

Strengthening firm-farm relation in honey value chain

A case of Apibusiness Development Company and the Huye District Beekeepers' Cooperative, Rwanda.



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

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Dedication

To Almighty God
To my parents
To my fiancée
I love you all.

Acknowledgements

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Abbreviations and Acronyms

ABDC	ApiBusiness Development Company
ARDI	Rwanda Association for Integrated Development
CDI-WUR	Centre for Development Innovation- Wageningen University and Research Centre
COPABUHU	Cooperative of Beekeepers of Huye District
FAO	Food and Agriculture Organization
FGD	Focus Group Discussions
GDP	Gross Domestic Product
GoR	Government of Rwanda
MFI	Micro-Financial Institutions
NGO	Non-Governmental Organization
PPMER II	Project pour la Promotion des Petits et Micro-Enterprises Rurales- phase 2
RARDA	Rwandan Animal Resource Development Authority
RBS	Rwanda Bureau of Standards
RISE	Rural Innovation System and Entrepreneurship
Rwf	Rwandan franc
SNV	Netherlands Development Organization
VCA	Value Chain Analysis
VCD	Value Chain Development

Abstract

The study was to strengthen firm-farm relation in honey value chain in Huye district of Rwanda and took place between July and August 2013. The objective was to assess the relationships between ApiBusiness Development Company (ABDC) processing and Cooperative of Beekeepers of Huye District (COPABUHU) honey producers with the purpose of developing strategies to improve the firm-farm relations for enhancing smallholders honey producer's market access.

The research was carried out in the Huye district of Rwanda and interviewed 10 informants and SWOT analysis was used in Business case description. Data was collected through a survey using a 2-2 Tango questionnaires administered to 19 respondents farm-firm scored the statements. 2-2 Tango is participatory tool for assessing the firm-farm relations and it helps to harness the views of farmers and firm on their business relation and is developed on the same set of statements. Focus group discussions were held as a debriefing session involving the representatives of the two actors was held to get an in-depth picture on the reasons for the level of scoring and degree of agreement/ disagreement during the survey. The field study was two-fold involving a case study and a survey. The case study was done using semi-structured interviews while the survey used the Two to Tango tool, a self-assessment tool (questionnaires) involving the affected chain actors. Clusters of challenge areas identified and investigated were production, functioning of the cooperative, marketing, price, contract, honey handling and quality standards, costs and benefits of the business arrangement, services provision by the processing company and future market perspectives.

The findings of the study indicate that the perceptions on the relationship were generally positive. There was a substantial disagreement on production and price challenge areas. There exists a formal contract between the partners although there lacks contract enforcement strategies. Farmers and the firm agree on benefits of their business arrangement as well as the future perspectives of the business. The company is not receiving adequate quantities and quality of honey, while farmers consider the price offered by the company as low. All these comprise the three relational gap existing between the two partners. The findings showed that there is an issue of women involved in beekeeping activity due to imbalance in workloads, time consuming and long distance to apiaries.

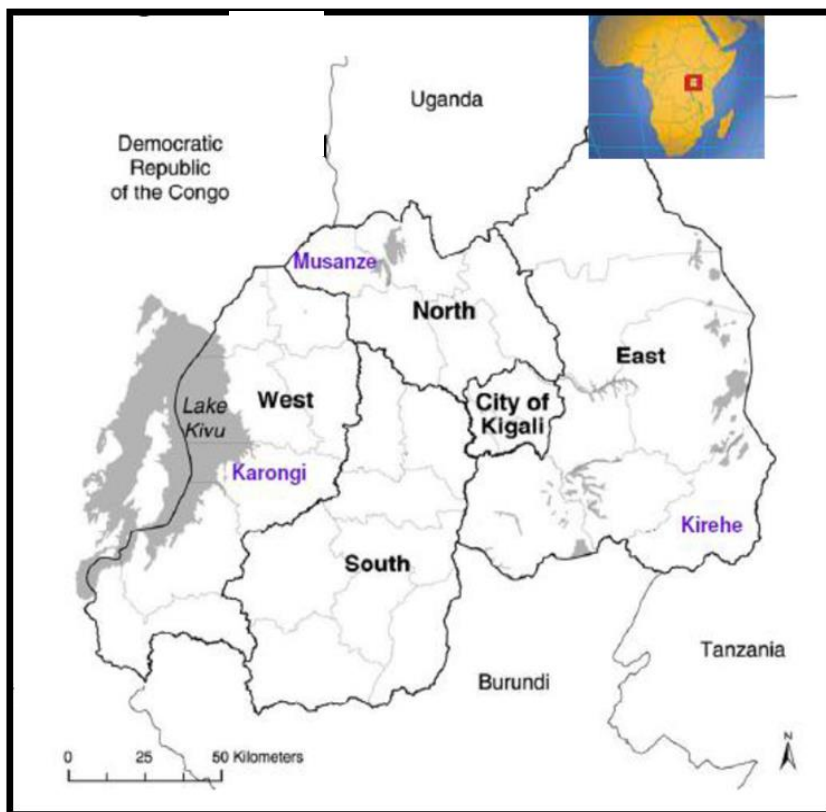
It must be concluded that in general, the firm-farm business relations between ABDC processing company and COPABUHU honey producer's cooperative is positive. But the challenges facing ABDC and COPABUHU were in the areas of production and price areas, which need an urgent improvement to strengthen the business relation. ARDI and SNV have significantly supported farmers and their cooperative to gain knowledge and skills by adopting modern beekeeping practices. Farmers are guaranteed a steady income which in turn contributes to household food security improvement. Finally, women are limitedly involved in beekeeping activity due to limited access to productive assets and others financial resources. It was concluded that the relationship between ABDC and COPABUHU has a bright future.

Recommendations are focused on the strategies that strengthen chain relations and market institutions through creation of an effective coordination of the business relations. In this platform transparent information sharing, compliance with contractual obligations and strengthening the performance of COPABUHU and ABDC can be achieved. The GoR and other chain supporting agencies should strive to have a conducive external environment for the chain competitiveness and sustainability.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

This study was carried out in the Rwanda's agriculture sector. Agriculture is the backbone of Rwanda's the economy, contributing an average of 36 % of the total Global Domestic Product. It employs about 87 % of the working population and generating about 80% of the total export revenues(NISR, 2012, MINAGRI, 2012). This important sector is undermined by several challenges. MINAGRI (2007) reports that Rwandan agriculture depends much on climatic conditions and faces constraints such as high level of illiteracy (30%), weak connection to market, poor productivity and poor performance of agricultural support services (NAS, 2013).



The agricultural strategy of Rwanda has the objective of increasing rural income, enhancing food security, and transforming agriculture into a viable sector by moving it away from subsistence to a market-driven activity(MINECOFIN, 2012). In this line, the Ministry of Agriculture through the Rwandan Integrated Development Programme prioritized five value chains for development. These five value chains are Milk, Beef, Fish, Hides & Skins and Honey (MINAGRI, 2012). This research was carried out on the honey value chain.

Figure 1: Rwandan Map
Source: NAS, 2013.

Beekeeping is one of the enterprises of Rwanda's Livestock sub-sector. It is advantageous for rural livelihoods as production costs are low and also one does not necessarily need to own land for practice. It is relatively a small subsector but has big potential due to its products' growing demand. At the national level, the demand for honey will increase from 1,625 tons in 2006 to 13,789 tons by 2020 (MINAGRI, 2006). The Rwandan government appreciates this and has put in place an agency for the national beekeeping programme coordinated by Rwandan Animal Resource Development Authority (RARDA)(Berenschot, 2008). Beekeeping principally contributes to five sectors of the economy which include economic development, environmental conservation, food security, agriculture and livestock development. In 2008 beekeepers were 30,293 of whom 18,430 were men, 7,233 women and 4,630 youth. According to the report of NISR (2013) the production of honey per year was 3,221 tons in 2011. Beekeeping has been

identified as a low investment and high returns enterprise attracting support from organizations like SNV. According to RARDA, the national demand for honey will increase from 1,600 tons in 2006 to 13,800 tons by 2020 (MINAGRI, 2009). These volumes will need a well-developed, and efficient marketing systems to be absorbed.

The beekeeping subsector is facing problems due to inadequate markets, knowledge, information and poor quality of honey. This has led to honey markets being restricted to the informal supply chain; mainly to producers of local liquor, leaving producers themselves prone to exploitation from knowledgeable middlemen (MINAGRI, 2009). These challenges have led to the development of Agrihub Rwanda.

According to Agri Pro Focus (APF) (2013), Agrihub Rwanda (who commissioned this research) focuses on agricultural innovation on business brokering: Promotion of private sector support programmes relevant for Rwandan agriculture; Promotion of calls for the agricultural sector development fund of EKN managed by ICCO; Facilitating firm-farm business deals; and Training and coaching track on gender in value chain. These stated areas are of interest to Agri-Hub Rwanda. This research looked at firm-farm business relations in beekeeping subsector between ABDC (firm) and COPABUHU cooperative (farm). ABDC is a private company which process and trade honey, and also a stockist and supplier of honey production equipment whereas COPABUHU cooperative members are producers of honey. These members are farmers who reside mostly in Huye District in South of Rwanda see figure 1.

1.2 Problem Description

The beekeeping subsector in Rwanda is characterised by poor access to market, low producer prices, lack of access for traders/processors to products of sufficient quality and quantity and weak linkages between producers and traders/processors among other problems (Bradbear, 2004). This has brought about stereotype mutual perceptions, misunderstanding and mistrust between these actors often fuelled by disappointing experiences mainly delayed payments, side-selling, low quality products and lack of contract enforcement (Schrader, 2012). The implications are detrimental to the value chain, as it directly impacts on product and information flow, chain coordination, and values shared. This inevitably leads to unsustainable chain relations.

Unfavourable business relations have been known to exist between COPABUHU cooperative farmers of Huye district and ABDC processing and trading company. ABDC has not been securing honey in sufficient quantities and qualities. On the hand honey farmers are unmotivated to supply whole production to ABDC Processor Company and some of them decide to sell their products to local market with a high transaction cost. However, the actual cause of the poor business relations is largely unknown.

Therefore the Agri-hub in Rwanda wants to conduct a study of firm-farm relationships in order to help these chain actors to dialogue and have a common understanding about ways to improve their business relations.

1.3 Justification of the Study

The research is being carried out to enable the development of a functional Firm-Farm relationship. Functional Firm-farm relationships have largely allowed industries and exporters to work with small holder and larger farmers, in sustainable agricultural production and marketing chains to enable production for processing and export. Contracts are designed to guide these relationships. A properly designed contract farming arrangement can create important wins for farmers, investors, input dealers and service providers (Ton, 2012b). In developing countries, contract farming has seen many challenges as many investors face problems in making the win-win agreement work. Therefore, contributing to a redress of these challenges is at the core of this paper.

The proposed recommendation of this research will contribute to make sustainable firm- farm business relationship in the honey value chain. Sustainable chain relations have been known to stimulate production and facilitate efficient product flow. This also lowers costs to consumers thus contributing to achievement of enhanced food security and Rwanda's vision 2020.

The study is being carried out to generate knowledge which is relevant to the sector as there are few researches that have been conducted in honey value chain in terms of firm –farm relationships. The study will be used as a reference material especially on Rwanda's smallholder honey value chain development by; processors, chain facilitators, and other chain actors to facilitated sustainable value chain development.

1.4 Research Objective

To assess the relationship between ABDC processing company and COPABAHU honey producers with the purpose of developing strategies to improve the firm-farm relations for enhancing smallholders honey producers' market access.

1.5 Research Questions

1.5.1. Main Research Question:

What is the status of business relationship between smallholder farmers of COPABUHU cooperative and ABDC processing company in the Huye district honey value chain?

1.5.2. Sub-questions

- a) What are the beekeeping farming systems in Huye district?
- b) What are the roles of the chain actors and supporters in the honey value chain?
- c) What are the factors /challenge areas affecting the business relations between COPABUHU cooperative and ABDC?
- d) What are the functions of COPABUHU cooperative on agri-business partnership?
- e) Which strategies can be appropriate for improving the firm-farm relations?

1.6 Organization of the Thesis

Chapter two contains a description of terms and concepts used in the study, an overview of Honey Value Chain in Rwanda, the theories on strengthening business relations and challenge areas. Chapter three comprises the methodology to be used to answer the research questions. Chapter four describes the case study to be undertaken during the research and the results of self-assessment and interpretations done by the farmers and the processing company. The next section, Chapter five gives brief discussion of results, conclusions and recommendations and the next section contains a list of the references of this research. In the last section are the appendices which carry information that are relevant to the study.

1.7 Conceptual Framework

The conceptual framework focuses on the business relations between ABDC and COPABUHU which is determined by a number of areas i.e. challenges areas as indicated below. The areas are production, functioning of cooperatives, marketing, prices, contracts, handling and quality standards, services provisions by ABDC, costs and benefits and future marketing perspectives.

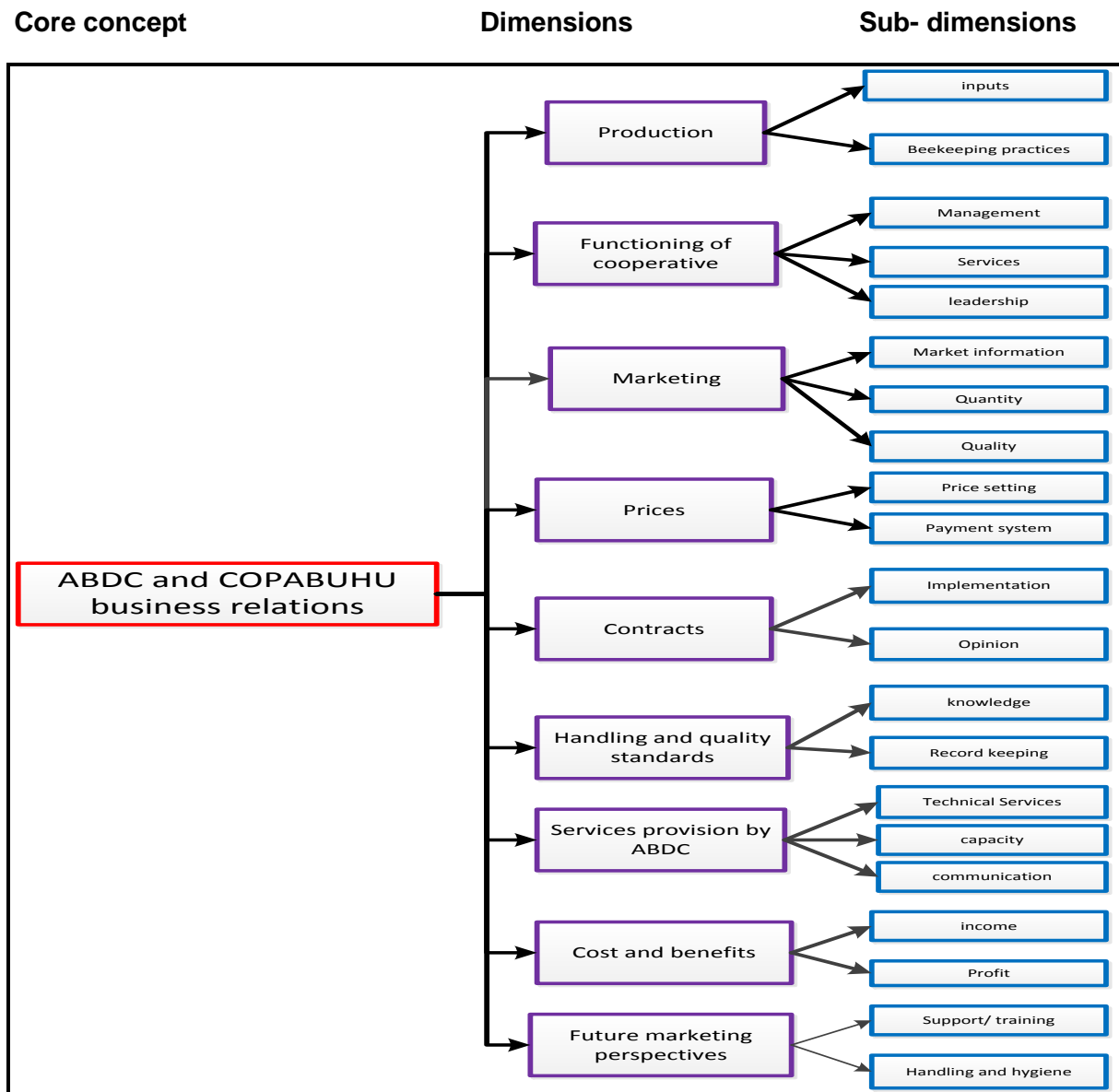


Figure 2: Firm-Farm relation conceptual framework.

Source: Adapted from Piet Verschuren and Hans Doorewaard (2010).

CHAPTER TWO: FIRM-FARM RELATIONS CONCEPTS AND OVERVIEW OF HONEY VALUE CHAIN IN RWANDA

2.1 Definitions of Terms and Concepts

The following definitions and terms were regularly used during the study in trying to determine status of business relationship between smallholder farmers of COPABUHU cooperative and ABDC processing company in the Rwandan honey value chain.

Definition of terms used in the study

Production	The process of either growing or processing raw materials in large quantities (RTI and IIRR, 2010). For this research production is used to determine production of honey from different production systems.
Beekeeping inputs	In this study beekeeping inputs are equipment such as gloves, clothes, hats, hives, feeds and medicine required for honey production.
Hive	Housing equipment with combs in which a beekeeper keeps bees and harvest honey or beeswax.
Function of co-operative	An economic voluntary organization of producers that helps smallholder farmers to collaborate, coordinate to achieve economies of scale in their transaction with input suppliers and buyers, access inputs, services, information channels and raise levels of knowledge and skills in agricultural production and value addition.
Contract	The actual bilateral agreement between the buyer and seller of a commodity or transaction as defined by specified terms and conditions.
Honey beekeepers' Cooperative	Producer organization registered with the Ministry of Cooperatives Development and is a combination of more than one farmer groups.
Firm	Agri-food and agri-input companies engaged in business transactions within the supply chains.
Linkage	A business relationship between two parties(company and farmer) of a value chain.
Market access	Increased opportunity to market outputs regularly and at acceptable prices and increased opportunity to buy quality inputs and services at acceptable prices and results in market participation
Marketing perspectives	In this study the marketing perspectives is the projected marketing opportunities of honey.
Relationship	A social connection between two parties

Value chain development	A multiple and participatory process that leads to coordinated interventions. It has the enormous advantage to bring together stakeholders from different production stages and sectors, to create a productive and innovative dialogue and to draw the attention to “Collective Competitiveness”.
Smallholder farmers	Smallholder farmers as producers who operate on a small scale level of production and often have limited resources at their disposal making them vulnerable to production risks and challenges.
Beekeeping	Beekeeping can be defined as the art of managing honeybees for the purpose of producing honey, bee-wax and other bee-products for food, income and even medicine.
Bargaining power	The ability to influence the price or terms of a business transaction and can enable producers to negotiate for better prices and terms, such as a long-term supply agreement or access to business services. Bargaining power depends on many different factors but the most important are scarcity, the availability of alternative marketing options, and market information.
Honey	Sweet food made by bees from flowers
Food security	Food security exists when all people, at all times, have access to sufficient, safe and nutritious food to meet their dietary needs and preferences for an active and healthy life (WFP, 2012).

2.2 Rural Innovation System and Entrepreneurship (RISE) Framework

RISE is a conceptual framework that guides work on promoting farmer entrepreneurship. It integrates approaches and concepts related to value chain development, institutional economics, market system development, transaction economics, rural innovation systems, and others. As shown in figure below the RISE comprises three major actors groups namely chain operators, chain supporters and chain enablers or influencers(Schrader, 2012).

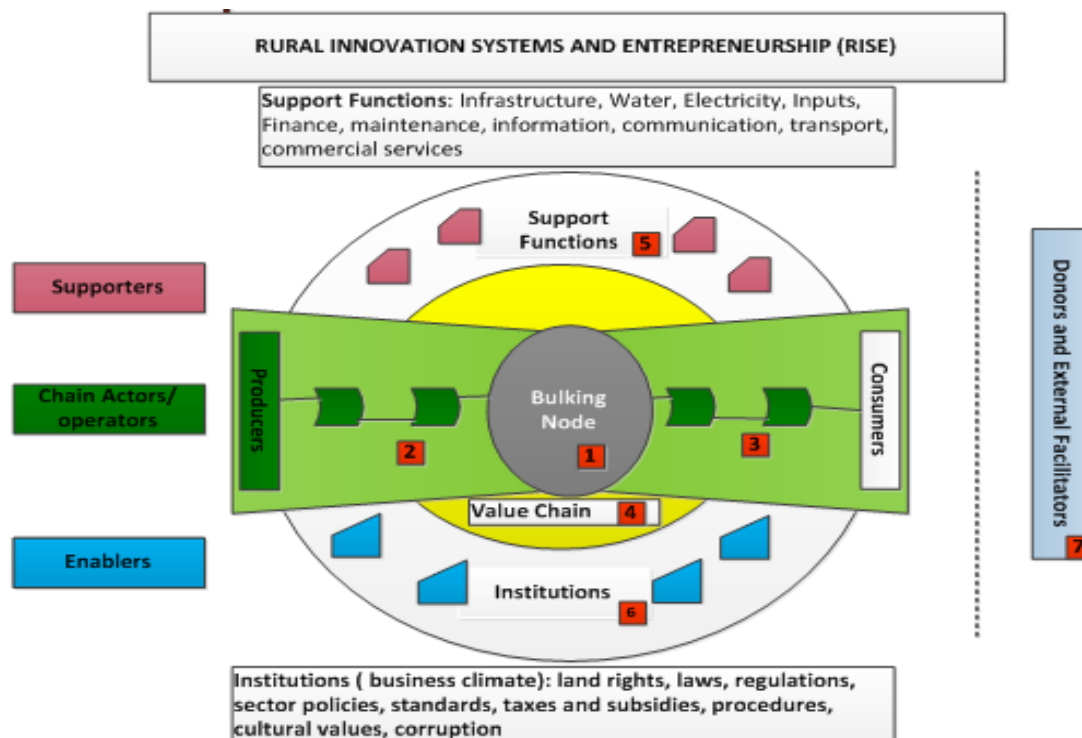


Figure 3: RISE Framework
Source: Schrader, 2012

Chain Actor groups

In the RISE framework above, the actors in the honey value chain need to interact with each other in order to have well- functioning market systems, reduce transaction risks and costs and to arrive at competitive, sustainable and inclusive value chain development. These are public-private partnerships in practice (Schrader, 2012).

Chain operators are entrepreneurs or enterprises performing functions on value chain. They create value and own the product at some stage (Schrader, 2012). These are producers, processors, traders, wholesalers, exporters and retailers.

Chain supporters provide support services to chain operators. Chain supporters have a stake in the honey value chain, but do not own the product. These are input dealers, transporters, banks and micro finance institutions, research, training, extension and auditors (Schrader, 2012).

Chain enablers or Influencers create and define conditions for private sector players to do their business as they set the policy environment and business climate. They are mainly composed of governmental bodies at different levels and public services, such as courts and police (Schrader, 2012).

The RISE framework also shows a four group which involves the donor and external facilitators. These are part of rural innovation systems and the reality of agribusiness development in Africa. This framework provides lenses for looking at agribusiness development dynamics as shown in numbers in figure 2 above. The dynamics around bulking node (number 1) indicates local markets, trade hub, processing unit; collection centre in which volume; quality, labour, storage; product development and use of products are observed. Number 2, the pre-harvest processes shows farmers' production practices, productivity and quality, farmers' organization rate,

modalities of selling of primary produce to traders and processors. Number 3 is Downstream relations among stakeholders which involves sellers and buyers of processed products at or through bulking node (millers, traders, wholesale) and relations further down the line of retail and consumers (Schrader, 2012).

2.3 Beekeeping Systems in Rwanda

Rwanda's beekeeping is characterised by both traditional and modern production systems. The two systems in essence use traditional hives and modern hives (KTBH and Langstroth) respectively (Berenschot, 2008). In Rwanda honey is produced using a combination of the following four methods:

- ✚ Honey hunting where honey is collected from wild colonies in cavities of trees, holes, caves and rocks.
- ✚ Use of traditional beehives made from logs, barks of trees and bamboo and logs. Traditional hives account for 90% of total hives in Rwanda. Practicing beekeepers operate small commercially unviable apiaries (1-3 hives) and no records are maintained to monitor performance of the apiaries and assess the profitability level (MINAGRI, 2009).
- ✚ Use of low technology top bars hives such as the Kenya top bar (See figure 5). However wooden top bar hives are expensive to construct as compared to traditional ones and it is difficult to find trained and reliable carpenters (Segeren, 2004). The top bar beehive is usually made of local timber planks and waterproof roofing felt or plastic paper.
- ✚ Use of the Langstroth hive is also another production method.
- ✚ The most important hives commonly used in Rwanda are the traditional hives and the modern hives (langstroth) (SNV, 2008). (See figures below). Berenschot (2008) indicates that the use of traditional hives is more dominant since the modern frame hives are being introduced by NGOs promoting the enterprise in Rwanda.



a.



b.

Figure 4: a. Old Kenya Top Bar Hive b. Langstroth hive



Figure 5: Traditional hives

Table 1: Comparison of the two important hives used in Rwanda

Modern hives (Langstroth)	Traditional hives
Higher production (45-50 kg / year)	Lower production (8-13 kg per year)
Easier to inspect	More difficult to inspect
More expensive to buy (around 30\$US) and maintain	Low costs to make or buy (1,000 FRW) and maintain
Produces mostly honey	Produces more than just honey
Easier for women to participate	Difficult for women to participate
Harder to get bees into	Easier to get bees into
Lack of modern knowledge	Old knowledge
Less labour intensive	Labour intensive
Modern equipment needed for extracting	Traditional equipment
Made of modern material	Made of natural material
Easier manipulation of bee colonies	Very difficult to manipulate colony

Source: SNV, 2008

2.3.1 Production levels

Honey production is predominantly done using traditional log hive whose average yield is 3.6Kg per season way below the standard average estimates of 5.6kg per season(SNV, 2009). Harvesting is done by individual producers although there are some community members who have received specialized training on hive management and harvesting. The training is offered by support organizations like ARDI (Rwanda Association for Integrated Development) SNV and PPPMER II (Project pour la promotion des petites et micro-entreprises rurales- phase 2).

Table 2: Hive production against optimal production (SNV, 2009)

Type of Hive	Average production (Kg)/season	Seasons/ year	Optimal production/ year	Variance
Traditional	5.6	2	15	(25%)
KTBH	10	2	26	(23%)
Langstroth	14	2	60	(53.30%)

Source: SNV, 2008

2.3.2 Challenges in Honey Production

Singh (2002) highlighted that farmers face diseases and pests, input costs, access to knowledge and extension which firms have to be aware of for the contract relationship to be successful. In rural areas were 92 % of the producers live, only 25 % have access to formal credit and only 3% accessed access from traditional commercial banks (NISR, 2006). At the production level, beekeepers lack adequate capacity to effectively set-up and manage apiaries towards increasing the quantity and quality of production (MINAGRI, 2009). The high costs of acquisition of modern bee hives, is the biggest hindrance to sustainable honey production in Rwanda, resulting in the use of traditional hives (SNV, 2009). A modern langstroth hive supplied with a brood-box, queen excluder and super chamber was found to cost approximately RWF 25,000 – 35,000 (US\$ 45 – 63).

2.3.3 Honey Marketing

In order to meet the population requirements in animal proteins in the year 2020, livestock will need to produce 483 693 tons of milk, 83 291 tons of meat, 38 546 tons of eggs, 17 362 tons of fish and 11 363 tons of honey (RARDA 2009). Formerly, honey was produced for subsistence purposes by rural farmers but communities across the country are increasingly taking up commercially oriented honey production. Subsistence-led production was mainly attributed to the traditional background and history of beekeeping and so commercial honey production is now taking shape. Markets for bee products are mainly the local, external bulking agents and farmer based cooperatives (MINAGRI, 2009). The honey market in Rwanda is mainly comprised of three main nodes:

- ✚ The local market comprised of friends, neighbours and surrounding villages.
- ✚ Local and external bulking agents which include middlemen, traditional liquor brewers, traders and some non-governmental organizations.
- ✚ Farmer based co-operative societies and producer groups. This is the most popular direct marketing of honey as it offers farmers better prices of honey.

2.3.4 Beekeeping and Food Security in Rwanda

Beekeeping has a long tradition in Africa dating back to 5000 years in Egypt when beehives were used to produce honey. Bee keeping was and still is part of Rwandan culture and it has become a life sustaining source of income and livelihood through promoting economic self-reliance (FAO, 2011). Rural families produce honey for home consumption and as a source of revenue.

Beekeeping has also been practiced in Rwanda for generations with a purpose of income generation, exploiting the medicinal value of honey and other hive products, boosting crop yields through pollination and environmental conservation(SNV, 2009). It is practiced by all gender divides (men, women and youth) in the rural set-up. Its potential in increasing incomes and

supportive sustainable development is immense. However, most producers have not realized this potential and value as a commercial enterprise(MINAGRI, 2012).

In a generic way the above statements shows beekeeping attempts to address all the dimensions of food security. These dimensions are availability, accessibility, utilisation and stability respectively. These are addressed through production, income, consumption and environmental conservation respectively.

2.4 Rwanda's Honey Value Chain

Based on the RISE Framework for Value Chain Analysis Rwanda's honey value chain stakeholders are categorized as Chain actors, Chain Supporters and Chain Influencers.

2.4.1. Chain Actors (and their functions)

a) Input suppliers (input supply)

They comprise of organizations and individual artisans constructing beekeeping gear for sale to interested producers or producer organizations. They specialize in production of modern hives (KTBH and Langstroth) and equipment. The current average costs of KTBH and langstroth hive are 22,000 Rwf and 42,000 Rwf ¹respectively.

b) Producers (production)

Male farmers dominate the industry at the production level although records indicate that women are increasingly taking it up as an emerging Income Generating Activity (IGA) (SNV, 2009). Production function is done at individual owned, cooperatives owned and collectively owned apiaries. There are about 32,000 beekeeping farmers in Rwanda (MINAGRI, 2012). Currently there are about 2006 farmers organized in cooperatives (ARDI, 2012). These farmers are concentrated around natural forests because of good natural circumstances for beekeeping(Berenschot, 2008).

c) Producers (Semi-Processing)

This process is carried out on-farm by producers and involves extraction of honey from combs using the double cooking pan or self-drip methods. All beekeepers, except those using Langstroth hives and are selling honey to their cooperatives, are involved in this semi-processing function.

d) Primary transporter (Primary transportation)

At some places, middlemen or bulking agents buy honey at farm gate from bee farmers. However, some beekeepers transport raw honey from their farms to bulking centres (mostly owned by cooperatives) using bicycles.

e) Primary Collection / Bulking and Semi-Processing

This function is carried out by cooperative societies, bulking agents, local and external traders and some para-professionals for the purpose of aggregating volumes wanted by buyers in the secondary markets. They are always perceived to take advantage of the weak negotiation position of beekeeper (Berenschot, 2008).

¹ 1\$=650 Rwf= 880 Euros (refer to BNR currency exchange : www.bnr.rw)

f) Secondary Transporter (transportation)

This forms the link from the collection/bulking and refining centre to the end market buyers based in Kigali and other large towns. Most cooperatives and bulking agents normally depend on public transport. However, some processing companies like ABDC have their own transport means to deliver the products at the high end market (supermarkets and urban consumers).

g) Processor (Secondary bulking, refining and packaging)

The processors are largely processing companies like ABDC, Shema Fruits and MIG (Multi-sector Investment Group) which collect, further refine and package honey in various packages determined by their niche markets. The companies collect the honey from farmers and cooperatives. The processing here is advanced than the primary processing functions by cooperatives/ bulking agents.

h) Wholesalers and Retailers (Distribution)

These actors comprise large retail stores like Nakumatt and Simba from which consumers can purchase packaged honey at an average price of 4,000Rwf. They purchase the processed and packaged honey from either primary or secondary processing agents.

e) Consumers (Consumption)

These are the end markets comprising of the domestic consumers, who use honey as table food, and the industries that use honey in food processing and preservation. There is hardly any export though Middle East and France have incidentally received some honey from Rwanda. Records have it that in Rwanda honey is not yet available in sufficient quantity and quality for export market (Bradbear, 2004).

2.4.2 Chain supporters and influencers/ enablers

These provide supportive and regulatory functions in beekeeping sub sector and do not directly or indirectly handle the commodity (honey). Without the chain supporters the beekeeping sub-sector would not function effectively especially in production and processing levels. They include but are not limited to the supporters in the table below.

Table 3: Value Chain Stakeholders

Institution	Function
MINICOM (Ministry of Commerce, Industry, Investment promotion, Tourism and Cooperatives)	Provides the strategic, policy, legal and financial framework for economic growth. It supports the creation of cooperatives in agriculture (including honey).
ARDI (Rwanda Association for Integrated Development)	Sensitizes beekeepers on modern bee farming techniques and sells langstroth hives at subsidized prices to member associations in Rwanda.
MINAGRI (Ministry of Agriculture)	Providing extension and training services and policy formulation, establishment of demonstration centres through RARDA (Rwandese Animal Resource development Authority) and collaboration with SNV, ARDI and CAPMER.
CAPMER (Centre for Support to small and micro-enterprises in Rwanda)	Promotes Small and Medium sized enterprises in Rwanda through various business development services such as, assistance, support, trainings and facilitation.
PPPMER (Centre for support to small and micro enterprises in Rwanda)	Provides direct support to rural small and micro enterprises through trainings, investments, equipment and expositions.
BNR (National Bank of Rwanda)	Responsible for monetary policy, banking supervision and exchange rate policy. It is also responsible for development of financial market in Rwanda as operated by micro-financial institutions, donors and the Development Bank of Rwanda.
RBS (Rwanda Bureau of Standards)	Responsible for food safety and is mandated to carry out inspection of all market products (including honey) based on local and international standards of products quality.

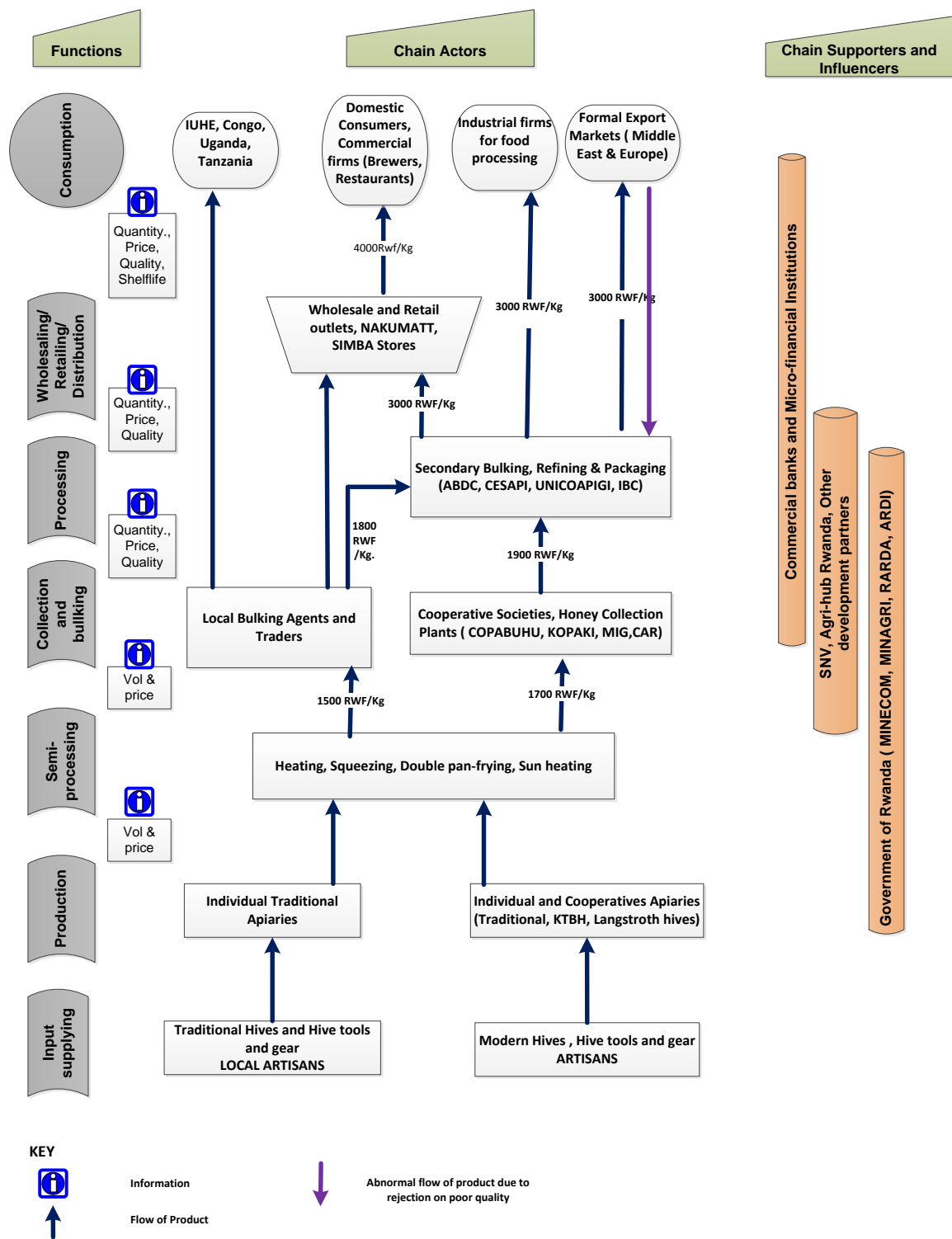


Figure 6: Honey value chain

Source: adapted from SNV (2009)

2.5 Firm-farm Relations Concepts

The research revolves around theories of value chain management, the relationship between honey farmer and firm needs strong relations of all actors involved in honey value chains production sector. Theories on challenges areas are:

a) Contract farming

Contract farming is an institutional arrangement that operates as an intermediary between spot and vertical integration (Key and Rusten, 1999). Under contract farming between farmers and a processing firm, farmers usually agree to deliver specific commodities in predetermined quantities and to meet predetermined quality standards, while firms agree to provide production support such as input and provision of technology and accept products at predetermined prices (Eaton and Shepherd, 2001). Contracts should specify in detail the penalties, breach of contract by either side (Bauman, 2000).

b) Benefits of contract farming

Contract farming benefits contractors i.e. processing firms by allowing them to establish close relationships with farmers and by reducing uncertainties in purchases through predetermined timing, prices, and quality standards. 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 favourable and they are assured of a constant income. Thus, smallholders may benefit from contracting through (a) reduced risk in production and marketing, and (b) improved access to inputs, technical assistance and credit (Bijman, 2008). Companies view good, open and timely communication as a crucial issue of contract farming arrangements and look at ways to ensure such effective communication to and from farmers (Bijman, 2007). Moreover, good communications help foster good company-farmer relations and a sense of trust, which can contribute to the reduction of strategic default by honey producers.

Principles for co-operatives include voluntary and open membership; democratic member control; member economic participation by producers, autonomy and independence; education, training and information sharing; cooperation among cooperatives; and concern for community. Together, these principles guarantee the conditions under which members own, control and benefit from the business, ensure that members can contribute effectively to the development of their cooperatives and to the sustainable development of their communities, promote the economic viability of cooperatives and promote corporate and social responsibility (FAO, 2012).

c) 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 analysing the probabilities that might go out of hand (Ton, 2012b). Although contract farming has its own benefits several concerns have been raised regarding involvement of farmers in price setting. Producer default such as honey 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.

d) Services provision by the contractor

The better and broader the range of services offered, the closer the relationship between farmer and business, and the more the farmer stands to lose by breaking the relationship Baumann (2000). Delivering timely services which respond to the needs of honey producers, creates

incentives for farmers to honour contracts or contractual terms and in the longer term will foster trust and reduce the risk of default.

e) Contract enforcement

In most developing countries contracts cannot be enforced by justice of police (litigation). The amount involved with default by each farmer is usually too low to legitimize expensive legal action. Courts and police are often so bureaucratic or corrupt that fair outcome is always in doubt (Ton, 2012a). Issues of contractual non-compliance are common in structured trade and can give rise to conflicts (Ostergaard, 2013). Common mechanism of resolving contract disputes include:

- ✚ Negotiation; parties consult directly with one another. If successful, this can enhance the reputation of the parties involved.
- ✚ Mediation; a neutral third party helps find a solution.
- ✚ Arbitration: parties to a contract refer the dispute to a neutral, independent arbitrator and agree to be legally bound by the decision reached. This is the most popular option.
- ✚ Litigation: parties unable to settle a dispute with other techniques bring their claim to court.

f) Honey handling and Quality Standards

Compliance to national and international quality standards is a major challenge for developing country producers to get access to national and international markets (Giovanucci and Reardon, 2001). Firms always see the importance of farmers producing according to quality standards, both public and private, and / or certificates (local standards, GlobalGAP). On the other hand farmers often do not appreciate the importance of these aspects (Trienekens, 2010). Consumers are currently putting more demand on assurance of quality and food safety (Luning and Marcellis, 2009).

Rwanda's honey is of export quality (Wainwright, 2005). Honey quality management in Rwanda is enforced through Good Agricultural Practices, Good Manufacturing Practices and conformity to set standards. Rwanda Bureau of Standards (RBS) is mandated in developing, inspection and enforcing quality standards as well as certifying quality systems. This lack of skills is also clearly seen in the harvesting and handling practices where honey eventually becomes adulterated either deliberately or as a result of ignorance thus lowering its competitive advantage. SNV (2009) holds some reservations that the semi-processing stage could compromise on the honey quality through inclusion of foreign substances and impurities, poor unhygienic handling activities and malicious entrepreneurs. The following critical standards of honey are enforced in Rwanda.

Table 4: Quality standards of honey

Criteria	Limit
Water content	19%
Colour	Lighter than 85 mm pfund
Hydrxymethylfurfural(HMF)	Less than 25ppm(indicator of overheating)
From registered beekeepers	

Source: RBS, 2012

g) Organised farmers and co-operatives

Cooperatives offer smallholders market opportunities, access to services such as training, access to production and market information, technologies, innovations and extension services FAO (2012). With farm sizes of less than two hectares forming 85% of all farms in the world (von Braun, 2008; Prowse 2008) economic efficiency is limited due to relatively high input costs and lack of economies of scale. Lack of financial resources namely access to credits and loans limits

production capacity. 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 honey producers. Motiram and Vakulabharanam (2007) conclude that farmers in cooperatives and farmer groups have more bargaining power, pose lower transaction costs for loans for financial institutions, and have relatively better access to credit and information which invariably leads to less food security vulnerability.

2. 6 Strengthening Chain relations

KIT and IIRR, 2008 defines a chain relation as a relationship between farmers and trader. These chain actors do get influenced by market institutions (rules of the game) and vice-versa. Strong chain relations are characterised by strong organizations, trusting relationships among players and relatively stable relations (as seen in the continuum in figure 7). On the other hand weak relations are characterised by few organizations, weak organizations, lack of trust and few permanent relationship.

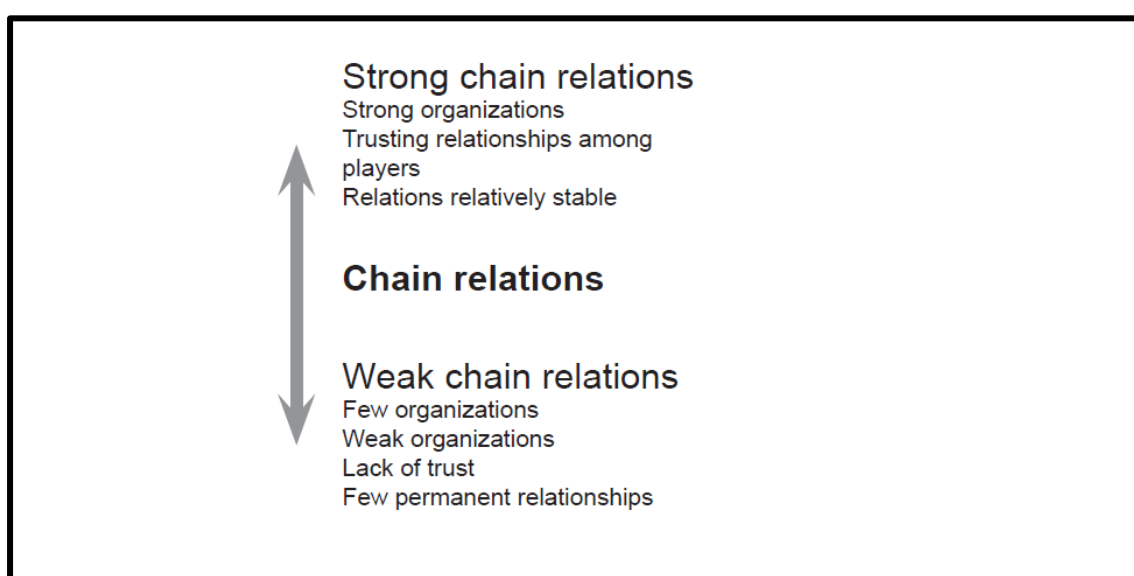


Figure 7: Chain relations

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

2.6.1 Stronger chain relations

More stable, transparent and better organized chain relations can make parties to reduce costs and risks involved in business. Improved chain relations benefit all stakeholders of the chain through improved access to market and product quality improvement. Improved chain relations benefit all stakeholders in the value chain. This can be achieved by:

- Organizing the chain actors. As first step, contracting partners need to team up to support one another to strengthen skills and technologies, upgrade products and services, share market information, etc.
- Create mutual understanding by respecting, understanding and appreciating the roles and interests of each other. Open dialogue and exchange visits can be helpful
- Specialization on certain roles/ functions to generate a process of mutual growth.

- Coordinate in their chain relationships and interactions to reduce inefficiencies that may occur at any stage. This can be through a joint team or use of an external facilitator. A communication plan can be useful here.
- Develop a shared vision and joint action plan.

2.6.2 Stronger market institutions

Market institutions are norms, rules, regulations, policies or services that shape the way trading partners interact (KIT and IIRR, 2008). Improving market institutions can be achieved by:

- Standardizing quality, weights and measures to help the trade become more efficient. Quality is always rewarded with premiums.
- Develop a contractual enforcement mechanism to prevent issues of contractual non-compliance.
- Develop market information system for assisting partners make good decisions about the consumer demands and commodity prices.
- Provide financial and other chain embedded services to keep trade going and make it grow and prosper.
- Participate in decision-making over government policies, trade tariffs and subsidies for improved trading conditions.

2.7 Gender in Beekeeping in Rwanda

In comparison to men, women face higher disadvantages in particular in terms of mobility, access to productive assets, productive resources and access to market information with the result that they find it difficult to access and maintain profitable market niches and capture a larger slice of income for the household (IFAD, 2007). Beekeeping is currently a male dominated activity mostly carried out by elderly men (MINAGRI, 2009). Of late, many cultural taboos and methods of beekeeping used have been prohibitive to the involvement of women in beekeeping activities. This has been a contributory factor to the slow development of the beekeeping industry considering that women contribute about 80% to the households in most African families (Karunde, 2001). The psychological stigma created on women in many communities, that handling of bees is a man's activity has further kept the potentially useful women labour out of apiculture in many cases. However women are becoming interested in learning about beekeeping but a gender imbalance in workload means that women have little free time to either learn or practice beekeeping or honey production such as during siting hives, apiary management, honey harvest, honey and bees was processing (Naomi, 2000). According to Ogaba (2002) Hive inspection and honey harvest are made during the daytime usually it is best done either very early in the morning or late in the evening. This conflicts with the time when women are busiest with household chores in their homes.

CHAPTER THREE: RESEARCH METHODOLOGY

The study used a qualitative and quantitative approach based on empirical data and literature collected from desk and field studies.

3.1 Study Area

This study used the sample drawn from members of COPABUHU cooperative and Apibusiness Development Company (ABDC). The study area was in Huye district in Rwanda.



Figure 8: Study area, Huye District

Huye District is one of the eight districts in the southern province of Rwanda. It is composed of 14 sectors, 77 cells and 508 villages with a total of 328,605 inhabitants and a population density of 565 people per square kilometre. This agricultural district has seen a significant growth in production since 2008, which contributed to its economic development through land use consolidation in cassava, coffee, maize and rice. In 2012 the production of honey was 55 Metric tons in this district. The National Forestry Policy (Ministry of Forestry and Mines, 2010), stated that the total area of Rwanda's natural and manmade forests cover 330,576 ha of which 65.6% is natural forests and 34.7% represent forest plantations. This forest can be utilized for keeping bees to meet the growing demand for honey products.

The study was conducted in Huye district, one of the pilot learning sites of improving production of honey. The Huye District is composed of 5989.82 ha of forests (10.3% of Huye District) in which the eucalyptus plant emerged as the main type of forest with 3,778.14 ha of plantation in 2007. The Huye area was chosen because firstly, beekeeping is already active in all sectors of Huye and also has a comparative advantage over other districts. Secondly, the COPABUHU cooperative which is among the cooperatives adopting the use of the modern beehives to increase honey production, is located in this area. This cooperative has 16 sites of beekeeping. In this study area, Honey production is increasing due to the introduction of modern beehives.

3.2 Research Strategy

The data was collected through a desk study and field study in order to gain in-depth information regarding the farm-firm relations with the incorporation of a survey to capture perceptions of honey beekeepers and processor in their relations. In the field study, interviews were conducted targeting the representative beekeepers cooperative (COPABUHU) and staff from the processor company (ABDC) as well as key informants for triangulation purposes. The key informant is a knowledgeable person for a particular subject who provides and share valuable source of information to the researcher during an investigation. The questionnaire used during survey was similar to statements which were used to collect and harness views of both beekeepers and company on their business relations. Additionally the study had focus group discussions on both sides (the COPABUHU cooperative and ABDC firm).

3.3 Desk study

The secondary data of this study was the first phase of the research that involved reading and gathering different information about the firm-farm relations, background of beekeeping farming system in Rwanda, strengthening chain relations and an overview of the relation between chain actors. This above information was useful to lay the foundation of the research. The secondary information was collected through the literature that were more focused on different research publications, articles, reports from government institutions or international organisations, reports from beekeepers cooperative and company, PhD thesis and through electronic books search using Wageningen University library books of digital library of Wageningen, as well as reliable Internet source related to the research topic.

3.4 Field Study

The field work data collection was the second phase of the research. It gathered the primary information. It used interviews and a survey as strategies. The research used the 2-2 tango framework which is a participatory tool used for assessing firm to farmer relations (Schrader, 2011). It was based on semi-structured interviews and administration of self-assessment statements in a questionnaire to collect data.

3.4.1 Semi-structured interviews

The researcher conducted the semi structured interviews with members of COPABUHU beekeepers cooperative and also staff from ABDC company in the case study. The key informant was a staff from Association for Integrated Development of Rwanda (ARDI), was also interviewed on its role in the firm-farmer relations. As a stakeholder, ARDI provided a new perspective on the business case and gave a distant and neutral view on the business relations between ABDC company and COPABUHU (Schrader, 2011). The purpose of the interviews was to analyse a firm-farmer business case in order to get a grip on the issues that are prevalent in the business case and how it can be developed further. The semi structured interviews were done by using a checklist to ensure that all important information was collected. This checklist helped to probe further on emerging issues and to keep respondents back on track if they lost track of questions (Schrader, 2011) (See appendix A). The respondents of these interviews were chosen by using selective or strategic sampling. Table 5 shows the partition of the interviewed respondents selected from ABDC and COPABUHU cooperative. The number of participants of COPABUHU and staff from ABDC company was equal in both sides in order to avoid biased information caused by inequality in the number of respondents. A combination of individual interview, observations and content analysis was done to achieve in depth information from several sources, a research technique described by Verschuren and Doorewaard (2005) as triangulation of sources.

Table 5: Partition of the interview respondents for business case

Type of respondents	Number	Gender		Position	Remarks/purpose of choosing the respondents
		Female	Male		
Representative of COPABUHU beekeepers cooperative	2	0	2	President and quality manager of COPABUHU	President and quality manager are the representatives of beekeepers who can provide and share the relevant information in investigation
Members of COPABUHU	2	1	1	Don't have any position in committee of COPABUHU beekeepers.	These respondents are very important because the research get different views from them relates to situation of beekeeping activity and function of their cooperative.
Staff from company (ABDC)	4	0	4	Administrator and Accountant , quality manager and storekeeper and cleaner	These staff from company was to provide relevant information on firm-farmer relation because they are the ones who are in touch with beekeepers cooperatives.
ARDI	1	0	1	Manager officer of Apiculture department	A third stakeholder ARDI' .It is a local NGO' supporting beekeeping business and provide support of assistance techniques beekeeping practices, and also introduction of modern beehives to beekeepers cooperative.

Source: Author, 2013

3.4.2 Survey

The survey involved administration of questionnaires developed on various challenge areas identified during the desk study and semi structured interviews on both groups (ABDC company and COPABUHU). Eight challenge areas were identified as: Production, functioning of beekeepers cooperative, Markets, prices, contracts, honey handling and quality standards, functioning of the ABDC company and cost and benefits of the business arrangement. Thereafter statements for self-assessment were developed on each statement area in a positive sense such that both the COPABUHU cooperative and the ABDC company can score the same set of statements (see appendix D). The questionnaires were prepared by the researcher in English and then given to colleagues at the work station for a checking. The tool '2 to tango' was first explained to facilitators in order to have a common understanding of the objectives of the intended purpose. The team then assisted the researcher in translating the statements into Kinyarwanda.

The 2-2 tango statements were scored on a 0-3 Likert scale. The respondent had to give a score to the statement ranging from zero (0) to three (3) where zero (0) was "I strongly disagree" and three (3) was "I strongly agree" (see appendix D). During the scoring, the researcher explained to the respondents how to make scoring as guided by the smileys and gave an explanation of each statement for clarity (see figure 9).



Figure 9: The researcher explaining the questionnaire to the respondents

The researcher administered the questionnaires personally and was assisted by a colleague she had shared the tool with. The 2-2 tango questionnaire was administered to 14 (13 male and 1female) beekeepers from COPABUHU cooperative who were randomly selected and to 5 staff of ABCD company (See table 6).

Table 6: Repartition of respondents during survey

Type of respondents	Number	Gender		Position	Remarks
		Female	Male		
Representative of COPABUHU beekeepers cooperative	14	1	13	4 board members	From the expected 22 respondents in the proposal but the number of presented in survey was 14.Others were absents due to various reasons.
Staff from company (ABDC)	5	0	5	Administrator and Accountant , quality manager storekeeper, cleaner and seller	These staff members from company are the ones who were involved in honey production, processing and trading.

Source: Author, 2013

3.5 Data processing and analysis results

Table 7 shows the interpretation of survey scores based on median score of the respondents in the study.

Table 7: Scale for judging statements using median scores

Median scores	Judgement of interpretation
1 or lower	A very low score by the respondents to the statement indicating a high degree of disagreement. Meaning that this aspect of the relationship is unsatisfactory and there is a need for improvement.
1.5	A low score that indicates the respondents slightly disagree to the statements. There is a significant level of dissatisfaction and therefore improvement is necessary.
2	A positive score that is respondent slightly agrees to the statement. This implies that the satisfaction is not at optimal level. There is still room for improvement.
2.5 and above	A very high score showing that the respondents strongly agreed to the statements. This indicates that the farmers and the firm are satisfied with this aspect of the relationship.

Source: Author, 2013

The data collected from the respondents was entered in the Excel workbook for processing and analysis of the results. The Excel workbook was pre-designed to calculate medians, minimum and maximum scores and the standard deviation and was able to automatically generate graphs. Furthermore it contained 8 or 9 challenge areas with 9 statements per challenge area. The results were then plotted on 0-3 scores scale which enabled analysis and interpretation of results. The results of the analysis were presented graphically and in a table. Two types of graphs are presented. One graph showing scores from between farmers and firm whereas the other graphs shows the level of (dis)agreement for every statement. Numbers in graphs refer to the statements. The statements are reproduced under the first graph. The higher the score the more positive respondents were on the particular challenge area and vice versa (Schrader, 2012).

3.6 Focus Group Discussion

Focus group discussion is considered as platform for sharing and discussing of the self-assessment results. This method is called “debriefing meeting” in this study. Respondents provide detailed explanation on different perceptions given during the self-assessment survey. The researcher showed the results to both respondents and they started to discuss why some statements were scored lowly or highly. The firm –farm analysed the results and discussed follow up action. The contribution of two groups provided the suggestions to improve firm-farm relations on honey business. The focus group discussions were done with 6 beekeepers and one staff from company. See below is a brief overview of the 2 - 2 Tango tool.

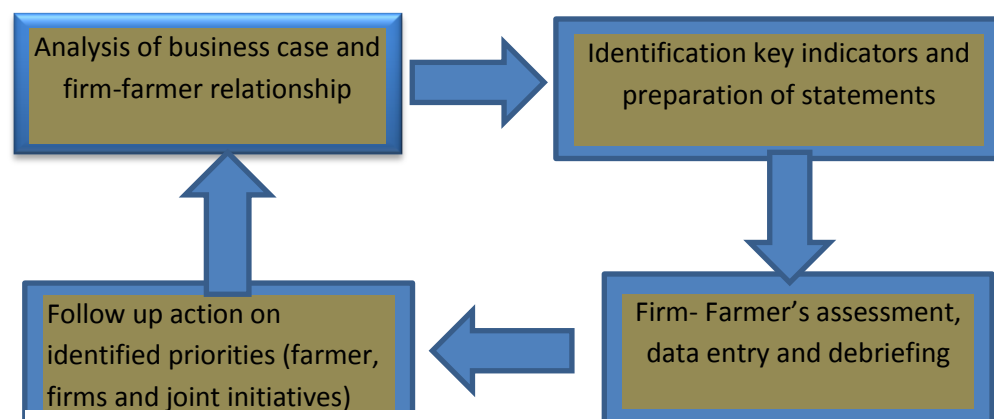


Figure 10: Steps of 2-2 Tango tool

Data from focus group discussion and observation supported the interpretation of data from the case study. The conclusion and recommendations on firm-farm relationship can be used by the actors to improve business relationships

3.7 Research framework

Figure 11 is the research framework which was used to guide the study through all the steps.

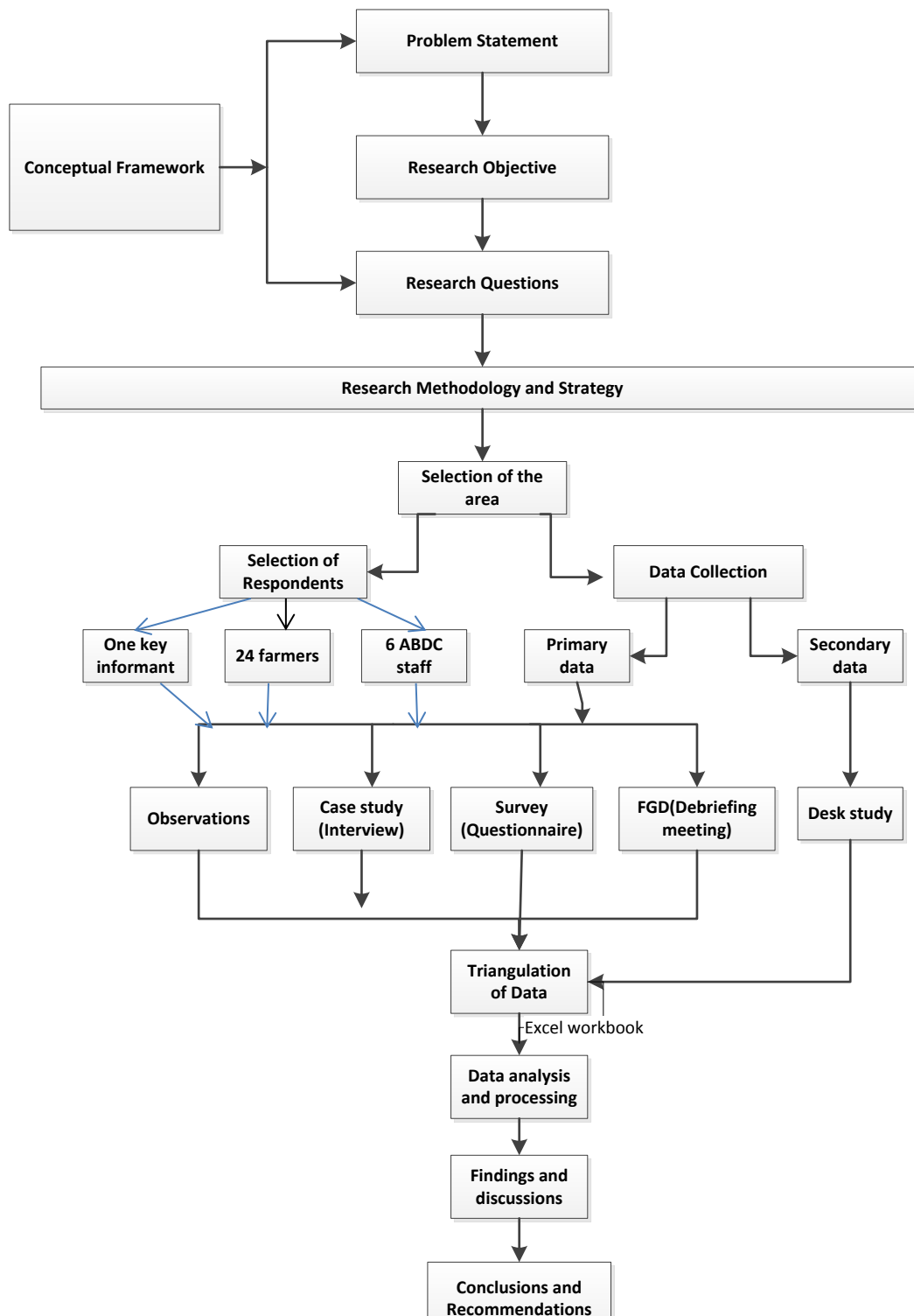


Figure 11: Research framework.

Source: Author, 2013

CHAPTER FOUR: COPABUHU-ABDC BUSINESS CASE

This chapter details the results of the case study undertaken during the research involving COPABUHU and ABDC.

4.1 Business Case Description

This chapter gives overview of business relationship between COPABUHU and ABDC processing company. In this study business case is defined as gathering information from semi-structured interview with COPABUHU and staff of ABDC.

Country	Rwanda
Product	Honey
Name of commercial business	Api-Business Development Company (ABDC)
Name of farmer organization which supplies to the business	COPABUHU cooperative society
Partners	Ministry of Agriculture (MINAGRI), Association for Integrated Development of Rwanda (ARDI), Netherlands Development Organization (SNV), Agrihub Rwanda
Business model	Cooperative

4.1.1. Business

Api-business Development Company (ABDC) is a private trading company which was started in June 2011. It evolved from CESAPI (Centre of Apiculture Service), an affiliate of ARDI (Association for Integrated Development of Rwanda). ARDI is a non-profit making NGO involved in capacity building farmers through trainings and is a facilitator of the honey value chain. CESAPI had therefore to be privatized into ABDC in order to conduct the bees' products business. The company therefore has been involved in bees' products business for more than 20 years. ARDI has invested almost 80% its shares in ABDC.

The mission of ABDC is to use private sector initiatives to promote livelihood through high profitable and professional beekeeping sector in Rwanda. The company has strong honey collection and processing systems operating through 13 honey collection centres owned by beekeepers cooperatives established in the Southern province where honey primary processing takes place. A big honey processing unit is operational in Kigali city (Nyarugenge) district with an estimated processing capacity average of 120 MT (Metric tons) of honey per year .

The company works with the 16 cooperatives, including COPABUHU, for supply of honey and beeswax. Supported by ARDI, the company serves as Rwanda value chain leader in natural honey processing and trading, leader in supplying modern beekeeping equipment, Professional apiculture business and Beekeeping capacity building services (trainings, market linkages). It processes natural honey and distributes packed products to its customers (wholesalers, supermarkets and consumers) .The company's products are certified by Rwanda Bureau Standards (RBS) for meeting the quality standards requirements.

Currently the company together with stakeholders in the honey value chain, including the COPABUHU, are seeking EU certification in order to export honey to international markets. The challenges the company still have is that the production is still low and is not adequate to meet even the local demand. The company has a capacity of handling 120MT of honey per year but it

is currently handling an average of 4MT per year from COPABUHU. ABDC expects about 10 MT from COPABUHU annually although this quantity is not specified in their contract. The supply from Huye district stands at 55MT honey per year.






4.1. 2. COPABUHU Beekeepers cooperative

Cooperative for Beekeepers in Huye district (COPABUHU) is a youth beekeepers Cooperative created in 2006. It is composed of 22 (19 male and 3 female) young people aged between 22 to 35 years old from vulnerable families in Huye District. Majority of the members could not proceed with high schools due to the lack of financial means. They identified beekeeping as one of the pillar economic activity to resolve most of socio economic problems.

A management committee comprising of the president, vice-president, secretary and manager is responsible for contract negotiations, operations and quality control.

The cooperative has 16 sites of beekeeping in Huye district where members have mounted modern beekeeping hives (Langstroths and Kenya Top Bar Hives). The cooperative possesses 220 modern hives (Langstroth) and 50 semi modern hives (Top Bar Hives). In 2012 the honey production was 9 MT; they plan to increase the production to 13MT in the future. The COPABUHU has one honey collection centre with one machine of doing primary honey processing and another one for preparing the wax. A manual centrifugal honey extractor machine was acquired by the cooperative from ABDC as loan worth 500,000 Rwf. SNV supported the cooperative with a wax extracting machine. From this collection centre honey is packaged and distributed to different customers.

The cooperative thus owns the following functions in the value chain

-  Input procurements for members
-  Production
-  Collection
-  Primary processing of honey
-  Distribution to clients

COPABUHU offers technical advice on beekeeping using trained members. It is also responsible for harvesting honey, finding markets for the products and savings services for members.

Individual producer members sell honey to ABDC through the cooperative at 1900 Rwf. From this 100 Rwf is saved and another 100Rwf is retained by the cooperative as its commission. ABDC pays beekeepers through COPABUHU's SACCO account. ABDC also gives advance payments to producers for supporting honey harvesting activity.

Each of the individual beekeepers has between 3 and 5 modern hives yielding about 70 kg per year (langstroth), 20 kg per year (KTBH).

The other customers of this farmer organization are supermarkets, wholesalers, hotels and individual consumers. These market segments pay 2000Rwf to 2200Rwf per kilogramme of honey.

4.2. Current Firm: Farmer Relations

COPABUHU started supplying CESAPI (now ABDC) honey in 2008 on contract. The contract stipulates the price, quality standards and payment modalities. The contract is done on half-year basis but this can be re-looked at depending on prevailing circumstances. ABDC provides no extension service to COPABUHU.

The contract is signed by the cooperative executive committee members and the firm after every 4 months.

4.2.1 Production

Inaccessibility to modern bee equipment has contributed immensely to the low levels of production. COPABUHU buys beekeeping equipment from ABDC's Kigali selling point. During interview one beekeeper said: *"...the high cost of modern beehives is worsened by the transport costs because we get them in Kigali. We actually need more money to buy the required equipment and modern hives, whose costs are beyond our reach".*

A company manager was on record saying: *"the production is still low due to beekeepers don't have enough and inappropriate beekeeping equipment".*

Use of traditional methods of harvesting honey like use of fire is still common in forests with apiaries. *"This is due to their un-attractively high costs"* noted an officer from ARDI during the interviews.

Inaccessibility to credit contributes to low investments. Banks are not willing to give loans to beekeeping cooperatives. Interventions by SNV and ARDI to bring on board DUTERIMBERE as a financier did not yield much either. One of the farmers was categorical in stating;

"We refused to take business loans from DUTERIMBERE because they could not offer the finances when required."

The company mentioned also that pesticides used under the consolidated land programme by MINAGRI causes loss of bees leading to low production. This also offers a threat in compromising the honey quality.

Under capacity building, the company showing that the number of professional beekeeping is still low because many beekeepers combine this activity with other activities like farming of crop and dairy. Awareness on beekeeping activity as an income generating activity is still low resulting to low bee products production.

The number of female beekeepers is still also low, because the forest where beekeeping is done is far. Culture also deters women from being away the whole day and coming back home late at night.

4.2.2. Functioning of COPABUHU

In internal organizational, COPABUHU has committee composed of the president, vice-president, secretary and manager. This committee works together with members to determine the price of honey, how to increase the production, quality and also to solve others problems related to their activity. To join the cooperative, each member has to pay 25,000Rwf. The organization has challenges to do with leadership, business skills and marketing.

The small number of members gives the group a low capital base and thus they could do very little to benefit from economies of scale. A member of the group was quoted saying;

"... Our small number is our undoing. We need to recruit more members to join our cooperative and we seek to form a union with other cooperatives in beekeeping to increase our bargaining power."

The cooperative however engages professional beekeepers to collect honey from members on monthly basis at a fee of 2000 Rwf. In order to increase the production, COPABUHU beekeepers have to buy bee hives and equipment from other professional beekeepers. The cost of one modern Langstroth beehive is 42,000Rwf and 50,000Rwf for one without and with beekeeping accessories respectively. This price is negotiable. The Kenyan Top Bar Hive costs 22,000 Rwf while the traditional hive sells at 1,000Rwf. A traditional hive occupied by bees goes at 5,000Rwf. COPABUHU also owns an equipped modern collection centre located in Huye District.

It also lacks capacity to offer sufficient embedded services to members, like provision of inputs, advisory services, to its members. However, COPABUHU is supported by ARDI in terms of organizational, technical and managerial performances. A farmer said during the interview;

“...For instance the extension workers of ARDI in this district provided the trainings two members of COPABUHU on how to harvest and filter perfect honey before packaging and selling to ABDC Company”.

The cooperative has also received support in form of wax extracting machines from SNV. The product sold to ABDC is branded the name of cooperative.

4.2.3. Market and price

The firm had concerns about the low volumes supplied by COPABUHU farmers. A company staff accounted that;

“This quantity supplied by the cooperative is still insufficient as the local demand is much higher. For this reason, we buy honey from middlemen to fill the gap”.

As they do not satisfy the local market, they cannot compete for international market. They therefore are limited to domestic markets only.

On prices the company believes the offer a fair price to producers. However, producers strongly argue that the price is not satisfactory. One farmer asserts that;

“The price is never satisfactory considering the production costs in modern beekeeping.”

There is a positive indicator of the relations as expressed by a farmer;

“Despite the price being less satisfactory, we are happy to have a contract with the company as it guarantees us a steady and reliable market outlet. Furthermore, we also receive advance payments to assist us develop the enterprise.”

4.2.4. Contracts

COPABUHU has a business contract with ABDC (ApiBusiness Development Company) for honey collection, processing and trading with a current turnover of 22,000,000 Rwf. The cooperative started the contractual arrangement with ABDC in 2008. The contract indicates a negotiated price of honey, quantity and quality of honey description and it written in local language (Kinyarwanda). It currently supplies honey and wax at 1900Rwf and 5,000 Rwf per kilogramme respectively. The COPABUHU have target to increase production of volume from 3.5 MT to 13 MT per year.

“We are engaged in a contract to supply ABDC with honey and wax but the price the company offers is not satisfactory” said one of the leaders of COPABUHU.

A company staff also said, *“The contract sets the volumes expected to be supplied by the society but farmers do not meet the targets often attributed to change of seasons and insufficient know-how on beekeeping”.*

4.2.5. Quality standards

The quality requirements for honey are indicated on the contract. The honey that ABDC process and trade is quality guaranteed as it has the certificate given by Rwanda Bureau of Standard (RBS). The sold products are branded to name of company. However, the beekeepers' preference is to have the products bear the cooperative brand.

The company has a lean staff and thus lacks personnel who could make follow-up visits to beekeepers for quality improvement. The reasons for rejection are made clear at the collection point. The honey collection centre doesn't have electricity and water supply grids. It is on this ground that the cooperative has not been certified by RBS as quality honey producers. One beekeeper said: *"RBS could not give us the honey certificate unless we manage to have water and electricity at the collection centre. However, we have tried ourselves to produce and supply a good quality to ABDC because two beekeepers have been trained by ARDI on how to handle honey. They know how to measure the quantity of water and sugar in honey. We wish everybody could be trained"*.

4.2.6. Cost and benefits

As mentioned before, the beekeepers are from the poor families. During the interview one beekeeper said: *"we are happy with the beekeeping activity because we are now able to buy health assurance card, assist our relatives families to send their children to school and feed our families. The problem we have is how to develop the enterprise and also develop other income generating activities by using money earn from beekeeping."*

The following figure presents Honey value chain in Huy district based on business relations between ABDC and COPABUHU.

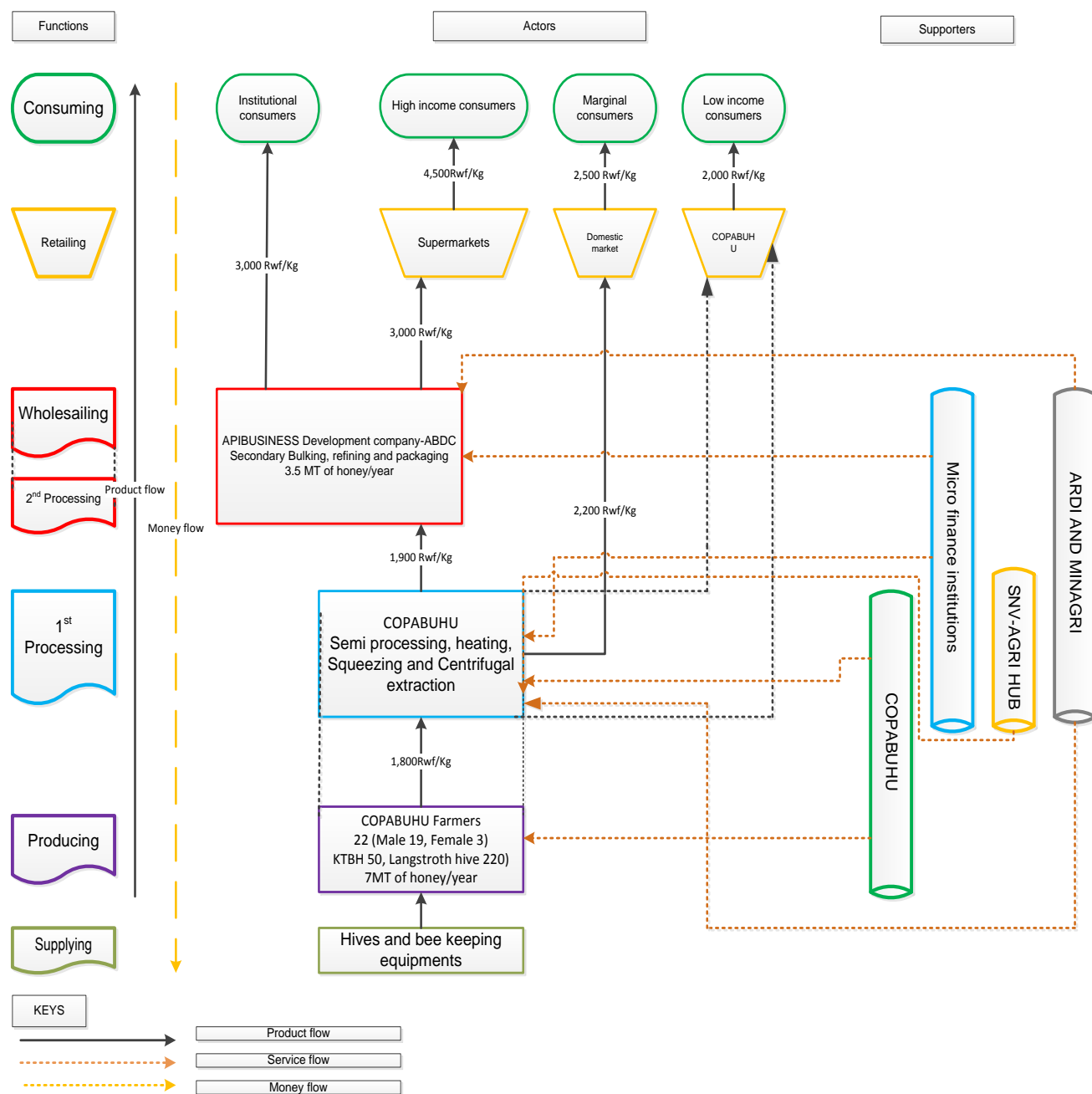


Figure 12: ABDC- COPABUHU Business case value chain

Exchange rate 1 Euro= 880Rwf

Source: Author, 2013

4.3 SWOT analysis of the business case

The following table presents the SWOT analysis of the business case.

Table 8: SWOT analysis of the business case between COPABUHU and ABDC

<p><u>Strengths</u></p> <ul style="list-style-type: none"> • Favourable natural resources for apiculture; plants for forage, water, healthy and disease-free bees • Sectoral support from local and national NGOs like ARDI, SNV • The enterprise requires limited resources and is suitable for rural people. • Valuable contributions to crop yield through pollination. • Many people have traditional beekeeping skills. • Established collection centres with modern equipment. 	<p><u>Weaknesses</u></p> <ul style="list-style-type: none"> • Low capital base for cooperative members; they all come from poor households. • Conflicts of interests by organizations supporting beekeepers in being involved in buying and selling of honey. • Inadequate technical skills in both extension officers and farmers. • Low staffing of field worker in the firm. • High costs of modern bee-hives and gear. • Low product prices for producers. • Lack of access for the firm to products of sufficient quality and quantity. • Poor access to or non-availability of credit. • Poor market information exchange/ sharing between producers and the company. • Weak contract enforcement mechanisms in the business arrangement. • Inadequate business management skills amongst cooperative management committee.
<p><u>Opportunities</u></p> <ul style="list-style-type: none"> • A potential for increasing yields and production volumes. • With appropriate skills modern beekeeping can help in poverty alleviation. • Diverse market for honey and bee-wax. • An unexploited capacity for honey handling by ABDC. • Support by international NGOs like SNV in exporting Rwanda's honey to global markets. • The importance of honey and beeswax to other sectors within Rwanda, including pharmaceutical and cosmetics manufacturing industries could create livelihoods 	<p><u>Threats</u></p> <ul style="list-style-type: none"> • Deforestation can lead to loss of habitat for bees. • Loss of bees from pesticide use • Loss of global markets for honey and beeswax due to pesticides or antibiotics detected in bee products. • Disillusionment among donors concerning the effectiveness of beekeeping interventions.

Source : Author, 2013

Through SWOT analysis, the information gathered, from literature review and the case study, was clustered into challenge areas based on the frequently mentioned issues, problems, tensions and opportunities.

The following clusters were arrived at after brainstorming:

- ✚ Production
- ✚ Functioning of COPABUHU cooperative
- ✚ Marketing
- ✚ Price
- ✚ Contracts
- ✚ Honey handling and quality standards
- ✚ Services provision by ABDC
- ✚ Costs and benefits of the business arrangement.
- ✚ Marketing perspectives

CHAPTER FIVE: SELF-ASSESSMENT SURVEY RESULTS

This chapter describes the result of a self-assessment survey based on perceptions by the COPABUHU beekeepers and the ABDC firm on various challenge areas. The self-assessment study was administered on 14 respondent of which 13 (93%) were male and 1 (7%) female of COPABUHU cooperative and 5 staff of ABDC which 4 were male (80%) and 1 female (20%).

5.1. Overall results

The table below indicates the lists of the challenge areas that the self-assessment questionnaire encompassed.

Table 9: Challenge areas

Challenge areas	
1	Production
2	Functioning of COPABUHU cooperative
3	Marketing
4	Price
5	Contracts
6	Honey handling and quality standards
7	Functioning of ABDC
8	Costs and benefits of contract farming
9	Marketing perspectives

Source: Author, 2013

The table 10 gives a plot on scores by the actors on various 9 challenge areas.

Table 10: Median scores per challenge area

Overall results	Average scores per challenge area									Median
Challenge areas	1	2	3	4	5	6	7	8	9	all areas
Farmers' scores	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0
Company scores	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Median firm-farm per challenge area	1.5	2.0	2.0	1.5	2.0	2.0	2.0	2.0	2.0	2.0
Median overall score (all challenge areas)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Difference farmers - median F-F score	-0.5	0.0	0.0	-0.5	0.0	0.0	0.0	0.0	0.0	-0.1
Difference Company - median F-F score	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.1

Source: Survey, August 2013

The overall median score is 2 indicating a positive in the business relation between Firm-Farm relationships. Both actors scored positively in 7 out of 9 challenge areas. Farmers were more negative on challenge areas 1(production) and 4(price) in which they gave lowest score 1. On the other hand the firm's median scores is 2 and maintain the same for all challenge areas indicating that firm is positive (See table 10).

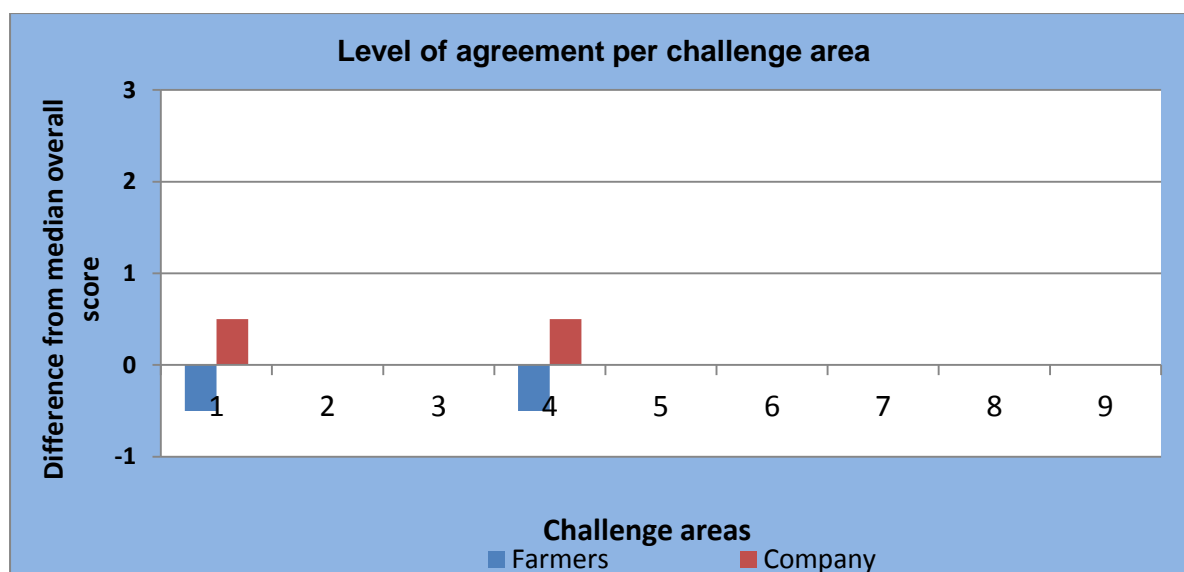


Figure 13: Level of agreement on overall median scores per challenge area

Source: Survey, August 2013

At first sight, there is a high level of agreement on all challenge areas except for challenge areas 1 (production) and 4 (price). This means that these two areas can be given due attention for relations improvement (see Figure 14).

5.2. Challenge Area “Production”

The challenge area of production comprised with 9 statements which focused on inputs and support services towards honey production (See table 11).

Table 11: Statements for challenge area “Production”

Statements for challenge area “Production”	
1.1	Beekeeping equipment (hives, hive tools and gear) are available
1.2	Beekeeping equipment (hives and hive tools) are affordable to farmers
1.3	Beekeepers have easy access to credit to buy inputs
1.4	Beekeepers have sufficient know-how on beekeeping
1.5	Beekeepers apply recommended beekeeping practices
1.6	Beekeepers’ honey yields are increasing
1.7	ABDC provides quick feedback to beekeepers questions related to honey production
1.8	Beekeepers are satisfied with the modern hives promoted by ABDC
1.9	ABDC supports beekeepers to get inputs easily

Source: Author, 2013

As seen in figure 15, it clearly comes out that the farmers are negative in which they gave low median score to all most statements this means that a low score depicting a substantial level of dissatisfaction. Farmers are negative on statements 1.2 (Beekeeping equipment are affordable to farmers), 1.3 (Beekeepers have easy access to credit to buy inputs), 1.8 (Beekeepers are satisfied with the modern hives promoted by ABDC) and 1.9 (ABDC supports beekeepers to get inputs easily). The company gave low scores on statements 1.2(Beekeeping equipment (hives

and hive tools) are affordable to farmers), 1.4 (Beekeepers have sufficient know-how on beekeeping) and 1.6 (Beekeepers' honey yields are increasing).

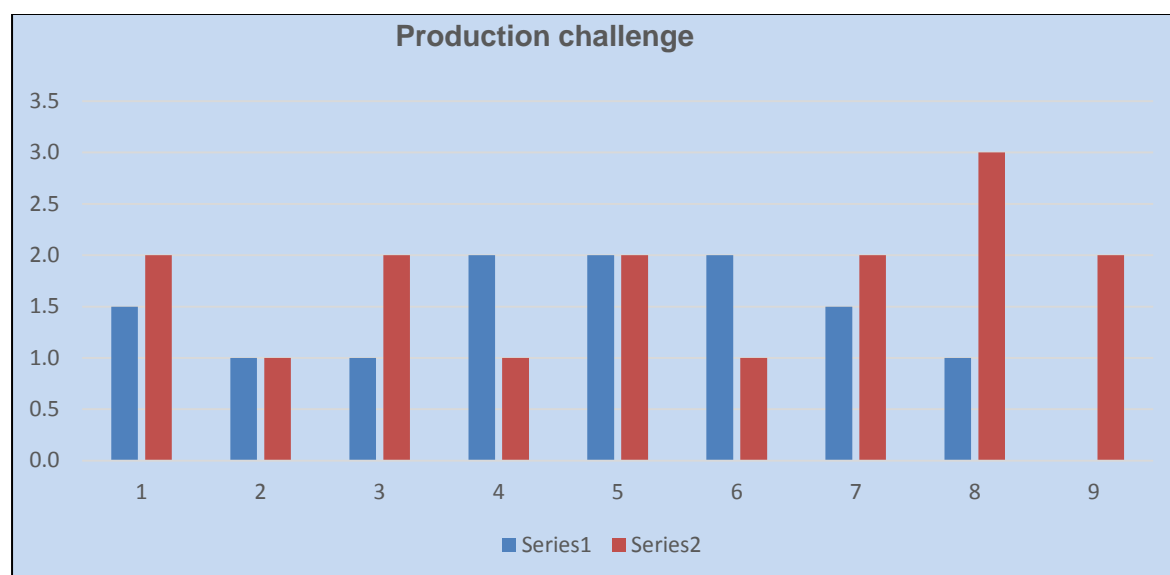


Figure 14: Median scores on production

Source: Survey August, 2013

It can be observed that in this area, both parties have common agreement on statements 1.2 (Beekeeping equipment are affordable to farmers) and 1.5 (Beekeepers apply recommended beekeeping practices). Strong disagreement was observed on statements 1.8 (Beekeepers are satisfied with the modern hives promoted by ABDC) and 1.9 (ABDC supports beekeepers to get inputs easily). See Figure 16.

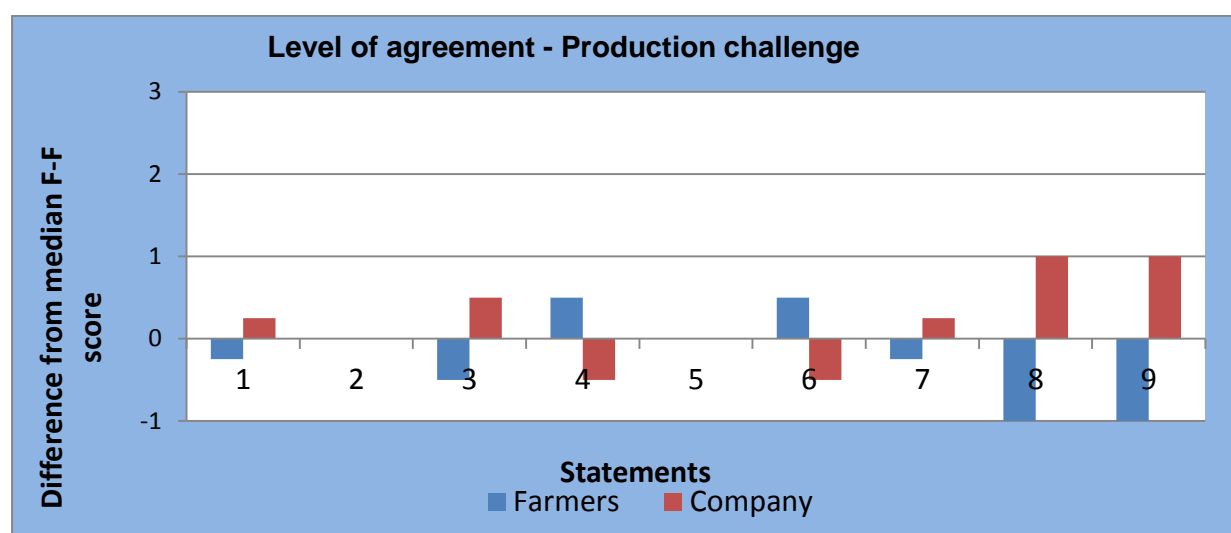


Figure 15: Level of agreement on production

Source: Survey August, 2013

5.2 Challenge area “Functioning of the Cooperative”

The 9 statements in this challenge area focused on the role and importance of the farmers’ organization in the business arrangement.

Table 12: Statements for challenge area “Functioning of the cooperative”

Statements challenge area “Functioning of the Cooperative”	
2.1	I agree with the way ABDC selects Beekeepers groups for contracting arrangements.
2.2	It is more beneficial to Beekeepers to sell their produce through COPABUHU, and not as individuals
2.3	COPABUHU meetings are always fruitful
2.4	Elected COPABUHU leaders adhere to the tasks and responsibilities defined in the constitution and by-laws
2.5	COPABUHU meetings are regular as stipulated in the law
2.6	All members are informed and understand group’s financial issues
2.7	ABDC is satisfied with the way the COPABUHU is operating
2.8	The COPABUHU leaders always represent the common interest of all members
2.9	The COPABUHU always assists members get loans

Source: Author, 2013

The both parties gave to all most statements median score 2 on the Functioning of cooperative challenge (Figure 17) indicating the parties are more positive on the functioning of COPABUHU cooperative society, a positive indication on the performance of the cooperative in the business relation. However, the beekeepers/farmers scored lowest on statement 2.9 (The COPABUHU always assists members get loans).

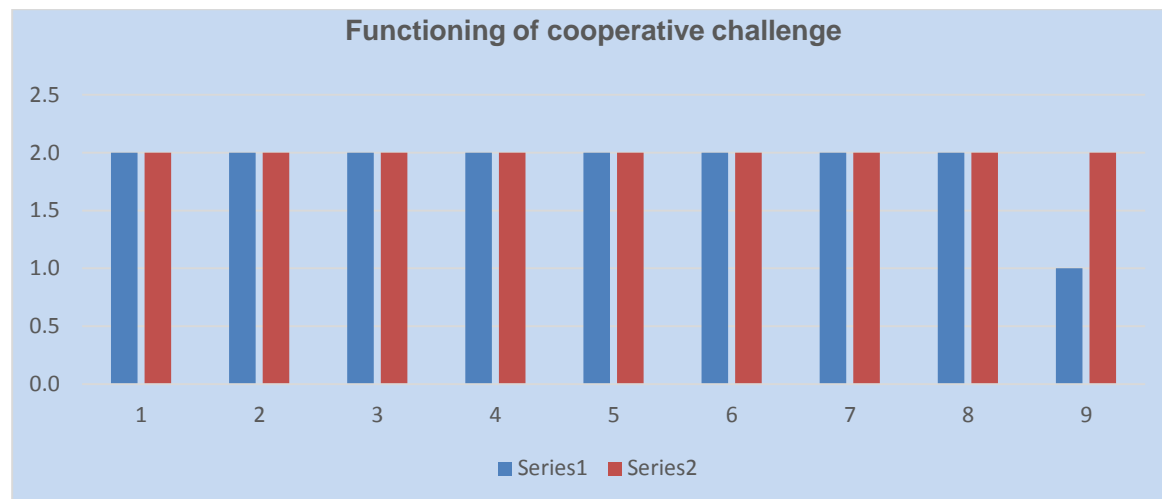


Figure 16: Median scores on Functioning of cooperative

Source: Survey August, 2013

Concerning the level of agreement, the perceptions of beekeepers and the company were in agreement in all the statements except for the statement 2.9. In this case, beekeepers are negative about the assistance form COPABUHU for getting loans (See figure 18).

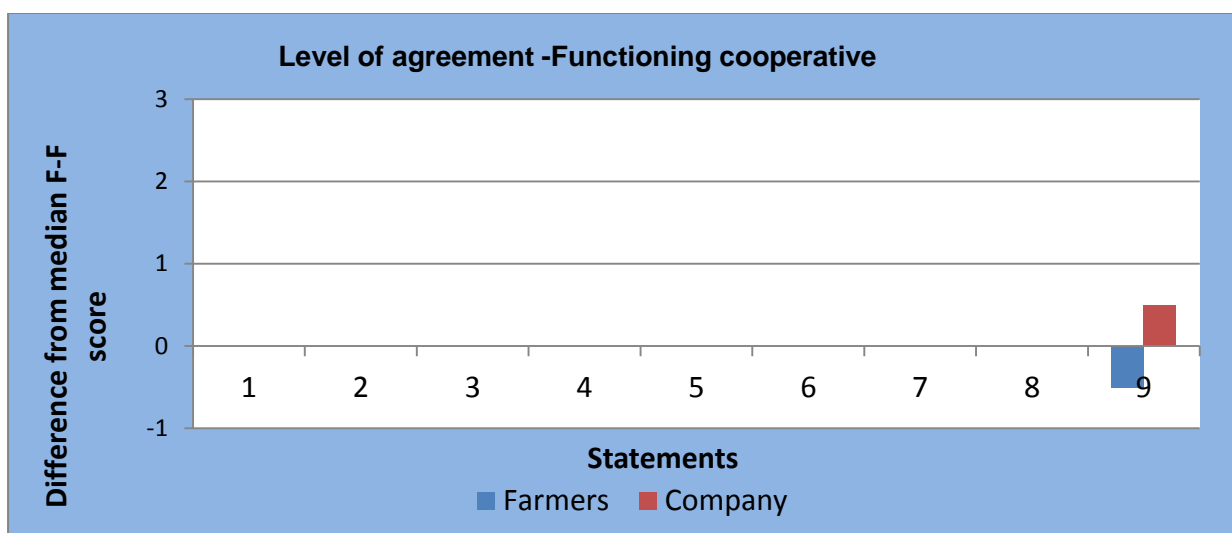


Figure 17: Level of agreement on Functioning cooperative area

Source: Survey August, 2013

5.3. Challenge area “Marketing”

Challenge area of marketing is composed by 9 statements which are talking about the market situation of honey (see table 13).

Table 13: Statements for challenge area “Marketing”

Statements challenge area “Marketing”	
3.1	There are other honey buyers in the market.
3.2	Members of COPABUHU sell part of their honey to other buyers than ABDC
3.3	There are other suppliers (Beekeepers) of honey in COPABUHU area
3.4	The demand for quality honey is growing.
3.5	Beekeepers know the consumers of ABDC products.
3.6	The local demand for honey is growing
3.7	Beekeepers sell all their honey through their cooperative.
3.8	Customers of honey prefer high quality honey.
3.9	ABDC shares market information system to beekeepers.

Source: Author, 2013

Under ‘Marketing’ challenge area, the highest median score (3) was observed on statements 3.4 (The demand for quality honey is growing) for company and farmers and 3.8 (Customers of honey prefer high quality honey) on side of company. Farmers are less positive on statement 3.2 (Members of COPABUHU sell part of their honey to other buyers than ABDC) and 3.5 (Beekeepers know the consumers of ABDC products). The farmers gave the lowest score on statement 3.9 and the company on statement 3.2 (see figure 19).

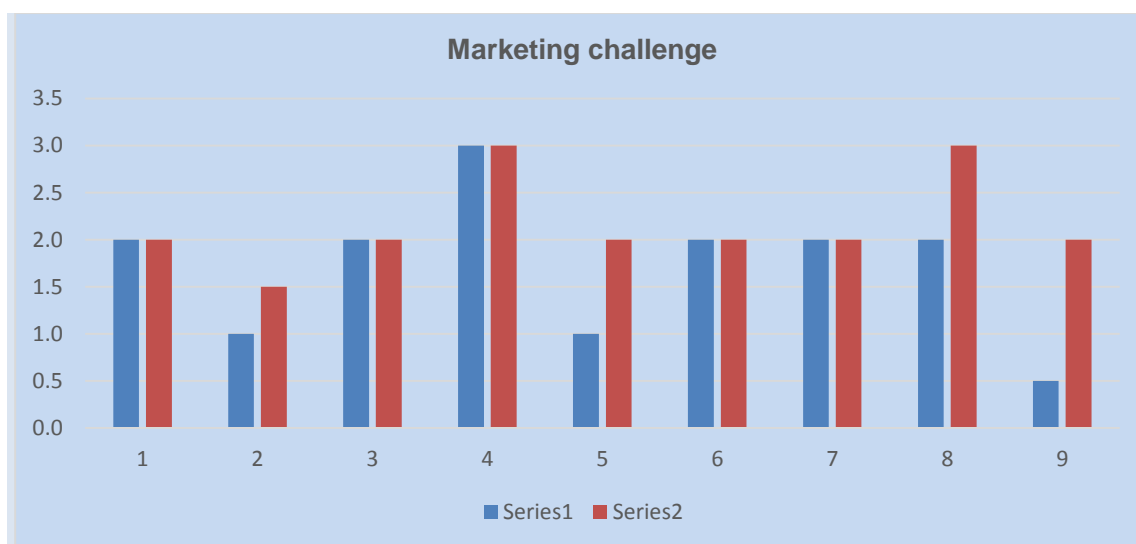


Figure 18: Median scores on marketing area

Source: Survey August, 2013

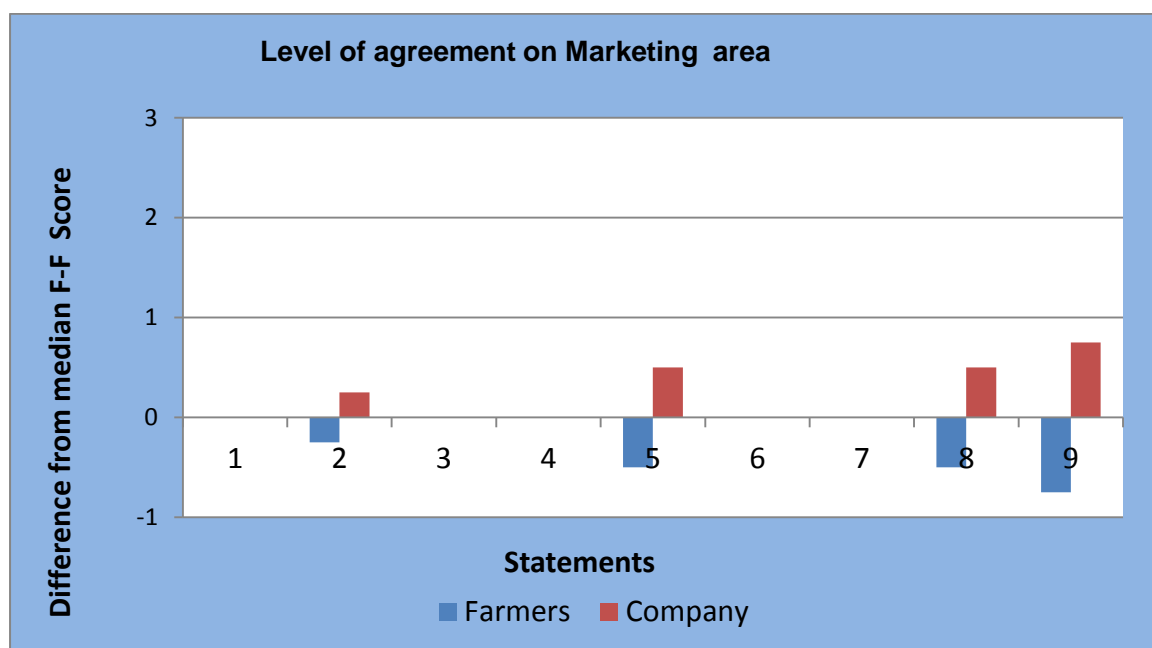


Figure 19: Level of agreement on marketing area

Source: Survey August, 2013

At first sight the parties are more in agreement on statement 3.1 (There are other honey buyers in the market), 3.3 (There are other suppliers of honey in `COPABUHU area), 3.4 (The demand for honey quality is growing), 3.6 (The local demand for honey is growing) and 3.7 (Beekeepers sell all their honey through their cooperative). Higher level of disagreement is seen in statements 3.9 (ABDC shares market information system to beekeepers) (See figure 20).

5.4. Challenge Area “Prices”

The statements (table 14) of this challenge area are focused on the perception of respondents on price as a market institution.

Table 14: Statements for challenge area “Prices”

Statements challenge area “Prices”	
4.1	ABDC informs Beekeepers on prices to be paid before honey is delivered
4.2	Beekeepers are satisfied by ABDC prices.
4.3	ABDC pays Beekeepers according on time
4.4	ABDC pays a premium price depending on volumes supplied
4.5	ABDC pays a premium price depending on quality supplied
4.6	Beekeepers are satisfied by being paid through the COPABUHU
4.7	I am always aware of market prices for honey.
4.8	COPABUHU is always involved in price setting
4.9	ABDC pays a better price than other buyers

Source: Author, 2013

Farmers are more negative on statements 4.2 (Beekeepers are satisfied by ABDC prices), 4.7(I am always aware of market prices for honey), 4.8 (COPABUHU is always involved in price setting) and 4.9(ABDC pays a better price than other buyers) whereas the company was positive with statements. The farmers gave low score on statement 4.2 and the company gave high scores on statements 3.1, 3.2 and 3.3 (see figure 21).



Figure 20: Median scores on Price area

Source: Survey August, 2013

At first sight it is evident that the farmers and company are more in disagreement on statement 4.2 (Beekeepers are satisfied by ABDC prices) and 4.9 (ABDC pays a better price than other buyers). Conversely, there is a high degree of agreement on statements 4.5 (ABDC pays a premium price depending on quality supplied) and 4.6(Beekeepers are satisfied by being paid through the COPABUHU) (see Figure 22).

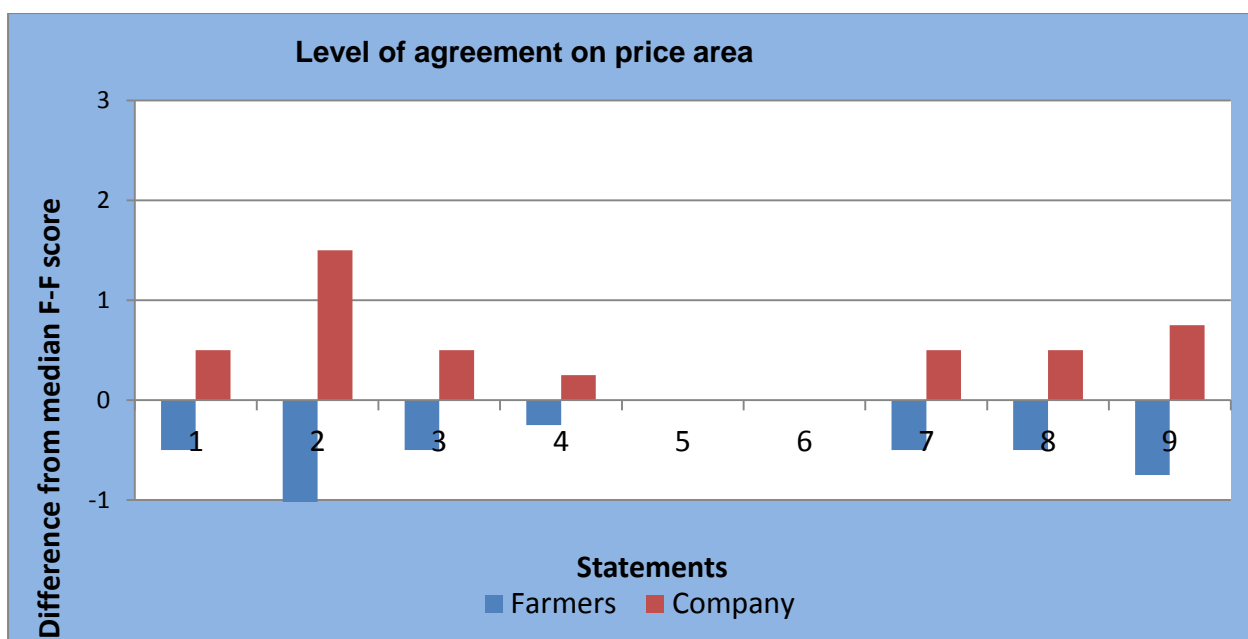


Figure 21: Level of agreement on Price area
Source: Survey August, 2013

5.5. Challenge area “Contract”

Under this challenge area the nine statements focused on perceptions on contracts as a market institution (See Table 15).

Table 15: Statements for challenge area “Contract”

Statements challenge area “Contract”	
5.1	I understand the content of the contract between COPABUHU and ABDC
5.2	The contract clearly indicates the reasons for potential honey rejection
5.3	ABDC takes Beekeepers opinion on contract matters into consideration
5.4	The contract/ agreement is binding
5.5	The contract is clear on dispute resolution
5.6	The COPABUHU follows the rules laid down in the contract
5.7	ABDC follows the rules laid down in the contract
5.8	COPABUHU penalize members for breach of contract
5.9	ABDC takes measures for breach of contract

Source: Author, 2013

As seen in challenge area “contract” two parties have positive perceptions on contracts matters. However, farmers scored low on statement 5.2 (The contract clearly indicates the reasons for potential honey rejection). The company is positive in all statements recording highest scores in 5.3 (ABDC takes Beekeepers opinion on contract matters into consideration) and 5.7 (ABDC follows the rules laid down in the contract) See figure 23.

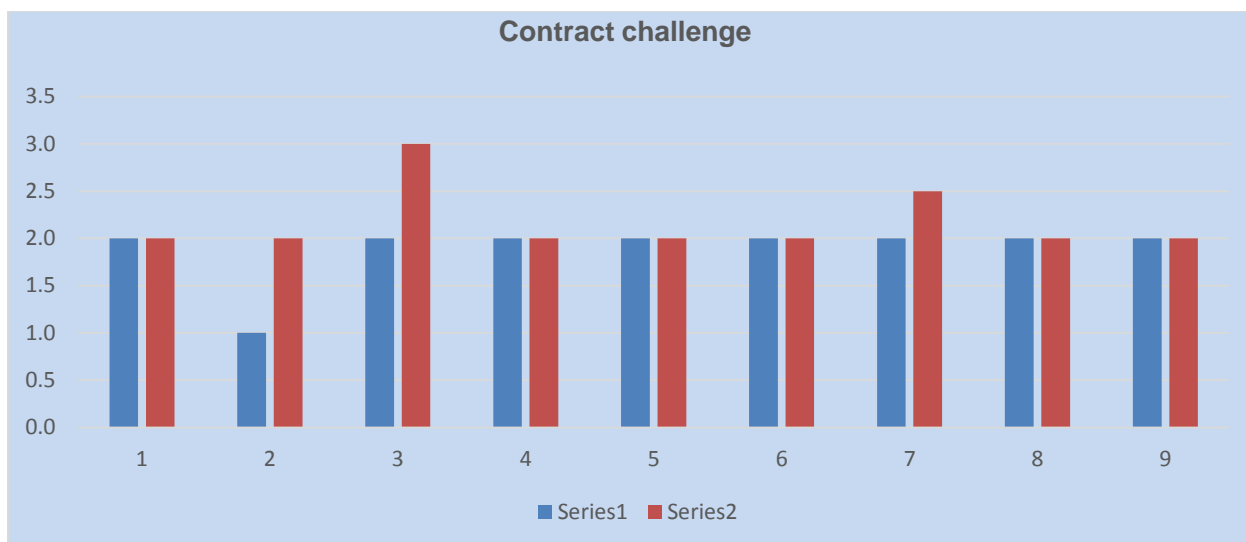


Figure 22: Median scores on Contract area

Source: Survey August, 2013

In most cases there is more agreement between company and farmers on contract issue. It is remarkable that the level of disagreement is high on statement 5.2 (The contract clearly indicates the reasons for potential honey rejection) and 5.3 (ABDC takes Beekeepers opinion on contract matters into consideration) on both sides whereas there is slight disagreement on statements 5.7 (ABDC follows the rules laid down in the contract) (see figure 24).

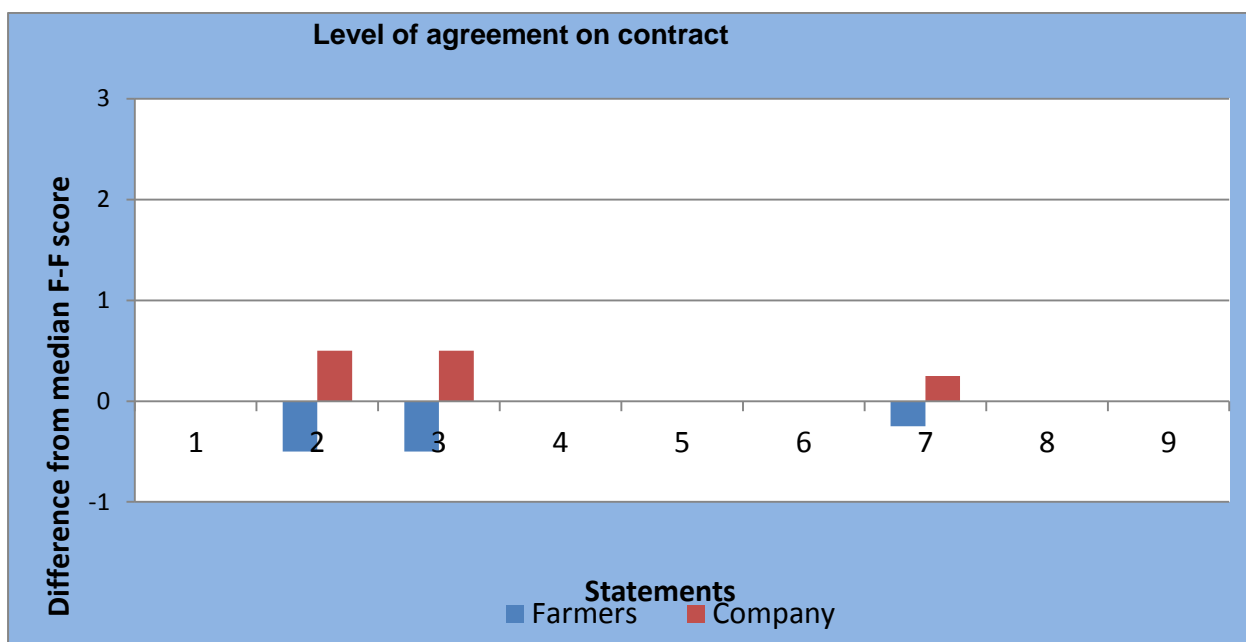


Figure 23: Level of agreement on contract area

Source: Survey August, 2013

5.6. Challenge area “Honey handling and quality standards”

Table 16 shows challenge area on honey handling and quality standards comprising of nine statements.

Table 16: Statements challenge area “Honey handling and quality standards”

Statements challenge area “Honey handling and quality standards”	
6.1	Beekeepers fully understand honey quality standards as required by Rwanda Bureau of Standards
6.2	Beekeepers deliver honey to collection points on time
6.3	ABDC collects honey from collection centre on time
6.4	COPABUHU keeps very well the records of each honey delivered
6.5	ABDC keeps very well the records of each honey delivered
6.6	COPABUHU delivers required volumes to ABDC.
6.7	COPABUHU delivers required honey quality to ABDC.
6.8	All ABDC staff have got enough skills for proper handling of honey
6.9	Beekeepers are satisfied with the way ABDC collects their honey.

Source: Author, 2013

Under challenge area “Honey handling and quality standards” it can be observed that both farmers and company had the same median score levels in all statements in this challenge area except on statement 6.5 (ABDC keeps very well the records of each honey delivered) and 6.9 (Beekeepers are satisfied with the way ABDC collects their honey) where company gave an exceedingly highest median score of 3 (see Figure 25).

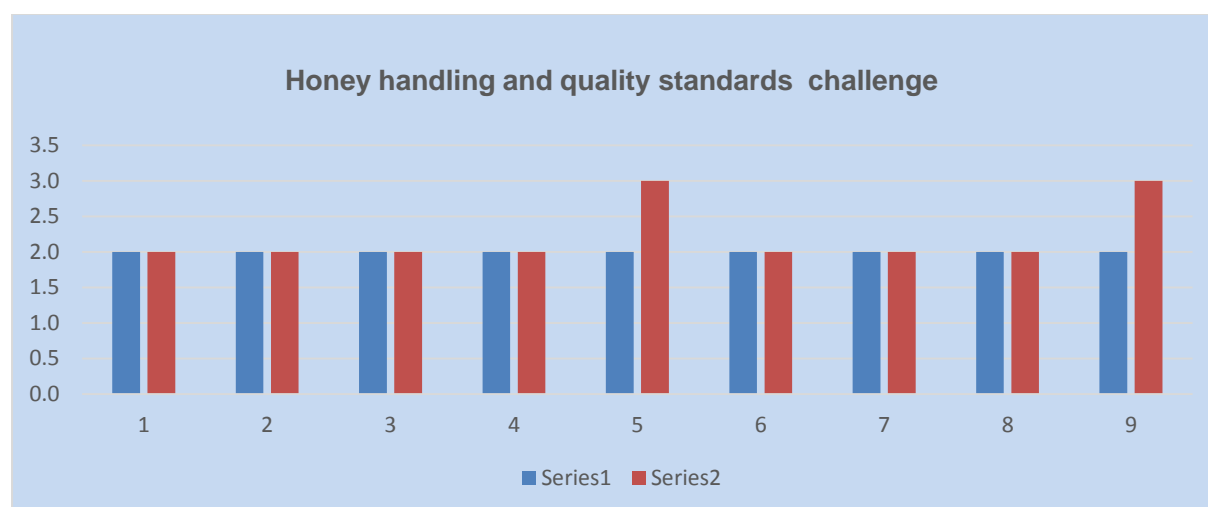


Figure 24: Median scores on Honey handling and quality challenge

Source: Survey August, 2013

Apparently, there is a high degree of agreement on all statements except 6.5 (ABDC keeps very well the records of each honey delivered) and 6.9 (Beekeepers are satisfied with the way ABDC collects their honey) indicating that farmers were positive but still perceived the situations as not optimal (See figure 26).

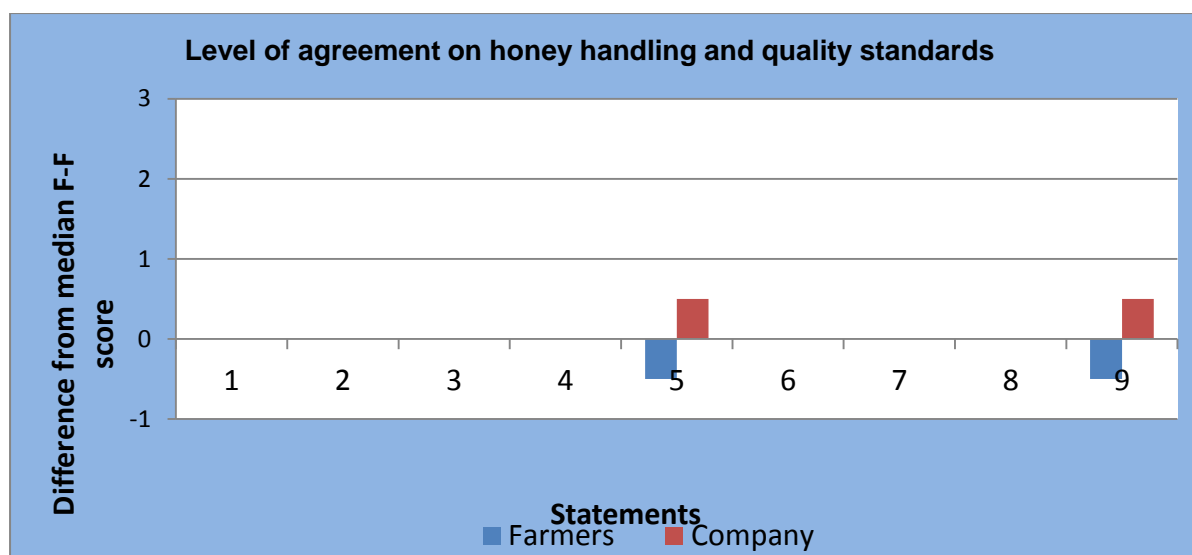


Figure 25: Level of agreement on Honey handling and quality standards area

Source: Survey August, 2013

5.7. Challenge area “Service provision by ABDC”

Table 17 shows the nine statements on service provision by the company ABDC.

Table 17: Statements challenge area “Service provision by ABDC”

Statements challenge area “Service provision ABDC ”	
7.1	ABDC is clear about the amount of product it wants to buy from Beekeepers
7.2	ABDC clearly informs Beekeepers about quality requirements of honey.
7.3	ABDC takes all the honey supplied by the Beekeepers.
7.4	I am satisfied by the way ABDC selects honey suppliers
7.5	ABDC provides relevant feedback to any question from Beekeepers.
7.6	ABDC has enough field staff
7.7	ABDC provides enough technical skills to its suppliers
7.8	ABDC provides enough linkages between its suppliers and other partners
7.9	ABDC has enough capacity of handling honey

Source: Author, 2013

In the challenge area of services provision by ABDC, the lowest median score was given by company on statement 7.6 (ABDC has enough field staff) showing that the company doesn't have enough have field staff. On the other hand the company was very positive about the services provisions they offered in the business relation. Lastly, farmers are more positive; they scored the equal median score on all statements on this challenge area (see Figure 27).

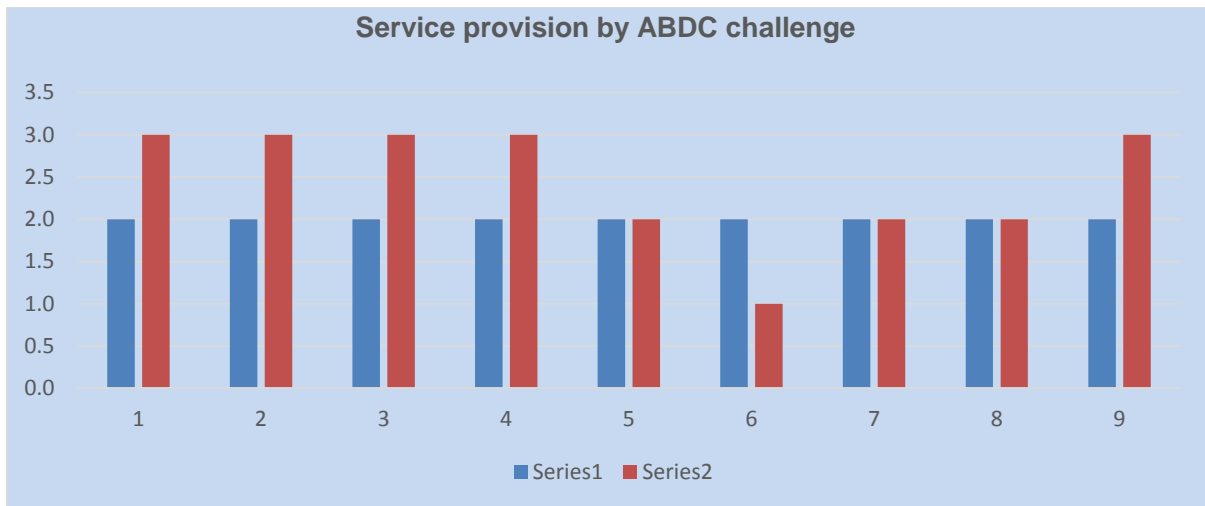


Figure 26: Median scores on Service provision by ABDC challenge

Source: Survey August, 2013

At first glance, it can be seen that there is a high level of agreement between company and farmers on statements 7.5 (ABDC provides relevant feedback to any question from Beekeepers.), 7.7(ABDC provides enough technical skills to its suppliers) and 7.8 (ABDC provides enough linkages between its suppliers and other partners). The company answers caused disagreement (See figure 28).

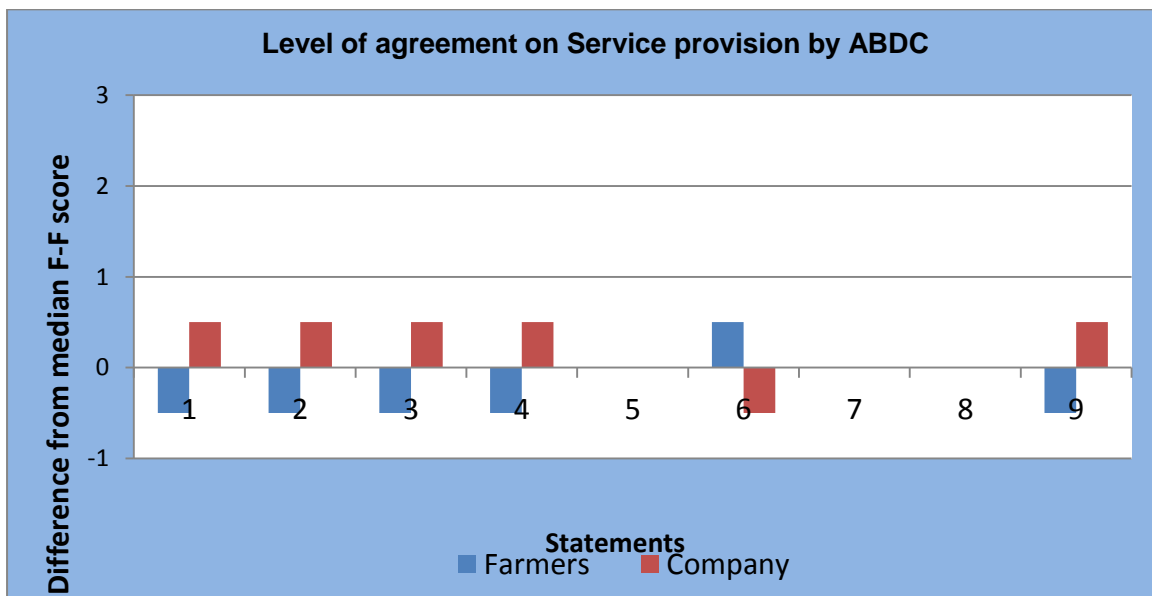


Figure 27: Level of agreement on Service provision by ABDC area

Source: Survey August, 2013

5.8. Challenge area “Cost/ benefits of contract trading”

The nine statements on Cost/ benefits of contract trading are shown in table 18.

Table 18: Statements challenge area “Cost/benefits of contract trading”

Statements challenge area “ <i>Cost/benefits of contract trading</i> ”	
8.1	Beekeepers are satisfied to have a guaranteed market for their honey.
8.2	Honey farming provides Beekeepers with a steady income
8.3	Beekeepers are satisfied with the services offered by ABDC.
8.4	ABDC is happy about the relationship with the Beekeepers
8.5	The money from honey farming is the most important income for the family.
8.6	All Beekeepers (large and small, men and women) benefit from the sale of honey to ABDC.
8.7	Honey revenues are invested in other farm enterprises.
8.8	ABDC supports Beekeepers financially for their production.
8.9	Honey Beekeepers are developing other income generating activities.

Source: Author, 2013

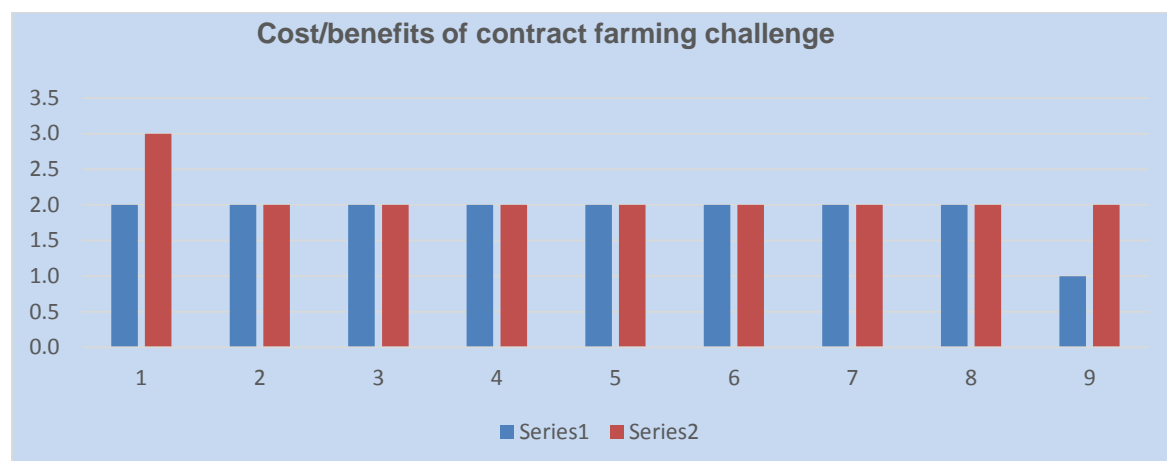


Figure 28: Median scores on cost/benefits of contract trading challenge

Source: Survey August, 2013

The challenge area of Cost/benefits of contract trading, the figure 29 clearly revealed that low median score was given by farmers on statement 8.9 (Honey Beekeepers are developing other income generating activities) whereas the company scored high on statement 8.1.

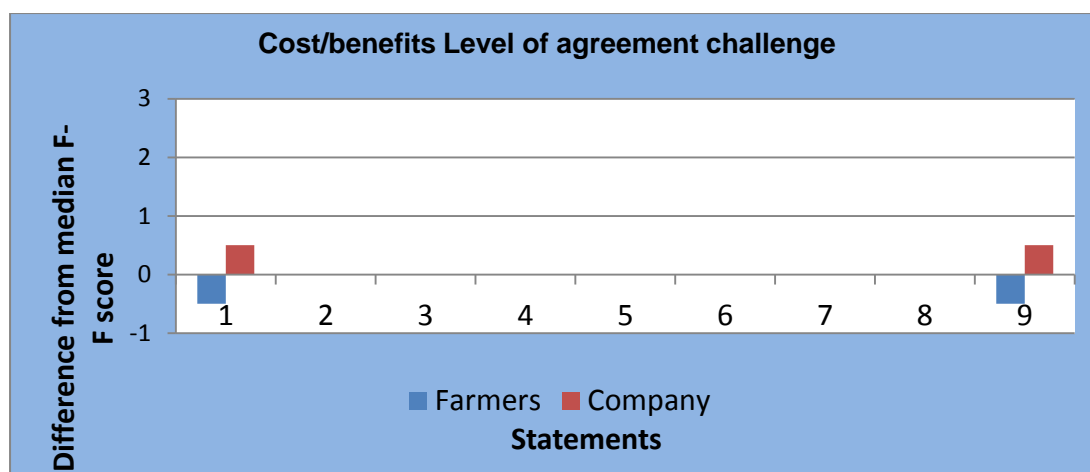


Figure 29: Level of agreement on cost/benefits of contract trading area

Source: Survey August, 2013

For this challenge area, it clearly shows there is a high level of agreement on almost all statements except on statements 8.1 (Beekeepers are satisfied to have a guaranteed market for their honey) and 8.9 (Honey Beekeepers are developing other income generating activities) where there is a slight deviation (see figure 30).

5.9. Challenge area “Future market perspectives”.

The challenge area of future market perspectives is assessed through nine statements indicates future perceptions on business arrangement. These nine statements are presented in the table below.

Table 19: Statements challenge area “Future markets perspectives”

Statements challenge area “Future markets perspectives”	
9.1	Quality of honey can improve further
9.2	ABDC company can pay higher prices to Beekeepers
9.3	Beekeepers can sell their production to other buyers if they are not satisfied with the prices offered by the company
9.4	Trainings /skills about handling and hygiene standards of honey can improve required quality of honey
9.5	Union cooperatives of honey can help improve the beekeeping /honey business
9.6	The beekeepers can pay themselves what they required in beekeeping without any supports
9.7	The quantity of honey delivered by beekeepers to ABDC can increase
9.8	The quality of honey produced by COPABUHU beekeepers can meet the export requirements
9.9	Exported market can earn beekeepers premiums

Source: Author, 2013

The challenge area of future markets perspectives; it can be observed that two parties are positive. However the farmers scored negatively on statement 9.6 (The beekeepers can pay themselves what they required in beekeeping without any supports). The company scored high on statements 9.1, 9.4, 9.5 and 9.7 (see figure 31).

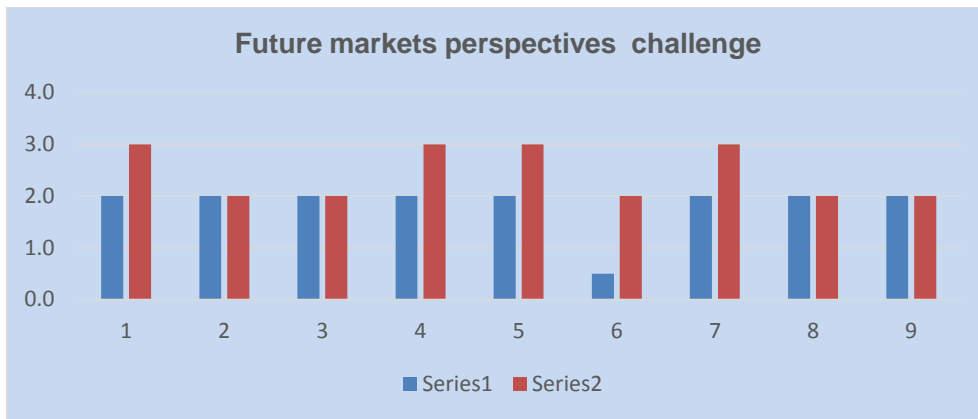


Figure 30: Median scores on Future perspectives challenge

Source: Survey August, 2013

It can be remarkable that there is more disagreement than agreement. The level of disagreement is higher on statement 9.6 than 9.1, 9.4, 9.5, and 9.7 showing farmers are negative. But both company and farmers are totally agreed on statements 9.2, 9.3, 9.8 and 9.9 (see Figure 32).

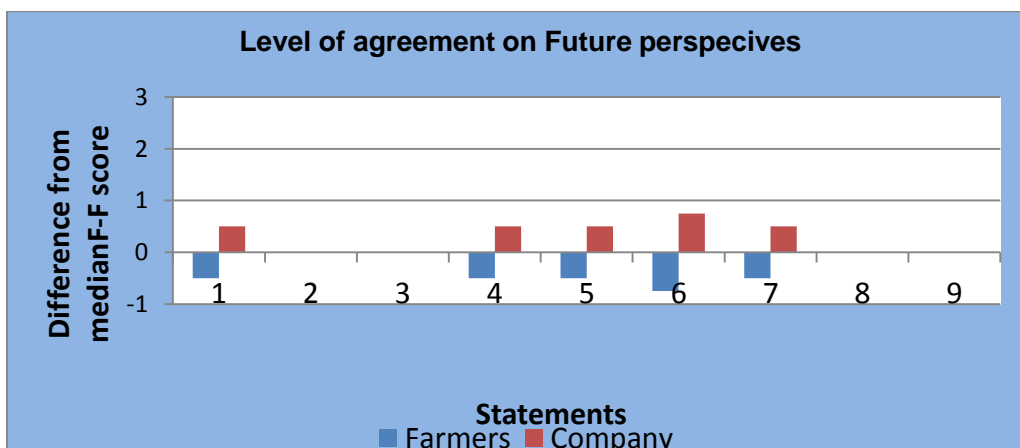


Figure 31: Level of agreement on Future perspectives area

Source: Survey August, 2013

Summary of Findings

The table below shows the major statements and challenge area that have lowest median score by both the firm and farmers. These statements are indicators of areas that need urgent improvement in the firm- farmer relation. The following statements have at least one low score below average median score from either the farmers or the firm.

Table 20: Lowest Median scores for Firm and Farmers

Challenge area	Farmer median score	Firm median score	Average median scores
0. Production			
1.9 ABDC supports beekeepers to get inputs easily	0	2	1.8
1. Functioning of COPABUHU			
2.9 The COPABUHU always assists members get loans	1	2	1.5
2. Marketing			
3.9. ABDC shares market information system to beekeepers	0.5	2	1.3
3. Price			
3.2. Beekeepers are satisfied by ABDC prices	0	3	2
5.Contract			
5.2.The contract clearly indicates the reasons for potential honey rejection	1	2	2
7.Services provision by ABDC			
7.6. ABDC has enough field staff	2	1	1.5
8. Cost and benefits			
8.9. Honey Beekeepers are developing other income generating activities.	1	2	1.5
9. Market perspectives			
9.6. The beekeepers can pay themselves what they required in beekeeping without any supports.	0.5	2.0	1.3

Source: Author, 2013

5.10. Debriefing report

A debriefing meeting was held during a focused group discussion involving both the producers and the firm to share and discuss the results of research. During this session the participants were taken through the results of a self- assessment survey indicating score levels for various challenge areas and challenge area statements. The forum provided an opportunity for both the parties to appreciate how each perceives their business relations and identify ways of improving the same relations. 1 member of the company and 5 beekeepers of COPABUHU cooperatives participated.

Table 21: Survey scores and suggestions towards improving the business relationship

Challenge Area	Issues contributing to high or low scores on challenge areas.	Farmers' contributions towards improvement of the firm-farmer relationship	Firm's contributions towards improving the firm-farmer relationship
Production	<ul style="list-style-type: none"> - Inaccessibility to beekeeping equipment (hives, hive tools and gear) due to their high costs, distant to the source and inferior counterfeit equipment in the market. - Inaccessibility to credit for enterprise development. - Insufficient knowledge in beekeeping and application of recommended beekeeping practices. - Use of traditional hives affects the increase of honey yields. 	<ul style="list-style-type: none"> - Train local artisans on manufacture of beekeeping equipment. - To set up the buying point of beekeeping equipment in Huye district. - Advocacy for tax exemption on beekeeping equipment. - Encourage a savings culture - Continuous training on beekeeping professional - To increase modern beehives and replace the traditional ones - Advocacy for banks or microfinance Institutions to provide credit to smallholder beekeepers. 	<ul style="list-style-type: none"> - Advocacy for tax exemption on bee equipment. - Conduct more training for farmers on savings and credit management. - Capacity building on beekeeping technical and business skills - To improve extension services in order to meet the needs of beekeepers - Incentive and motivation to farmers. - To facilitate the beekeepers to get credit through micro-financial institutions

Challenge Area	Issues contributing to high or low scores on challenge areas.	Farmers' contributions towards improvement of the firm-farmer relationship	Firm's contributions towards improving the firm-farmer relationship
Functioning of farmer organizations	<ul style="list-style-type: none"> - Irregular meetings by the society. - Weak leadership. - Limited business skills and marketing skills. - Weak communication protocol in the group. . 	<ul style="list-style-type: none"> - Hold regular meetings. - Training of leaders and members on leadership, business skills and marketing. - To have a business mind-set. - Transparency and accountability. - Limited knowledge of the company about the cooperative. 	<ul style="list-style-type: none"> - Improve leadership and governance of the cooperative through capacity building. - The company to improve on collaboration with the cooperative. - Close and regular firm-cooperatives interactions
Marketing	<ul style="list-style-type: none"> - Limited market information sharing between the firm and farmers. - Existence of honey traders /other buyers. - Low volumes supplied by the cooperatives to the firm 	<ul style="list-style-type: none"> - Regular meetings with the company to discuss about the market. - Encourage more farmers to join the cooperative. - Expand the enterprise. - Cooperative members to have up-dated market information. - Formation of a cooperative union. 	<ul style="list-style-type: none"> - To establish a customer care desk. - Sensitize farmers on quality and quantity demands of the market. - Regular interactions with farmers.
Price	<ul style="list-style-type: none"> - The farmers are not satisfied with the firm price. - High costs of production - Other buyers offer better prices 	<ul style="list-style-type: none"> - Cooperative members must increase bargaining powers on price setting on market information. - Incentives for volumes supplied - Develop a communication plan. 	<ul style="list-style-type: none"> - Encourage flexibility on price setting. - Company to provide incentives for volumes supplied.
Contracts	<ul style="list-style-type: none"> - Limited awareness on the contract content. - No feasible enforcement mechanisms. - Weak enforcement clauses in the 	<ul style="list-style-type: none"> - ABDC to discuss and agree with farmers on prices. - Respect contracts - Improving common understanding especially on quality 	<ul style="list-style-type: none"> - Expose farmers to all details of the contract. - Improving common understanding especially on quality.

Challenge Area	Issues contributing to high or low scores on challenge areas.	Farmers' contributions towards improvement of the firm-farmer relationship	Firm's contributions towards improving the firm-farmer relationship
	contract.		
Honey handling and quality standards	<ul style="list-style-type: none"> - Expensive honey harvesting kit. - Limited knowledge on honey handling and quality standards 	<ul style="list-style-type: none"> - Training of farmers and staff on honey handling and quality standards. - Improving common understanding especially on quality required by RBS 	<ul style="list-style-type: none"> - Improving common understanding especially on quality required by RBS. - Facilitate acquisition of honey harvesting kit.
7. Functioning of the ABDC	<ul style="list-style-type: none"> - Inadequate company staff - Lack of modern equipment - Poor communication of the firm and cooperatives - 	Good communication between ABDC staff and beekeepers	<ul style="list-style-type: none"> - Good communication between ABDC staff and beekeepers - Improve extension service delivery
8.Costs /Benefits of the business relations	<ul style="list-style-type: none"> - Limited support from ABDC to farmers - Few hives - 	<ul style="list-style-type: none"> - Reduce inputs costs to raise members' income. - Improve communication between actors - Expansion of the enterprise 	<ul style="list-style-type: none"> - Increase volumes of honey supply. - Compete for external markets.
9. Market perspectives	<ul style="list-style-type: none"> - Inadequate capital for investment - Formation of cooperatives union 	<ul style="list-style-type: none"> - Linkage with banks and micro-financial institutions. - Improving common understanding on price setting - Discussion among stakeholders in honey value chain about cooperative union 	<ul style="list-style-type: none"> - Improving common understanding on price setting - Discussion among stakeholders in honey value chain about cooperative union

Source: Author, 2013

CHAPTER SIX: DISCUSSION OF RESULTS

This chapter gives an analysis of the firm-farmer relations based on the results in chapter 4 and 5 along the challenge areas in ABDC-COPABUHU business case.

6.1 Demographic Characteristics

The results indicated that majority (93 %) of the farmer respondents were men. Discussions during the debriefing session revealed that there are many social-cultural factors limiting women involvement. These include the culture that deters women from being away the whole day and coming back home late at night considering that apiaries are far at the forests. In addition their busy domestic chores and the fear of the aggressive African bees (*apis mellifera*). This confirms earlier studies that showed that menstrual taboos, lack of time and gender inequity in the communities have limited women's effective participation in beekeeping (PACTKENYA, 2010, Ogaba and Akongo, 2001). PACTKENYA, 2010 further indicates that women were afraid of the bees and needed protection from bee stings. Kristjanson et al. (2010) posits that women receive little external support to help them make better decisions about those enterprises as the agricultural services and input delivery systems are dominated by men and therefore less accessible to women. Traditionally men are responsible for harvesting honey which is normally done at night because they are scared of honey bees during the day. This calls for engendering the activity by defining roles that could be undertaken by both gender divides in beekeeping.

6.2 The firm-farmer relations

The results of this study indicate that there are challenges that exist in business arrangements between the firm, ABDC and COPABUHU producers. As seen in previous studies conducted on firm-farmer relationships, steered by researcher from Agri-profocus, there are common challenge areas clusters. These are, and not confined to, production risks, functioning of producer organizations, market risks, prices, services by the firm, the contracts, commodity handling and quality aspects, costs and benefits of the business arrangements and future perspectives.

The study analysis shows that the firm and farmers have a generally positive relationship citing the overall median score of 2 suggesting the relationship was fairly good but not optimal (see figure 5.0 in the previous chapter). ABDC has an idle processing capacity as it has failed to get reliable delivery of honey and beeswax of the right quantity. The survey results further indicated that production risks and the price were the challenge areas whose scores were low and required improvement to strengthen the business relations. These were main problems frequently mentioned in the case study interviews too. Although the overall median scores were showing high level of agreement on challenge areas, there were specific statements where perceptions were contradictory, overlapping or complementary. The debriefing session was therefore important to facilitate a probe into reasons for such instances.

6.3 Production Risks

The study revealed that this challenge area as the one that negatively affects the business arrangements. The case study and the survey indicate that production of honey is still low due to high costs of production inputs, inaccessibility to credit and inadequate technical skills on modern beekeeping. Continued use of traditional hives is deterring increase of production yields. This is line with SNV (2009) that the high cost of acquisition of modern bee hives, is biggest hindrance to sustainable honey production in Rwanda , resulting of traditional hives.

The survey results show that this challenge area scored a median score of 1.5, way below the overall median score of 2. This thus shows that there is a significant dissatisfaction of this attribute of the business relations. Focus Group Discussion during the debriefing session revealed that the distance to source of inputs, counterfeit and low quality inputs, low staffing at ABDC and banks not willing to provide credit to beekeepers as root causes of low productivity. This supported by NSIR (2006) that in rural area were 92% of the producers live, only 25 per cent have access to formal credit and only 3 per cent accessed from traditional commercial banks.

A high level of agreement was noted on a statement saying ABDC supports beekeepers to get inputs easily. The company was positive as they do provide advance payments and avail the kits at Kigali. Beekeepers felt this was not supportive enough because Kigali is far from them, the costs are high and they have no access to credit. They also attributed the low prices they get is not motivational.

From the study it is evident that the farmers bear all production risks. There may be production risks resulting in lower than expected yields for farmers (FAO, 2011). Low production if not addressed will continue to impact negatively on the business relationship. That is why there is urgent need to pay attention to this challenge area to improve relations between ABDC and COPABUHU co-operative.

6.4. Functioning of COPABUHU.

Both the firm and farmers in this study were more positive on the functioning of the cooperative in the business relations. ABDC and COPABUHU are involved in a cooperative business model. The farmers through membership of the cooperative have a say in management and strategy of the cooperative. On the other hand the cooperative provides support services to its members within its capacity. This ranges from aggregating inputs, organizing trainings from support agencies and provision of savings and credit services. COPABUHU receives support from ARDI, SNV and Agri-hub Rwanda.

The case study by the researcher showed that COPABUHU works with its members to strategize on how to increase production, improve quality, determine price and solve other problems related to their activity. The organization has deficiencies like weak leadership, inadequate business and marketing skills and lack of capacity to offer sufficient embedded services to members that need to be improved.

The scores for this challenge area in the self-assessment survey were generally positive with a median score of 2. Producers were not positive on statements to do with the cooperative assisting members' access loans and access to information about the group's financial issues. Recent research (Simbe, 2012) indicates that producer organizations need funds for operations but they need to give value to the money subscribed by members. Simbe (2012) further alludes that communication needs to be in place to inform members of the appropriate use of funds.

FGDs revealed that the organization does not hold regular meetings. Meetings are democratic structures that offer members opportunities to participate in decision making processes which makes them own the organization (Grossman and Baldassarri, 2012, Spear, 2004). Rather than having numerous member meetings that may drag decision making, majority of rural producer organizations had democratically elected committees that undertook specific roles, including marketing, offering power sharing a broader membership (Ampaire et al., 2013). This in turn enhances responsibility and commitment by members (Shiferaw et al., 2011). The firm was largely positive on the functioning of COPABUHU as they perceive organized farmers as partners in agribusiness. They can aggregate their

produce before deliveries are done to ABDC. Motiram and Vakulabharanam (2007) continue to indicate that the role of co-operative is to assist members in getting loans and they conclude that farmers in cooperatives and farmer groups have more bargaining power, pose lower transaction costs for loans for financial institutions, and have relatively better access to credit and information which invariably leads to less food security vulnerability.

Improvement of the functioning of COPABUHU will correspondingly contribute to strengthening the business relations between the firm and farmers.

6.5. Markets

The analysis shows that the parties are fairly positive about this challenge area. They are in agreement that demand for quality honey is growing but its supply is still low. They do agree that there exist other buyers of honey in the market to whom the producers sold part of their produce. These are traders / middlemen, supermarkets and industries. However, the contract does not have quantities expected to be supplied specified. FGD showed that the need for ready cash and better prices is what instigates the members to sell to other buyers. The need for cash to cover daily expenses is a strong cause for producers selling to informal traders (TECHNOSERVE, 2008).

A major disagreement was posted on sharing of market information between ABDC and COPABUHU. As indicated in section 5.2, farmers scored a low median of 0.5, an apparent indication of dissatisfaction. On the other hand the firm scores positively on this statement arguing that quality requirements by consumers are made known to farmers upfront. Farmers said that information on prices was missing and whether or not premiums are credited on quality. Kotabe et al., (2003) confirms that communication and information sharing is a vital chain coordination mechanism that contributes to reduction of transactional costs leading to greater chain operational efficiencies. Chain relations improvement interventions should therefore include establishment of this chain coordination mechanism.

6.6. Prices

Evidently, this challenge area was lowly scored in the self-assessment survey. Farmers were categorical in interviews that they are not satisfied by the price offered by ABDC. The overall challenge area median score is 1.5 way below the overall median score. Farmers argue that other buyers in the market offer superior prices than ABDC while the firm indicates they pay better prices to the cooperative than to traders. Farmers add that the cost of production is high and therefore they require better prices to break even. Despite the fact that the farmers and the firm negotiate on prices after every four months, there seems to lack a mutual mechanism for determining prices. Schrader (2012), in his work on firm-farmer relations is cognizant that firms and farmers have opposed interests; Farmers want highest price for their product, whereas firms look for the lowest possible price. The writer further alludes, that to do business, farmers and firms need to have some mutual understanding and a minimum level of trust in each other. The disparity of price could be attributed to the involvement of farmers in the economic decision making. According to FAO (2012) co-operatives are recommended seven United Nations principles which determine the viability of a cooperative that is member economic participation. The beekeepers results' showed limited in price setting which affects their business relations. This also reflected in the chairman's words "*the cooperative members are always absent in crucial financial meetings*". This challenge area therefore requires urgent attention to improve the relations between the two entities.

6.7. Contracts

Apparently, from the median score in the survey, the farmers are less happy with this challenge area. They scored a median of 1 on a statement saying the contract clearly indicates the reasons for potential honey rejection. Agricultural commodities must be properly marketed to ensure effective contract implementation, which require the application of known, recognised, fair, efficient and enforceable sanctions (FAO, 2011). Lack of such sanctions may lead to fraud concerning commodity quantity and quality, and payment or delivery delay or default.

Degree of trust developed between contracting partners primarily influence the success of contract farming. Interestingly, there exists some level of trust between the parties as ABDC sustainably provides advance payments to farmers for supporting harvesting of honey.

The ABDC-COPABUHU case showed that the overall median score of 2 as satisfactory but not optimal. FGDs revealed that there is limited awareness of the contract content on the farmers' side. In addition the forum was informed that there are weak enforcement clauses in the contract. In situations where there lacks trust, contractual complexity grows with introduction of clauses to safeguard the parties (Ostergaard, 2013). These are weaknesses that need improvement to strengthen the business relation.

6.8. Handling and Quality Standards

A clear indication exists in this challenge area looking at the level of overall median score which is at 2. This is a positive situation that can be improved with the few deficiencies being addressed. FGD showed that challenges that affect honey handling are mainly expensive honey harvesting gear. Farmers felt that this could compromise quality as use of traditional harvesting by use of fire could contaminate the products. The firm does not pay premiums for the product's quality although quality is a pillar in the contract.

Standards and grades offer potential benefits to all the chain actors, from price premiums for farmers to better health and safety for consumers (Ton, 2012a). For a competitive business relation, the partners need to upgrade further on quality standards.

6.9. Service Provision by ABDC

The overall median score on this area is 2, thus satisfactory with room for improvement. The firm does not have enough staff and capacity to support producers though provision of embedded services like extension services, inputs, credit etc. The company has an idle capacity of handling honey, though it requires to up-grade its machinery to modern ones.

Another observation during field visits there was none of the staff from ABDC observed monitoring the harvesting activities or giving technical advice to the farmers. If the company does not have adequate staff then the delivery of embedded services is compromised affecting the relations. This supported by Baumann(2000) that the better and broader the range of services offered , the closer the relationship between farmer and business , and more the farmer stands to lose by breaking the relationship.

6.10. Cost /Benefits of contractual arrangement

The overall median score for this challenge area is 2, a positive sign on the business relation. Farmers and the firm were positive on the benefits of the business arrangements between them. Farmers are guaranteed a steady market while the firm expects to get reliable supplies of required quantities and quality. Contract farming allows contractors to establish close relationships with farmers and by reducing uncertainties in purchases through predetermined

timings, prices and quality standards (KIT and IIRR, 2008). However, farmers were negative to having income from the honey production being invested in other projects. The FGD findings on this issue show that this is due to low investment levels. Based on from the field observations beekeeping is time consuming and farmers are always occupied in managing the bees and this is also the reason why most women are not involved as they need time to do other household chores. Also the fact most beekeepers are from poor families they cannot afford to buy land for cropping or other enterprises.

6.11. Markets Perspectives

The analysis shows that the partners are positive about their future perspectives considering an overall median score of 2. Farmers and the firm are optimistic that the volumes, quality and price can improve in future. Farmers are categorical that they depend on the external support when they negatively perceive to independently support their production and harvesting functions.

6.12: The 2-2 tango tool.

2-2 tango as a self-assessment tool proved to be practical and flexible in analysing a business relationship between two parties. In this study the researcher had to conduct a case study through which she identified the dimensions for the activities / the challenge areas. What came out is that there seems to be some commonness on issues/ challenges no matter the nature of the relation or business case. They normally fall under the following clusters; production systems, functioning of farmers' organization, management of the firm, contracts, prices, costs/benefits of the business arrangement as well as future perspectives of a workable business case.

From the administration of questionnaires for self- assessment, the researcher found out that farmers tended to associate her with the firm or the donor. This to some extent influenced their scoring on the questionnaires. This confirms findings by earlier similar researches on the tool which posit that the respondent tend to be inclined to give information which the researcher wants to hear (Gwiriri, 2012, Simbe, 2012). Another lesson learnt is that administration of the questionnaire by the research person, one on one, helps to elicit more information on the relationship elements. Farmers were hesitant to reveal their identity. They preferred anonymity. The researcher coped with these situations by taking time to introduce the research purpose to cooperative leaders and members before instituting the research. The parties indicated that they were ready to work towards the improvement of their relationship, a factor that triggered their willingness to participate in the survey. The debriefing session proved a vital component of the tool that enables the partners to share and be cognisant of each other's risks and interests, built mutual trust and chat a way forward towards improving their business relations.

CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATIONS

This chapter describes the conclusions and recommendations drawn from the study.

7.1. Conclusions

Overall analysis of the ABDC – COPABUHU honey business case shows positive relations considering the number of benefits that are there presently and the anticipated ones. Through this contractual arrangement, farmers have embraced modern beekeeping by acquiring modern hives and gear, although their costs are high. ARDI and SNV have significantly supported farmers and their cooperative to comply with quality requirements through trainings on handling and organisational support. Farmers are guaranteed a steady income which in turn contributes households' food security improvement.

Women are limitedly involved in beekeeping activity due to not have access to productive assets and others resources such as financial resources due that they inaccessible to credit facilities. Also there is gender imbalance in workloads, time consuming and long distance to apiaries. This could be another contributory factor why there are few women into beekeeping in Rwanda.

Beekeepers bear all production risks on their own, particularly in acquisition of modern hives with limited access to credit, resulting lower than expected yields. Financial assistance to get loans is a challenge to the beekeepers as they do not have collateral and they do not get assistance. The high costs of modern hives and the distance to the source form major constraints toward producing expected volume. One the other note some of beekeepers do not have adequate knowledge to modern beekeeping techniques which was a major issue as agreed by ABDC processing company.

ABDC is a company with long history in the beekeeping business. It has a large idle capacity to process honey and an unsatisfied local demand. Side selling of honey to other buyers contributes to low supply to ABDC.

The Price is another major factor that affects the relationship between the partners. The price disparity on honey, the beekeepers are not satisfied with the current price of honey offered by ABDC because their limited involvement in the economic decision making and therefore price setting. This is not in-line with the one of the seven United Nations principles which determine the viability of co-operatives that is member economic participation. Beekeepers consider the price low as compared to offers by other buyers.

There is no sharing of market information between ABDC and the COPABUHU leading to the beekeepers not knowing the consumers of the honey and honey products from the processing company. . Information asymmetry exists in the relationship with beekeepers lacking access to consumer price information and credit on quality.

The findings also revealed that the contract terms are not strictly adhered to. The contract provides for quality and price specifications. There lacks issues on volumes. The contract weakly addresses enforcement mechanisms.

The company does not have adequate staff to cater for all its activities i.e. support services to beekeepers. This was evident as none of the staff from ABDC was observed monitoring the harvesting activities or giving technical advice to the beekeepers.

The parties are optimistic of the future of their relationship if the weaknesses are addressed. They are positive that quantity and quality demands by the market can be achieved.

The Government of Rwanda has in place a National Beekeeping Strategic Plan Document (2007-2012) expressing its willingness to support the growth of the industry. The strategy covers investments, trainings and capacity building, formulation of honey standards and establishment of a National Honey Council. This has complemented the valuable work done by NGOs and development agencies like ARDI and SNV. However, the commitment of the government and other support agencies needs to be up-scaled and coordinated. ARDI, as a non-profit NGO is involved indirectly through ABDC in the business reflecting a conflict of interest.

The 2-2 tango tool is an effective tool to initiate and elicit dialogue between the farmers and the firm. Through this, the partners get to appreciate the risks and interests of each other as well as chart a way towards mutually agreed ways of strengthening their relationship. The tool cannot be effective without a dialogue platform, the debriefing session.

7.2. Recommendations

Gender awareness activities needs to be mainstreamed to beekeeping so as to encourage women participation in the industry. Care should be taken to mutually involve men and women in choosing their roles and functions in beekeeping activities.

Strengthen chain relations

ABDC and COPABUHU farmers should work together towards improving their business relations through strengthening skills and technologies, upgrade products and services, share information on consumer demand and get access to credit. This will in turn stimulate increased productivity in a sustainable way ABDC can consider establishing field services arm to provide extension services and inspect production and harvesting practices to guarantee volumes and quality.

They will also need an effective coordination of their relationship through continual communication and interactions/ meetings. A communication plan can be established to improve on information sharing. This will be useful in determining prices that are mutually agreed through transparent mechanisms as well as developing a joint vision and action plan. It is recommended, therefore, that the partners form a steering team or identify a chain facilitator to undertake this. Periodic self- assessment surveys can be conducted using the tool to identify areas of interventions.

Stronger Market Institutions

ABDC should also seek to ensure contractual obligations and rights are clear and understood by the farmers. This can be done in a language understood by smallholder farmers before having it signed. The contract should explicitly indicate how disputes arising from the contract can be settled outside the court through some impartial system like arbitration and mediation.

COPABUHU farmers need to organize themselves to be more effective in achieving economies of scale and reduce transaction costs. The partners can also work towards assisting members to access financial and other business support services.

The cooperative should also seek to join other cooperatives dealing with honey production and marketing so as to increase on their bargaining power.

The cooperative should up-grade their honey collection centres by having required utilities like electricity to enable motorizing honey extractors as well as facilitate certification towards branding their name on their products. Quality inputs for modern beekeeping harvesting can

also be acquired in bulk to curb traditional harvesting techniques that compromise honey quality.

Honey grading system should be considered so as to develop niche markets for various grades. Superior grades should be rewarded with premiums while low grades attract lower prices. This will motivate farmers to strive to produce superior quality honey.

The internal organization of the cooperative can be improved through training on leadership, business management and marketing skills so as to improve the capacity of the group in service provision to members. The group can also institute formation of sub-committees to manage its different tasks to inculcate ownership and commitment by members.

The chain support and enabling environment:

The Government of Rwanda and other chain supporters can facilitate ease of access to inputs by training local artisans into manufacturing quality modern hives and harvesting gear instead of farmers relying on imported and expensive hives and equipment.

The Government, SNV, ARDI and other donors, policy makers, development agent can support the actors as facilitator towards improving the cooperative institutional capacity, provision of market information related to quality, prices and other kinds of support. They can as well public sector investment to improve access to inputs, services, markets and research. GoR in addition should ensure a stable policy environment in support of the value chain.

Honey value chain supporters like ARDI and SNV the value chain should avoid conflict of interests by involving themselves either directly or indirectly in the honey business. Their actions should be of temporary nature, with guarded objectivity and clear exit strategy.

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APPENDICES

Appendix A : Operationalization of research questions

Sub-question	Operationalization	How	From who (where)
1.1 What are the beekeeping farming systems in Huye district?	Farming systems Yields Cost structure	Observations Literatures Interviews	Farms Internet, Reports, Journals Farmers
1.2 Who are the honey value chain actors/operators, supporters and facilitators?	Chain actors, Supporters, Facilitators, Functions/ Roles	Literature, Interviews	Journals, Reports, Stakeholders
1.3 What are the challenge areas affecting the business relations between COPABUHU cooperative and ABDC?	Problem/challenges facing farmers Challenges/ risks facing processors	Interview, literature, Survey, FGDs	Farmers, Processors, Stakeholders, Journals and publications, reports
1.4 What is the functioning of producer organization on agri-business partnership?	Producer organizations, governance, social capital,	Interview, Survey, FGDs	Farmers, Processors, Stakeholders
1.5 Which risks do the ABDC and farmers bear in the honey value chain?	Risks in the trade functions Risk sharing	Interview, Survey, FGDs	Farmers, Processors,
1.6 Which strategies can be appropriate for improving the firm-farm relations?	Value chain strategies,	Interview, literature, Survey, FGDs	Farmers, Processors, Stakeholders

Appendix B: Checklist topics for interviews

F-F challenge areas
Produce: export market, bulk product for local market, ... alternative products, alternative market outlets ...
Production risks: climate, pests and diseases, GAP, ... distribution of risks over producers and company, insurance, likelihood of producing contracted volumes
Farmers: resource endowment, food & livelihood security, level of specialization, economic orientation, modalities for selecting farmers
Company: resource endowment, 'open door policy', credibility and transparency, qualified staff,
Farmer group functioning: leadership, accountability to members, internal communication and transparency, internal control on compliance (GAP, quality, delivery), record keeping and financial administration, autonomy of organizational costs...
Prices and price setting modalities : min-max prices, dealing with market price fluctuations (reference market prices), differential prices for quality (1 st and 2 nd grade), bonus for higher volumes or quality
Embedded services: inputs, credit, training, farmers credit discipline and risks of side use, company default on service provision,
Contract : language, terminology, explanation, understanding, transparency, elements covered, signatories
Delivery : timeliness, volume, quality and grading, traceability and administration
Side selling : farmers' respect of contract, new entrants, predatory purchasing, horizontal coordination (code of conduct with other buyers), vertical coordination (relations and goodwill with farmers)
Institutional environment: legal system, witnesses, informal and formal contract enforcement and dispute settlement, bureaucracy, corruption,.
Standards International and sector specific standards, food safety, certification and traceability, ...

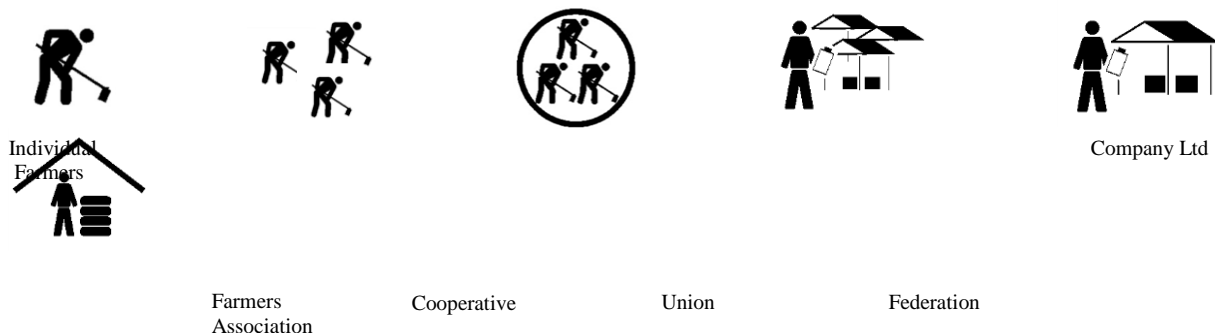
Business Case Features; interview with farmer organization

1. Basic data per case: Business case and respondents

Country:	
Product:	
Name of farmers' organization:	
Name of firm(s)	
<i>Date of interview:</i>	
<i>Name of persons interviewed:</i>	
<i>Function of persons interviewed:</i>	

Type of Organization:	
Year of establishment:	
Number of organized farmers (total, men, women) :	

- a. How and to which level are the farmers organized?
 - Circle the entities applicable and cross out the entities not applicable.



- b. Has the trading entity, owned by the farmer, been registered?
- No, it is an informal entity
 - Yes, it is a formal registered entity
- c. How has the trading entity been registered?
- NGO
 - Cooperative (with right to be involved in economic activities)
 - Union (with right to be involved in economic activities)
 - Federation (with right to be involved in economic activities)
 - Non-profit business
 - Social business
 - Fully commercial business

Observations:	
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2. Product:

Does the business / farmer organization offer:

- one product or
- several products
- a perishable product or
- a non-perishable product
- a standard product or
- a tailor made product
- a seasonal product or
- Year-round-production?

Observations:	
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3. Production

- a. Which functions are performed in ownership by the farmers?
- Planting/sowing
 - Harvesting
 - Bulking

- 1st processing stage (for instance: heating, squeezing)
- Intermediate processing
- Final processing
- Packaging
- b. Hygiene and food safety certificates required?
 - Yes
 - No

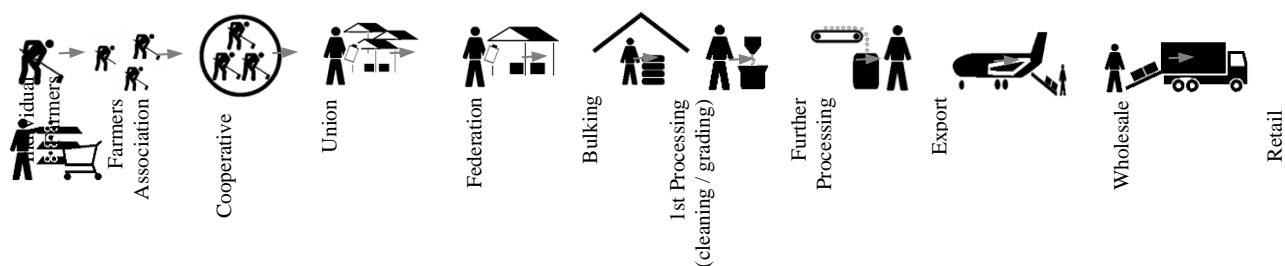
Observations:	
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4. Quantitative data

Average production volume of farmers' organization 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):	
Total volume of product before processing:	
Total volume of product after processing (when applicable):	
Observations:	

5. 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 company).
 - Democratic structure
 - Business hierarchy
- b. Until which point in the chain does the farmer have decision making power?
 - Circle entities in which the farmer has decision making power (through democratic structure). Cross out those entities in which the farmer does not have decision making power.



Observations:	
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6. Product branding

- a. Is the product specifically branded?

- Organic Certified
- Conventional, generic (no specific brand)
- Socially certified (Fair Trade, UTZ, etc)
- b. Is the product sold to the customer under the specific brand name of the business/producer organization?
 - Yes
 - No

<i>Observations:</i>	
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7. Customer / Market:

- a. How many customers does the business/farmer organization serve?
 - one
 - several
- b. Categorize the direct customer(s)
 - trader,
 - exporter,
 - processor,
 - wholesale,
 - retail,
 - end-user
- c. Which market does the business/farmer organization serve?
 - the mass market (bulk market)
 - a niche market
- d. Is the direct customer a local or an international customer?
 - Local
 - International
- e. Is the end-market (end-consumer) a local or international market?
 - Local end-market
 - International end-market

<i>Observations:</i>	
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8. Revenue model:

Does the business / producer organization earn its income through:

- the sale of a physical product,
- the sale of a service
- lending/renting/leasing the use of a physical product

<i>Observations:</i>	
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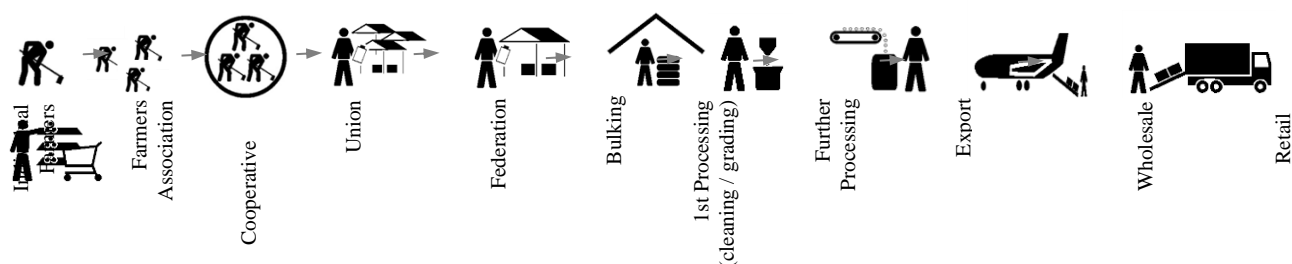
9. Pricing

- 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 outcome of competitive bidding
- b. Is the business / farmer organization cost driven or value driven?
 - Cost-driven (cheap)
 - Value driven (high quality)

Observations:

10. Trade Contracts

Indicate with lines between which parties trade-contracts are signed.

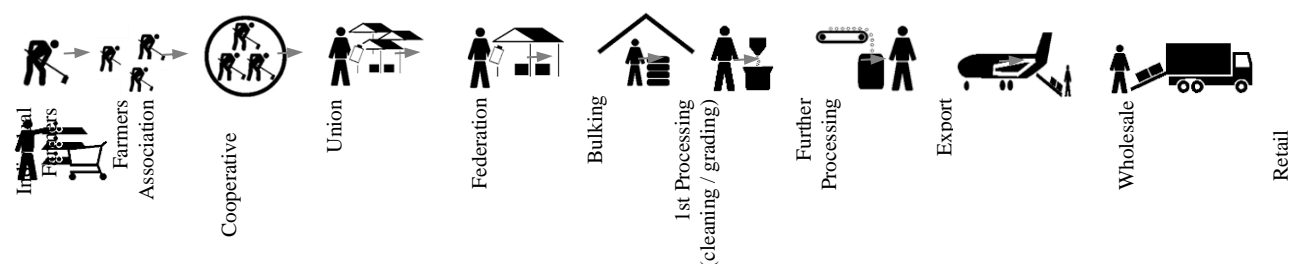


Observations:

11. Risk:

- a. Which risks does the business / farmer organization bare? Up until which point in the value chain does the business/farmer organization run this risk?

Draw a line behind in risk from which point in the value chain until which point in the value chain the business/farmer organization runs this risk



Climate Risk
Input misuse risk
Pest & diseases
Side-selling risk
Timeliness
Volume Risk
Quality Risk
Processing Risk
Financial Risk
Storage Risk
Transport Risk
Certification Risk
Marketing Risk
Reputational Risk

Example: The farmer remains owner of the product up until delivery after export. Therefore transport risk is their risk until that point:

Transport risk 

<i>Observations:</i>	
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12. Financial data

	2009	2010	2011
Turn-over			
Cost of Production			
Operational Costs			
Overhead Costs			
Profit / Loss			
Break Even Point (expected to be) reached in year:			
<i>Observations:</i>			

Appendix D: Statement list 2-2 Tango (empty)

Statement list 2-2 Tango

For the researcher:

Please fill in the following information about the case:

Country:	
Case:	
Name researcher:	
Date:	

For company employees:

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

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

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 cooperation!

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

Statements		Scores			
		0	1	2	3
		<i>Strongly disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly agree.</i>
		☹☹	☹	☺	☺☺
1 Production					
1.1	Beekeeping equipment (hives, hive tools and gear) are available				
1.2	Beekeeping equipment (hives and hive tools) are affordable to farmers				
1.3	Beekeepers have easy access to credit to buy inputs				
1.4	Beekeepers have sufficient know-how on beekeeping				
1.5	Beekeepers apply recommended beekeeping practices				
1.6	Beekeepers' honey yields are increasing				
1.7	ABDC provides quick feedback to beekeepers questions related to honey production				
1.8	Beekeepers are satisfied with the modern hives promoted by ABDC				
1.8	ABDC supports beekeepers to get inputs easily				
1.9	Beekeeping equipment (hives, hive tools and gear) are available				
2 Functioning of cooperative					
2.1	I agree with the way ABDC selects Beekeepers groups for contracting arrangements.				
2.2	It is more beneficial to Beekeepers to sell their produce through COPABUHU, and not as individuals				
2.3	COPABUHU meetings are always fruitful				
2.4	Elected COPABUHU leaders adhere to the tasks and responsibilities defined in the constitution and by-laws				
2.5	COPABUHU meetings are regular as stipulated in the law				
2.6	All members are informed and understand group's financial issues				
2.7	ABDC is satisfied with the way the COPABUHU is operating				
2.8	The COPABUHU leaders always represent the common interest of all members				

2.9	The COPABUHU always assists members get loans				
3	Marketing				
3.1	There are other honey buyers in the market.				
3.2	Members of COPABUHU sell part of their honey to other buyers than ABDC				
3.3	There are other suppliers (Beekeepers) of honey in COPABUHU area				
3.4	The demand for quality honey is growing				
3.5	Beekeepers know the consumers of ABDC products				
3.6	The local demand for honey is growing				
3.7	Beekeepers sell all their honey through their cooperative				
3.8	Customers of honey prefer high quality honey				
3.9	ABDC shares market information system to beekeepers				
4.	Prices				
4.1	ABDC informs Beekeepers on prices to be paid before honey is delivered				
4.2	Beekeepers are satisfied by ABDC prices.				
4.3	ABDC pays Beekeepers according on time				
4.4	ABDC pays a premium price depending on volumes supplied				
4.5	ABDC pays a premium price depending on quality supplied				
4.6	Beekeepers are satisfied by being paid through the COPABUHU				
4.7	I am always aware of market prices for honey.				
4.8	COPABUHU is always involved in price setting				
4.9	ABDC pays a better price than other buyers				
5.	Contract				
5.1	I understand the content of the contract between COPABUHU and ABDC				
5.2	The contract clearly indicates the reasons for potential honey rejection				
5.3	ABDC takes Beekeepers opinion on contract matters into consideration				

5.4	The contract/ agreement is binding				
5.5	The contract is clear on dispute resolution				
5.6	The COPABUHU follows the rules laid down in the contract				
5.7	ABDC follows the rules laid down in the contract				
5.8	COPABUHU penalize members for breach of contract				
5.9	ABDC takes measures for breach of contract				
6	<i>Honey handling and quality standards</i>				
6.1	Beekeepers fully understand honey quality standards as required by Rwanda Bureau of Standards				
6.2	Beekeepers deliver honey to collection points on time.				
6.3	ABDC collects honey from collection centre on time				
6.4	COPABUHU keeps very well the records of each honey delivered				
6.5	ABDC keeps very well the records of each honey delivered				
6.6	COPABUHU delivers required volumes to ABDC.				
6.7	COPABUHU delivers required honey quality to ABDC.				
6.8	All ABDC staff have got enough skills for proper handling of honey				
6.9	Beekeepers are satisfied with the way ABDC collects their honey				
7	<i>Services provision by ABDC</i>				
7.1	ABDC is clear about the amount of product it wants to buy from Beekeepers				
7.2	ABDC clearly informs Beekeepers about quality requirements of honey.				
7.3	ABDC takes all the honey supplied by the Beekeepers				
7.4	I am satisfied by the way ABDC selects honey suppliers				
7.5	ABDC provides relevant feedback to any question from Beekeepers				
7.6	ABDC has enough field staff				
7.7	ABDC provides enough technical skills to its suppliers				
7.8	ABDC provides enough linkages between its suppliers				

	and other partners				
7.9	ABDC has enough capacity of handling honey				
8	<i>Costs / benefits of contract trading</i>				
8.1	Beekeepers are satisfied to have a guaranteed market for their honey				
8.2	Honey farming provides Beekeepers with a steady income				
8.3	Beekeepers are satisfied with the services offered by ABDC				
8.4	ABDC is happy about the relationship with the Beekeepers				
8.5	The money from honey farming is the most important income for the family				
8.6	All Beekeepers (large and small, men and women) benefit from the sale of honey to ABDC				
8.7	Honey revenues are invested in other farm enterprises.				
8.8	ABDC supports Beekeepers financially for their production				
8.9	Honey Beekeepers are developing other income generating activities				
9	<i>Future markets perspectives</i>				
9.1	Quality of honey can improve further				
9.2	ABDC company can pay higher prices to Beekeepers				
9.3	Beekeepers s can sell their production to other buyers if they are not satisfied with the prices offered by the company				
9.4	Trainings /skills about handling and hygiene standards of honey can improve required quality of honey				
9.5	Union cooperatives of honey can help improve the beekeeping /honey business				
9.6	The beekeepers can pay themselves what they required in beekeeping without any supports				
9.7	The quantity of honey delivered by beekeepers to ABDC can increase				
9.9	The quality of honey produced by COPABUHU beekeepers can meet the export requirements				