PROBLEMS AND SOLUTIONS OF RICE COOPERATIVES

IN RWANDA

A Thesis submitted in partial fulfillment of the Requirements for the Degree of Master of Business Administration (Project Management Option)

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DECLARATION

"I declare that this thesis is my original work and has not been presented in any other university".

Signed……. Date……

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This thesis entitled **Problems and Solutions of Rice Cooperatives in Rwanda** written and submitted by **KANKINDI BOANI Diane** in partial fulfillment of the requirements for the degree of **Master of Business Administration, Project Management** is hereby accepted and approved.

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RECOMMENDATION

"*This thesis has been submitted for examination with my approval as university supervisor".*

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DEDICATION

I dedicate my research to Dad and Mum for their love, spiritual and financial support.

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ABSTRACT

Agriculture cooperatives are seen as an institutional engine to improve smallholder agricultural performance and they have increased very rapidly in recent years in production of tea, coffee, rice, maize, Irish potatoes, vegetables, fruits, milk, meat and fish (United States Agency for International Development, 2013). Agricultural cooperatives play a great role, mainly in rural areas, in distributing subsidized inputs (especially mineral fertilizers and improved seeds), in joint production and in marketing (Chambo, S. A., 2009). Cooperative effectiveness depends on the natural potential of regions and the level of external technical and financial assistance. In high productive regions, cooperatives are profitable and enable members to invest further in order to increase production and income levels (Republic of Rwanda, 2006).

This study aimed at assessed the problems and solutions of Rice cooperatives in KOIRWA Rwasave. The specific objectives were to determine the roles played by KOAIRWA in improving Rwandan livelihoods, to identify the challenges faced by Rwandan engaged in KOAIRWA and to determine their perception in the improvement of their engagement in rice cooperative. To address the above objectives, I conducted an interview survey in cooperative of Rice crop production Huye District, including 89 randomly selected interviewees from one Rice crop cooperative (KOIRWA). This included people with different origin, age, educational level, and only women. The study found that KOAIRWA provides some benefits to its members such as being able to cater food for their families, having their families' health insurance and being able to pay fees for their children education. Hover, the study also found that few members can get some financial savings after earning. It was indicated that despite benefits gained, there is no easy access to loan from bank for some members as payment can be constrained by low income generation. Thus, new strategies should be adopted to enable access to loan and payments, adoption of technology for rice production and an improvement of the currently used rice seeds with seeds that match the climate of the area.

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ABBREVIATIONS AND ACRONYMS

AECF: Africa Enterprise Challenge Fund

CAADP: Comprehensive African Agriculture Development Program

CIP: Crop Intensification Program

FAO: Food and Agriculture Program

GDP: Growth Domestic Product

GDP: Growth Domestic Product

IDRC: Canada's International Development Research Centre

KOAIRWA: Koperative y'Abahinzi b'Igishanga cya Rwasave

MBA: Masters of Business Administration

MDGs: Millennium Development Goals

MINAGRI: Ministry of Agriculture and Animal Resources

MINECOFIN: Ministry of Finance and Economic Planning

OECD: Organization for Economic Co-operation and Development

PPP: Purchasing Poverty parity

PRS: Poverty Reduction Strategy

PSTA: Strategic Plan for Agriculture Transformation

RAB: Rwanda Agriculture Board

UNDP: United Nations development Program

UNECA: United Nations Economic Commission

CHAPTER ONE: INTRODUCTION

1.1 Background

Smallholder agriculture remains important for economic development and poverty reduction in Rwanda. Development policies and strategies are focused on smallholder farmers to enhance their livelihoods through promoting intensification and agricultural growth as well as increased market orientation (Verhofstadt, A., and Maertens, M. 2013).

Agriculture cooperatives are seen as an institutional engine to improve smallholder agricultural performance and they have increased very rapidly in recent years in production of tea, coffee, rice, maize, Irish potatoes, vegetables, fruits, milk, meat and fish (United States Agency for International Development, 2013). Agricultural cooperatives play a great role, mainly in rural areas, in distributing subsidized inputs (especially mineral fertilizers and improved seeds), in joint production and in marketing (Chambo, S. A., 2009). Cooperative effectiveness depends on the natural potential of regions and the level of external technical and financial assistance. In high productive regions, cooperatives are profitable and enable members to invest further in order to increase production and income levels (Republic of Rwanda, 2006).

There is, however, very few quantitative evidence of the efficiency of cooperatives on the performance of the smallholder farm sector towards resource use and best agricultural practices in rice sector. Most studies on cooperatives in Rwanda are qualitative studies that focus on the functioning of and entry into cooperatives. Quantitative evidence on the cooperative efficiency on farm performance can complement this qualitative insight. The focus of this paper is on the problem and solutions facing cooperatives in rice sector in Rwanda in view of resource use and farm management practices in rice production in Huye Rice Scheme.

The purpose of agricultural cooperatives is to help farmers increase their yields and incomes by pooling their resources to support collective service provisions and economic empowerment. Given their primary remit to contribute to smallholder farmer production, agricultural cooperatives are seen as critical in achieving the government's development targets in the Growth and Transformation Plan, and focusing on other types of cooperatives requires an alternative framework for analysis.

The main categories of agricultural co-operatives fall into mainstream activities of agricultural undertaking including supply of agricultural inputs, joint production and agricultural marketing. Input supply includes the distribution of seeds and fertilizers to farmers. Co-operatives in joint agricultural production assume that members operate the co-operative on jointly owned agricultural plots. The third category consists of joint agricultural marketing of producer crops, where farmers pool resources for the transformation, packaging, distribution and marketing of an identified agricultural commodity.

In Africa, however, the most popular agricultural co-operative mode has historically been the marketing of agricultural produce after small farmers have individually completed their farm production operations. But in some cases, agricultural co-operatives have combined both input distribution and crop marketing.

Cooperative development in many countries has shown that farmers who are effectively organized can benefit from aggregated links to markets and services, from accessing centralized services that can help them achieve higher yields and higher incomes, and from speaking with a collective voice to advocate for their needs. At a global level, countries with the highest share of cooperatives in marketed outputs (e.g., Taiwan, Korea, the Netherlands, France, etc.) also have high average yields for staple crops like rice and wheat, as well as substantial cash crop exports.

In Ethiopia, farmers who are members of cooperatives tend to achieve higher yields, and staple crops that are marketed through cooperatives attain a price premium of around 7-8%.5 Indeed, the 2008 World Development Report reviewed the evidence and concluded that "Producer organizations are essential to achieve competitiveness for small-scale producers." (Wanyama, 2008)

Agricultural cooperatives help farmers solve a collective action problem, i.e. how to procure inputs most efficiently and market their outputs on more favorable terms than they could achieve by themselves. Accordingly, Ethiopia's Growth and Transformation Plan foresees a central role for agricultural cooperatives in increasing the productivity and household income of smallholder farmers.

Co-operatives are used by the government and NGOs to extend training and other capacity building initiatives. Many stakeholders use co-operative structures to build capacity in post harvest handling techniques as well as commodity (maize and beans) quality. To date not only

has post-harvest losses reduced significantly, also become one which has improved market opportunities for the smallholder farmers.“ Some co-operatives offer services to members as a way of building their capacity. Farmers can receive training on production techniques and post-harvest, as well as literacy training, or business and marketing building workshops.

With access to market being one of the most difficult challenges, the role of co-operatives in helping them to exercise economies of scale is increasingly important. Through co-operatives, farmers can attract traders and institutional buyers, and increase their negotiating power. Co-operatives have also started apart from agriculture to emerge in other sectors such as transport or commodity transformation, with people buying trucks and milling machines and starting their own enterprises. These new activities benefit the communities through employment creation as well as service provision. This creates more income within the community and enhances food security.

The Comprehensive African Agricultural Development Program (CAADP) has established very motivated goals for annual agricultural growth of Africa. The sources of this growth are evaluated in terms of increasing factor use and productivity, as well as the key drivers of dynamic agricultural growth in Africa. The role of the agricultural inputs that are required by agro-industry for achieving competitiveness, growth, consumer quality and higher productivity are discussed. The efficiency gains of targeting on regional markets in Africa, of considering the impact of the choice of innovative business, models of techniques and of new agro-industrial policies are also addressed. Agriculture sector in Africa has been growing at a solid step and might turn the continent into an economic power.

Africa might be able to feed itself and the world if it keeps putting a focus on enhancing efficiency in using its resources. The focus on agriculture emerged from the willingness of African policymakers to capitalize on their strengths to achieve economic growth. Following this line of thinking, as part of the first declaration of the Comprehensive Africa Agriculture Development Program (CAADP) for agricultural transformation, wealth creation of poverty reduction includes food security and nutrition, economic growth and prosperity made during the African Union Summit in 2003, African leaders committed to allocate 10% of the budgets to agriculture. African governments, business leaders, and global decision-makers are putting more efforts into funding the agribusiness in the region. Several measures are being placed together to reduce the

obstacles for growth in the region, calling for creating common grounds to combat climate change, land degradation and desertification. Although Africa has promising prospects in agriculture, there are multiple challenges to overcome to achieve a leading position in the agricultural sector. It is true that investments in food production and capitalization on resources are a key measure, but African countries must focus on creating quality and branding Africa's agriculture by following international standards and create quality reforms (Yumkella, 2011).

Rwanda is a rural country with about 90% of the population engaged in (mainly subsistence) agriculture. It is the most densely populated country in Africa; is landlocked; and has few natural resources and minimal industry. Agriculture is the most important sector in Rwanda, generating over 30% of GDP (37.4% in 2008), over 80% of employment (especially women), 70% of export revenues and 90% of national food needs (Minagri 2010). However, agriculture production remains predominantly at a subsistence level because many rural household's farm plots are too small to support commercial production. Moreover, Jean Damascene Nyamwasa (2008) describes Rwanda as a country with an extensive cooperative sector and a government that has made cooperative agriculture a priority with a co-op friendly policy framework and has relatively strong economic and social indicators.

In 2008 approximately 1.500 registered cooperatives of which 43% active in agriculture, and 186.000 cooperative members of which 54% in an agricultural cooperative. From the cooperatives' perspective stable prices are important for several reasons. Firstly, if the producers' welfare is increased by stable prices (Schmitz et al. 1981), then according to the cooperatives' objectives to promote their member producers the dampening of fluctuations expectably should become a cooperative's goal. Secondly, stable prices are usually (though not always) related to stable incomes that can also be a cooperative goal. The stable prices make production more predictable and give a more solid ground e.g. investment decisions on the farm level that are important in order to increase producers' welfare.

Rice nowadays in Rwanda is staple food like is in more than half of the World's population (Kathiresan, 2010) and was introduced in Rwanda in the 1950s. Rice is almost exclusively grown in marshlands at an altitude of 800 to 1200 m above mean sea levels over two seasons; wet (A; March-August) and dry seasons (B; September-January) and it is mainly cultivated by resource-

poor stallholders farmer who grow the crop through farmer-cooperative schemes set up the Government (Kathiresan, 2013).

Moreover, the initial success of growing rice crop in the swamps and inland valleys has quickly lured the interests of several local farmers and other stakeholders in agriculture sector. The rice produced in Rwanda was largely sold in rural markets. In the mainstream urban markets however, the local rice did not appeal to the consumers. This was mainly due to the various shortcomings in production, handling and milling practices along the value chain. To counteract the deficiencies in production and quality of locally produced rice, the local markets have long been importing rice from other rice growing countries in the region and abroad. The active flow of rice as a global commodity into Rwanda has since started to gradually influence the price and standards of rice markets, and eventually the rice consumerism in Rwanda (Andrew, 2009).

Participation in productive activities is a way of empowerment and reducing vulnerability, marginalization and poverty (Béné, 2003, 2004; Overholt et al., 1991). Eighty seven percent of productively active Rwandese depends on agriculture and/or fishery for livelihood. Most of the people depending on agriculture for survival live in the rural areas (90 percent men and 97 percent women). Only a small proportion of Rwandese women are employed in senior civil service positions (Powley, 2003; Kimanuka, 2002). There are more women than men among crafts workers and service personnel traders.

iRice is one of the priority crops in Rwanda and it is cultivated by low-input and low-risk smallholder farmers (Government of Rwanda, 2011). Rice is a factor of monetization of rural areas because almost the total production is easily commercialized and generates income for producers. Rice development in Rwanda is facing various challenges such as poor quality of seeds, poor control of pests and diseases and poor management of cooperatives.

However, some of the priority intervention axes concern improving productivity from current 5.5t/ha to potential 7t/ha through supplying certified seeds and fertilizers (farmers are currently advised to adopt standard fertilizer recommendations), controlling pests and diseases and improving farm operations, and expanding the capacity of extension system in order to enable efficient transfer of technologies on production, soil and water management, pest and disease management, harvesting, post-harvest handling and storage of rice in marshlands (Government of Rwanda, 2013). In Rwanda, about 45% of rice growers are women, while their rate is 60% in

the retail subsector. Rice farmers belong to more than 60 cooperatives, distributed within 29 rice schemes country-wide. Most of inputs and other elements of value chain reach individual farmers through cooperatives. Farmers borrow inputs from the cooperatives. At the end of season, cooperatives collect grains equivalent of inputs from farmers. Despite the absence of cash or mortgages in such transactions, most of the cooperatives are performing efficiently (Government of Rwanda, 2011).

1.2 Problem statement

Cooperatives, as economic enterprises and as self-help organizations, play a meaningful role in uplifting the socio-economic conditions of their members and their local communities. Over the years, cooperative enterprises have successfully operated locally-owned people-centred businesses while also serving as catalysts for social organization and cohesion. With their concern for their members and communities, they represent a model of economic enterprise that places high regard for democratic and human values and respect for the environment. As the world today faces unstable financial systems, increased insecurity of food supply, growing inequality worldwide, rapid climate change and increased environmental degradation, it is increasingly compelling to consider the model of economic enterprise that cooperatives offer. Millennium Development Goals (2015).

Cooperative development in many countries has shown that farmers who are effectively organized can benefit from aggregated links to markets and services, from accessing centralized services that can help them achieve higher yields and higher incomes, and from speaking with a collective voice to advocate for their needs. At a global level, countries with the highest share of cooperatives in marketed outputs (e.g., Taiwan, Korea, the Netherlands, France, etc.). even though cooperative are play important role in agricultural acitivities they face a problem of lack of acces to reproductive resources and opportunities. Thus this study aimed at assessing how cooperative members can access to reproductive resources and opportunities in rice production.

1.3 Objective of study

The main objective if this study is it obtain further understanding if the problems and solutions of Rice Cooperatives in Rwanda marshland Huye District.

1.3.1 Overall Objective

The overall objective is it determine the problems and solutons of Rice cooperatives in Rwanda.

1.3.2. Specific Objectives

(i) To determine the roles played by in improving cooperative members livelihoods

(ii) To identify the challenges faced cooperative members engaged in KOAIRWA.

(iii) To determine cooperative members perception in the improvement of their engagement in Rice cooperatives.

1.4 Research questions

(i) What are the roles played by KOAIRWA in improving cooperative members livelihoods?

(ii) What are the challenges faced by cooperative members engaged in KOAIRWA?

(iii) What are cooperative members' perceptions in the improvement of their engagement in Rice cooperative?

1.5 Justification of the study

Cooperative is a project that Rwanda can raise long-term funds and the later was established by the government of Rwanda for the purpose of developing financial sector and play a key role in economic development, it is in this regard that this study was needed to complement the various academic courses under in the field of cooperative agriculture area. It is an addition to the pre-existing literature on cooperatives and helps the government of Rwanda and other interested parties to educate the population on the benefits of cooperatives.

1.6 Significance of the study

This study had provided the supplement information, and knowledge in cooperatives, for further research and advises. It has offered a better understanding to individuals in business like traders' businessmen and women and those working in related fields not familiar with the cooperatives agricultural sector to get well understanding of why agriculture cooperatives matters and its importance.

1.7 Scope of the Study

Scope of the study refers to the depth and breadth of a study (cooper & schindler, 2008). The scope the study can be based on statistical studies or case studies. With this study, the empirical method is embedded in a case study design. Due to limited time and financial means, this research has been concerned with rice farmers of KOAIRWA cooperative in Rwasave marshland, Huye district as a representative sample of rice farmers in Rwanda. This helped to collect more data from field and to obtain reliable results. Study period (2019) has been taken in this research.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This thesis examines the problems and solutions of Rice cooperatives in Rwanda. It demonstrates the effects of agriculture as it provides employment of most people living in Huye District. The linkage between two forms of advanced agriculture "agribusiness and agro-industrial" shown that, the opportunity for farm, off farm and processing components of agribusiness can generate jobs, provision of income, poverty reduction. I reviewed the literature related to performance levels of research and development and cooperatives growth in Rwanda. The review was for the purpose of developing the concept in line with the objectives of my study and previous studies focused mainly on explaining the problems and solutions of Rice cooperatives.

2.1 THEORETICAL REVIEW

2.1.1 Cooperatives

The International Cooperative Alliance (1995) defined a cooperative as an autonomous association of persons united voluntary to meet their common economic, social, cultural needs and aspirations through a jointly owned and democratically controlled enterprise. Cooperatives in Rwanda are considered as a tool for people's participation in the sense that ownership of the cooperative is exclusively of the members, for the members and by the members in the process of development and a factor for poverty alleviation.

According to Koopmans (2006:9) a cooperative is defined as a member controlled association for producing goods and services in which the participating members, individual farmers or households, share the risks and profits of a jointly established and owned economic enterprise. In this context, cooperative members are both owners and investors in a cooperative

2.1.2 Characteristics of a Cooperative

As stated by Ortamnn (2007:42), The United States (US) National Cooperative Business Association (NCBA, 2005) the unique characteristics of cooperatives relative to other (investor-oriented) businesses:

- Cooperatives are owned and democratically controlled by their members i.e those that use the cooperative's services or buy its goods) and not by outside investors. Members

elect their board of directors from their ranks. Major policy decisions are based on the one-member, one vote principle that states equality of members in a cooperative.

- Cooperatives return surplus income (revenue over expenses and investment) to members in proportion to their use or patronage of the cooperative, and not proportionate to their investment or ownership share.
- Cooperatives are motivated not by profit, but by providing a service to satisfy members' requirements for affordable and quality goods or services.
- Cooperatives exist solely to serve their members

When one looks at the above statements, we realize that cooperatives exist for members‟ service with the common goal of development. Cooperatives are formed to allow growers to achieve greater control of the marketing of their production, and to share in the quantitative and qualitative benefits of being a user-owned organization Jay (2002: 15). Those characteristics are more explained in principles and values of cooperatives.

2.1.3. Principles and Values of Cooperatives

An International cooperative association made an exhaustive survey of cooperative members and highlighted a set of values and principles to base on the findings. According to RCA (2011), there are seven principles that guide cooperative stated below:

2.1.3.1. Voluntary and Open Membership

Cooperatives are voluntary organizations because members are free to accept responsibilities and open to all people able to use its services and willing to accept the responsibilities of membership, without gender, social, racial, political or religious discrimination, RCA (2011), Nyinawumuntu (2012). It is understandable that everybody can be a cooperative member and must participate in order to achieve goals for a cooperative because joining is a result of one’s decision.

2.1.3.2. Democratic Member Control

Members contribute equally in the economic development of their cooperative and control the capital of the cooperative. This benefits member in proportion to the business they conduct with the cooperative rather than on the capital invested, Nyinawumuntu (2012: 20). This helps in achieving the value of solidarity in their cooperative and a good management system which enhance interest of all members and keep trust from either current or future generations.

2.1.3.3. Autonomy and Independence

Cooperatives are autonomous, self-help organizations controlled by their members. It can be reinforced by application of laws and governmental support, Nyinawumuntu (2012: 20). This can be achieved by registering the cooperative so as to get a correct identity. In Rwanda there has been established the Rwanda Cooperative Agency (RCA) to make a control over cooperatives in their daily operations with members and consumers of their goods and services.

2.1.3.4. Education, Training and Information

Cooperatives provide education and training for members, elected representatives, managers and employees so they can contribute effectively to the development of their cooperative, reach their goals, Nyinawumuntu (2012). Cooperative members also inform the general public about the nature and benefits of cooperatives. These trainings should be in various domains such as Human Resource Management, financial Management, Property Management and Reporting in order to facilitate cooperative members increase economies of scale.

2.1.4. Types of Cooperatives

Dealing with types of cooperatives, Tamana (2005) argued that cooperatives can be formed for individuals, business, or communities‟ drives. They differ in size, with regard to the number of members and the activity they perform which may be either economic (agriculture, savings, transport, handicrafts), Social services (housing, medical services) and others like musician cooperative, Soccer Fans cooperative.

In addition to that, The United Nations (2009) focusing on types of cooperatives stated that there are three main types of cooperatives. The first, Consumer cooperatives are owned by the people who buy the goods or use the services at close to cost price of the cooperative. They include credit unions, child care cooperatives, electric and telecommunications cooperatives, food co-ops, health care co-ops, housing cooperatives. They are organized by individuals who seek to purchase goods and services. By organizing a cooperative, consumers are able to achieve prices and quality not available from for profit businesses. The second, Producer cooperatives, which include agricultural cooperatives, enable members to achieve higher profits through reduced input costs and better marketing their products. The third, Worker or employee-owned cooperatives that provide members with opportunities for employment and skills improvement.

Before cooperatives were organized, United Nations (2009) reported that farmers were often trapped in a situation in which processors could dictate the prices paid for crops. Members of these cooperatives have found that they can adapt quickly to changing economic conditions rather than become victims; they can lower their operating costs by pooling purchasing power for goods and services. In many cases, this is tied to members‟ dual roles as producers and consumers, most often in agricultural cooperatives.

This study falls in the second type of cooperative which is Producer cooperatives because farmers band together in order to solve problems related to agriculture with the aim of uplifting their living conditions. Dealing with Agricultural cooperatives (Cropp 1989; USDA, 2004) classified them into three broad categories according to their main activity namely:

1. Marketing cooperatives (which may bargain for better prices, handle, process or manufacture, and sell farm products).
2. Farm supply cooperatives (which may purchase in volume, manufacture, process or formulate, and distribute farm supplies and inputs such as seed, fertilizer, feed, chemicals, petroleum products, farm equipment, hardware, and building supplies), and
3. Service cooperatives (they provide services such as trucking, storage, grinding, drying, artificial insemination, irrigation, credit, utilities and medical insurance. These cooperatives usually vary greatly with regard to functions performed, and can also vary greatly in size.

Among these categories of cooperatives, Urumuri and Kiaki cooperatives refer to marketing cooperatives because they grow, bargain the price and sell the agricultural products for members. Apart from the above types of cooperatives, Rwanda Cooperative Agency highlighted six types of cooperatives that are found in Rwanda.

2.1.5. Resources to manage in a cooperative

Like any other business, there are three major types of resources managed in a cooperative such as human, capital, and facilities resources.

2.1.5.1. Human resources

The most important resource in a cooperative is people since the success of all phases of the business depends on competent personnel working together smoothly and efficiently USDA

(1997:6). This concerns people in management in different organs such as Board of Directors, The supervisory Committee and the General Assembly all of them must collaborate to maintain or improve good member-patron relations which involves providing good, honest service and helpful information about the cooperative and the products it handles. So, members should be informed about policies, operating practices, and financial requirements, their responsibilities for making the cooperative successful. Finally, Bhuyan (2007:280) indicated that the positive interaction through a good communication among cooperative members and between management and members affect the cooperative‟s success by reducing transaction costs and enhance revenues.

2.1.5.2. Capital resources

Financial management, a key to operating cooperatives, involves managing assets such as cash, accounts receivable, inventories, fixed assets, and investments in other organizations. It includes managing liabilities, such as accounts payable and current notes payable, and obtaining favorable long-term financing USDA (1997). An agricultural cooperative requires periodic analysis of the cooperative's financial position in order to find out how it is profitable.

2.1.5.3. Facility resources

Facilities in agricultural cooperative are lands, storage grounds; transport means building and equipment which represent a large proportion of a cooperative's assets USDA (1997:7). Therefore, important management considerations include scheduled maintenance; rearrangement, remodeling, and replacement to improve operating efficiency, daily operating cost records, preventive maintenance programs for rolling stock such as delivery trucks, grounds maintenance and pest control, adequate insurance, disposal of unproductive assets, and observance of safety, health, and other environmental regulations.

It is remarkable that when human resources in a cooperative fulfill responsibilities as required with adequate physical or financial facilities, profitability can be achieved.

2.2 CONCEPTUAL REVIEW

2.2.1. Problems inherent in conventional cooperatives

Much research has focused on the problems inherent in the traditional cooperative organizational form that create disadvantages for cooperative members (e.g., Vitaliano, 1983; Porter and Scully,

1987; Cook, 1995; Royer, 1999). Cook (1995) presents five core problems, also discussed by Royer (1999), namely the free rider, horizon, portfolio, control, and influence cost problems.

2.2.1.2. Free-rider problem

The free-rider problem emerges when property rights are untradeable, insecure, or unassigned (Cook, 1995). Royer (1999: 56) referred to it as "a type of common property problem that emerges when property rights are not tradable or are not sufficiently well defined and enforced to ensure that individuals bear the full cost of their actions or receive the full benefits they create." Both internal and external free-rider problems are often associated with conventional cooperatives. With regard to the internal free-rider problem (the common property problem), since the rights to residual claims in a traditional cooperative are linked to patronage instead of investment, new members receive the same patronage and residual rights as existing members although the new members are not required to make up-front investments proportionate to their use. The general tendency of the free-rider problem then is to encourage decisions that increase cash flows per member. This creates a disincentive for existing members to invest in their cooperative because of the dilution of their returns (Vitaliano, 1983; Cook, 1995; Royer, 1999).

An external free-rider problem "is created whenever a cooperative provides its members with collective goods characterized by de facto unfeasibility of exclusion. The result is usually no or suboptimal provision of these goods" (Iliopoulos and Cook, 1999: 80). Examples include where a non-member producer benefits from the terms of trade negotiated by a cooperative, or where the value of a cooperative processing facility is capitalized into the value of a nearby non-member's farm (Cook, 1995; Royer, 1999).

2.2.2.2 Horizon problem

This problem arises "when a member's residual claim on the net income generated by an asset is shorter than the productive life of that asset" (Cook, 1995: 1156). The member is, therefore, likely to under-invest in the asset because the return he receives is less than the return generated by the asset. Conventional cooperatives suffer from the horizon problem due to the structure of the rights to residual claims, which are distributed to members as current payments. The benefits a member receives from an investment are, therefore, limited to the time period (horizon) over which the member expects to patronize the cooperative (Vitaliano, 1983; Royer, 1999). A consequence of this is that cooperatives will tend to under-invest in assets with long-term payoffs (e.g., research and development, and marketing). Boards of directors and managers are, therefore,

under pressure to increase current payments to members instead of investing in additional assets, and to accelerate equity redemptions at the expense of retained earnings (Cook, 1995; Royer, 1999).

2.2.2.3. Portfolio problem

Cook (1995: 1157) refers to this as "another equity acquisition problem" from the cooperative's perspective. This problem occurs in conventional cooperatives because members "invest in the cooperative in proportion to their use and because equity shares in the cooperative generally cannot be freely purchased or sold. Therefore, members are unable to diversify their individual investment portfolios according to their personal wealth and preferences for risk taking" (Royer, 1999: 55). This leads to suboptimal investment portfolios, and cooperative members who have to accept more risk than they prefer will pressure the board of directors and managers to reorganize the cooperative's investment portfolios to reduce risk, even if this means lower expected returns (Cook, 1995). Royer (1995, 1999) contends that cooperative members have to carry these risks alone because potential outside investors, who could diversify the risks, are generally excluded from investing in a cooperative. This problem is exacerbated if a member's investment in the cooperative represents a high proportion of his off-farm investment and to the extent that his farming risks are positively correlated with the risks associated with the cooperative.

2.2.2.4. Control problem

Any organization in which ownership and control are separate will, to some extent, experience principal-agent problems due to divergence of interests between the principal (e.g., cooperative members and their representative board of directors) and the agent (management) (Cook, 1995). Preventing this divergence of interests may be more of a problem in conventional cooperatives "because of the absence of a market for exchanging equity shares and the lack of equity-based management incentive mechanisms available to other firms" (Royer, 1999: 55). The absence of an equity market for cooperative shares means that members are not able to monitor their cooperative's value or evaluate managers' performance. The lack of equity incentive schemes for managers may be a disadvantage for cooperatives to attract and retain good managers, and may provide managers with an incentive to convert their cooperatives into IOFs. Royer (1999) also points out that restricted cooperative membership to producers can contribute to the control problem in that production-oriented boards of directors are increasingly limited in monitoring

the performance of managers as the cooperative expands and becomes more consumer-oriented. Specialists serving on the board or as managers may need to be employed to better manage the changing circumstances and for the cooperatives to better compete with other business organizations. However, restrictions on membership may prevent this. Nevertheless, Iliopoulos and Cook (1999: 80) refer to studies which "argue that in cooperatives of relatively small size, characterized by singleness of purpose and homogeneous membership (in terms of individual members' interests), the control problem may be less serious than in IOFs of similar size". They cite Hansmann, who maintained that cooperative board members have the opportunity and vital interest to closely monitor management because the cooperative accounts for most of their income.

2.2.2.5. Influence cost problem

"Influence costs are those costs associated with activities in which members or groups within an organization engage in an attempt to influence the decisions that affect the distribution of wealth or other benefits within an organization" (Royer, 1999: 56). Cook (1995) argues that in a cooperative involved in a wide range of activities, diverse objectives among its members can result in costly influence activities. These costs can include both the direct costs of influence activities and the costs of poor decisions in terms of misallocation of resources. The size of influence costs depends on: the existence of a central authority with the ability to influence the distribution of costs and benefits to members, the procedures that dictate decision making, and the degree of homogeneity or conflict among members (Cook, 1995; Royer, 1999; citing Milgrom and Roberts, 1990). Cooperatives may experience greater influence costs than other forms of organization because "the interests of cooperative members, which are linked to individual farm production activities, are more diverse than the interests of corporate stockholders, who share a common objective of maximizing wealth" (Royer, 1999: 56).

2.3 EMPIRICAL FRAMEWORK

2.3.1 The cooperative movement in Rwanda

Concerning to the historical process of cooperative movement in Rwanda, Wanyama et al (2009: 366) indicated that cooperatives were established for the first time in Rwanda in 1953 by the Belgians in the colonial period as instruments for driving the agenda of the government's socio-economic goals. Due to the paternalistic approach of the colonial administration that sought to

keep Africans in underprivileged positions, cooperatives were not considered to be attractive to Africans, as they restricted their activities to the social and agricultural sectors where cooperatives were strictly controlled by the colonial administration to the point of fixing the prices that cooperatives could pay their members for their produce, which was lower than what private European entrepreneurs paid.

Musahara (2012:11) argued that cooperatives were governed by the Royal Decree of 16, August 1949 which has been replaced by a new one in 1956. The Royal Decree was abrogated on 22, November 1966 on the occasion of the publication of the first Rwandan Law on cooperatives. Since 12, October 1988, cooperatives have been functioning in Rwanda in reference to the Decree Nº 31/88 till the new Law N° 50/2007 of 18/09/2007 providing for the establishment, organization and functioning of cooperative organizations in Rwanda was enacted.

Wanyama et al (2009) indicated that the cooperative movement process has been very slow for a long time and there were only 8 cooperatives in 1962 organized in colonial manner: they were mainly centered on mining or cash crops (tea or coffee) and the leading motive was more economic than (rural) social and welfare interests.

After independence, Musahara (2012) the new government wanted to use cooperatives to organize people for economic development and between 1962 and 1966 alone the number shot to 36. In 1966 the government passed another law on cooperatives. Between 1967 and 1973 they grew to 423 and from 1974 to 1980 they had grown three fold to 1203. During the period there was considerable institutional development. In 1975 an office in charge of cooperatives and community development started and in the same year a cooperative bank was registered.

Cooperatives in Rwanda, after 1994 played an important role in addressing vulnerability, assisting in poverty reduction and acted as one of the few vehicles for reconciliation. 1996 a count of „cooperatives" is given as 4,557 and by 2005 about 10,038 associations were identified. Among these cooperative organizations, 68 per cent were operating in agriculture 12.2 per cent in finance 4.4 per cent in commerce, 4.2 in services and there were 47 Banques Populaires which played an invaluable role in promoting the living conditions of their members and contributing to the socio-economic development of the country on the whole.

Nowadays, Nkuranga (2013:2) emphasized that cooperatives are considered as a good means to promote socio-economic development especially in rural areas since they put together people

in different domains such as agriculture, rearing (cattle breeding), beekeeping, fishing, commerce, craft, savings and credit.

Cooperatives have been a model for bringing together people across all spheres of society in common economic and social interests. In Rwanda, Nkuranga (2013:2) indicated that cooperatives comprised nearly 2.5 million members grouped into approximately 5,000 active cooperative entities. Most commonly found in Rwanda in the agricultural sector, cooperatives are providing significant results in the production of tea, coffee, rice, wheat, maize, Irish potatoes, vegetables, fruits, milk, meat and fish but also seeing gains in other sectors such as finance S ACCOs (savings and credit cooperatives), mining and transportation (motorcycles and minibuses) as well. Among those active cooperative entities about 2.400 are agricultural cooperatives Ellen and Miet (2013:8). The Ministry of Commerce as stated in GoR (2009:15) aimed at strengthening cooperatives by facilitating the access of cooperatives‟ members to Information and Communication Technologies in order to help them acquire the required knowledge for the promotion of good practices in cooperative management and to be connected to the national and international markets.

2.3.2. Advantages of Agricultural Cooperatives in Rwanda

Advantages of being a cooperative member depend upon how much one uses it, rather than his/her equity stake. The following are some advantages of cooperative membership cost Cooperatives have the important role of bringing people together to create secure and satisfying employment that cannot be found on the open labor market.

Agricultural co-operatives enable producers to improve bargaining power by providing groups of producers with marketing power more comparable to that held by processors and other market players. They also gather market information and share that information with their members or by acting as a bargaining agent on producers behalf.

Achieving economies of scale in activities such as processing, storing, transport, retailing, quality control, and publicity, handling large volumes of product, co-operatives can reduce the per-unit cost of marketing and processing for producers. Similarly, the cost of inputs and services can also frequently be lowered if larger volumes are ordered through a central agency.

The surpluses generated by co-operative businesses are returned to producers on the basis of patronage, co-operatives allow producers to capture additional profits beyond the farm gate.

Koopmans (2006) stated that the most important feature of a cooperative is that farmers try to solve their problem or take advantage of an opportunity together, instead of trying to do this individually.

Farmers start an agricultural cooperative in order to mobilize more resources than they can individually supply, to create attractive alternatives for purchasing goods and services, to operate a business more efficiently than can be done on an individual basis. Cooperative members gain access to volume discounts and negotiate from a position of greater strength for better delivery terms, credit terms, and other arrangements.

The co-operative could be a group of people who are unable to get sensible credit arrangements or who are unable to purchase or acquire housing at a reasonable price or for rent through the existing market system. For association to be practiced people must first and foremost be encouraged to act together. It is this acting together in unity that is the essence of association. All successful cooperatives, therefore, unite and involve their members in an economic and social community.

According to Musahara (2012) ILO identifies that cooperatives advocate for the disadvantaged including the old and children, provision of vital financial services, offer insurance for health hazards and life and by pooling risk together.

Besides the economic benefits, the agricultural cooperatives may render three types of intangible benefits as stated by Rodriguez (2011). First, cooperatives stimulate stronger social bonds like solidarity, partnership and trust among the members. This enhances their capacity for other collective action, which may exceed the cooperative to benefit the whole rural community. Second, the members‟ “collective action” skills are enhanced through their learning process in management and interaction within the cooperative. This consists of developing the ability to resolve conflicts and reconciling individual interests through democratic procedures, Rodriguez (2011). The third intangible benefit comprises of increases in the farmers „awareness and capacity to defend their political and economic interests. This may be expressed in participation in public affairs, involvement in public advocacy and community development, Rodriguez (2011)

Cooperatives assist in strengthening local communities and economies since they are community or regionally based, investment in, and surplus revenue from the co-op stays within the local economy. Cooperatives increase accountability to farmers/producers as co-op governance provides for meetings, reports, election of the board, and voting on major policy issues and decisions by members on a oneperson, one-vote basis.

2.3.3. Challenges of Agricultural Cooperatives in Rwanda

As everything has both a positive and a negative effect the agriculture sector is very important in the national economy as remarked in above section but farmer encounter difficulties in way of achieving production and profitability in rural areas. In their daily activities, agricultural cooperatives suffer from insufficient access to finance as the banking system imposes heavy collateral requirements and poses inappropriate lending conditions, such as periodicity of repayment not linked to the agricultural cycle, Graem (1999), low productivity and high dependence to climate.

There is also severity of diseases which cause losses to the production in plots and to the stored grains which requires the application of fertilizers at many steps like sowing, and storing. Regarding to the human aspect, some farmers are illiterate. This makes innovation in agricultural sector to be low. Poor land use and poor soil management which result in soil erosion and soil loss and poor productivity Mukarukaka (2011). All agricultural activities are based on season. This is a challenge because climate change by heavy or lack of rain, premature or longer sunny season which affects production so much and profitability.

Agricultural cooperatives in rural areas face a challenge of lack of infrastructure, Bowman& Zilberman (2013:2) like electricity which prevents them to use ICT tools in daily management of their activities. They use hand written records which take a long time and delays to do research and application of trainings acquired. Transport is also concerned because there is a long distance between their operating environment and markets. Lack of storage facility makes post harvest management difficult as they have no place to dry Irish potatoes, wheat and advanced machines for winnowing are not enough to fight against losses.

The low levels of adoption of improved varieties are lack of information, high costs of seed and fertilizer, long distances to seed outlets. This makes them use their low yielding seed. The seed availability and quality are the two key issues that farmers are concerned for the profitability of

the crop, Almekinders et al (1999). After harvesting good storage is vital to minimize post-harvest losses and although moisture content is the most important property affecting stability of the grain during storage, temperature and duration of storage are also important factors Brigid (2004). Agricultural cooperative members of Nyamagabe and Nyaruguru districts face challenges of lack of assorting commodities, access to credit, poor storage facilities, lack of good seeds variety, soil degradation and expensive fertilizers.

2.3.4. Future of cooperatives

The five problems inherent in a traditional cooperative raise the question whether cooperatives can survive in, or adapt to, a rapidly changing economic and political environment. Even though cooperatives may have initially served a useful purpose, some authors hypothesize that, due to their inherent weaknesses (attributable to their property rights constraints), conventional cooperatives will have to exit or reorganize as the market evolves (Royer, 1999). Cook (1995) postulated a five-stage cooperative life cycle that seeks to explain the formation, growth, and eventual decline of a cooperative. As the cooperative matures and the members become increasingly aware of the inherent problems (discussed in section 4), as well as the cooperating benefits that may be lost if operations ceased, members and their leadership will have to consider their long-term strategic options (tradeoffs between the benefits and costs) and decide whether to exit, continue, or convert into another business form. Cook (1995) suggests that under the exit option, a cooperative has two alternatives available, namely, to liquidate the business or to restructure as an IOF. Schrader (1989) contends that poor-performing cooperatives opt to liquidate or merge with other cooperatives, while high performing cooperatives restructure as IOFs. Jacobson (1992) points out that the reason leaders of milk cooperatives in Ireland gave for converting to IOFs was that additional capital was required and members were unwilling to invest that additional capital. Although Schrader (1989) felt that cooperative principles and practices placed capital constraints on growth, Jacobsen (1992) argued that the failure to effectively implement these principles and practices was the reason.

According to Cook (1995), a cooperative that opts to continue operating tends to be undercapitalized due to its property rights structure. It generally has two alternatives to raise capital, namely: (1) to seek external equity capital without restructuring as an IOF (through strategic alliances by, for example, establishing joint ventures with other cooperatives or with IOFs); and (2) to generate additional equity capital internally by following a proportionality

strategy (i.e., restructuring the cooperative so that governance and funding responsibility are in proportion to patronage) (see also Royer, 1999). Fulton et al. (1996) argue that joint ventures and strategic alliances represent opportunities for cooperatives to profit from size economies while maintaining their separate business identities. However, for such business arrangements to be effective requires trust, commitment and open communication between the parties involved, in addition to the attention on financial and operational issues.

In the third (transition) option, Cook (1995) suggests formation of a new generation cooperative (NGC). Essentially, a NGC focuses on value-added processing activities and links producer capital contributions to product delivery rights (see also Harris et al., 1999; Royer, 1999). Equity shares and the associated delivery rights are tradable (subject to approval of the board of directors), and share prices can appreciate, reflecting members expected returns over time. Thus, NGCs attempt to correct the property rights problems associated with conventional cooperatives (by linking tradable delivery rights to members' equity contributions) while preserving the cooperative character (e.g., the principle of one-member, one-vote on important policy issues, regardless of the number of shares purchased by a member; and cooperative earnings belong to the members and are distributed according to patronage). An attractive feature of NGCs is that they are financed in proportion to use. However, NGCs have their own set of problems, such as limiting entry of new members and maintaining an effective governance structure (e.g., undue pressure exerted by members on management to link voting rights to delivery rights due to their high financial stake in the business) (Harris et al., 1996; Royer, 1999). Nevertheless, NGCs have been established in the US by producers involved in emerging niche markets, such as bison processing, tilapia production, organic milling and specialty cheese processing, as well as in other, more traditional value-adding activities such as corn sweetener production, sugar beet processing and pasta production (Harris et al., 1996).

Harte, as cited by Royer (1999), also suggested a life cycle model in which cooperatives are initially useful organizations for correcting or mitigating market failure. The need for cooperatives decreases, however, as market performance improves. As transaction cost theory indicates, inefficient governance structures in competitive markets will over time be replaced by efficient structures. "Thus, to the extent that cooperatives are less efficient than corporations, we can expect a transition from the cooperative organizational form to the corporate form" (Royer, 1999: 58-59). Harte, who used his life cycle model to explain the conversion of several Irish

dairy cooperatives to public liability companies (IOFs), argues that cooperatives would continue indefinitely only in the case of chronic market failure, and that for the Irish dairy industry future competition would best be assured through IOFs. Royer (1999) argues that to confirm the life cycle hypotheses, two types of empirical analyses are relevant, namely, statistical analyses of the comparative efficiency of cooperatives, and ex post studies of cooperative conversions. He lists several studies of the comparative efficiency of cooperatives in various agricultural industries, and highlights the study by Porter and Scully (1987) because of its influence on subsequent analyses and its reliance on neo-institutional economic concepts. Porter and Scully (1987) also conclude that cooperatives were less efficient than IOFs and that their relative inefficiency was due to the inherent weakness in their property rights structure. They further argue that cooperatives survive, despite their relative inefficiency, because of free services provided by the USDA, favourable tax treatment, and favourable credit terms. However, after reviewing several comparative efficiency studies, Sexton and Iskow (1993) conclude that there is little credible evidence that cooperatives are less efficient than investor-owned businesses.

Although Fulton (1995) questions whether cooperatives can adapt to a rapidly changing environment characterized by technological change, industrialization of agriculture and growing individualism, Cook (1995) argues that two phenomena were occurring in agricultural cooperatives in the US, namely, (1) conventional cooperatives were adjusting to their property rights constraints by exiting, restructuring, and shifting to other organizational forms (these changes appeared to have helped to increase cooperatives' market share growth since 1988); and (2) a dramatic growth in NGCs. King (1995) feels that the greatest strength of cooperatives is their ability to generate institutional innovations that allow them to respond to changing conditions and needs. He continues that much can be learned by simply observing and describing the formation, evolution, and operation of successful cooperatives.

2.4 Conceptual framework

This conceptual framework concerns the key concepts used in this study and that need to be defined and clarified

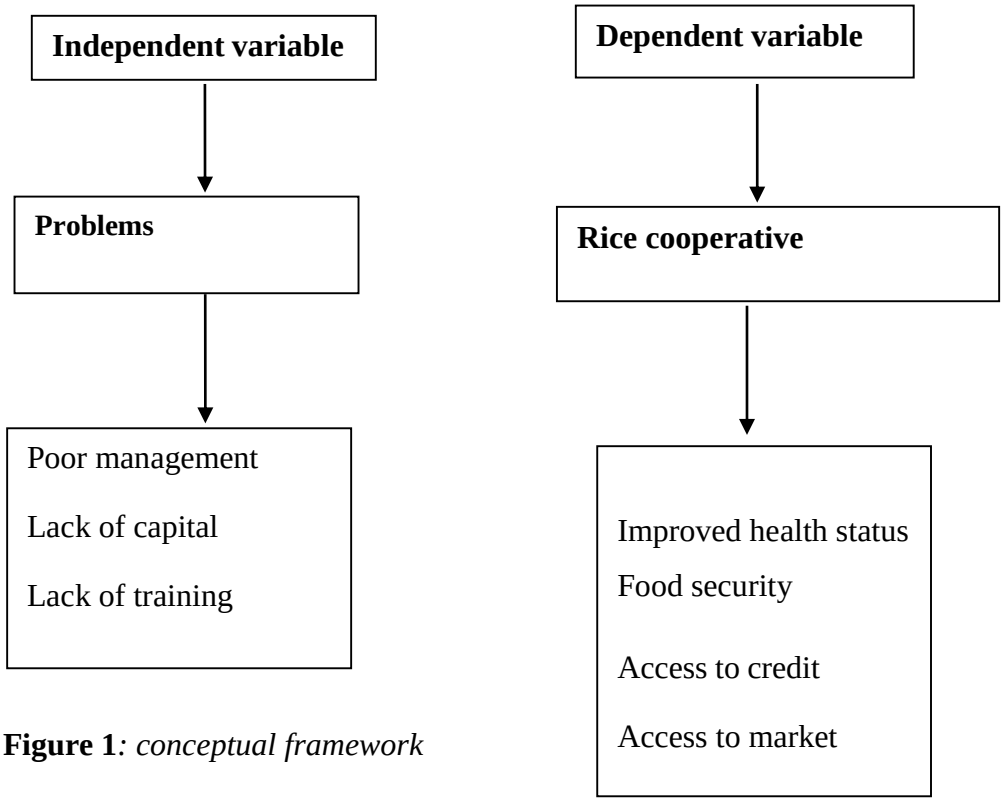


Figure 1*: conceptual framework*

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

This chapter portrays the methodology approach that used to collect and interpret data. In other words, it exposes the methods and the entire process that enabled the researcher to collect, analyse and present data. It also describes the research design, the research population, the sample size, the sampling procedures, the research instruments, and data analysis of the study.

3.1. Study area

The study was been undertaken with the member of KOAIRWA Cooperative, which is in Huye District, in the southern province. The main crop cultivated is rice where rice is cultivated in Rwasave marshland. This cooperative is working on area of 127.1 Ha. 4.2.2. Historical perspective of KOAIRWA (Koperative y'Abahinzi b'Igishanga cya Rwasave) was started in 2006 in order to fight against poverty which was prevalent among farmers around Rwasave marshland but at that time it was an association with Currently KOAIRWA has 864 members (KOAIRWA, 2011).

3.2 Research design

According to Kenneth (1987), a research design is the total plan that is used to aid in answering research questions, and it is the entire process of study, problem formulation through dissemination of findings. In this study both qualitative and quantitative research methods was used. Qualitative method was used to draw information while quantitative method was used to collect information from employees.

3.3 Study population

Population refers to all events, things or individuals to be presented in an investigation Richard (1990). According to Kenneth D. B. (1978), population is defined as a group or category of human beings, animals, and other things that have one or more characteristics in common as the target population of the universe.

The target population was composed of cooperative members involved in agribusiness and some leaders of the rice associations in Huye District who were questioned depending on the designed questionnaires by the researcher. These households were selected using a simple random

sampling method. Random sampling is where all elements understudy has equal chances of being chosen.

Indeed, studying the households were deemed necessary in this study since the research target was to identify and classify them according to their characteristics measured basing on statistical techniques; in order to prove significant contribution of agribusiness on cooperative members poverty reduction in Huye District.

3.4 Sampling procedure and data collection

Highlighted by (Grinnell et.al 1990:41), before the sample can be selected, the researcher must decide on how many people are needed to take part in the study. The correct sample depends upon the research's population. The targeted population were 864 rice farmers who work with KOAIRWA.

For the sample size, the researcher used Slovin's formula to calculate the sample size that represents the total population. The formula (sometimes written as Slovin's formula) was formulated by Michael Slovin in 1960.

Slovin's Formula is:

- $n = \frac{N}{1+NE^2}$
- Where: n = sample size

  N = population size

  E = margin of error

So, from the above formula, by using the marginal error of 10% i.e. 90% confidence; I calculated the sample size from the 864 population of female's members of KOAIRWA. Therefore, the sample size which to use in this research was drawn and respondents were 89 cooperative members.

3.4.1 Data Collection techniques

Various methods and instruments enable the researcher to collect significant data of the study. Three main methods namely questionnaire, observation and interviews were used to gather necessary data for the research.

Data collection was based on primary and secondary data. Additionally, various journals and reports were consulted for the study with the literature review from where the secondary data was collected. This method also was used to validate and compare information collected from both interview schedules and questionnaires. This involved accurate watching of the reaction of the respondents and critical observation of the extent of the problem.

3.4.2 Data Processing and Analysis

Most questions ask by the interviewers could be answered with 'Yes' or 'No' and Agree, Disagree, strongly agree, neither agree nor disagree by the interviewees. Analysis of data was therefore only descriptive (i.e. no statistical test were carried out) and results were presented as percentage proportions. It involved editing, codifying, tabulation, so as to make the analysis and interpretation of findings.

Coding

According to Richard (1990) coding is a technical procedure by which data are collected. It is carried out by grouping data in logical categories.

During analysis the following code will be used:

SA: you strongly agree

A: you agree

N: Neither agree or disagree

D: you disagree

SD: you Strongly disagree

Respond code : SA=1; A=2; N=3, D=4, SD=5

Maser and Karton (1971) assert that the aim of coding surveys is to classify the answers to questions in the meaningful categories in order to bring out their acquired patterns while conducting this research, answers acquired will be categorized and therefore tabulation will be established.

However, depending in the nature of the question, the ones with direct Yes or No answer was coded as YES: 1 and NO: 2.

Tabulation

Tabulation refers to the part of the technical process in statistical analysis of data that involves counting to determine the number of cases that fall in the various categories, (Richard, 1990). The researcher used tables to summarize answers provided by respondents and thus, calculated frequency of occurrence.

3.5 Methods of Data Analysis

For data analysis, the Statistical Package for the Social Sciences (IBM SPSS Statistics 20) was used for data analysis to evaluate and presents the information; with SPSS it predicts with confidence what was happen next so that you can make smarter decisions, solve problems and improve outcomes.

CHAPTER FOUR: RESULTS DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.0 Introduction

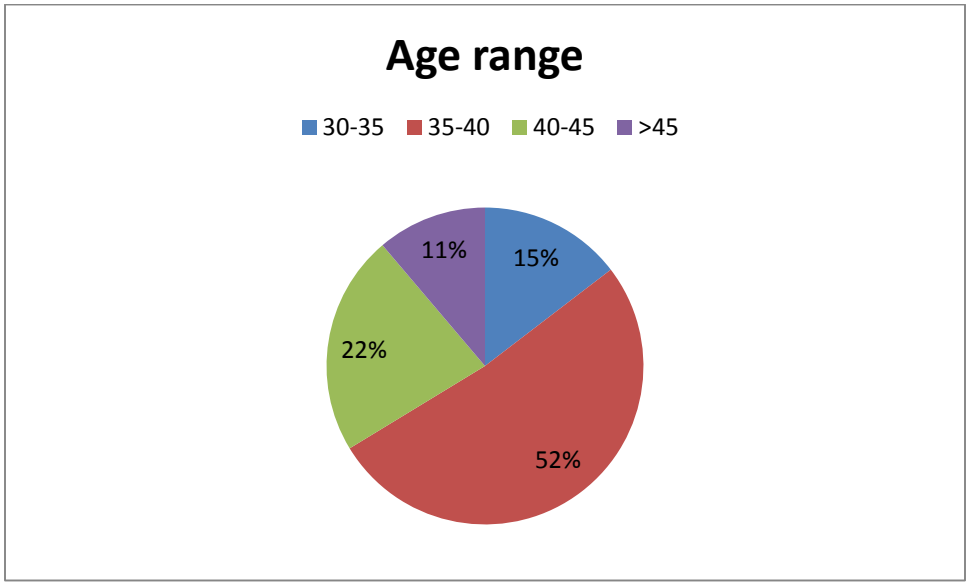
This chapter intends to present the results, interpret and discuss respective findings according to the objectives of the study. The respondents for this study were members of the KOAIRWA cooperative in total 89 interviewees.

4.1 RESULTS PRESENTATION AND INTERPRETATION

4.1.1 Demographic characteristics of respondents

The demographic characteristics assessed from the respondents included age range, education level and marital status. The respondents were asked to indicate their ages from among choices of age brackets given. The use of these classes minimized the number of individual responses and allowed easy classification and analysis of the information. The age of the respondent has an influence on the ability to engage in production activities of the cooperative. The respondent's responses are shown in following figure

Figure 2: Age range among respondents



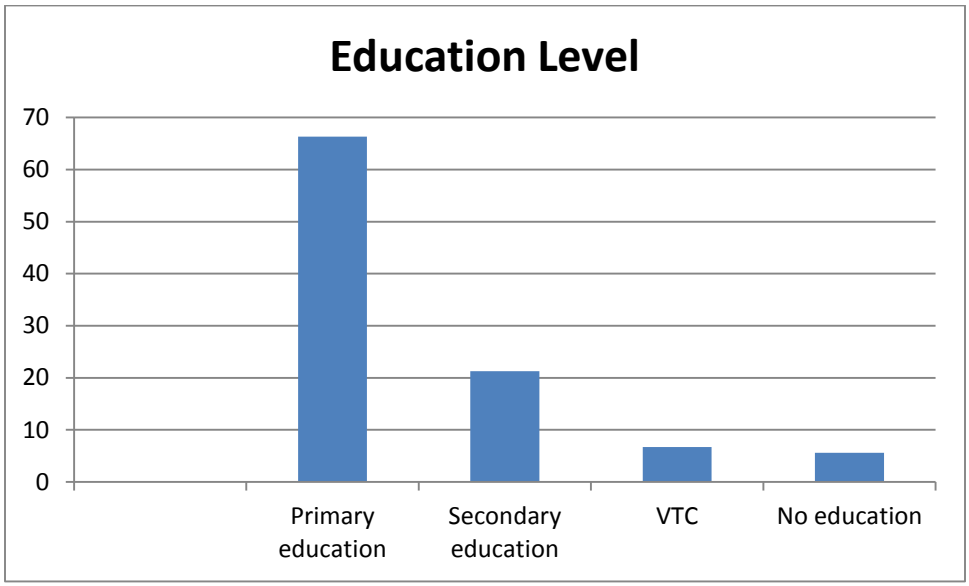
Source: primary data (2019)

Results showed that majority of respondents (52%) ranged between 35-40 years. The persons of this age have the willingness to work hard in order to increase the income of their family and they have also more responsibility in the family like the payment of school fees of the

children, health insurance, etc. 22% of respondents have the age between 30-35 years old. Similarly, they still have more responsibility in their family as stated above. Only, 11% and 15% has between 40-45 and above 45 respectively.

Figure 3: educational level

Education level of the respondent represented the level of formal schooling completed by the respondent at the time of the study. The respondents were asked to indicate their highest level of education and figure 3 shows the results



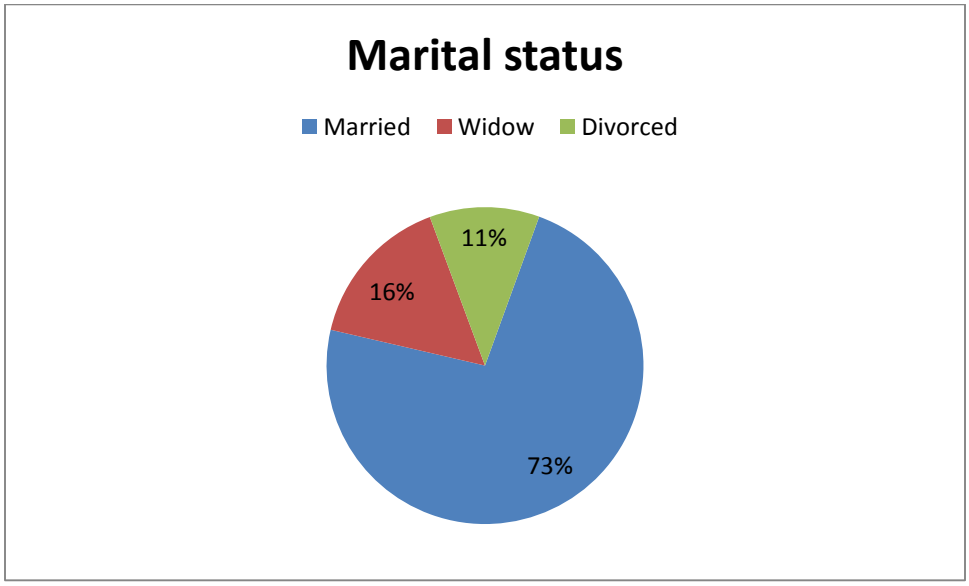
Source: primary data (2019)

Results indicated that Majority of respondents had a primary level of education. The figure 3 below shows that 66.5 % of farmers surveyed have attended the primary school and 5.6 % did not attend the school, 21.3% attend secondary school and few of them (6.7 %) have attended VTC. This suggests that the majority of rice growers in Rwasave marshland have the primary and Seconadary School and VTC education while others are illiterate; this becomes an essential for the adoption of new technologies on rice crop management. This agrees with Thomas and Daniel (2009) who indicated that education has been and is an important prerequisite in organizational leadership and management. Education level refers to academic credentials or degree an individual has obtained.

Also it agree with with Chibanda et al (2009) who pointed out that the performance of cooperatives depends on education and training of cooperative members and enhancing their knowledge of cooperative principles and member's rights. Education and training in this case is

geared towards improving member participation and understanding of cooperative management activities even if managed by a separate body.

Figure 4: Distribution of marital status among respondents



Source: primary data (2019)

The figure 4 below shows that the majority of respondents are married. They account for about 73% of the total sample while about 16% of respondents are widows and the remaining 11% of respondents are divorced. Therefore the main demographical profile of respondents is married.

4.1.2 Roles of KOAIRWA in improving cooperative members livelihoods

The roles of cooperative members in improving their livelihood was assessed by evaluating the livelihood before and after they have joined KOAIRWA.

Table 1. Business carried out by koairwa Members prior to joining The cooperative

Types of Business	**FQ**	**%**
Temporal clerks	59	66.3
Agriculture for home consumption	63	70.8
Small scale enterprise	33	37.1

Source: primary data

Before joining KOAIRWA, 66.3% of respondents were working as temporal clerks, 70.8% were practicing agriculture for home consumption and 37.1% had small scale enterprises. Based on the results in Table it was found that, respondents were engaged in more than a single business prior to joining KOAIRWA.

Table 2. Benefits gained after joining KOAIRWA

Benefitis gained	Mean	Std. Deviation
Food security	4.38	.489
Health insurance	4.00	.000
Savings	2.97	1.898
Education for children	3.37	1.933
bank loans	1.62	1.211
household needs satisfaction	1.70	1.200

Results in Table 2 indicated that major benefits gained after joining KOAIRWA included health insurance with mean equals 4.38 and standard deviation of 0.489, followed by food security by with the mean equal to 4 and standard deviation of 0 , then mean of 3.37 and 1.933 of standard deviation for children's education. However, other benefits included, savings the mean equals to 2.97 and standard deviation of 1.898. The access to bank loan and satisfaction of household needs were not major benefit as they were only benefited by 10.1% of respondents respectively.

4.1.3 Challenges faced by members of KOAIRWA

There are many challenges that affect the performance of cooperative societies. Warren and Preston (1990), Kobia (2011), and Anbumani (2007), highlight some of the challenges as weak economic base. This translates into weak financial status of cooperatives. Dishonesty, corruption and fraudulent vices are also challenges facing cooperatives (Anangisye, 1977, p.7).UN-Habitat, (2010), cite insufficient managerial skills to be a challenge to cooperative performance. Widstrand (1970, p.130) shows that political interference as challenge to cooperative. This background prompted the study to investigate into challenges facing cooperatives in the study area and the responses indicated in table 4 but to know the challenges, we have to know the expectations and the reponses are indicated in table 3.

Table 3. Expectations of coopertaive members before joining KOAIRWA

Expectations	Mean	Std. Deviation
Expectations: generate satisfying income	4.63	.486
Expectations: Access to bank loan with no constraints	4.63	.486
Expectations: fully engaged in cooperatives's activities	3.39	1.723
Expectations: have a fullfilling job	3.18	1.844
Expectations: have an improvement wellbeing	5.00	.000

Source: Primary data (2019)

Table 3 indicates that, prior to joining KOAIRWA, cooperative members were having different expectations a such as a generation of satisfying income, have an improved wellbeing and access to bank loan with no constraints, be fully engaged in the activities of the cooperative, expected to have a fulfilling job have the mean equals to 4.63, 4.63, 3.39, 3.18 and 5.00 respectively and their standard deviationequal to 0.486, 0.486, 1.723, 1.844 and 0 consecutively.

Table 4. Constraints faced by cooperative members of KOAIRWA

Expectations	Mean	Std. Deviation
constraints: Low income generated from KOAIRWA	5.00	.000
constraints: Lack of good leadership	4.12	1.313
constraints: low production caused by the climate of the area	3.92	1.494
constraints: lack of market to sell the product	4.39	1.212
constraints: Much work but less earnings	4.54	1.159

Source: Primary data (2019)

Results indicated that constraints faced in KOAIRWA included a low-income generation has a mean of 5 and standard deviation of 0, a lack of good leadership has a mean equals to 4.12 and a standard deviation of 1.313, the climate of the area has a mean of 3.92 and standard deviation of 1.494, a lack of market with mean of 4.39 and standard deviation of 1.212, heavy duties but little wage has a mean of 4.54 and standard deviation of 1.159 and lastly, a high cash demand for investment has mean of 4.55 and standard deviation of 1.158. This agrees with Warren and Preston (1990), Kobia (2011) and Anbumani (2007), who highlight some of the challenges including the weak economic base. They also cited that another thing is the poor member participation in the control and running of the cooperatives. This leads to failure of cooperatives and moreover is that products produced by most of the cooperatives attract low demand in the market. Membership size is therefore a substantial consideration for cooperative development. The principle of open and voluntary membership enhances free entry and exit from cooperative movements. Large membership size is desirable for continuity of cooperatives. However policy framework should be put in place to guide the limits on cooperative membership which may be expected to yield relatively higher returns

4.1.4. Cooperative members perception for the improvement of their engagement in KOAIRWA

Table 5. areas if improvement in KOAIRWA

Area of improvement	Mean	Std. Deviation
Need for improvement: Facilitation for loans demand and payment	4.00	.000
Need for improvement: Provision for appropriate clothings during rice winnowing	4.00	.000
Need for improvement: Establish technology for rice processing	3.92	.980

Source: Primary data (2019)

Results indicated that perceive facilitation for loan demand, provision of appropriate clothing during rice winnowing and improvement of rice seeds appropriate for the areas climate as major areas of improvement as their mean is 4 and standard deviation is 0. However, it was also indicated that technologies for rice production has a mean of 3.92 and standard deviation of 0.98

4.1.5. Interview with Cooperative Leaders

Management of Cooperative says that the most problem they solve is health insurance and facility to credit access. Even thou women has elevated from poverty reduction, there are some challenges and problem that the cooperative faces that inhibit women poverty reduction; some of those are:

Even though the rice farmers agreed that the price of rice has increased but they are still complaining that the price is still low compared to the efforts made to produce rice in terms of

phyisical work and monetary expenditures; they getting small return due to the fact that production is being sold at its early stage of rice value chain (paddy selling).

Farmers suggested that it would be good if they could be facilitated to have final rice sold in the market or to a bit increase price per kilogram paddy come inserting to efforts invest in rice production

MINAGRI through its Post harvesting programs import fertilizers and give them to the private distributors at certain fixed price to rice farmers. However, rice farmers feel that they getting fertilizer at very expensive price due to the fact that private distributors do much cater for their profit margin which is even high rather than serving people. On the side of farmers, they suggested to let fertilizers be managed internally (at cooperative level).

Cultivating and Harvesting are still done manually even threshing is still done by hands. It is very important to start using machines. The time of harvesting rice farmers don't have enough space to store their yield and there have few shitting to dry the paddy rice. With interview with cooperatives managers confirmed stores and shittings are still major challenges for rice farmers; which at the end of the day resulted in substandard quality of rice compared to rice imports.After harvesting rice farmers don't sell the production immediately they have to wait cooperatives to get someone to buy paddy rice for all rice farmers at ago. These delay farmers who are in emergency need of money; their rice selling always passes through public tender process run at cooperative level. That is to say that they no open market for them in which they can express their price bargaining power.

4.2 DISCUSSION

This part discusses the main findings of the study as it explains the results of the Three specific study objectives being to determine the roles played by KOAIRWA in improving cooperative members livelihoods, to identify the challenges faced cooperative members engaged in KOAIRWA and lastly to determine cooperative members perception in the improvement of their engagement in rice production. The study focused on members of KOAIRWA and these were grouped into four major groups based on their age range, education level and marital status to describe the general characteristics of the 89 respondents.

In Rwanda, the establishment of cooperatives such as in the Agribusiness sectors aims merely to enable members to come together for various activities whose profits first serve their socio-economical as well as cultural needs and later target the market (Rwanda Cooperative Agency, 2018). Numerous studies have demonstrated the Crop Intensification Program as a tool of poverty reduction in Rwanda (Musabe B. L. 2012) and roles of rice cooperatives in poverty reduction and improvement of livelihood of farmers cooperatives play a great role, mainly in rural areas, in distributing subsidized inputs (especially mineral fertilizers and improved seeds), in joint production and in marketing (Chambo, S. A. 2009).

4.2.1 Roles of KOAIRWA in improving cooperative member's livelihoods.

Generally, my study showed extremely improvement of livelihood of members joined KOIARWA. These were independent of health insurance, food security, afford education for their children and are in line with earlier studies carried out in the same area. This was also demonstrated by Musabe B. L. (2012), with a high proportion of direct beneficiaries, likewise for education activities like pay school fees, the food security was improved compared to the previous study showed that more than a half of respondents (54.3%) were suffered of food insecurity (Musabe B. L. 2012).

The results of my study revealed the effectiveness of KOAIRWA in improving cooperative member's livelihood were analyzed based on questions. I found all respondents on the health insurance 100 % and then 55.1% indicated that they afforded education for their children for food security by 62.9% this result is in stark contrast to what Musabe B. L. (2012) reported from the same area. Regarding the types of business or occupation that these members were involved in prior to joining KOAIRWA and after joining the cooperative these occupations were still relevant; Cooperative members were mainly engaged in seeking for temporal clerks and practicing agriculture for home consumption as strategies for subsistence. However, it was indicated that even after joining KOAIRWA, the cooperative members still had to continue other occupations additional to the duties in KOAIRWA. This was since before joining KOAIRWA, they had different expectations which are not currently met.

Furthermore, despite different challenges faced by members in the cooperative, 52.8% of them explained that they can still have some savings after earning. Nonetheless, It was found that

members hardly access bank loan this was contrast to what Musabe B. L. (2012) reported from the same area and their household need are not adequately satisfied (Table 3). The gained benefits were seen to also have positive impacts on the Cooperative members's personal development such as being able to generate household income is in line with earlier study done by Musabe B. L. (2012), promoting their dignity but also gaining knowledge for modern agriculture practice.

4.2.2 Challenges faced by cooperative members engaged in KOAIRWA.

Empirical study shows that Cooperative members have a higher propensity to work in agriculture than men, 92 per cent compared to 77 per cent (NISR, Population Census 2012). Women constitute 66 per cent of the agricultural work force (NISR, EICV 4). Women and men farmers in dual households are generally characterized by unequal power relations, leaving women with very limited decision-making powers. This affects their control over agricultural assets, inputs, produce and capacity building opportunities, resulting in low agriculture productivity. Due to their limited access to inputs, women farmers' plots are typically less productive than those operated by men. Additionally, women in agriculture are more vulnerable to climate change and land degradation because they generally have no other alternatives to earn their family's living. Women's relatively low inclusion in formal financial services limits their participation in agribusiness and thus their earning potential compared to men (Agriculture & Resources, 2018).

Also, it was revealed that Compared to men, women have limited access to formal finance and are more likely to be financially excluded (NISR, FinScope, 2016). Only 25.5% of loan beneficiaries are women according to the data from the Gender Monitoring Office Showing that more financial products addressing women's needs are desired (Gender and Agriculture, 2017).

My study further indicated that Cooperative members were faced with number of challenges. This was measured based on the discrepancy in meeting the expectations of the members and also based on their leaders observation. Expectations were that being part of KOAIRWA will enable a generation of satisfying income, an access to bank loan without payment constraints, having a fulfilling job, having an improved wellbeing and being fully engaged in the activities of the cooperative. However, my study revealed that these expectations were not met, since respondents were claiming to have a low income 100% of respondents had responded with agree,

a lack of good leadership, high cash demand to invest in the cooperative and heavy duties with the cooperative but wages unsatisfactory.

4.2.3 Cooperative members' perception in the improvement of their engagement in Rice Cooperative.

Empirical study reveals that the promotion and dissemination of adapted technologies will reduce burdens and enhance land and labor productivity. To enhance its impact, attention will be given to adapting technology programmes to local conditions and farmers' needs and capacities, considering the specific needs of women, the youth, and vulnerable households. Where possible, Labour saving technologies, especially for rural women (e.g. agriculture mechanization, water reserve tank, cooking stoves, cooking briquettes, etc.) will be promoted to reduce women's workload and allow them to allocate more time to other productive activities and child feeding and care.

Based on the earlier mentioned challenges faced by women members of KOAIRWA, members have suggested different areas perceived to need improvement. As indicated by majority of the respondents, there is need for facilitating members to get and pay loan, and adoption of technologies for rice production. Moreover, as traditional ways of winnowing rice affect the women's health during winnowing, a need for appropriate clothing should be taken into consideration. It was stated that, Climate of the area is a factor that also leads to a low production of rice.

CHAPTER FIVE: MAJOR FINDINGS, CONCLUSION AND RECOMMENDATION

5.1. Major findings

The study entitled "Problems and solutions of Rice Cooperatives" was carried out in the southern Province of Rwanda, case study: KOAIRWA (Koperative y'Abahinzi b'Igishanga cya Rwasave-Rwasave Rice farmer's cooperative) I assessed roles of the cooperative in the improvement of its members livelihood, challenges faced by its members and investigated their perception for the improvement of their engagement in the cooperative. Majorly, the study found that KOAIRWA provides some benefits to the members such as being able to cater food for their families, having their families' health insurance and being able to pay fees for their children education. However, the study also found that few members can get some financial savings after earning. It was indicated that despite benefits gained, there is no easy access to loan from bank for some members as payment can be constrained by low income generation. Furthermore, the benefits enabled cooperative membres to provide household needs which have promoted their dignity.

Moreover, some challenges as members of KOAIRWA were also found to be a divergence in meeting their expectations which has prompted members to engage in secondary sources of income to sustain their livelihood in the fight against poverty. Lack of a good leadership, low income generation and lack of market for their produces were major factors constraining members of the cooperative. Hence, members indicated that to improve their engagement in KOAIRWA, there should be new strategies adopted to enable access to loan and payments, adoption of technology for rice production and an improvement of the currently used rice seeds with seeds that match the climate of the area.

5.2. Conclusion

Evidence shows that investment in agriculture is more effective in reducing poverty, particularly amongst the poorest people than investment in non-agricultural sectors. It is also up to 3.2 times better at reducing poverty in low-income and resource-rich countries (including those in sub-Saharan Africa) at least when societies are not unequal (Christiansen et al., 2010).

However, Agribusiness projects such as rice cultivation by members in a cooperative are appropriate strategies contributing to the alleviation of poverty among farmers and community at large through provision of employment and opportunities to tackle poverty. However, despite benefits gained by members, challenges are faced and hence need adoption of new strategies to

seek for solution that would satisfy both members of cooperatives. This last will be prompt factors to lead the cooperative towards achieving its mission.

5.3. Recommendation

1. To recruit agronomist in order to improve service delivery in terms of technical assistance to agricultural cooperative members to increase their profitability.
2. To increase the number of winnowing machines to avoid post-harvest losses.
3. To sensitize partners and donors to participate in providing inputs of Irish potatoes like improved seeds and fertilizer
4. To sensitize financial institutions (banks) to facilitate farmers get access to credit because the banking system imposes heavy collateral requirements and poses inappropriate lending conditions, like periodicity of repayment not linked to the agricultural cycle

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Questionnaire

My name is **KANKINDI BOANI Diane,** Student of college of business and economics department of postgraduate studies master's in business administration (MBA) project management, carrying out a study on **Problems and Solutions of Rice Cooperative in Rwanda case of KOAIRWA.** I request my kind respondents to answer the entire questionnaire by exhausting their opinions; therefore, every answer is correct. Thank you very much for your assistance.

Please tick the appropriate box or explain where necessary.

SECTION A: QUESTIONS FOR COOPERATIVES MEMBERS

Names:

1) **Gender**
   - ( ) Male ☐
   - ( ) Female ☐

2) **Age**
   - ( ) 21 – 28 ☐
   - ( ) 29 – 36 ☐
   - ( ) 37 – 44 ☐
   - ( ) 45 – above ☐

3) **Level of education**
   - ( ) uneducated ☐
   - ( ) primary ☐
   - ( ) Secondary school ☐
   - ( ) Bachelor's Degree ☐

4) **Marital status**
   - ( ) Married ☐

( ) Single ☐

( ) Widow ☐

SECTION B:

please respond to the questions of your choice by using the corresponding letter(s) as guided;

D: Disagree

SD: Strongly disagree

N: Neither agree nor disagree

SA: Strongly Agree

A: Agree

Response code: SD=1; D=2; N= 3, A=4, SA=4

Q1. Before joining KOAIRWA, what types of businesses were you engaged in?

- Temporary Clerks
- Agriculture for home consumption
- Small scale business

Q2. Has KOAIRWA contributed to the improvement of your household income?

D: Disagree

SD: Strongly disagree

N: Neither agree nor disagree

SA: Strongly Agree

A: Agree

Q3. What benefits are you gaining from being a member of KOAIRWA?

- Occupation
- Health insurance
- Savings
- Education for children
- Bank loans

- Household needs satisfaction

Q4. Has KOAIRWA promoted your livelihood?

D: Disagree

SD: Strongly disagree

N: Neither agree nor disagree

SA: Strongly Agree

A: Agree

Q5. If Agreed or strongly agreed in Q4, how has this been implemented?

- Provision of occupation
- Promote women's dignity
- Enhance women experience in Agriculture
- contributes to household income.

Q6. What were your expectations prior to joining KOAIRWA?

- Generate satisfying income
- Access bank loans with no constraints
- Being fully engaged in the cooperative's activities
- Have a fulfilling job
- Have an improved wellbeing

Q7. Has your expectations as a member of KOAIRWA been met after joining this cooperative?

D: Disagree

SD: Strongly disagree

N: Neither agree nor disagree

SA: Strongly Agree

A: Agree

Q8. If disagreed or strongly disagreed, why do you think joining KOAIRWA has not met your expectations?

- Work injustice
- Low productivity leads to low earnings

- Feeling to look for another job

Q9. What do you think are the major causes of the issues you are facing as a member of KOAIRWA?

- Cooperative laws do not favor women
- Bad leadership to follow up member's challenges
- Low production caused by climate of the are
- Lack of market to sell the products

Q10 a. If you get another job, would you quit KOAIRWA?

- Yes, or NO.

Q10 b. If yes, why?

- KOAIRWA lack markets
- My earnings do not meet household needs
- Much works, but less earnings
- High cash demand by the cooperative to invest in farming.
- To gain much time to care for my family

Q11. What do you see should be improved in KOAIRWA that would be beneficial?

- Facilitation for loans demand and payment
- Provide clothing appropriate during rice winnowing
- Establish technologies for rice processing

Q12 a. Strategies of borrowing a land to KOAIRWA's members to grow rice favoring them to adequately meet their needs

D: Disagree
SD: Strongly disagree
N: Neither agree nor disagree
SA: Strongly Agree

A: Agree

Q12 b. If No, what should be adopted?

- Let all members work together and be paid as casual workers
- Allow the payment of the borrowed land after production.
- Accept payment of the borrowed land in installments

Q13. What are your general recommendations for KOAIRWA?

- Improve rice seeds with those appropriate to the area's climate
- Adopt technologies for rice procession
- Revise members' payment scheme to the Cooperative

SECTION B: Question addressed to KOAIRWA Leaders

Q1. What problems does your cooperative solve for your members?

Q2. In your view do you thing that majority have elevated from poverty levels?

Q3. What are major challenges/ problem does the cooperative face?

Q4. How would you want the problems to be solved?

Q5. What general problems do you face in respect to the rice yield in your cooperatives?

Q6. In your opinion, do you think rice growing is a suitable profession for Cooperative members?

Q7. What kind of technology would you wish to put in Place in order to increase rice production?

Q8. How can you facilitate the market for rice yield so that Cooperative members earn more income?