not wish to respond to, or you do not well understand, please tell me.

#### b. Personnel information of respondent

##### 1. Address:

Province:.....

District:.....

Sector:.....

Cell:.....

Village:.....

##### 2. Gender:

Male	
Female	

##### 3. Age:.....

##### 4. Education level:

Select the right answer in the table below.

No education	
Primary education	
Secondary education	
Higher education	
Others	

##### 5. Marital Status:

Select the right answer in the table below.

Single	
Married	
Divorced	
Widowed	

##### 6. A number of household dependents

Fill the table below

Kids		
How many in schools	Nursery	
	Primary school	
	Secondary school	
	Higher education	
Other relatives		

**c. The questions related to gaining land**

7. Do you own land?

Yes	
Non	

8. If yes, how have you acquired that land?  
Select the right answer in the table below.

Inheritance	
Donation or Gift	
Buying	Specify the price:
From Government	
By spouse	
Other	

9. What land uses are practised on your lands?

.....  
.....  
.....

10. How do you think the cooperative has enabled you to gain land?

Select the right answer approach in the table below.

Collective land	
Borrowing money	
Buying land using money earned from cooperative	
Other	

11. Please indicate how much you can agree or disagree with each of the following statements about making decision in land before and after joining cooperatives

Please circle one number for each question	Strongly agree      Strongly disagree						
<b>Before joining cooperatives</b>							
1. I could sublease the land	1	2	3	4	5	6	7
2. I could sell the land	1	2	3	4	5	6	7
3. I could donate the land	1	2	3	4	5	6	7
4. I could mortgage the land	1	2	3	4	5	6	7
5. I could improve the land	1	2	3	4	5	6	7
6. I could decide what types of crop to grow	1	2	3	4	5	6	7
7. I could choose where to grow crops	1	2	3	4	5	6	7
<b>After joining cooperatives</b>							
1. I feel that I can sublease the land	1	2	3	4	5	6	7
2. I feel that I can sell the land	1	2	3	4	5	6	7
3. I feel that I can donate the land	1	2	3	4	5	6	7
4. I feel that I can mortgage the land	1	2	3	4	5	6	7
5. I feel that I can improve the land	1	2	3	4	5	6	7
6. I can decide what types of crop to grow	1	2	3	4	5	6	7
7. I can choose where to grow crops	1	2	3	4	5	6	7

**Legend:**

1= *Strongly Agree*

2= *Agree*

3= *Agree Moderately*

4= *Undecided*

5= *Disagree slightly*

6= *Disagree*

7= *Strongly Disagree*

12. Have you ever obtained a loan from a bank or other financial institutions using your land as collateral?

Yes	
Non	

13. Do you have any land-related investment?

Yes	
Non	

14. If yes, what is the type of land investment do you have?  
Select the right answer in the table below.

Agriculture	
Commercial	
Industrial	
Livestock	
Houses	
Subleasing to the big investors (Quarrying, agricultural, forest or mining))	
Tourism, Entertainment, Cultural	
Other	

15. How big is your land of which you have invested?  
.....

16. Do your the parents treat equally female and male children for inheritance?  
.....  
.....

17. Did you have a land conflict with your husband/family?

Yes	
Non	

18. If yes what are the causes?  
Select the right answer in the table below.

Cultural		Explain:
Lack of decision-making		Explain:
Lack of women empowerment		Explain:
Illegitimate marriage		Explain
Other		Explain:

19. How were these land issues resolved?  
.....  
.....  
.....

20. If not resolved, how are these land issues being tackled?  
.....  
.....  
.....

**d. The questions related to the purpose of joining a cooperative**

21. Why did you accede to the cooperative?

.....  
 .....

22. How did you know about the cooperative?

Select the right answer in the table below.

Media (social media, radio, internet news, journals)	Specify:
Friends	
Public meeting	
Other	

23. How much money do you earn from cooperative per year?

.....  
 .....

24. What new assets have you gained after joining cooperative?

Select the right answer in the table below.

House	
Land	
Livestock	Specify:
Other	Specify:

25. What factors would cause you to leave the cooperative?

**INTERVIEW GUIDE**

**II. Semi-structured interviews with leader of Cooperative**

**a. Introduction**

My name is Pierre Celestin UJENEZA. I am MSc student at the University of Twente, Faculty of Geo-Information Science and Earth Observation, Land administration. I am researching on the cooperatives as innovative approaches through which women could gain access and security to land. I have a list of questions that need your participation and your responses. Your information will be kept confidentially and anonymously, and it will be used for education. This survey will take about 45 minutes of your time. If there is any question you do not wish to respond to, or you do not well understand, please tell me.

**b. Personal Information of interviewee:**

1. **Address:**

Province:

District:

Sector:

Cell:

Village:

2. **Gender:**

Male	
Female	

3. Education level:

No education	
Primary education	
Secondary education	
Higher education	
Others	

c. Information of cooperative

1. **Address:**

Name of cooperative:

Province:

District:

Sector:

Cell:

Village:

2. Cooperative activity:

Agriculture	
Livestock	
Handicraft activities	
Others	

3. Number of members

Female	
Male	
Total	

4. When was the cooperative created?

5. What was the purpose of the cooperative?

6. How many initial members?

7. What are the conditions for selection of members?

8. How long can members be part of the cooperatives?

9. What is the fluctuation rate of memberships?.

10. What happens when members leave the cooperative?

Regain the shares only?		Explain:
Regain the shares and interest?		
Sell the share		Explain:
Others		Explain:

11. What are sources of cooperative income?

Shares	V	Explain:
Donation or Gift		Explain:
Loan	V	
Activities of cooperatives		Explain
Others		Explain

12. How is the income of cooperative shared within members?

13. Does this cooperative own land?

Yes	
Non	

14. If yes, how cooperative acquire land for using in its activities?

Buying	
Donation (gift)	Specify:
Other	

15. In which year does cooperative acquire that land?

.....

16. How is cooperative land administered?

Cooperative land is registered	Land title available	
	Emphyteutic lease available	
	Freehold title available	
Cooperative land is not registered		

17. If it does not own land, how does the cooperative obtain land for using in its activities?

Renting	
Borrowing land from Government	



Cooperative members lands	Explain:
Other	

18. Where is cooperative land located?
19. What land uses are practised on cooperative lands?  
.....
20. What are the services that the cooperative offers its members in land-related issues?

Advises	Specify:
Providing information related to laws and women land rights	
Support for land conflicts resolution	Specify:
Helping women to buy land	
Support in negotiation process	Specify:
Other	Specify:

21. How many women have benefitted from these services?  
.....
22. What are the conditions for helping women to gain land?

## FOCUS GROUP GUIDE

### III. Focus group with cooperative members

#### a. Introduction:

My name is Pierre Celestin UJENEZA. I am MSc student at the University of Twente, Faculty of Geo-Information Science and Earth Observation, Land administration. I am researching on the cooperatives as innovative approaches through which women could gain access and security to land. I have a list of questions that need your participation and your responses. Your information will be kept confidentially and anonymously, and it will be used for education. This discussion will take about 60 minutes of your time. If there is any question you do not wish to respond to, or you do not well understand, please tell me.

#### b. Question for discussion:

1. Can you make a decision on household's land?
2. Have you ever made improvements to your land?
3. What are activities of cooperatives that support members to gain access to land?

#### c. Participatory GIS questions:

1. Can you draw your residence on this map?
2. Can you sketch where you sell your product on this map?
3. Can you outline an area where cooperative undertake its activities?
4. What are the advantages and disadvantages of cooperatives locations?