



**van hall
larenstein**
university of applied sciences

**ENHANCING THE RELATIONSHIP BETWEEN SOYBEAN COOPERATIVES AND AGRO-PROCESSORS IN
RWANDA**

**The case of Muhanga Food Processing Industries and ABAHUZAMURIMO soybean farmers'
cooperative in Muhanga district**



**A Research Project submitted to Van Hall Larenstein University of Applied Sciences in partial
fulfillment of the requirements for the award of Professional Master Degree in Management of
Development, specialization of Rural Development and Food Security**

By

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DEDICATION

This research work is dedicated to:

Almighty God,

My wife,

My entire family and friends

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ACRONYMS AND ABBREVIATIONS

2-2 tango: Two-Two tango
CIP: Crop intensification Program
COCOF: Conseil Consultatif des Femmes
EAC: East Africa Community
F-F: Firm-Farm
FGD: Focus Group Discussion
Fig: Figure
GDP: Gross Domestic Product
HA: Hectare
KG: Kilogram
Km: kilometers
MFPI: Muhanga Food Processing Industries
MINAGRI: Ministry of Agriculture and Animal resources
MINICOM: Ministry of Industries and Trade
NFP: Netherlands Fellowship Programme
NGO: Non-Governmental Organisation
NISR: National Institute of Statistics of Rwanda
RAB: Rwanda Agriculture Board
RCA: Rwanda Cooperative Agency
RDB: Rwanda Development Board
RSB: Rwanda Standards Board
RWF: Rwandan Francs
RYAF: Rwanda Youth engaged in Agribusiness Forum
SOSOMA: Soybean Sorghum Maize
SWOT: Strength, weakness, opportunities, and Threats
USD: United State Dollars
VHL: Van Hall Larenstein

ABSTRACT

Soybean is one of six crops of special consideration in Rwanda on which it takes to accelerate sustainable agricultural and rural development. The Rwandan government has supported investors to invest in modern commercial soybean processing industries. Despite subsidy provided by the government, farmers are still supplying low quantity/irregularly supply due to poor market linkage to agro-processors.

The objective of this study was to investigate factors that prevent ABAHUZAMURIMO cooperative to supply soybeans regularly to Muhanga Food Processing Industries (MFPI) by gaining an insight into their current relationship with an aim to formulate recommendations to improve the relationship. The main research question was “What are challenges facing business relationship between ABAHUZAMURIMO cooperative and Muhanga Food Processing Industries (MFPI)?” Four sub-research questions were formulated to answer the main research question.

To find the answers to these questions a literature review was conducted on soybean functioning in Rwanda as well as firm-farm relations theories. Field research was done by using a 2-2 tango framework (tool for self-assessment of firm-farm relations) that is based on semi-structured interviews, a self-assessment survey, and debriefing meeting through focus group discussion. The survey results were processed and analysed per challenge area. Next to that, a focus group discussion for debriefing meeting was held with both actors in order to get an in-depth picture on reasons for the level of scoring and degree (dis)agreement during the survey.

The price issue is the main factor affecting the relationship between cooperative and MFPI, which need an urgent improvement to strengthen business relationships. The study further revealed that both the MFPI and the farmers agreed on the poor communication exists in their relationship and poor cooperative management. In regard to enhancing the relationship between cooperative and MFPI, the study proposed recommendations to the different stakeholders to strengthen their partnership by knowing their duties and roles. The study recommended the increase of bargaining power on price to farmers and MFPI staff to prevent other buyers and also cooperative needs reinforcement through cooperative management. A good relationship with different stakeholders was recommended to RYAF in order to enhance and to facilitate the relationship.

Key words: Soybean, Relationship, cooperative, processor, production, price, market

CHAPTER ONE INTRODUCTION

1.1 Background of the study

1.1.1 General background

Rwanda is a hilly, fertile and landlocked country in Eastern Africa with a dense population of about 12 million people on the total area of 26,338 Km square. Out of which 24,948 Km² is arable land while the water covers 1,390 Km square. It borders by Democratic Republic of Congo (RDC) in the west, Tanzania to the east, Uganda in the north, and Burundi in the south (NISR. 2017)

Agriculture is the backbone, and a key component of the fast-growing economy, it contributes significantly to national food self-sufficiency, as over 90 percent of all food consumed in the country is domestically produced. It is indicated that the livelihoods of over 68% of Rwanda's population depend directly or indirectly on the agriculture. It contributes about 38% to the National Gross Domestic Product (GDP) and it drives poverty reduction as well as improved living standards of the population. Consequently, the Government has allocated 13% of the National budget to boost productivity and ensure food production and reduction of rural poverty and malnutrition (NISR, 2017).

Although gender equity and equality is a right in the Rwanda Constitution, there are some related factors contributing to the poor agriculture performance. The major one is gender disparities. The agriculture is



mainly done by poor women (86%) with the lowest levels of schooling and highest rates of illiteracy (23.3%). As a result, women remain in the subsistence agriculture due to many reasons such as lack of market intelligence, lack capacity to participate in agri-business and being employed in lowly-paid positions in secondary agriculture. All these results in a vicious cycle of poverty that transcend generations (NISR, 2017).

To boost agriculture and transform subsistence farming to the market-oriented model, the Rwandan government launched the program called crop intensification.

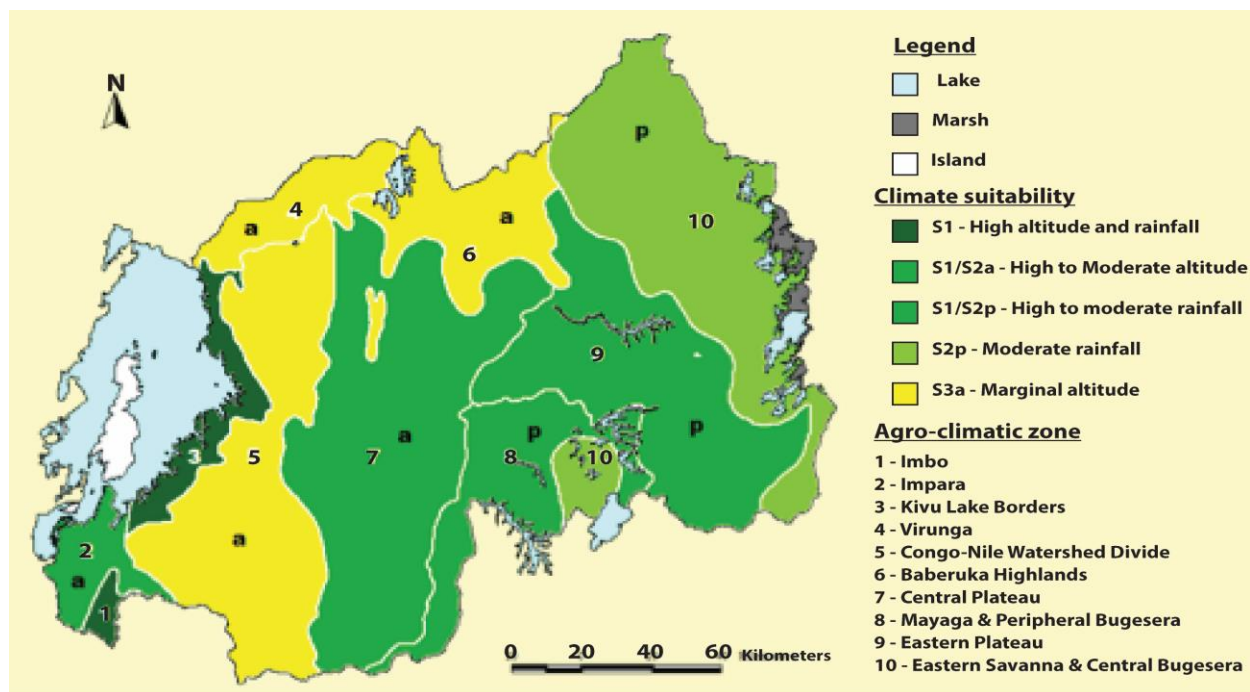
Furthermore, in order to create a more self-reliant food balance in the country, the government has developed a strategy to a number of food crops including soybean, maize, beans, rice, cassava, passion fruits, and sweet potatoes. The reason for focusing on these crops is that all these crops offer better trade and value-added prospects than the traditional food staples. Soybean production is a significant component of the agricultural sector in Rwanda that has high potential to drive economic growth and reduce malnutrition in rural areas (MINAGRI, 2011).

1.1.2 Soybean enterprise in Rwanda

In Rwanda, soybean is grown in all regions of Rwanda except the Northern Province. It grows well in Lake Kivu Borders, Eastern Savanna and Eastern Plateau agro-ecological zones (Figure 1.1). Soybean is generally grown in the low and mid-altitude zones (1000 -1700 masl), with rainfall of 800 – 1200 mm. Most parts of the Eastern Savanna, Eastern Plateau, Birunga and Mayaga are considered only moderately suitable. In

areas where there is less rainfall, early maturing varieties are the most suitable. Soybean is also grown on both hills and marshlands where it is usually associated with other food crops because it has the capacity to fix nitrogen in symbiosis with rhizobia strains. Moreover, when included in rotations with cereals, it breaks down the build-up of pests and diseases and improves soil structure and soil moisture retention capacity. For the exploitation of marshlands, priority is given by the district to farmers' cooperatives and associations (RAB, 2013).

Figure 1.1 Suitable lands for soybean cultivation in Rwanda

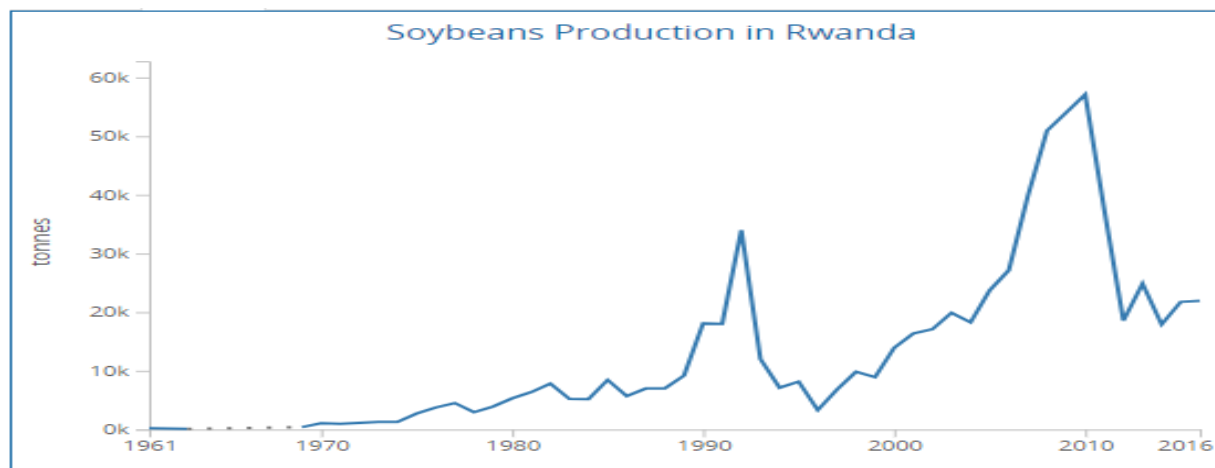


Source: RAB, 2013

Rwandan soybeans are currently produced on an area of 42,160 ha. Soybean is produced either individually or in cooperatives. Soybean farming cooperatives have more advantages than individual farmers because the former can easily bargain the price with traders or soybean industries and have access on government subsidies such as certified soybean seeds and natural resources (MINAGRI, 2011).

In general, the on-farm productivity of soybean is low (average 0.8 MT/ha) in Rwanda, which is far below the attainable yields of 2 MT/ha in other African countries like Nigeria and Uganda. However, farmers, who received recommended farming practices they get 1.5MT/ha cultivated. It is worth mentioning that about 65% of the soybean yield is sold, 25% is reserved for consumption and 10% is saved for seed. The utilization of soybean as livestock feed is not common in Rwanda (RAB, 2013).

Figure 1.2: Trends in soybean production in Rwanda



Source: FAOSTAT, 2017

To improve the yield of smallholder farmers, a lot of efforts have been made by both the government and its partners. These efforts aim at transforming agriculture from subsistence into commercial. The Rwanda Youth engaged in Agribusiness Forum (RYAF) includes the major partner. It is a platform of young entrepreneurs operating in any sub-sectors of agribusiness with a mission to create spaces and opportunities for multi-stakeholder action and learning, facilitating firm-farm business deals in order to enhance entrepreneurship. RYAF and other partners aim at increased yields, improving livelihoods, supporting farmer's cooperatives or organisations and their business partners, to increase market access for farmers and improve the quality of the different agricultural products. Cooperation between smallholder soybean farmers and agro-processing is recommended as a good way of enabling smallholder soybean farmers to access the market which can contribute to an increase of quantity and quality of soybean in Rwanda (RDB, 2015).

Moreover, the government of Rwanda (GOR) through the Ministry of Commerce has promoted the agribusiness sector by introducing a new policy which facilitates investors, especially in Agriculture post-harvest technologies. A number of investors entered the sector including African Improved Foods (AIF), Premier Animal Feeds Industry (PAFI Ltd), SOSOMA Industries Ltd, Muhanga Food Processing Industries (MFPI) and Mount Meru SOYCO Ltd. These companies have decided to invest in soybean processing with the objective of improving nutrition value of the basic sources of food, increasing farmers' income and creating jobs to local people as well as regional market demand for soybeans. The oldest processing companies have been operating for six years. This shows clearly that the sector is at an early stage. Due to the limited supply of raw soybean, processing companies accept any soybeans they get from the farmers. These companies produce both livestock feeds and cooking oil for both domestic consumption and export. In Rwanda, the price of raw soybeans is higher (650RWF/1kg) than the soybean from neighbouring countries (440RWF/1kg). As a result, processing companies prefer buying 30% of raw soybeans from Democratic Republic of Congo and Uganda (Mugabo et al., 2014).

1.1.3 Context of case study

It is worth mentioning that this study is interested in Muhanga Food Processing Industries. It is a limited company established in 2014. Although it is known as Muhanga Food Processing Industries in 2014, it started 5 years before where it was owned by a local Non-Government organization known as Conseil Consultatif des Femmes (COCOF). COCOF used to deal with processing and training soybean cooperative

farmers. Then it decided to make the processing industry independent and continued dealing with providing training and linking farmers to market. Even though the processing company was put aside, COCOF retains 54 percent share and eighty percent of the company's shareholders are women. In this respect, Muhanga Food Processing Industries takes the initiative to invest in soybean processing with the aim of improving nutrition value of the basic sources of food, increasing farmers' income and to fight against malnutrition. The company produces a variety of soybean-based products such as soymilk, soy meat, soy sauce, composite flour and soy tea to health centers, schools, hospitals, and supermarkets.

ABAHUZAMURIMO is soybean farmers' cooperative working in Muhanga district. It is one of the cooperatives trained by COCOF. Its objective is to improve the living conditions of cooperative beneficiaries through increasing soybean production in the Gisiza marshland. It has 88 members (58 women and 30 men) and has a common cultivated area of 6 ha and also the Cooperative members produce individually in their own land and bring the harvest to the Cooperative, all the members are soybean farmers. In terms of their core business, the study classified ABAHUZAMURIMO cooperative as production and marketing: cooperative that primarily serve farmers through access to inputs and marketing of their produce. The cooperative began operating in 2008 and got the legal personality with the Rwanda Cooperative Agency (RCA) in October 2010.

The processing of soybean into different soybean products requires a continuous supply of soybean grain from farmers to MFPI. Unfortunately, the quantity of soybean offered by ABAHUZAMURIMO cooperative to MFPI remains very low. This study is part of an effort to assess the current relationship between the MFPI and ABAHUZAMURIMO cooperative and the identification of strategies to improve firm-farm relations.

1.2 Problem statement

In Rwanda, agro-processing is mainly constrained by the low and irregular supply of raw material. On another hand, the major problems farmers face is poor market linkage. In order to improve the agricultural sector, there is a need to improve the business relationship between the farmer and the agro-processing firms. The high potential areas of Rwanda can produce enough soybeans to meet the needs of the people in the deficit areas but buying is still largely done an informal with few contract arrangements in place and a strong reliance on intermediaries. As most of these farmers are in urgent need of money, they often have no choice but to accept the low prices offered to them at harvest time.

ABAHUZAMIRIMO cooperative is one of the soybeans farming cooperative operating in Muhanga. It sells its products to either Muhanga Food Processing Industries (MFPI) or other buyers. The cooperative prefers to sell to different buyers, this affects negatively the supply to Muhanga Food Processing Industries which relies on the soybean supply of ABAHUZAMIRIMO cooperative. Indeed, this low and irregular supply of raw material has a negative impact on the functioning because the company is sometimes forced to switch off the machines due to insufficient supply. Consequently, it processes at a very low rate (average 41%) compared to its production capacity.

Based on this background, Rwanda Youth engaged in Agribusiness Forum (RYAF) was a need to conduct an assessment in order to shed light on the business relationship between Muhanga Food Processing Industries (MFPI). The study was conducted to assess the relationship between MFPI and ABAHUZAMURIMO soybean farmers' cooperative in order to come up with tailor-made recommendations for improving the firm-farm relations.

1.3 Justification of the study

Studying the relationship between ABAHUZAMURIMO soybean farmers' cooperative and Muhanga Food Processing Industries (MFPI) was helpful to farmers since it identified all factors affecting their business relationship and gave recommendations on how to improve it. This would ensure both cooperative and firm good and sustainable business relationships which will lead to trust among those actors. It will also be useful for different stakeholders who involved in the soybean value chain to make decisions in regard to soybean, to creating conducive environment between farm and firm in formulating appropriate strategies for soybean value chain. This study would also be useful to other researchers in the domain. Since only a few studies were conducted on the firm-farm relationship in soybean production in Rwanda, the study was an increase to the existing literature in the domain since it came up with how to improve firm-farm relations.

1.4 Research objective

The objective of this study is to investigate factors that prevent ABAHUZAMURIMO cooperative to supply soybeans regularly to Muhanga Food Processing Industries (MFPI) by gaining an insight into their current relationship with an aim to formulate recommendations to improve the relationship.

1.5. Main research question

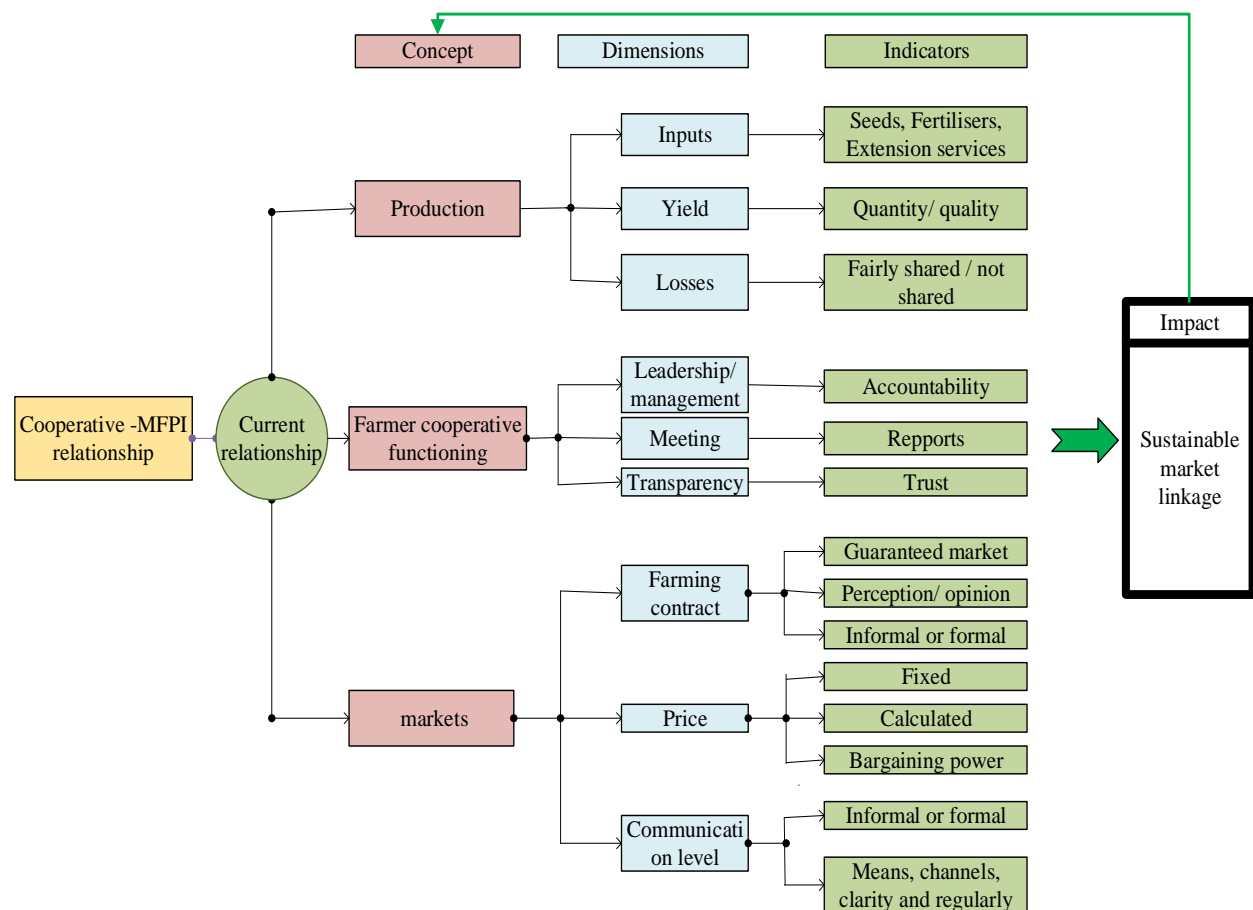
What are challenges facing business relationship between ABAHUZAMURIMO cooperative and Muhanga Food Processing Industries (MFPI)?

1.5.1 Sub-research questions

1. What is the current relationship between ABAHUZAMURIMO cooperative and MFPI?
2. What are the constraints faced by ABAHUZAMURIMO cooperative at production level?
3. What is the functioning of ABAHAZUMURIMO cooperative on agribusiness partnership?
4. What are the alternative markets available for ABAHAZUMURIMO cooperative?

1.6 The Conceptual framework

Figure 1.3 Conceptual framework of the MFPI-Cooperative relationship



Source: Adapted from CDI, 2012

Figure 1.3 describes different concepts that used in this research, the concept production was used to assess whether MFPI provides agro-inputs or extension services to ABAHUZAMURIMO Cooperative regarding production while farmer cooperative functioning used to assess the performance of cooperative in terms of leadership /transparency and its relationship with MFPI or other stakeholders, the markets were used to analyze how a cooperative perform towards the market in terms of production and supply, the ability it has to convince potential buyers to buy their soybean as the best than other similar offerings and contract-based market and it's also used to analyse how the firms address themselves to the cooperative members, by the way, their function, the price they offer and communication they use to address the cooperative members.

1.7 Definition of terms

The following terms were used in the concepts framework

Relationship: refers to the way in which the MFPI and ABAHUZAMURIMO soybean farmers' cooperative are connected, feel and behave towards each other in relation to their business. This relationship can be guided by a written or oral contract (adapted from Frederick and Roy, 2003).

Processing: In this study, processing is defined as the process of transforming fresh soybean from its raw state into new products such as soymilk, composite flour, soy sauce, soy meat...

Cooperative: A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise, according to internationally recognized co-operative values and principles (RCA, 2013).

Production: production is determined by the yield gotten by the ABAHUZAMURIMO soybean farmers' cooperative after harvest. Here the production in soybean is estimated after the harvest in terms of quantity and quality (RTI and IIRR, 2010).

Market: Market refers to the place where buyers and sellers take place. The market can be done at fixed times (RTI and IIRR, 2010), for the purpose of this study, the market refers to the capacity of MFPI of buying soybean as well as other places where farmers can sell their produce.

Contract farming: Contract farming is a forward agreement between ABAHUZAMURIMO soybean farmers' cooperative and MFPI for the supply and procurement of agricultural products under stipulated conditions.

Trust: A social capital formed between ABAHUZAMURIMO soybean farmers' cooperative and MFPI enabling a more efficient linkage through the reduction of transaction costs

Price: In this study, the price is referred to as the amount of money that the ABAHUZAMURIMO soybean farmers' cooperative receives for one metric ton of freshly harvested soybean at the farm gate or at industry gate. This refers to the value given to the soybean and should cover production costs including profit margin in order to generate revenue for the business.

Bargaining power: The ability to influence the price or terms of a business transaction and can enable soybean farmers to negotiate for better prices and terms, such as a long-term supply agreement or access to business services.

Farmer: is a person engaged in agriculture. The concept usually uses to people who do some combination of raising field crop and livestock EU (2013, p.7). In this study soybean farmer is a producer of soybean, member of soybean cooperative who sells his product to the processor.

Firm: firms are defined as a person or entities which purchase a specific agricultural product from farmers for processing or marketing purposes, mostly firm purchases raw materials to be transformed into final products, in this research Muhanga Food Processing industries to be a firm.

1.8 Organization of the thesis

This research report contains seven sections. The first chapter consists of the background of the study, problem statement, justification of the study, research objective, research questions, and conceptual framework. The second section is the review of the literature especially on a key concept, the compilation of relevant information and previous studies that is relevant to the study. The third section is the methodology. The fourth section is the presentation of research results and the fifth section covered the self-assessment survey and the sixth is the discussion of results. Finally, a conclusion with recommendations drawn from the study is presented in previous chapters.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents the review of the existing literature and also is based on the concept framework as presented in previous chapter. The review of related literature had three subsections: the first presents a general literature related to the firm-farm relationship which helped to find various principles mechanisms that agribusiness uses to secure suppliers of agricultural raw materials. In the second subsection review, the literature on farmer cooperative functioning helped to know the performance of cooperative and its relationship with different stakeholders. In the last subsection review literature on models of farming contract which assisted to understand purchase-sale agreements which is an ongoing support to minimize the risks between the seller and buyer, markets and prices aided to assess factors affecting market supply, value chain analysis facilitated to know how different stakeholders and the roles played in the soybean value chain, strategies that policymakers and institutions can use to enhance firm-farm relationship is reviewed.

2.1 Firm – Farm relationship

The firm-farm relationship is a partnership among different institutions, with a purpose to work closely with each other and make their activities complementary to supporting each other in their daily activity. This relationship can be guided by a written or oral contract which is one parameter of relationship (FAO, 2011).

On one hand, the firms and the farmers share the same profit in producing and buying the same product (APF, 2013). On the other hand, it is difficult to maintain a good relationship between them because companies and farmers also may have opposite interest when farmers perceive crop prices as too low. Farmers compare what they receive and what they produce and sell at the firms, and they want to sell their product at a high price while the company wants to purchase at the lowest price (Devereux and Maxwell, 2000).

Traditionally, small farmers in developing countries have done largely at an informal level with few contract arrangement in place, selling largely their surplus produce to local markets and strong reliance on intermediaries and agents. As most of these smallholder farmers are in urgent need of money, they often have accepted low prices offered to them at harvest period (KIT and IIRR, 2010; Boselie and Kop (n.d)).

Strong chain relations are characterized by strong organizations, trusting relationship among players, open and frequent communication and cooperation for mutual growth (KIT and IIRR, 2010). On the other hand, weak chain relations are often characterized by few organisations, farmers and buyers being fragmented, lack of trust, fight over prices, insufficient permanent relationships, distribution of poor products and facilities. It is common that firm-farm relations operate between two extremes whereby they collaborate to a greater or smaller degree. More stable, transparent and better-organized chain relations can make parties to reduce costs and risks involved in the business as well as tackle issues of common interest. Enhanced chain relations benefit all participants of the chain through improved access to market and product quality growth.

Figure 2.1: Chain relations



Source: Adopted by the author from KIT & IIRR, 2008

2.2 Farmer cooperative functioning

According to RCA (2013), a cooperative is established by farmers in reaction to unfavorable market conditions which is a common problem for them. Cooperatives offer smallholders market opportunities or enter new markets, sell products at higher prices, access to services such as training, access to production and market information, technologies, innovations and extension services (FAO, 2012). Therefore, by forming a cooperative initiative, rise their household revenue and reinforce the economic situation of their farm.

Establishing and strengthening cooperatives and farmer groups can allow small-scale farmers to share capital and reduce input costs which can increase production and income for the smallholder soybean producers. Motiram and Vakulabharanam (2007) conclude that farmers in cooperatives and farmer groups have more bargaining power, access to technical assistance, pose lower transaction costs for loans for financial institutions and have relatively better access to credit and market information. In such functioning, the cooperative tries to fulfill members 'needs at the minimum possible cost.

2.3 Contract in firm-farmers' relationship

The relationship in farming is a partnership among institution or person, with a purpose to help each other in their daily activities. This relationship can be guided by a written or oral agreement which is one parameter of relationship. The contract relations are subdivided into sharecropping, purchase-sale agreement and contract farming (Echanove and Steffent, 2004)

The sharecropping allows the tenant to use the land in growing crops and share their produce with the landowner. In the purchase-sale agreement, there is a contract that facilitates the relationship between seller and buyer. In the other hand, contract farming is an essential agreement between the farm producers and firms for the production and supply of agricultural commodities under forwarding agreements, normally at predetermined prices that operates as an intermediary between spot and vertical integration (Key and Rusten, 1999).

Under the contract, farming firms agree to support farmer's production and to purchase the commodity while farmers usually agree to deliver a specific commodity in quantities and to meet predetermined quality standards by the purchaser (Eaton and Shepherd, 2001). Contract farming is all about collaboration relationship for mutual benefit between agribusiness and farmers. The contract farming necessitates a long-term commitment for both sides in order to be sustainable and successful as well as should specify

in detail the penalties, the contract is used to coordinate both parties and to implement the parties' compliance to the terms of the agreement (Prowse, 2012).

In contract farming, processor purchases farmers' harvests according to terms arranged in advance through contracts. The farmer harvests and delivers to the contractor a certain quantity of a product, based on anticipated yield and cultivated acreage, at a pre-agreed price. Contracting is fundamentally a way of dealing risk between the farmer and the contractor. The farmer assumes the risks of production, while the contractor accepts the risks of marketing. The allocation of risk is specified in the contract and can vary widely. Some contracts specify a certain volume of production while others specify only a price (BIRTHAL, 2008).

2.3.1. Models of contract farming

The contract farming can be structured depends on the type of commodity, the intensity of vertical coordination between farmer and contractor, and the number of key stakeholders involved. Eaton and Shepherd (2001), In the FAO manual for contract farming and Prowse (2012), specified five models.

2.3.1.1 The centralized model: in this model of contract farming, a firm with predetermined quantities and under strict quality control contracts a large number of farmers. The firm provides technical assistant, agro-inputs and has control over the production process by smallholder farmers (Prowse, 2012).

2.3.1.2 The nucleus estate model: The model is a variation of the centralized model. The firm has its own land and manages plantation but also can contract independent farmers. The firm helps mainly to demonstrate different expertise to the farmers and to secure supply through the year. It is more appropriate for perennial crops like coffee and palm oil (Prowse, 2012).

2.3.1.3 The multipartite model: This model usually involves public/government entity and private companies jointly participating with farmers. There is usually a separate organization which is responsible to supply input, extension services, and production management, processing, and marketing (Prowse, 2012).

2.3.1.4 Informal model: In this model usually characterized by individual entrepreneurs or small companies, make annual informal contracts with a limited number of farmers often in verbal terms on a seasonal basis. In this case, the price is usually lower than the normal market price due to the selling on the farm gate (Prowse, 2012).

2.3.1.5 Intermediary model: Formal subcontracting by companies to intermediaries (collectors, farmer groups, NGOs). Disconnects link between farmers and companies, losing control of production and quality standards as well as prices received by farmers (Prowse, 2012).

2.3.2 Advantages of contract farming

Contract farming has significant mutual benefits both farm and firm by allowing them to establish close relationships and by reducing risk and uncertainties in purchases through predetermined timing, prices, and consistent quality standards of the commodity to be supplied by farmers. Farmers in most cases are motivated to enter into contracts because of the challenges they face mainly an assured market with fair price. Contracts farming links farmers or enables market access where demand and prices are more favorable and they are assured of a constant income. Thus, smallholders may benefit from contracting through (a) farmers' price risk is often reduced as many contracts specify prices in advance, (b) reduced risk in production and marketing, and (c) improved access to inputs, new technology as well as Farmers can use the contract agreement as collateral to arrange credit with a commercial bank in order to fund

inputs. Moreover, good communications help foster good company-farmer relations and a sense of trust, which can contribute to the reduction of strategic default by farmers as well as increased yield and profitability for companies (Bijman, 2008).

2.3.3 Challenges in contract farming

It has been observed that proposals by investors are based on optimistic assumptions of win-win and the maintenance of cordial relations, without clearly analyzing the probabilities that might go out of hand. Although contract farming has its own benefits several concerns have been raised regarding the involvement of farmers in price setting. Producer default such as soybean producers, side-selling or marketing; and payment schedule default by the firm are some of the negative aspects of contract farming which need to be considered (Ton, 2012b).

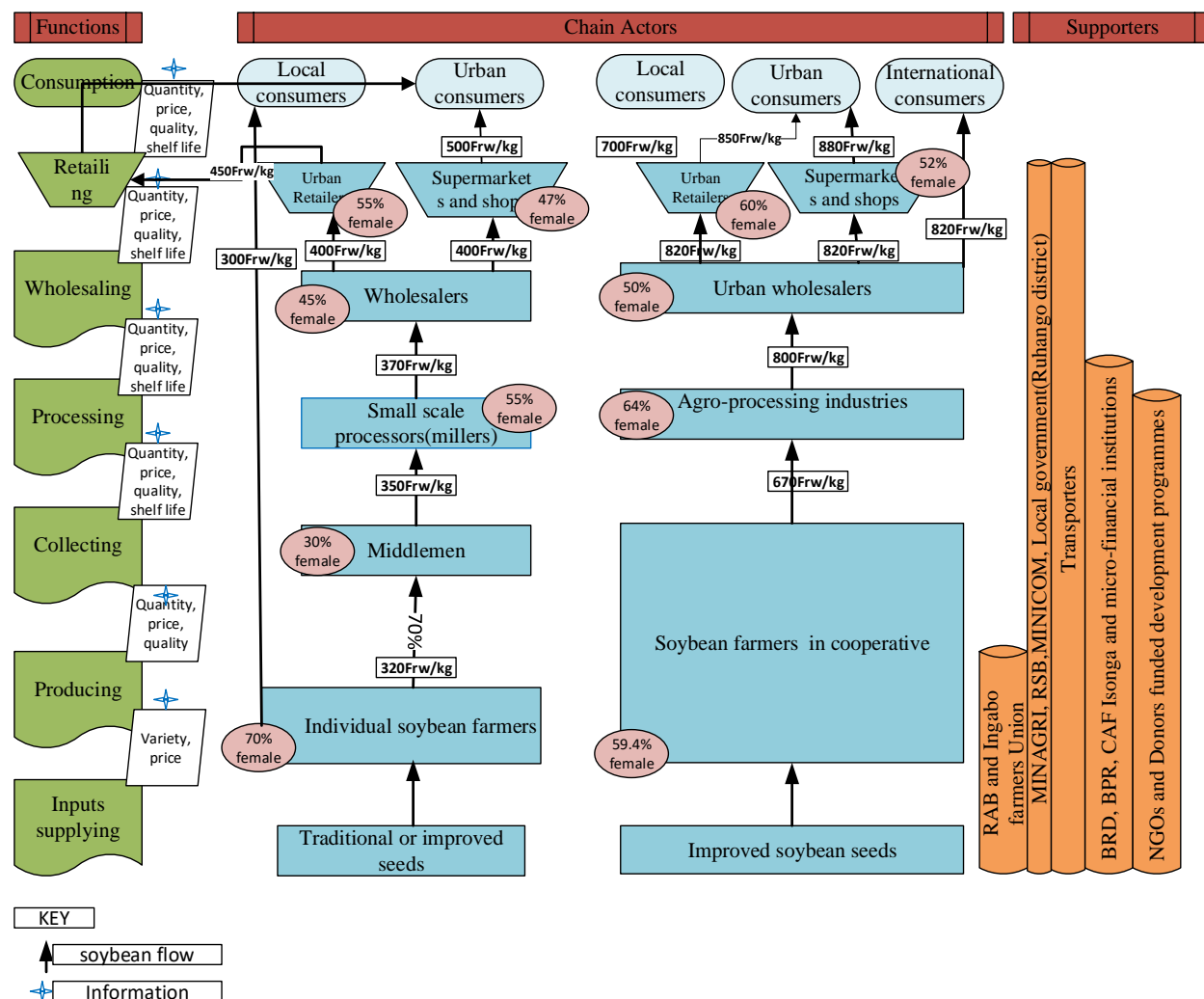
2.3.4 Market and prices

Previous research found that small-scale farmers are always wondering on what they can produce with limited marketing opportunities, which in most cases complicate the diversification into new crops. Eaton and Shepherd (2001) found that farmers are not motivated in cultivating unless they are sure of the market of their crop. Companies or processors also will not invest in projects unless they are assured that the projected produces can be regularly produced by farmers. Only contract farming can offer an adequate solution by guaranteeing market to the farmers and assuring consistent supply to the company. In addition, in case the outlets for the same crops are available, farmers may benefit from contract farming in the sense that it is not necessary for them to search for and negotiate with local and international traders, and project sponsors usually arrange transport for their produces from the farm gate.

SIDO (2009) also said that processors need to ensure timely purchases from farmers in order to prevent soybean produce, to get damaged by the sun after harvest awaiting transport from the processor. It was also noted that the better is explore the option of arranging some payments advance for farmers before the harvest. This would help to prevent premature harvests done by the farmers in order to get fast cash.

2.3.5 SOYBEAN VALUE CHAIN IN RWANDA

Figure 2.2: Soybean value chain in Rwanda



Source: Adapted from Phinehas et al (2016)

2.6.1 STAKEHOLDERS MATRIX OF THE SOYBEAN VALUE CHAIN IN RWANDA

2.6.1.1 Actors

Input suppliers

Rwanda Agriculture Board (RAB) provides especially improved seeds and fertilisers some time extension service to seed producers. RAB uses private sector companies as service providers in order to distribute inputs (seeds, fertilizers, and pesticides) and extension services where needed. Some local NGOs provide inputs on credit to beneficiaries and gets a refund at harvest at the time of collecting the production.

Producers: Traditional smallholders grow most of the country's soybeans. Producers are primarily located in the Southern and Eastern provinces. There are two categories of soybean producers; individual farmers who may be small or large and groups who can be associations or cooperatives where they have received support from NGOs to access technology.

Traders: Primary buyers who take place at the point of production throughout the country wherever soybean is grown. These traders make high margins, the prices they offer to soybean producers are based on the bargaining power of each producer, and prices vary from producer to another. The majority of traders have close links with processors. Some soybean processors get into contact with farmers without the intermediaries

Processing: Processing at the family level is done individually in a traditional way mostly using mortar; Processing for commercial is done by millers. There is also a small-scale processing mostly owned cooperatives or private companies. Processing helps turn soybean into human food, especially fortifiers. They use high technology transformed into good soybean products and packaging.

Wholesalers: Buying the big amount of soybean products and selling to retailers. Those wholesale are the private some time there is an extra cost to work on getting the market. Wholesalers play a major role as they store and make the product available to the consumers when they need it.

Retailers: Local markets, small shops, and supermarkets have soybean products at different prices depending on the selling point. Retailers play a major role in the market and they can influence pricing and market structure.

Consumers: soybean produced in Rwanda is largely consumed locally by the producers; soybean is consumed as fresh soybean, soymilk, soy meat, soy tea, and flour. Consumers are both rural farmers, urban people, and international level. Different institutions like health centers, nutrition organization, supermarkets and shops, local traders with small businesses, nursery schools, households are a big part of soybean consumption. Customers are major actors who influence the market dynamic.

2.6.1.2 Chain supporters

Local government and NGOs: The government and NGOs have provided Agronomists from the district level to the cell level and they provide technical services to the soybean farmers. This starts with cultivation until the post-harvest period.

Researchers: The main organization who are doing research on soybean are the International Institute of Tropical Agriculture (IITA), Rwanda Agricultural Board (RAB), the University of Rwanda through the College of Agriculture, Animal Science and Veterinary Medicine (CAVM). Through the collaboration of these organizations, the conducts various researchers on soybean including research on the adaptability of new varieties, pest, and diseases, soils. RAB also as government institution in charge of agriculture provide improved seeds and fertilizers to the farmers by credits and they provide an update of new modern technology to the farmers after various research.

Transporters: Transporters played the role in transporting soybean between different actors. Most of the time transporters are hired from companies or districts in order to supply produces locally or to transmit them to the main market. In rural areas, transport uses human labour, bikes while the regional and national market is done by truck.

2.6.1.3 Chain influencers

The government through the Ministry of Agriculture is the main influencer in the agriculture sector and soybean field specifically. Most of the influence is done in setting the policies like the land consolidation policy, and regionalization of crops policy, distribution of certified soybean seeds policy.

Rwanda Standards Board (RSB) is responsible for food safety and is mandated to carry out an inspection of all market products and set policies on safety to meet the standardization. Ministry of Industry and Trade (MINICOM) is monitoring the commodity market from traders up to consumers.

CHAPTER THREE METHODOLOGY

3.0 Introduction

This chapter presents the study area, research design, research strategy, data collection methods, sample size, and data analysis techniques. The research was adopted both a qualitative and quantitative approach based on empirical data and literature collected from desk and field studies.

3.1 Study area

3.1.1 Description of the research area

Muhanga district was created in 2005 by the law no 29/2005. This District is one of the eight districts that make up the southern province. The District covers a surface area of 648 km square. It is divided into 12 sectors, which are partitioned into 63 Cells and 331 Villages with 319,141 inhabitants and a population density of 490 per km square, 84.1% of its population (319,141 inhabitants) living in rural areas. It borders five districts which are Kamonyi district in the East, Ruhango district in the South, Ngororero district in the West, Gakenke district to the North and Karongi district in the South-West (NISR, 2018). Agriculture is the backbone of the economy of Muhanga district and it is a good source of household consumption (78% of the population).

3.1.2 Justification of the selected area

Muhanga district was selected as a case study because of several reasons. First of all, it has more soybean growers who produce soybeans for food and income generation; whereas, in other districts, they mainly produced soybean for home consumption. It is important to note that this district has a processing factory for soybean (Muhanga Food Processing Industries), which potentially provides market for farmers, soybean in Rwanda is generally grown in the low altitude zones (1000 -1400 masl), with rainfall of 800 – 1000 mm, and partly in the mid-altitude zone (1400 – 1700 masl), with rainfall of 1000 – 1200 mm. Most parts of the Muhanga district are considered moderately suitable. In areas where there is less rainfall, early maturing varieties are the most suitable. The district has considerable soybean farms because of crop intensification program (MINAGRI, 2011).

The following map shows the location of the fieldwork area.

Figure 3.1: The map of Rwanda - Mulungu district

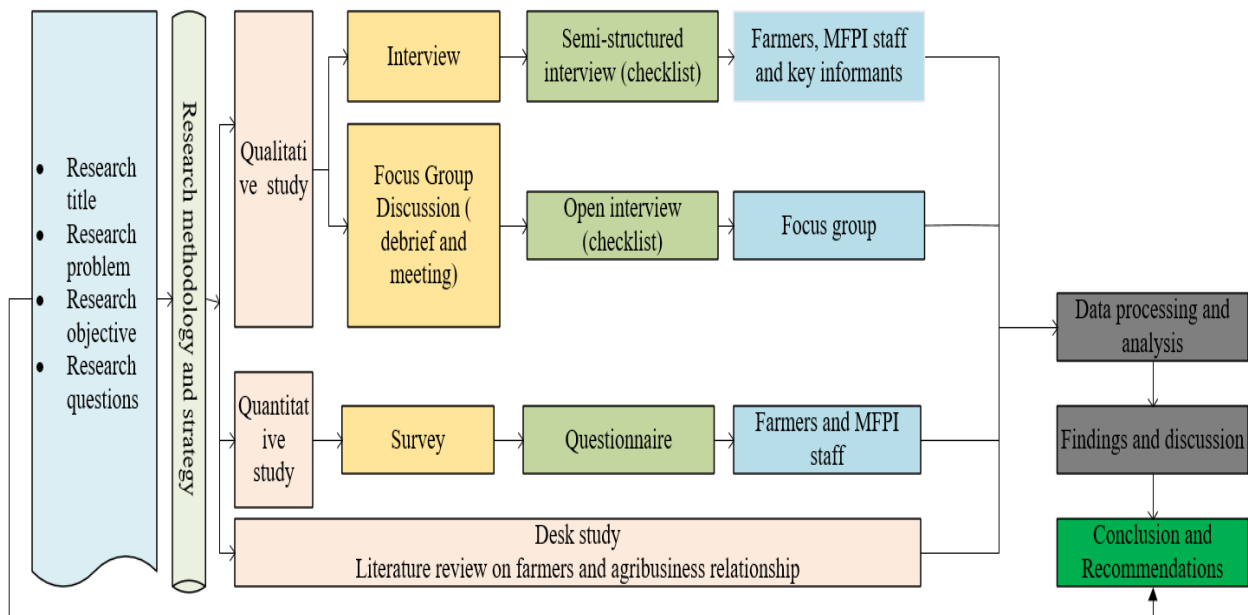


Source: NISR (2018)

3.2 Research design and strategy

The research framework is formulated based on the research objective and research question showing the activities to be taken in order to attain the research objective

Figure 3.2: Research framework



Source: Author, 2018

The research was used both qualitative and quantitative approaches and different methods were used in order to gain in-depth information regarding the ABAHUZAMURIMO cooperative- MFPI relationship such as desk study, interview, survey and focus group discussion. To collect primary data different tools were used including a questionnaire, semi-structured interview, observation, storyline, open interview combined with the checklist for each interview. The use of these different data collection techniques or tools was a guarantee to ensure the triangulation in order to achieve more trustful and reliable information.

3.3 Data collection method

Table 3.1: The data collection methods with tools and a source of information.

Research question	Collection data method	The respondent or Key informant	Collection data Tool
1. What is the current relationship between ABAHUZAMURIMO cooperative and MFPI?	- Interview - Survey - Focus group discussion - Desk study	Cooperative members (farmers) and MFPI staff, key informants	- Open interview - Questionnaire - Semi-structured interview (checklist)
2 What are the constraints faced by ABAHUZAMURIMO cooperative at production level?	- Interview - Survey - Desk study - Focus group discussion	Cooperative members (farmers), MFPI staff and key informants	- Semi-structured interview (checklist) - Questionnaire - Open interview
3. What is the functioning of ABAHAZUMURIMO cooperative on agribusiness partnership?	- Interview - Desk study - Survey - Focus group discussion	Cooperative members (farmers), key informants and MFPI staff	- Semi-structured interview (checklist) - Questionnaire - Open interview
4. What are the alternative markets available for ABAHAZUMURIMO cooperative?	- Interview - Survey - Desk study - Focus group discussion	Cooperative members (farmers) and MFPI staff, key informants	- Semi-structured interview (checklist) - Questionnaire - Open interview

Source: Author (2018)

3.3.1 Desk study

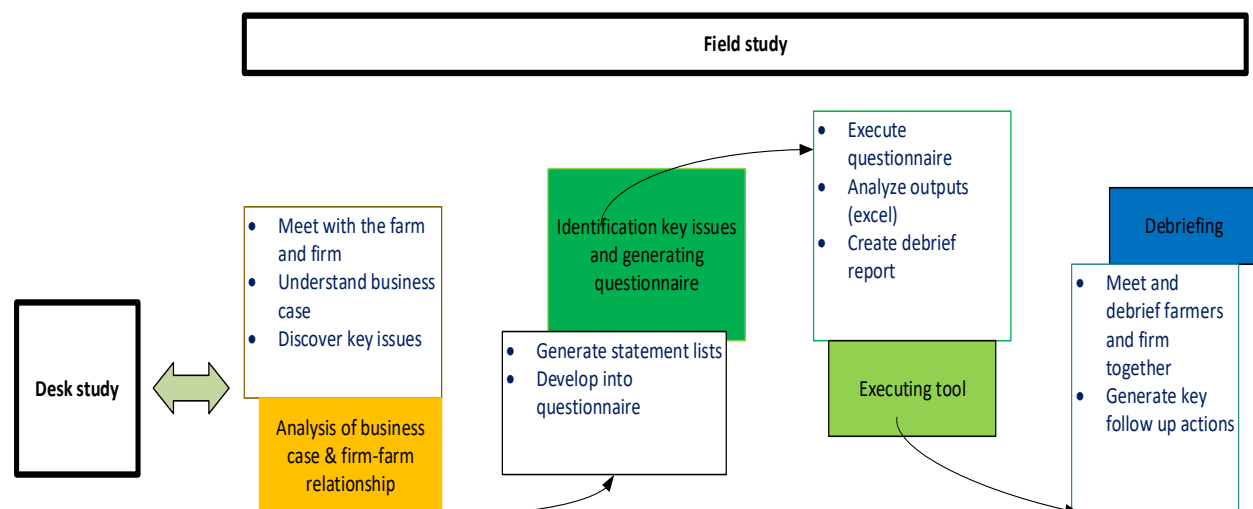
The desk study was the first step phase of the research that was involved to collect secondary information related to the research questions and get some theoretical background information on farmers and processor relationship; by review of the literature on contract farming, soybean value chain, soybean farming system and theories of buyers and suppliers' relationship. The secondary data was collected through a literature review by using the latest scientific books, articles, local reports from soybean farmers' cooperatives and companies, reliable internet resources related to the research topic, specialized journals, PhD thesis (electronic and hard copies), publications documents from international organisations and other unpublished documents from Rwanda Government's Institutions. This data is used to explain

theories and concepts related to the processor-farm relationship and conceptual framework. The literature review was also useful to verify the findings on the relationship between Muhanga Food Processing Industries and ABAHUZAMURIMO soybean farmers' cooperative after data processing and analysis.

3.3.2 Field data collection

The collection of primary data consisted of both qualitative and quantitative data using a questionnaire which included both open and ended-closed questions. The primary data were collected from ABAHUZAMURIMO soybean farmers' cooperative and MFPI working in Muhanga District-Rwanda as well as key informants. The researcher has used the 2-2 tango framework which is a participatory tool used for assessing firm to farmer relations (CDI, 2012). It was based on semi-structured interviews and administration of self-assessment statements in a questionnaire to collect data. It is a tool for self-assessment of the firm- farm relations; it is practical and flexible, it can (must) be tailored to the specific business case at hand. The first analysis of the business case is needed for identifying key challenges & indicators and preparing statements. The tool permits to have quick results, which can be visualized by easy to understand graphs (Agri-ProFocus, 2012).

Figure 3.3: 2-2 Tango logical steps



Source: CDI (2012)

3.4.2.1 Semi-structured interviews

An open-ended checklist was used in conducting semi-structured interviews. This checklist helped to probe further on emerging issues and to keep respondents back on track if they lost track of questions (Schrader, 2011). A combination of individual semi-structured interview, observations and content analysis was done to achieve in-depth information from several sources. The researcher conducted the semi-structured interviews with members of ABAHUZAMURIMO soybean farmers' cooperative and MFPI staff who interact with farmers during soybean supply. The eight key informants were interviewed to conduct information from key stakeholders who support farmers to grow and getting market information on soybean. The purpose of the interviews was to analyse a firm-farmer business case in order to get a grip on the issues which are prevalent in the business case and how it can be developed further.

Table 3.2: Repartition of Respondents for interviews

Source	Function	Gender		Purpose of choosing the respondents
		M	F	
Cooperative	Leaders and farmers	3	6	Farmers were selected according to their role in the management of cooperative, one member of the board of directors, one from the executive committee and seven cooperative members
MFPI staff	Manager, Accountant & Quality controller	2	1	An accountant who is in charge of payment after farmers supplied their soybean, the Manager who coordinates all activities of the company and the Quality controller officer who is in charge of field activities.
Key informants (COCOF, RAB, RCA & MINAGRI)		2	2	As stakeholders, they provided a new perspective on the business relations
Total	16			



Interview with quality controller



Interview with farmer



Interview with cooperative president

3.3.2.2 Survey

This was carried out by using a self-administered questionnaire developed from the business case description. The questionnaire is meant to support or disagree with relevant issues identified in the business case. The questionnaire contains statements that featured in the business case that the farmers and the staff of the MFPI were required to choose the most appropriate with a tick (✓) in a box corresponding to strongly disagree, disagree, and agree to strongly agree. During the scoring, the researcher explained to the respondents how to make scoring in order to get a common understanding of the objectives of the intended purpose. The questionnaire was translated the into local language (Kinyarwanda).

Table 3.3: Repartition of Respondents for questionnaires

Source	Function	Gender	
		M	F
Cooperative	Farmers and cooperative leaders	14	26
MFPI staff	Production officer, Storekeeper, Manager & Marketing officer	3	2
Total	45		



Structured interviews with Farmers (illiteracy) harvesting soybeans on common farmland in Rusizi Marshland

3.3.2.3 Focus group discussion

Focus groups discussions were held in order to strengthen the evidence of the responses from the individual interviews in order to find a wide range of responses on different perceptions given during the self-assessment survey. The researcher showed the results to respondents and they started discussing why some statements scored lowly or highly. Each part was discussed and a follow-up action for improvement ABAHUZAMURIMO cooperative-MFPI relationship was proposed. The focus group discussions involved the cooperative members or MFPI staff who had not taken part in answering the (semi)-structured questionnaires. The discussions had one moderator while another enumerator takes notes of the discussions. The moderator ensured that every person participated (participants got a chance to express their views and asked clarification where they have a confusion).



Cooperative members' discussion on their group why some statements were scored highly or lowly

3.5 Data processing and analysis

3.5.1 Quantitative data

Excel workbook was pre-designed for data entry and generation of graphs in order to come up with a debriefing report. For each challenge area, two graphs were obtained. One graph showed the median scores of each statement and the median score of all statements. The second graph showed the level of agreement between cooperative and MFPI for each challenge area and each statement. The table showed the median score for each challenge area. The results were plotted on a 0-100 scale which was enabled analysis and interpretation of results. Another analytical tool was Sustainable Enterprise Assessment Tool (SEAT) which helped to analyse cooperative performance.

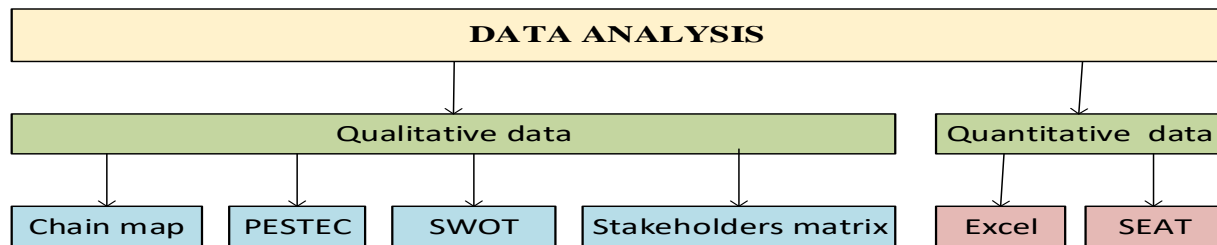
Table 3.4: Judgments on scores with a median

Median scores	Judging	Meaning
0 to 30	Very low score, disagreement of the respondents with the statements	There is an urgent for improvement
40 to 50	Dissatisfaction of respondents, medium score	Improvement is necessary in order to meet the needs
60 or 80	Satisfaction of respondents with the statements but not optimal	Improvement of both performances is not mandatory

3.5.1 Qualitative data

Qualitative data were transcribed and processed using ground theory; data were organized into small fragments and rearrange them into important categories, determining relevance (highlight quotes and note why important) and reduce data through coding (summarise fragments through labels). Other analytical tools also were used including chain map, stakeholder matrix, business Canvas model, PESTEC, and SWOT

Figure 3.4: Data analysis



Source: Author (2018)

Table 3.5: Analytical tools and justification

Sub Question	Analytical tool	Analytical tool justification
1. What is the current mutual trust between ABAHUZAMURIMO cooperative and MFPI?	-Chain map -Stakeholders matrix	These tools were used to analyse stakeholders their roles and their power
2. What are the constraints faced by ABAHUZAMURIMO cooperative at production level?	- PESTEC - SWOT	To analyse the factors that influence the cooperative at the production level
3. What is the functioning of ABAHAZUMURIMO cooperative on agribusiness partnership?	-SEAT - 2-2 tango tool(excel)	- These tools were used to analyse the performance of cooperative and for assessing firm to farmer relations
4. What are the alternative markets available for the cooperative?	-PESTEC, SWOT - 2-2 tango tool(excel)	To analyze factors that influence the business relationship between cooperative and MFPI

3.6 Limitation of the study

The study was limited by the shortage of desk study on soybean trading at local and national levels. Most cooperative members, individual farmers, and traders do not keep information on a business relationship especially consistency, reliable data on prices and therefore the study had relied on semi-structured interviews and others secondary resources.

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.0 Introduction

This chapter presents in details the findings from the study following different research questions. The data presented in this chapter was collected and processed using qualitative and quantitative techniques. This chapter first gives a summary of respondents' characteristics in terms of whether they were cooperative members (farmers), MFPI staff or key informants and then goes on to present the empirical findings following through the research questions.

16 respondents were interviewed from ABAHUZAMURIMO Cooperative, MFPI staff and key informants by semi-structured interview instrument for qualitative data, 9 out of the 16 interviewed were female, while 7 were male. During the interview the surroundings were simultaneously observed while another 45 respondents were interviewed by structured interview for quantitative data, 40 respondents of which 26 were female and 14 were males of ABAHUZAMURIMO cooperative and 5 staff of MFPI which 3 were male and 2 females. Two focus group discussions were also done in order to strengthen the evidence of the responses from the survey and individual interviews in order to find a wide range of responses on different perceptions given during the self-assessment survey.

All the quotes presented in this chapter are extracts from the interviews transcripts from the data collection.

4. 1. Business case description

This business case is described with inputs from a semi-structured interview with members of ABAHUZAMURIMO Cooperative, MFPI staff, and key informants

4.1.1 Current relationship between ABAHUZAMURIMO Cooperative and MFPI

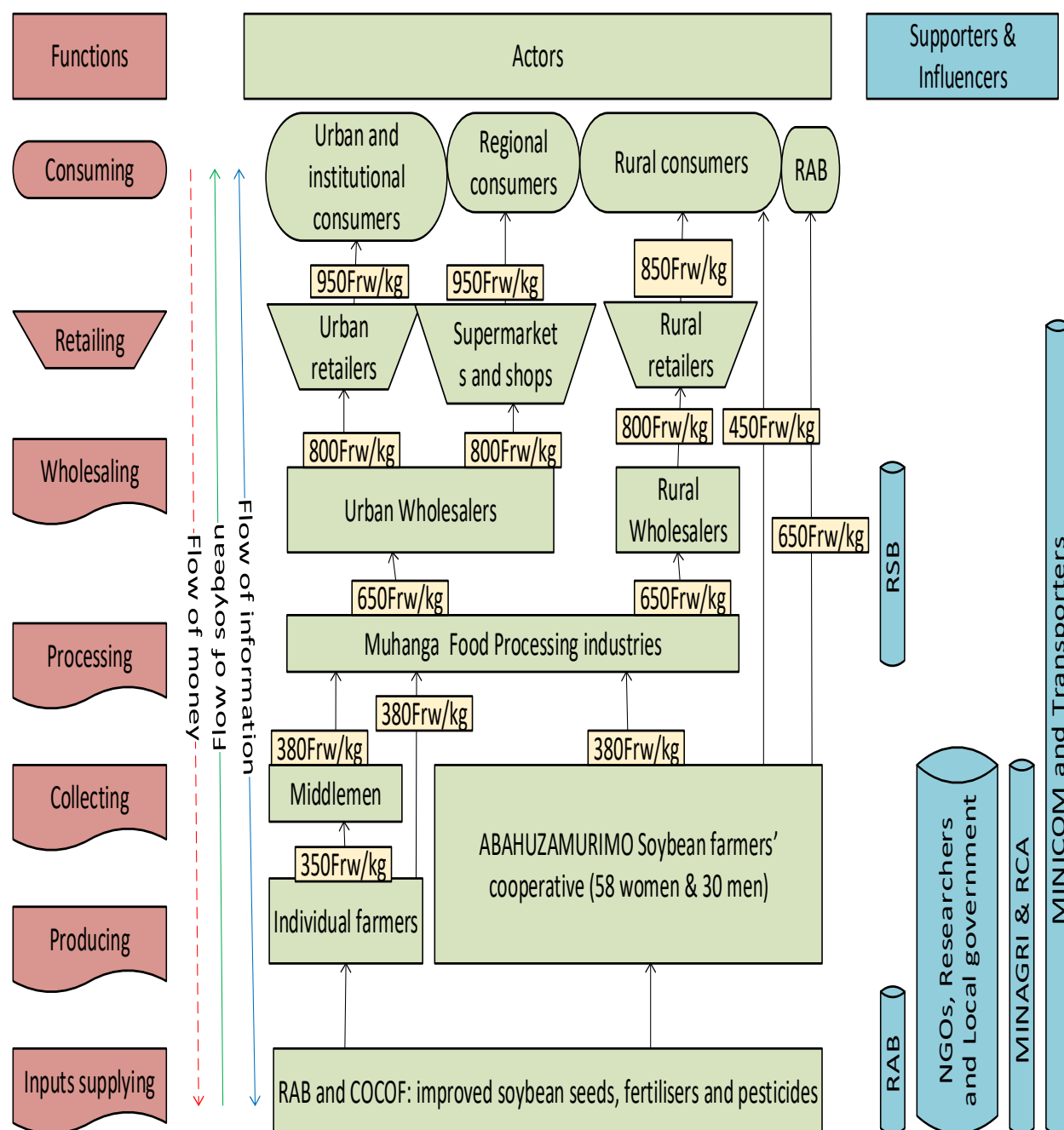
Soybean value chain and PESTEC, SWOT analysis were used in order to describe the current relationship between ABAHUZAMURIMO Cooperative and MFPI.

4.1.1.1 Soybean value chain Analysis

The soybean value chain describes the range of activities from primary producer to the final consumer. The main stakeholders involved in the soybean value chain are actors, supporters and influencers. The actors are those who actively involved in soybean value chain whereas supporters are those who provide different support through information sharing, extension services or technical support while influencers are the policymakers enabling environment by proving all policies, regulations, price, and standards in soybean value chain.

The following figure shows the chain map of soybean in Muhanga District based on business relations between ABAHUZAMURIMO Cooperative and MFPI

Figure 4.1: Soybean value chain analysis in Muhanga district



Source: Interview with cooperative members, MFPI staff, and key informants, 2018

4.1.1.2 Chain Actors

Table 4.1: Stakeholder analysis of soybean value chain

Functions	Stakeholders	Basic characteristics	Interests on soybean	Roles	Challenges
Inputs supplying	Rwanda Agriculture Board (RAB) and COCOF	Provision of seeds, fertilizers and Extensions services RAB uses private sector companies as service providers in order to distribute inputs, COCOF provides inputs on credit to beneficiaries and gets a refund at harvest time	Ensure the quality and productivity of soybean products	Facilitating extension services and other advice from extension agents	Low adaptation of agriculture practices for some farmers
Producing	Individual Smallholder farmers and cooperative	- land preparation -sowing soybean plantains -fertilizers application - Mulching -Pest and diseases control -Harvesting	- Eager to produce more for improving their livelihood. - Stable market and market price	Key stakeholders for value chain approach	Delay getting of inputs
Collecting	Middlemen (local traders)	They buy at the small price and collect soybean; they are very many in rural areas at production point. The majority are closed with MFPI. However, sometime MFPI gets into contact with farmers without the middlemen	Increase their businesses	Middlemen play an important role in supplying soybean to MFPI or retailers	- Informally collection method - Lack of awareness on market requirement
Processing	Muhanga Food Processing Industries (MFPI)	MFPI uses high technology transformed into good soybean products (human food, especially fortifiers) and packaging	Good quality of products at the reasonable price	The strong influence on quality requirement and grading	Irregularly supply of raw materials
Wholesaling	Wholesalers	Buying the big amount of soybean products and selling to retailers. Those wholesale are the private some time there is an extra cost to work on getting the market	Increase their businesses	Wholesalers play a major role as they store and make the product available to	Insufficient capacity to control the market

				the consumers when they need it	
Retailing	Retailers	Local markets, small shops, and supermarkets have soybean products at different prices depending on the selling point	Increase their businesses	Play a major role in the market and they can influence pricing and market structure	-Inadequate feeder roads (infrastructures) - lack of financial capacity
Consumption	Consumers (End users)	Most of the consumers are soybean growers, people of low and middle income in rural and urban areas, and international level.	Good soybean products at the favorable price	They can influence the market dynamic	

Source: Interview with cooperative members, MFPI staff, and key informants, 2018

4.1.1.4 Chain Influencers

Table 4.2 Chain influencers

Institutions	Functions
Ministry of Agriculture and Animal Resources (MINAGRI)	Setting the policies like the land consolidation policy, and regionalization of crops policy, distribution of improved soybean seeds policy.
Ministry of Commerce and Trade (MINICOM)	Promote small and medium enterprise in Rwanda, setting prices
Rwanda Standards Board (RSB)	Responsible for food safety, inspection of all market products based on local and international and set policies on safety to meet the standardization
Rwanda Revenue Authority	setting taxes for small and medium enterprise in Rwanda
Rwanda Cooperative Agency (RCA)	Responsible for cooperative policies, legal and support for the cooperative creation

Source: Interview with cooperative members, MFPI staff, and key informants, 2018

4.1.1.3 Chain Supporters

Key informant interviews were used to collect information from key stakeholders such as Rwanda Agriculture Board (RAB), Ministry of Agriculture and animal resources (MINAGRI), Rwanda Cooperative Agency (RCA), district officials (Agronomists), and different NGOs such as COCOF, One Acre Fund and Clinton Foundation, among others. In total, 4 Key informant interviews were held.

The researcher attended the soybean stakeholder workshop held on 16th July 2018 in Kigali. In this stakeholder workshop, general information about the soybean sector was obtained. The research interacted with the key stakeholders, whose contribution and experience has been incorporated in this report. The results of this report were presented in a soybean stakeholders' workshop to validate the findings

According to the interview with District Cooperative office, there is a strong commitment by the Government to promote soybean enterprise, said that **“soybean is one of the priority crops reserved by the Government for improving livelihoods of farmers through incomes, jobs creation through employment in soybean industries and for nutrition.”** In a way of boosting the farmer's adoption and production of soybean, the Government subsidizes the farmers by covering part of the total cost of seed.

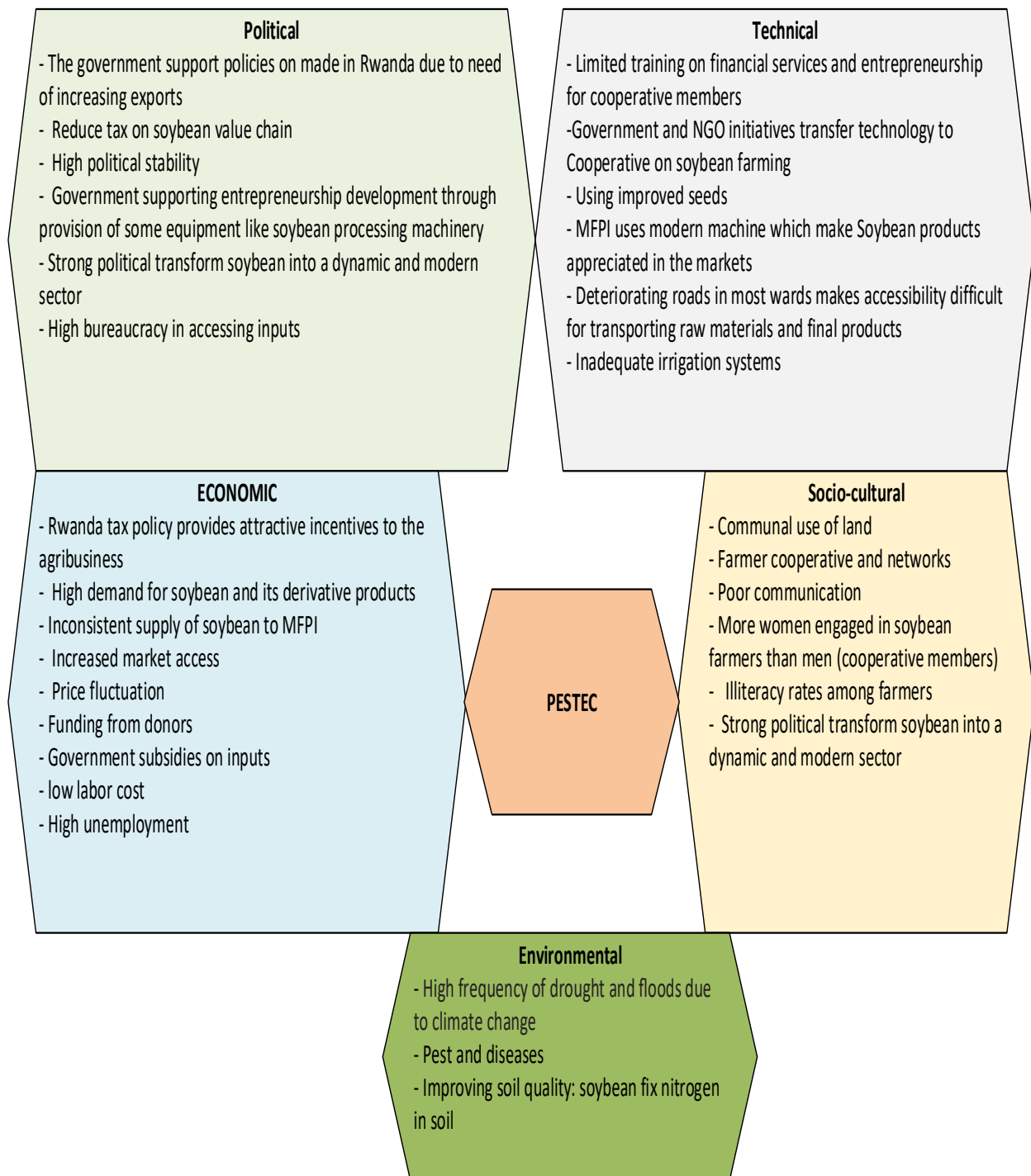
NGOs: COCOF, One Acre Fund, and Clinton Foundation are also other organizations that give support in terms of training and funds to the actors of soybean value chains. They play adequate influence along the value chain through information sharing, providing updated information and extension services

Local government: The government has provided Agronomists from the district level to the cell level and they provide technical services to the soybean farmers and coordinate the implementation of policies and monitor the roles played by different involved stakeholders. This starts with cultivation until the post-harvest period. Most of the extension services and advocacy are accomplished by COCOF which is an organisation of farmers.

Researchers: The main organization who are doing research on soybean are the International Institute of Tropical Agriculture (IITA), Rwanda Agricultural Board (RAB), the University of Rwanda through the College of Agriculture. Through the collaboration of these organizations, they conduct various researches on soybean including research on the adaptability of new varieties, pest, and diseases, soils. RAB also as government institution in charge of agriculture provide improved seeds, pesticides and fertilizers to the farmers by credits and they provide an update of new modern technology to the farmers after various research.

Transporters: Transporters played the role in transporting soybean between different actors. Most of the time transporters are hired from companies or districts in order to supply produces locally or to transmit them to the main market. In rural areas, transport uses human labour, bikes while the regional and national market is done by car or truck.

Figure 4.2: Political Economic Social Technical Environmental and Cultural (PESTEC) analysis of soybean value chain



Source: Interview with cooperative members, MFPI staff, and key informants, 2018

Table 4.3: Strength Weakness Opportunities Threats (SWOT) analysis of soybean value chain

Strength	Weaknesses
<ul style="list-style-type: none"> - Political stability - Government commitment to improve soybean productivity - Low labor cost (most Rwandan are between age 16- 35) - The experience of technicians in soybean production and its derivate products - Cooperative has its own warehouse and six ha of consolidated land - The MFPI has its own plot for the processing plant and well-equipped office - Strong agricultural extension system in place - Provision of input at credit - Excellent rotation crop for other staples (Soybeans and maize) - Government subsidies on inputs - Increased support from stakeholders like COCOF, MINAGRI... 	<ul style="list-style-type: none"> - Price fluctuation - Lack of skills about cooperative functioning and management - Weak contract enforcement mechanisms in the business arrangement - Inadequate raw soybean for processing - Mistrust and lack of collaboration between cooperative and MFPI - Slight accountability for cooperative - Poor infrastructures (irrigation scheme, electricity and poor road network in a rural area) - Limited access to bank credit (Lack of collateral to secure the loans) - Cooperative members do not have a bargaining power
Opportunities	Threats
<ul style="list-style-type: none"> ✓ Huge market for soybean and soybean products locally and internationally (increases 5% annually) ✓ Soybean is one among the six crops of main consideration in Rwanda ✓ Number of research institutions and programs are targeting the soybean and developing new varieties ✓ The government policies support on entrepreneurship development ✓ Private sector investment in soybean in Rwanda and in region ✓ Access to a small grant from NGOs 	<ul style="list-style-type: none"> ✓ Climate vulnerability (drought, flood) ✓ Many soybean competitors on the market ✓ Price fluctuation influences negatively MFPI at the time it goes up or down ✓ High transportation costs of goods due to poor roads for transporting raw materials and final products creates heavy supply fluctuations

Source: Interview with cooperative members, MFPI staff, and key informants, 2018

4.1.2 Current relationship between ABAHUZAMURIMO Cooperative and MFPI at the production level

The MFPI does not have its own land for agricultural activities. It depends on cooperatives or individual farmers supply. A woman who cultivated soybean said that **“MFPI does not provide any services to ABAHUZAMURIMO Cooperative such as extension services, credit provision or agricultural inputs, this results in the existence of other soybean competitors in the rural area.”** MFPI is under-utilized and is operating at only 41% of its capacity due to the inconstant supply of soybean to the company. The local cooperatives get these kinds of services from COCOF. COCOF is a non-profit local NGO that has helped farmers with good seeds, guidance on increasing soybean production and post-harvest management for many years in Muhanga and Kamonyi districts. COCOF owns 54% shares of the total shares and 8% of the company's shareholders are women. COCOF intervenes in two soybean value chain such as certified seeds

production under contracts with Rwanda Agriculture Board (RAB) and bulking grain for Muhanga Food Processing Industries. COCOF provides inputs on credit to ABAHUZAMURIMO cooperative and gets paid at harvest time.

4.1.3 Functioning of ABAHUZAMURIMO cooperative

Data analysis showed that ABAHUZAMURIMO cooperative is composed of 88 members with 38 men and 50 women. The cooperative began operating in 2008 and got the legal personality with the Rwanda Cooperative Agency (RCA) in October 2010. Its objective is to improve the living conditions of cooperative beneficiaries through increasing soybean production in the Gisiza marshland, Muhanga district, Southern province of Rwanda. In terms of their core business, the study classified ABAHUZAMURIMO cooperative as production and marketing: cooperative that primarily serve farmers through access to inputs and marketing of their produce. The Cooperative has a common cultivated area of 6 ha and also the Cooperative members produce individually in their own land and bring the harvest to the Cooperative. Season preparation and planting schedules are done as Cooperative but other activities such as land preparation, sowing and weeding are done in small groups or individually. Production targets are decided collectively on the basis of the preferences of members.

Table 4.4 Cooperative performance

Dimensions	Maximum score	Cooperative score	Percentage score	The contribution of dimension to the total score	variance	Percentage score- Gap
Member loyalty	15.00	9.21	61.41	16.18	5.79	38.59
Value to market	28.00	15.18	54.22	26.66	12.82	45.78
Effective Cooperative management	24.00	11.98	49.94	21.02	12.02	50.06
Financial Health	18.00	10.69	59.40	18.78	7.31	40.60
Access to Services	5.00	3.49	69.80	6.13	1.51	30.20
External Relations	10.00	6.38	63.82	11.21	3.62	36.18
Total cooperative score	100.00	56.94	56.94		43.06	43.06

Source: Author 2018

It appears that the cumulative score is 56.94 % and cooperative scored high on the access to services, followed by external relations dimensions (social capital) and member loyalty with 69.8%, 63.82%, and 61.41% respectively. The same table reveals that the greatest underperformances are found in Effective Management (49.94%), Engagement with Output market (54.22%), and financial health (59.40%). These divergent scores could mean that the capacity gaps in Cooperative management are hindering the cooperative to unleash their potential to use members' loyalty and external relations to engage better with buyers.

During the interview one of the respondents from MFPI said that **“cooperative leaders worked on their own interest rather than the economic interest of cooperative members because they gain individual income from commissioning for the selling the yields of their cooperative members.”** Another respondent from ABAHUZAMURIMO Cooperative said that **“the income of the cooperative is not well managed and all cooperative members are not informed on the financial matters in the general**

assembly.” In different conversations taken with farmers, they said that the former cooperative President and Accountant misused/ embezzled cooperative money (funds), and none of them was punished.

As explained by the Accountant **“when farmers’ cooperative supply their soybeans to the MFPI, the payment is payment is not done by bank account, this result of Lack of collateral to secure the loan.”**

In different conversations taken with farmers, they said that the former cooperative President and Accountant misused/ embezzled cooperative money (funds), and none of them was punished.

4.1.4 Market and price

The study found out that farmers are getting a higher price for soybean in Rwanda Agricultural Board (RAB) or in the open market than the MFPI. The company buys soybean of all varieties at the same price. Currently, the price at factory gate is 380Rwf per kg while the price of soybean in the open market or RAB is in between 450 to 650 RWF per kg. Meanwhile, most farmers are selling in the open market or RAB due to the higher price paid. Consequently, they supply low volume to the MFPI. It was revealed that the MFPI set the soybean price without consulting the farmers. According to Agronomist, the **“MFPI does not meet the cooperative members to ask them what they think about the price, this leads to buying their products at a low price without considering their cost of production.”**

Table 4.5: Potential markets for ABAHUZAMURIMO cooperative

Soybeans volume of sales last season B				
Potential markets	Description	Quantity (kg)	Unit Price (FRW)	Total
Produce sold to RAB	Seed soybean	4770	650	3100500
Produce sold to open markets	Traders	3482	450	1566900
Produce sold to MFPI	Processing	2822	380	1072360
Total sales		11074		5739760

Source: Author 2018

Concerning marketing and customer relationships, the Cooperative has enough capacity to produce the production to sell to local and national markets. The Cooperative has sufficient markets opportunities due to the initiatives from Rwanda Agriculture Board (RAB) which provide a big market for ABAHUZAMURIMO cooperative for high-quality seeds which are sold back to RAB at a good price. The remained are sold to local companies like MFPI and Middlemen. Managing Direct of MFPI said that **“This quantity supplied by the ABAHUZAMURIMO cooperative is still insufficient as the local demand is much higher, for this reason, we try to buy soybean from middlemen or individual farmers to fill the gap, this results of under-utilized and is operating at only 41% of its capacity due to inconstant supply of soybean to the company.”** Another respondent from ABAHUZAMURIMO Cooperative stated that **“we prefer to sell our yield individually because selling as a cooperative serves our leaders’ interests, not for cooperative members”.**

4.2 Survey results

The two to two tango excel workbook was used to examine the scores. Data from the scored questionnaire were entered into excel workbook automatically generates two graphs: the first graph shows of both the MFPI and the cooperative median scores whereas the second graph illustrating the level of agreement per each statement for each challenge area. The results have been organized into four sections called challenge areas as follows: Production and productivity, functioning of ABAHUZAMURIMO soybean farmers’ cooperative, markets and prices and communication.

4.2.1 Challenge area 1: Production and productivity

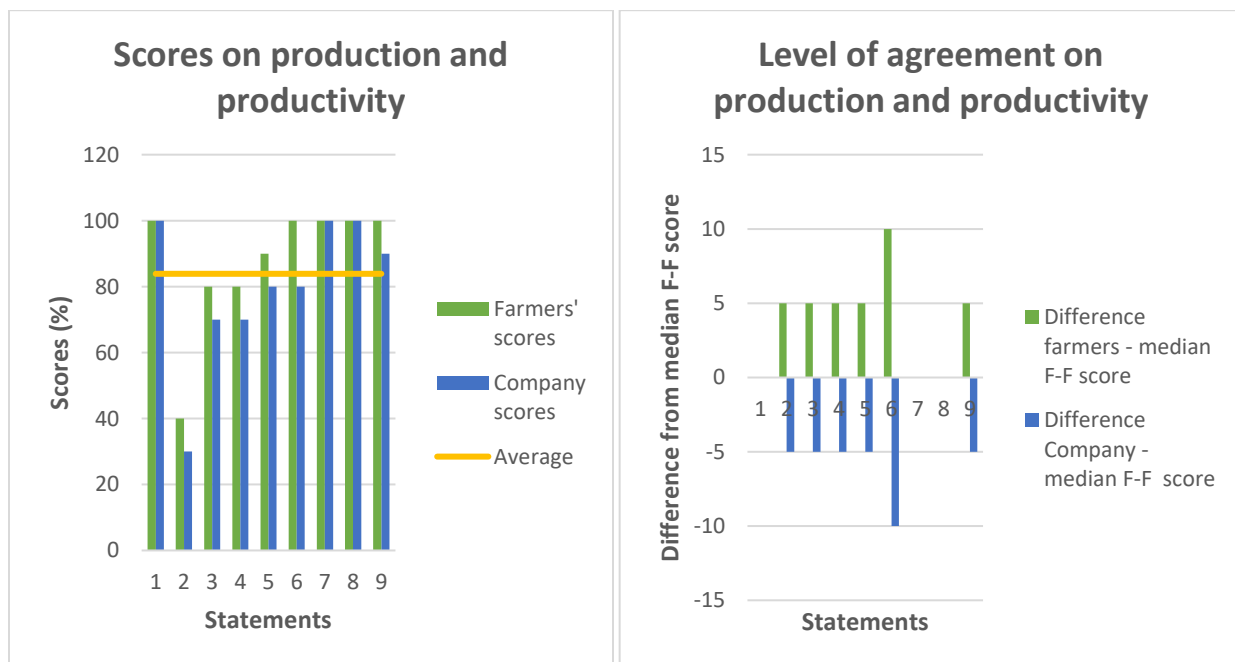
The challenge area of production is composed of 9 statements which focused on agricultural inputs and support extension services as well as access of farmers to the credit towards improving soybean production and productivity.

Table 4.6: Statements for challenge area “Production and productivity”

Statements of production and productivity	
1	Soybean inputs are affordable/accessible to farmers
2	Soybean inputs are available at the right time
3	Farmers know proper utilization of soybean inputs
4	Sufficient soybean inputs are available
5	Farmers use the inputs as recommended by agronomists
6	The farmers’ fields are suitable for the soybean crop
7	Farmers grow the best soybean variety available
8	Farmers have easy access to credit to buy inputs
9	Farmers’ yields are increasing

Source: Survey, July 2018

Figure 4.3 Median scores and level of agreement on production and productivity



Source: Survey, July 2018

The average median score for the challenge area of production and productivity is high (83.8%). The farmers and company are positive about many statements except statement 2 (inputs available on right time). In statements 1, 7 and 8 both farmers and company were very positive, they scored equal median score. This challenging area, it clearly shows there is a high level of agreement on statements 1, 7 and 8. The level of disagreement is higher on statement 6 (The farmers’ fields are suitable for the soybean crop) because in dry seasonal there is a scarcity of water in some plots.

Even if MFPI doesn't assist cooperative members to get facilities in their farming activities, the study found out that the cooperative is close to sustainability on soybean production and productivity, regarding these graphs we notice that farmers have access to modern agricultural inputs and extension services as substitute traditional ones increase production, productivity, income, and better living.

4.2.2 Challenge area 2: Functioning of ABAHUZAMURIMO cooperative

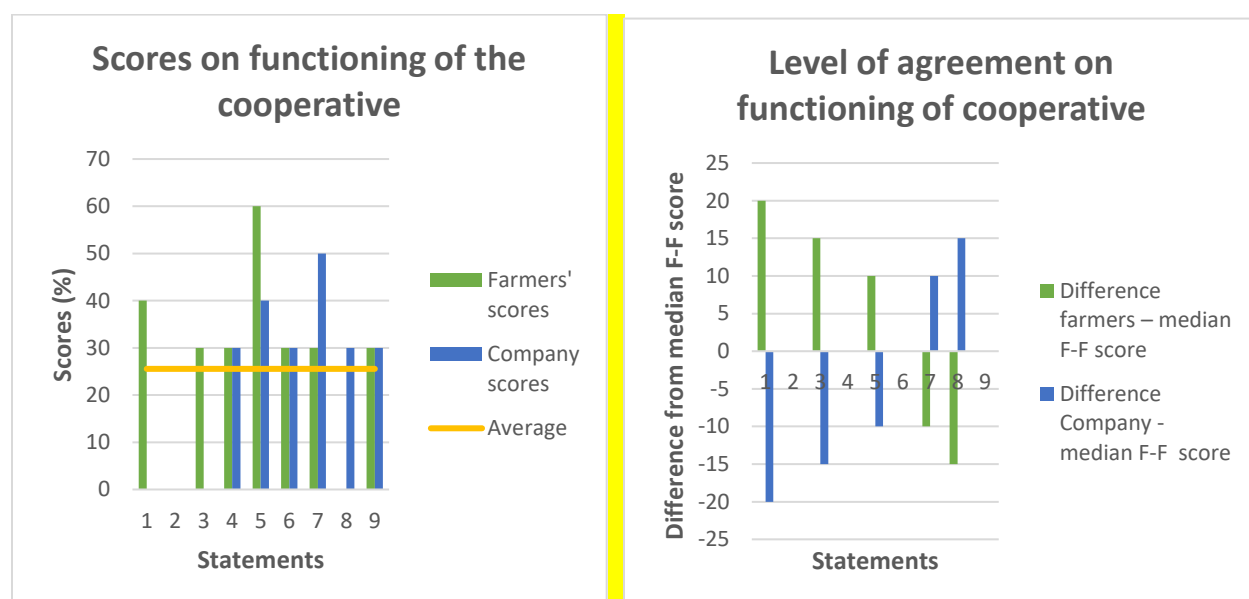
The 9 statements in this challenging area focused on leadership, willingness to sell their yield to the MFPI and the role of the farmers' organization in the business arrangement.

Table 4.7: Statements for challenge area "Functioning of ABAHUZAMURIMO cooperative"

Statements of the functioning of ABAHUZAMURIMO cooperative	
1	Farmers are happy to sell their soybean in the cooperative rather than selling individually on their own
2	Cooperative helps farmers access to bank loans
3	Each cooperative member knows the financial status of the cooperative
4	Cooperative's leaders always represent the common interest of the farmers
5	The leadership of cooperative carefully handles any problem of each member
6	Farmers prefer to work as individuals than operating in a cooperative
7	Cooperative leaders fulfill all responsibilities assigned by members
8	The cooperative structures are set democratically and equally
9	All farmers have a common goal

Source: Survey, July 2018

Figure 4.4: Median scores and level of agreement on the functioning of ABAHUZAMURIMO cooperative



Source: Survey, July 2018

The overall company-farmers median score is 25.55% which implied that both MFPI and farmers agreed that ABAHUZAMURIMO soybean farmers' cooperative doesn't function properly. Both actors scored negatively on statement 2 (Cooperative helps farmers access to bank loans) in which they gave lowest

scores, in the other hand each cooperative member does not know the financial status of the cooperative. It can be observed that; the level of agreement is high on statement 2, 4 and 9. It is remarkable that there is a high difference in statement 1 because farmers are not happy to sell their soybean in the cooperative rather than selling individually on their own.

Cooperative is no longer serving them as before because of weakness in leadership and management. The main challenges present in ABAHUZAMURIMO cooperative are in relation with limited of cooperative and management skills, poor managing people skills, leadership and conflict management in the cooperative. Due to poor management of cooperative is likely to miss its funds and different kinds of materials from donors. The study revealed that network and collaboration with stakeholders are not well established with farmers and micro/ macro-financial institutions. As results, the bank institutions are not willing to provide loans to soybean farmers because they are not sure of the payment of the loans.

4.2.3 Challenge area 3: Markets and prices

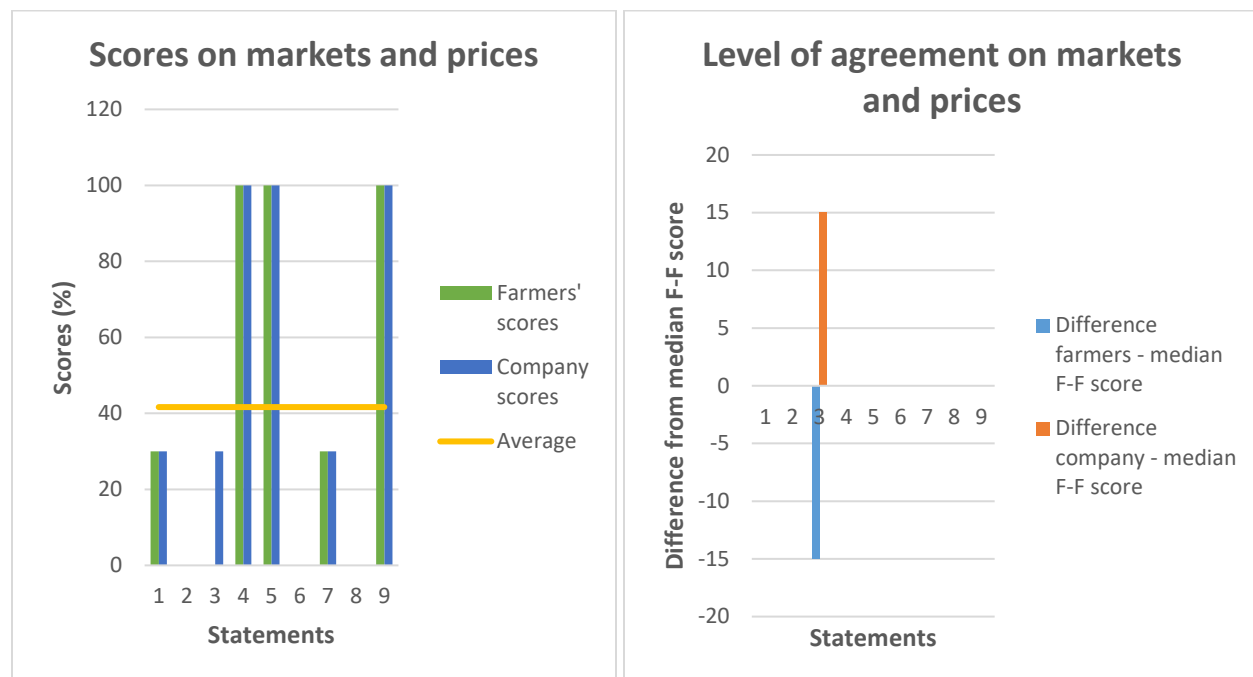
The opinion of the farmers and MFPI on involvement in price determination (bargaining power) and market participation of soybean was assessed using nine statements.

Table 4.8: Statements on markets and prices

Statements of markets and prices	
1	MFPI pays farmers at right time without delay
2	Farmers are always participating in price setting
3	The price offered by the MFPI makes farmers happy
4	There are other soybean buyers at market
5	Cooperative is able to produce the quantity of soybean needed by MFPI
6	The price paid by MFPI to farmers covers the production cost and allows for a benefit
7	MFPI pays a premium price depending on quality or quantity supplied
8	MFPI offers better prices than the competition
9	The MFPI is able to buy and process all soybean produced by the cooperative members

Source: Survey, July 2018

Figure 4.5: Median scores and level of agreement on markets and prices



Source: Survey, July 2018

The overall farmers- MFPI median is 41.66% which implied that the farmers are not satisfied by MFPI prices, positive scores were scored by both parties in statements 4 (There are other soybean buyers on the market), 5 (cooperative is able to produce the quantity of soybean needed by MFPI and 9 (MFPI has the capacity to buy or process all soybean produced by cooperative). It can be observed that there is much more agreement between the farmers and MFPI in all statements except on statement 3 (The price offered by the MFPI makes farmers happy)

The study found out that there are other soybean buyers who want to pay a high price than MFPI. They both agree that the farmers do not participate in price setting and that the price does not cover production cost. The study revealed that the negative scores are given by both parties because the contract does not specify in details the rights and obligations. In addition, each cooperative member has no a clear understanding of key elements of the contract with the MFPI. On the other hand, the board committee of the cooperative is responsible for sharing or discussing and signing a business agreement (contract) without consulting cooperative members' ideas. Both parties agree that a short-term contract is better than a long-term contract.

4.2.4 Challenge area 4: Communication

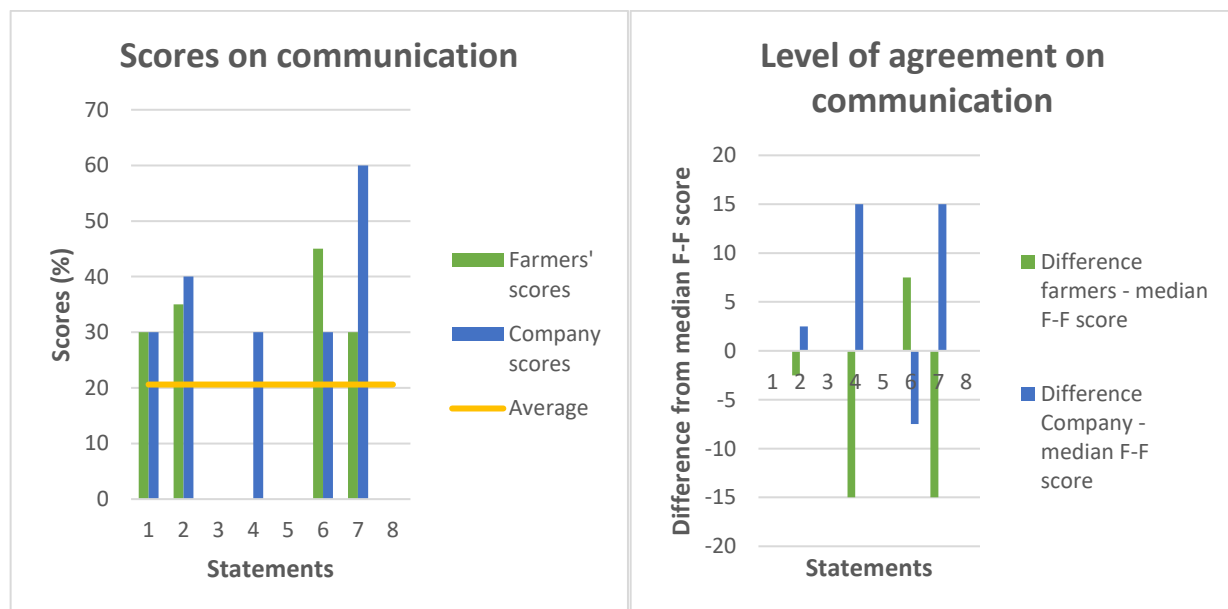
The challenge area “communication” is assessed through eight statements talking about information sharing especially in terms of quality/ quantity or price at the market for increasing relationship

Table 4.9: Statements on communication

Statements of Communication	
1	Soybean farmers are regularly kept informed on the MFPI issues
2	The MFPI gives answers to all questions asked by the farmers on the soybean farming
3	Farmers regularly visit the MFPI in order to understand the functioning of the MFPI
4	The MFPI has regular strategic meetings with the farmers, in which they discuss the future requirements and goals for the relationship.
5	The company has instituted the communication channel through which the farmers can send their ideas
6	Farmers have the information and communication means (mobile phones)
7	The farmers know the quality or quantity of soybean needed by the MFPI
8	MFPI informs cooperative on prices to be paid before soybean is delivered

Source: Survey, July 2018

Figure 4.6 Median scores and level of agreement on communication



Source: Survey, July 2018

The overall Company-farmers median score for all the statement for the company and the farmers is 20.6%. This indicates that the communication between both the MFPI and farmers is weak. Both farmers and MFPI lack of proper management in communication, the MFPI may lead to losing its trust from farmers. A major disagreement was posted on a communication channel through which farmers can send their ideas. Many complained that MFPI does not inform farmers the price to be paid before delivering their production

Table 4.10: Focus Group Discussions with ABAHUZAMURIMO Cooperative and the MFPI

Issues for low or high scores and suggestions that can contribute to enhancing firm – farmer relationship

Challenge areas	Issues contributing to high or low scores on challenge areas	Farmers' suggestions for improving the firm-farmer relationship	MFP's suggestions for enhancing the firm-farmer relationship
Production	<ul style="list-style-type: none"> - Quick feedback on problems faced by farmers on soybean production - Availability of inputs because of government subsidies but they do not get at the right time - The majority of cooperative members have the required skills and knowledge to produce the soybean under the COCOF Agronomist instructions (production increase) - The company do not give incentive to farmers who supply many quantity or good quality - Lent land - High adaptation of agricultural practices 	<ul style="list-style-type: none"> - Negotiate with inputs providers to integrate farmers into voucher system and availability of seeds near the farmers at the right time - Incentives for volumes supplied - Reduce lent (by using government marshland) costs to raise members' income - Continue to conduct more training (reinforcement) on agricultural practices 	<ul style="list-style-type: none"> - Providing incentives for volumes supplied and motivation to farmers as well as payment at the right time
Functioning of farmer organizations	<ul style="list-style-type: none"> - Some leaders make decisions without consulting their member's ideas (weak leadership) - The cooperative has assisted farmers to access to inputs and rural advisory services 	<ul style="list-style-type: none"> - Training of board members on leadership and governance 	

	<ul style="list-style-type: none"> - Each member does not know the financial status of the cooperative - The weak communication channel between cooperative members and MFPI - Cooperative doesn't help farmers access bank loans 	<ul style="list-style-type: none"> - Presentation of financial status during every general assembly meeting when there are one or more than one member who needs some clarification on it - Good communication between MFPI staff and cooperative members - Encouraging saving culture and Collaboration or advocacy for different stakeholders like macro/micro-financial institutions and donors 	<ul style="list-style-type: none"> - Close and regular MFPI-cooperative interactions (Encourage information exchange) to discuss issues that affect their business relationship - To facilitate the cooperative to get loan/credit through macro/micro-financial institutions
Markets and pricing	<ul style="list-style-type: none"> - The farmers are not satisfied with the MFPI price - Price keep fluctuating according to seasons and ordinary members do not know of their prices in advance - Other buyers offer better prices but the market is not also guaranteed 	<ul style="list-style-type: none"> - Cooperative members must increase bargaining powers on price - Advocacy and training on how to calculate production cost and cost-benefit analysis - Negotiating soybean price at the beginning of growing season 	<ul style="list-style-type: none"> - Increase the price of soybean (raw material) according to other buyers - Flexibility on price setting - The company should consider farmers production cost and give a fair price to farmers
Farming contract	<ul style="list-style-type: none"> - Limited awareness on the contract content (only board members know the contract term) - Often the price is changed 	<ul style="list-style-type: none"> - Explaining contract terms to cooperative members - Respect contracts - Improving common understanding especially on quality and price setting 	<ul style="list-style-type: none"> - A written contract between two actors where each part respect contract terms - Improving common understanding especially on quality and price setting

Source: Focus group discussion, August 2018

CHAPTER FIVE

DISCUSSION AND INTERPRETATION OF RESULTS

5.0 Introduction

The aim of this chapter is to discuss and interprets the results from the previous chapter in reference to the research questions, methods of research and observation done during fieldwork. The discussions are to compare the results with other findings from the literature review.

5.1 Current relationship between ABAHUZAMURIMO cooperative and MFPI

After analysing the data from, semi-structured interviews, survey and debrief report (focus group discussion), it observed that the relationship between AHUZAMURIMO cooperative and MFPI are very weak in soybean agribusiness due to the lack of full exchange of information and regularly meeting between ABAHUZAMURIMO Cooperative and MFPI, this result contribute negatively to the relationship between both parties. During focus group discussion farmers mentioned that **“the current situation of relationships needs to be established by the roles played by both actors in the soybean value chain,”** this agrees with CDI (2012) as explained that firm-farm relationship is characterized by partnership in production activities, having and respecting agreements, knowledge sharing, transparency, profit/losses sharing and market insurance.

5.2 Current relationship between ABAHUZAMURIMO Cooperative and MFPI at the production level

After analysing the data from a semi-structured interview and focus group discussion, the findings show that Muhanga Food Processing Industries (MFPI) is able to buy a lot of soybean as raw materials, but the way they get linked to the ABAHUZAMURIMO cooperative affect much the relationship with them, MFPI collaborates with ABAHUZAMURIMO Cooperative like other buyers. It does not provide any other services to cooperative such as extension services, and agricultural inputs for soybean production and also farmers complain that the MFPI does not help farmers to access bank loan because both farmers and company have a different view on that.

The findings from the survey show that the majority proportion of respondents, soybean production is increased due to the partnership in production activities, both farmers and company scored highly because cooperative helps farmers in acquiring improved inputs and farmers are always equipped with technical skills by COCOF. This is in line with that Ngaboyisonga (2010) stated that **“inputs and extension services play an important role in the production.”** The farmers have decided to join the cooperative of soybean production to get access on inputs, in order to increases their soybean productivity and access on marshland given to the cooperative which is suitable for the soybean crop. The findings showed that farmers are able to get inputs on government subsidies. The findings agree with MINAGRI (2007) where **“sufficient inputs are available and affordable to the cooperative due to the system of the voucher (cooperative members get inputs and pay a half after harvest)”**

The farmers complain that the inputs are not available at right time due to government bureaucracy and they are not happy with the inequitable distribution of water among soybean fields, particularly during the dry season and farmers whose fields are located at the lower end of the marshland, this is also related to poor maintenance of the water supply infrastructures.

5.3 Functioning of ABAHUZAMURIMO soybean farmers' cooperative

Both the MFPI and ABAHUZAMURIMO cooperative report that they are happy with the functioning of their production committee considering the new way of using improved inputs and the way it collaborates with farmers partners on the cooperative side, this is confirmed by ILO (2007), said that **“the cooperative can assist their members in getting some facilities like inputs, technical assistance, and advocacy.”** On the other hand, the leadership and management committee in the cooperative is said not work well which leads to a letdown. The study shows that cooperative members are not well informed about the financial situation, even all company staff don't have that information. As a result, farmers prefer to sell individuals than selling in cooperative because the cooperative leadership doesn't fulfill all responsibilities assigned by members and also made decisions with their stakeholders without considering the common interest of the farmers. This is not in line with RCA (2013), indicated saying that **“cooperatives are formed to do something better than an individual could do for themselves.”** this Author emphasizes also that **“by forming a cooperative initiative, raise their household income and reinforce the economic situation of their farm.”**

According to the data from key informants, the findings revealed that Cooperative has a great relationship with the external environment, they work well with different stakeholders (NGOs, district officials, ...) are the mostly the ones involved in soybean production by providing technical and inputs support. This is the same way with FAO (2012) found out that **“firm-farm relationship is a partnership among different institutions, with a purpose to work closely with each other and make their activities complementary of supporting each other in their daily activity.”** This study also found out that it is not easy for the stakeholders to help farmers to access loans because they don't have own property to present to financial institutions as collateral. The financial institutions are not interested to invest in soybean production because of they not sure of the payment of the loans due to climate change which affects negatively the soybean production and also cooperative members don't have guarantee deposit for their production. This is the same way with what IPAR (2009) found out natural hazards **“agricultural sector doesn't perform properly because it faces various challenges due to climate change as consequences of global warming”**. This is confirmed by KIT (2008) found out one of the main challenges in agricultural marketing is limited to access to bank loans and insurance.

5.4 Markets and prices

During self-assessment, the majority of farmers confirmed that only 40% of the production is sold to MFPI because it offers a low price compared to the other buyers. During the debriefing meeting (focus group discussion) farmers complained about the price of soybean offered by MFPI because the price paid by MFPI to farmers does not cover the production cost and does not allow for a benefit while other buyers offer higher farm gate price, they mentioned that **“they don't participate in price determination and also said that we cannot sell our soybean production like that”**, given that they do not have a word in price setting which affects their business relations. During focus group discussion, a different view is shown on the price, the farmers want to sell their production at a high price whereas MFPI wants to buy at the lowest price. This is in line with the opinion of Schrader (2012), in his work on firm-farm relations is aware that firms and farms have opposite interest, farmers want the highest price for their commodities whereas firms look for the lowest possible price, both farmers and company need mutual understanding and trust in each other. Apparently, from the median score in the self-assessment survey revealed that the farmers are less happy with this challenging area because farmers are not participating in contract elaboration, cooperative members (farmers) do not know key elements of the contract between the MFPI and their cooperative. **“MFPI doesn't consider farmers' opinion on contract matters, contract is elaborated by**

MFPI and signed by representatives of cooperative without consulting cooperative members” said a farmer as result seems to lack a mutual mechanism for determining prices and also implementation is difficult for them, they can’t flow the rules laid down in it.

According to Prowse (2012), he suggested that contract farming is all about collaboration relationship for mutual benefit between agribusiness and farmers. The contract farming necessitates a long-term commitment for both sides in order to be sustainable and successful as well as should specify in detail the penalties, the contract is used to coordinate both parties and to implement the parties’ compliance to the terms of the agreement.

After analysing the data from semi-structured interview and survey, the results revealed that there is lack of proper management in communication between MFPI and farmers, the MFPI may lead to losing its trust from farmers because there is no possibility of exchanging information. A major disagreement was posted on a communication channel through which the farmers can send their ideas. Many farmers complained that the company does not inform farmers price to be paid before delivered their production. This disagrees with Lynette et al (2007) who said that **“effective communication provides relevant information to business partners, this is essential to the success of a supply chain, thus increasing transparency and affecting trust level”**. Therefore, frequently communication or information sharing are positively related to trust levels in business relationships by assisting in resolving disputes and bringing into line perception and expectations (Fischer, 2009, Kumar 2000). MFPI also does not pay on time for the production buy on credit while farmers need money to cover daily expenses, this confirmed by KIT and IIRR (2010), said that **“most of the smallholder farmers are in urgent need of money, they often have accepted any prices offered to them at harvest period.”** All of these effects negatively the quantity their get from farmers. Consequently, farmers prefer to sell their yield to other buyers who offer better prices at the farm gate.

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

6.0 Introduction

This chapter finally describes the conclusion drawn from a semi-structured interview, survey questionnaire and focus group discussion. It also presents the recommendations addressed ABAHUZAMURIMO Cooperative, Muhanga Food Processing Industries (MFPI) and Rwanda Youth engaged in Agribusiness Forum (RYAF) on the way forward with regard to the relationship between both parties.

6.1 Conclusion

This research study had an objective of investigating factors that prevent ABAHUZAMURIMO cooperative to supply soybeans regularly to Muhanga Food Processing Industries (MFPI) by gaining an insight into their current relationship with an aim to formulate recommendations to improve the relationship. The main research question was “What are challenges facing business relationship between ABAHUZAMURIMO cooperative and Muhanga Food Processing Industries (MFPI)?” Four sub-research questions were formulated to answer the main research question. 2-2 tango tool was used to assess the relationship between the two parties. The study found out that there is no a strong relationship between MFPI and ABAHUZAMURIMO Cooperative in managing irregularly supply of raw material (soybeans) and also no mechanisms put in place by MFPI to enhance collaboration relationship in soybean supply.

Muhanga Food Processing Industries (MFPI), heavily depends on ABAHUZAMURIMO Cooperative for raw materials, from the semi-structured interview, survey and focus group discussion, it can be concluded that the current relationship between ABAHUZAMURIMO cooperative and MFPI was not satisfactory as result of poor partnership in their business as well as due to the lack of full exchange of information and regularly meeting between them, this result contribute negatively to the relationship between both parties.

The findings showed that MFPI does not provide any services to cooperative regarding production such as extension services, credit provision or agricultural inputs for soybean production, the cooperative get these kinds of services from COCOF which is a non-profit local NGO that has helped farmers with good seeds, guidance on increasing soybean production and post-harvest management for many years in Muhanga and Kamonyi districts. In general, soybean productivity has increased due to inputs access and more extension services from COCOF as well as seed subsidies from the government. The main challenges are delaying of inputs distribution and inequitable distribution of water among soybean fields during the dry season which affects soybean productivity.

Both the MFPI and ABAHUZAMURIMO cooperative report that they are happy with the functioning of their production committee considering the new way of using improved inputs and the way it collaborates with farmers partners, the cooperative assists their members in getting some facilities like inputs, technical assistance, and advocacy. On the other hand, the leadership and management committee in the cooperative is not working well which leads to a letdown. The study shows that mostly cooperative members are not well informed about the financial situation, even all company staff don't have that information. The study revealed that network and collaboration with stakeholders are not well established with farmers and micro/ macro-financial institutions. As results, the bank institutions are not willing to provide loans to soybean farmers because they are not sure of the payment of the loans. ABAHUZAMURIMO Cooperative members want to strength their well-functioning by regularly meeting and dissemination of information to farmers.

The major finding of the study indicated that most cooperative members are not satisfied with the current price offered by MFPI because they are not contributing to price setting, cash paid to farmers could not cover the production cost, delay payment to farmers, they prefer to sell to rural traders or RAB that usually offer better prices. The price is the major factor affecting the relationship between both parties. In addition, prices are not mutually determined, unclear of farming contract contents for farmers, contracts in both cases are not respected by the actors, and no reliable information given to farmers by MFPI, the results revealed that there is lack of proper management in communication between MFPI and farmers, the MFPI may lead to losing its trust from farmers because there is no possibility of exchanging information, many farmers complained that company does not inform farmers price to be paid before delivered their production. These constraints impact negatively business relations between ABAHUZAMURIMO Cooperative and MFPI.

6.2 Recommendations

After collecting data, analysis, and interpretation of the results, the researcher formulates some recommendations to different stakeholders in order to enhance the relationship between ABAHUZAMURIMO cooperative and Muhanga Food Processing Industries (MFPI).

6.2.1 ABAHUZAMURIMO farmers' cooperative

- The cooperative committee should collaborate with micro/ macro-financial institutions in order to adjust the repayment of credit offered to farmers to reflect production seasonality and enable them to make repayment after soybean harvest. Farmers also should accept payment by bank account and initiate saving groups in order to ensure a good relationship between them and the bank, this will serve with mutual collaterals and access to bank services, and will help them save some money for the future investments.
- Cooperative should keep or financial transactions records and update cooperative members on the financial situation of their cooperative during general assembly.
- Cooperative should negotiate with inputs providers to integrate farmers into voucher system and availability of seeds near the farmers at the right time
- ABAHUZAMURIMO cooperative should hold shares in Muhanga Food Processing Industries in order to increase farmers' income and enhancing business relationship
- The cooperative in partnership with different stakeholders should emphasize the maintenance of the water supply systems to permit exploitation of the whole marshland through the two growing seasons

6.2.2 Muhanga Food Processing Industries (MFPI)

- MFPI should negotiate with farmers on price before harvest and pay farmers on time (after the delivery their production), both the MFPI and farmers need common understanding on farming contract in order to establish close relationship with farmers and by reducing uncertainties in purchases through predetermined prices, timings and quality standard, this will enable both parties to follow the agreements.
- The MFPI should carry out a periodic market survey to know the open market price and possible review the prices to avoid side selling by farmers. This as result will serve as an incentive for farmers to be committed to soybean farming and supply to the MFPI.
- Improve its price so the farmers would be happy to sell all their yield to the MFPI and give incentives to those supplying big volume in order to motivate them and consistent communication with farmers' cooperative by using different communication channels like filed visits, social media (Facebook, WhatsApp), this will build the trust among actors and strengthening linkages.

6.2.3 Rwanda Youth in Agribusiness Forum (RYAF)

To enhance and maintain farm-firm relation, the following recommendations must be emphasized by Rwanda Youth engaged in Agribusiness Forum:

- Train farmers' cooperative in financial services provisions and facilitate linkage between farmers' cooperative to the micro/ macro-financial institutions
- Assist cooperatives in business plan development, agribusiness proposal, and loan application
- Advocate for farmers on payment modalities as a good way to maintain the good reputation of firm-farm relationship
- Provide quarterly training related to cooperative management which will strengthen the management skills of different cooperative committees, this will help the cooperative solve problems related to poor managerial skills and ensuring sustainability and success of the cooperative
- The soybean platform should be established in order to enhance stakeholder collaboration and networking, this will help to ensure and improve mutual knowledge transfer or share information as well as the use of the knowledge and meet regularly to discuss on soybean issues /opportunities
- Assist agro-input providers to make the farm input available to farmers at the right time
- Make a strong company-cooperative relation as a role model where other companies and farmers can visit and learn how to make a sustainable company and farmers relationship, this will help in knowledge sharing or opportunities and learning from one another the entrepreneurial skills that help to improve soybean value chain.
- Encourage ABAHUZAMURIMO cooperative and MFPI should work together towards enhancing their business relations through information sharing and get access to credit
- Provide a permanent monitoring and evaluation with existing firm-farm relationship as a way of sustaining the business among them

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ANNEXES

I. THESIS RESEARCH REFLECTION

Name: Jean Wilson NDORUHIRWE

I am pleased to present my four months journey of a research project aimed at enhancing the relationship between ABAHUZAMURIMO soybean farmers' cooperative and Muhanga Food Processing Industries (MFPI). This research was conducted in order to fulfill the requirements of a **Master's in Management of Development, specialization in Rural development and food security**. This was done to strengthen the capacities of student and apply newly acquired concepts and insights to critically explore and reflect on current practices of rural development and sustainable livelihoods.

Muhanga Food Processing Industries (MFPI) is mainly constrained by the low and irregular supply of raw material (soybean). On another hand, the major problem faced by ABAHUZAMURIMO Cooperative is poor market linkage. In order to improve their businesses, there is a need to improve the business relationship between them. This research helped me to learn things that are related to my major and my future career in the agribusiness sector. Based on this background, I came into this thesis on investigating factors that prevent ABAHUZAMURIMO cooperative to supply soybeans regularly to Muhanga Food Processing Industries (MFPI) by gaining an insight into their current relationship with an aim to formulate recommendations to improve the relationship.

The research was directed by one main question: "What are challenges facing business relationship between ABAHUZAMURIMO Cooperative and Muhanga Food Processing Industries (MFPI)? Under this, five sub-research questions were formulated to answer the main research question. To find answers to these questions, different methods and tools were used. These include desk-study, a 2-2 tango framework (tool for self-assessment of firm-farm relations) that is based on semi-structured interviews, a self-assessment survey, and debriefing meeting through focus group discussion. The use of these different data collection techniques or tools was a guarantee to ensure the triangulation in order to get valid and reliable information. Data were processed, analyzed, and results were presented to different assessors including an external examiner, internal examiner, and my supervisor.

I enjoyed doing my own research and writing the report. I was able to collect raw data from the field and produce something new. The study was done around four months including three weeks for reviewing existing literature related to the topic and elaboration of research proposal before going into the data collection process. The first week of data collection was spent in operationalizing the research questions into one or more lists of individual interviews or focus group discussion and into semi-structured or structured questionnaires for the survey; this gave me an idea how collected data would be analyzed. Six weeks for an interview, survey, focus group discussion and data processing, three weeks for data analysis and finalizing the thesis report, during this phase I often read additional literature to support the discussion of the findings.

Steps of the research	Activities	My role in the research	The relevance of activity (a lesson I learnt)	Challenges
Topic	Selecting a research topic	I began searching the topic; this part was one of the most difficult as I tried to translate my ideas into a research topic. After screening my ideas, I decided to conduct a research on enhancing the relationship between ABAHUZAMURIMO soybean farmers' cooperative and Muhanga Food Processing Industries (MFPI). After identifying a research topic, I formulated sub-research questions which can answer the main research question.	I learnt to work under pressure, analyzing and screening best idea as well as managing wisely time. I applied my idea in a research context, I was very analytical in understanding the research problem and designing the research question and sub-questions vis-à-vis achieving a hypothetical understanding within my peers	It was sometimes difficult to get motivated due to the fact that I had to read a lot of literature that matched my ideas. Another thing managing limited time where I had to read many documents and came up with relevant information. I sometimes got frustrated when I simply couldn't find the information I needed.
Data collection	Desk research	I read existing literature related to my research topic, main concepts (firm-farm relations in terms of production, farming contract, farmer group functioning) and a conceptual framework including operationalization that informed me about different perspectives of authors and what would and what would not be studied.	I learnt about how others did their work on firm-farm relations and factors affecting market supply, this desk study helped me to be more critical about their work and orient my research. I could take this knowledge and applied it to support my findings	The study was limited by the shortage of existing literature on soybean trading at local and national levels. In Rwanda, most cooperative members, individual farmers, and traders do not keep information on a business relationship especially consistency, reliable data on prices.
	Interview	I prepared the checklist to be used during the interview with different respondents. I made effort to build good rapport and trust in my interviewees in order to get in-depth information as well as informed respondents about the conditions with which the data would be used. Data were collected and all data were kept in confidentiality. In total, I participated in sixteen interviews	Semi-structured interviews were given to respondents for an in-depth understanding of their attitude and opinions toward farm-firm relations and I also learnt to probe (asking additional questions) in order to get depth information	Some respondents are not interested in what is being said, they were giving me information which was totally different from my expectations. This time consuming and requires analytical skills
	Survey	I prepared questionnaires to be filled during the survey. During the scoring, I explained to the respondents how to make scoring in order to get a common understanding of the objectives of the intended purpose.	Quantitative data were collected and statistical analysis would help in testing some hypotheses and validate the findings from interviews	Some respondents were not able to write their answer themselves on questionnaires due to low literacy.

	Focus Group Discussion	I started by sitting together with respondents explaining to them what I wanted them to do, showing them survey results, and asking them why some statements scored lowly or highly. I was a moderator who ensured that every person participated.	I learnt how to use the participatory approach in order to get depth information and also understood how people discussed an issue as a member of a group, this was intended to complement the quantitative data collected through survey method	Coordination challenge due to the low group dynamic, disturb discussion, it was very difficult to arrive at a common agreement on how to deal with farm-firm relationship, this resulted into skilled facilitator needed
Data processing	Data entry and transcription	Transcriptions were made directly after the completion of each interview, followed by critically evaluating information/data; organizing information collected, qualitative data were transcribed and processed by using ground theory. Excel workbook was pre-designed for data entry (quantitative).	I learnt how to register important statements and issues helpful in understanding the context	Some information did not answer research questions
Data analysis		<ul style="list-style-type: none"> - I analyzed the results and interpreted them into a meaningful argument; then I wrote it down. -Organizing data into conceptual categories and themes related to sub-research questions - Highlighting important quotes to support the findings, - I made tables and figures in order to well present my findings 	This part helped me to understand that I collected all the necessary information to answer my research questions. Besides, I discovered whether I asked right or wrong questions	
Writing report		During this phase, I continued consultation with my supervisor to complete the study, most attention goes choosing the right words which meant that I wanted to mean; the lay-out also was focused on in the presentation of graphs and tables, and annexes. I have also to look at the standard way of writing my references. Lastly, I had to proofread my first draft and make sure the final report is well written.	I improved my writing skills and learnt how to write a research report. I gained self-confidence in my writing and enhanced my research skills. I feel that this has been both a valuable and enjoyable experience. Now, I am sure I am able to write many theses or project proposals in the upcoming years without any problem. I learnt that research and writing skills are not only valued in an academic setting, but also in the for-profit business.	

In general, the research was successfully conducted and the expected results were achieved as all respondents were willing to participate in the research. They liked how the research was prepared and facilitated. During focus group discussion, all respondents had an opportunity to learn and upgrade their knowledge ranging from business and livelihood skills.

During four months, my self-esteem and self-confidence were increased and will be reflected back to me and others in many ways. I can now look back and realize that this experience has helped me both as a student and as a business professional. I learnt to manage people and achieving many things in a short time, I now feel much more confident in my writing abilities and research skills. Presentation skills are essential in almost any professional setting, and I am sure the presentation aspect of this thesis has helped to develop that as well.

According to my observation, all respondents were more accessible and willing to participate in the study by giving information that was required for the study; they helped me to understand the current relationship between both parties. In this study, I found that there is no strong relationship between MFPI and ABAHUZAMURIMO Cooperative in managing irregularly supply of raw material (soybeans) and also no mechanisms put in place by MFPI to enhance collaboration relationship in soybean supply. In this regard, the study proposed recommendations to different stakeholders to strengthen their partnership by knowing their duties and roles. The soybean platform should be established in order to enhance stakeholder collaboration and networking, this will help to ensure and improve mutual knowledge transfer and use of the knowledge.

Lastly, I am grateful to my supervisor Dr. Heinz Evers for the wonderful moments and learning experience we shared.

II. CHECKLIST AND QUESTIONNAIRE

A. CHECKLIST FOR COOPERATIVE MEMBERS

Country	
Product	
Name of farmers' cooperative	
Date of interview	
Name of person interviewed	
The function of person interviewee	
Type of Organization	
Year of establishment	
Number of organized farmers (total, men, women)	

1. What is your source of farming inputs?
2. Do you get support from elsewhere (other actors) or MFPI?
If yes, from who?
 - a) NGO's
 - b) Government
 - c) Inputs suppliers
 - d) Financial institutions
 - e) MFPI
 - f) Others (specify)What kind of support do you get?
 - a) Training
 - b) Financial
 - c) Inputs
 - d) Others (specify)
3. What is your main source of finance for the soybean cultivation?
4. How do you communicate with MFPI or other stakeholders?
5. What are the constraints do you face related to the quality and quantity of soybean?
6. What are the possible solutions to those challenges?
7. How many customers does the cooperative serve?
8. What is your reason for your choice of buyer above?
9. What are the challenges have encountered in relation to satisfy the demand for MFPI?
10. How does the cooperative get market information from the MFPI?
11. Does cooperative have signed contracts with the company (Contracts specifies the period, minimum volume and price)?
12. Does the cooperative consistently meet the required volume as agreed in the contract?
13. Is your idea considered at the time you are making a contract?
14. What are the factors affecting/contributing to irregularly supply?
15. Do you have bargaining power on price?
 - a) If you negotiate the price, what factors do you consider?
 - b) If no, who determine the price and why?
16. What can be done to improve the market linkage between cooperative and MFPI?

17. Quantitative data

Average production volume of farmers' cooperative per season (if possible details for different seasons):	
Average production volume per farmer (or household) per season:	
Average acreage per farmer (or household) per season (ha):	
The total volume of soybean before selling	

B. CHECKLIST FOR MUHANGA FOOD PROCESSING INDUSTRIES

Country	
Name of the firm(s)	
Date of interview	
Name of person interviewed	
The function of person interviewee	
Type of Organization	
Year of establishment	

1. How long have you been in soybean business?
2. What motivated you to start this business?
3. Where do you source raw material (soybean)?
4. What are the challenges faced by your suppliers?
5. What are the strengths of the current relationship with ABAHUZAMURIMO soybean farmers' cooperative?
6. What are the major challenges you face in the contractual arrangement you have with ABAHUZAMURIMO soybean farmers' cooperative?
7. How do you determine the price of raw material (soybean)? What are the quality criteria you consider?
8. What is assuring that the farmers are satisfied with the market they have?
9. Are there any communication means? If so, which ones and how do they affect your business?
10. Does cooperative supply soybean according to the contract?
11. Voice
 - A. Does decision making take place in a democratic way (through elected decision makers) or through a business hierarchy, (decision making power linked to function in the company)?
 - Democratic structure
 - Business hierarchy
 - B. At which point in the chain does the cooperative have the power to make a decision?
12. What are the main constraints do you face in your business?
13. What are the possible solutions to those challenges?
14. How do you deal with irregular supply?
15. What are different ways do you use to control the quality of the raw material?
16. What is your opinion on the farming contract offered by the MFPI
17. Pricing

- A. Which pricing mechanism is used:
- List price: predefined fixed prices
 - Price depends on the quality of the product
 - Price depends on the type and characteristic of the direct customer
 - Price is determined as a function of the quantity purchased
 - Price is negotiated between two or more partners depending on negotiation power and/or negotiation skills
 - Price depends on inventory and time of purchase
 - Price is established dynamically based on supply and demand
 - Price is determined by the outcome of competitive bidding
- B. Is the business/farmer organization cost driven or value driven?
- Cost-driven (cheap)
 - Value-driven (high quality)

C. KEY INFORMANTS CHECKLIST

1. What services do you offer to the soybean cooperative?
2. What are other stakeholders?
3. What kind of support do you offer to the cooperative in order to improve their bargaining power?
4. What can cooperative do to improve their bargaining power?
5. What challenges do you face in dealing with the cooperative?
6. What is your opinion on how these challenges can be solved?
7. In your opinion, what is the contribution of contract farming in the local community and the soybean subsector in general?
8. How do you collaborate with cooperative and MFPI in the relation to market linkage?
9. As a stakeholder, what is your opinion about improving the relationship between cooperative and MFPI?
10. In what ways has the government tried to improve the soybean sub-sector in the district?

D. QUESTIONNAIRE

The statement list 2-2 Tango

For the researcher:

Please fill in the following information about the case:

Country:	
Case	
Name of researcher	
Date	

For the respondent:

Please fill in the following information:

Name respondent: What is your name?	What is your name?
Gender respondent:	What is your gender? <input type="checkbox"/> Male <input type="checkbox"/> Female
Age respondent:	What is your age? years

For MFPI employees:

If you work for an MFPI, please fill in the following questions. If you are finished, you can start answering the statements on the next page. Thank you for your collaboration!

Characteristic respondent	What is the name of the company that you work for?
Position respondent	What is your position in the company?
Duration participation	How long do you work for this company?

For members of the farmer group/cooperative:

If you are a member of the farmer group/cooperative, please fill in the following questions. If you are finished, you can start answering the statements on the next page. Thank you for your collaboration!

Characteristic respondent:	What is the name of your farmer group/cooperative?
	What is your position in your farmer group/cooperative? I am a farmer and sell my products through this farmer group I am a board member/member of the core group My position is:
Duration participation:	How long are you a part of this farmer group/coop? [If applicable:] Since when do you have this position in the board?

We are now beginning with the statements. Please answer them to the best of your ability. Good luck!

Statements		Scores			
		0	1	2	3
		Total disagree	Disagree	Agree	Total agree
1. Soybean production					
1.1	Soybean inputs are affordable/accessible to farmers				
1.2	Soybean inputs are available at the right time				
1.3	Farmers know proper utilization of soybean inputs				
1.4	Sufficient soybean inputs are available				
1.5	Farmers use the inputs as recommended by agronomists				
1.6	The farmers' fields are suitable for the soybean crop				
1.7	Farmers grow the best soybean variety available				
1.8	Farmers have easy access to credit to buy inputs				
1.9	Farmers' yields are increasing				
2 Farmer group functioning					

2.1	Farmers are happy to sell their soybean in the cooperative rather than selling individually on their own				
2.2	Cooperative helps farmers access to bank loans				
2.3	Each cooperative member knows the financial status of the cooperative				
2.4	Cooperative's leaders always represent the common interest of the farmers				
2.5	The leadership of cooperative carefully handles any problem of each member				
2.6	Farmers prefer to work as individuals than operating in a cooperative				
2.7	Cooperative leaders fulfill all responsibilities assigned by members				
2.8	The cooperative structures are set democratically and equally				
2.9	The cooperative structures are set democratically and equally				
3 Functioning of Muhanga Food Processing Industries (MFPI)					
3.1	MFPI is happy to work with cooperatives				
3.2	The company considers important the views/ideas of farmers				
3.3	The staff of the company is enough				
3.4	MFPI facilitates the farmers to get loans for soybean production				
3.5	MFPI has enough soybean to process all year round				
3.6	MFPI products have high quality than ones produced by other industries				
3.7	MFPI works closer with farmers than other soybean buyers				
4 Communication					
4.1	Soybean farmers are regularly kept informed on the MFPI issues				
4.2	The MFPI gives answers to all questions asked by the farmers on the soybean farming				
4.3	Farmers regularly visit the MFPI in order to understand the functioning of the MFPI				
4.4	The MFPI has regular strategic meetings with the farmers, in which they discuss the future requirements and goals for the relationship.				
4.5	The company has instituted the communication channel through which the farmers can send their ideas				
4.6	Farmers have the information and communication means (mobile phones)				
4.7	The farmers know the quality or quantity of soybean needed by the MFPI				

4.8	MFPI informs cooperative on prices to be paid before soybean is delivered				
5 Markets and prices					
5.1	MFPI pays farmers at right time without delay				
5.2	Farmers are always participating in price setting				
5.3	The price offered by the MFPI makes farmers happy				
5.4	There are other soybean buyers at market				
5.5	Cooperative is able to produce the quantity of soybean needed by MFPI				
5.6	The price paid by MFPI to farmers covers the production cost and allows for a benefit				
5.7	MFPI pays a premium price depending on quality or quantity supplied				
5.8	MFPI offers better prices than the competition				
5.9	The MFPI is able to buy and process all soybean produced by the cooperative members				
6 Farming contracts					
6.1	Clear agreements were signed between cooperative and the MFPI				
6.2	Each cooperative member has a clear understanding on key elements of the contract with the MFPI				
6.3	A short-term contract is better than a long-term contract				
6.4	Risks and losses are equally shared between farmers and company in case of natural disasters				
6.5	It is helpful that the government get involved in the implementation of farming agreements				
6.6	MFPI takes farmers' opinion on contract matters into consideration (collaborate to prepare farming contract)				
6.7	ABAHUZAMURIMO cooperative are happy to have a guaranteed market for their produce				
7 Stakeholder networking and collaboration					
7.1	Governmental agronomists facilitate the understanding between farmers and the MFPI				
7.2	Bank institutions are willing to provide loans to soybean farmers				
7.3	Stakeholders fulfill their duties and responsibilities as required				
7.4	There is a formal platform of soybean stakeholders				
7.5	Stakeholders consider more important soybean business rather than soybean production				
7.6	RAB or COCOF gives enough advice to soybean farmers				