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Strategies to improve firm- farmer relationship in dairy value chains

An assessment study in Borabu and Kiambu Districts, Kenya

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Dedication

This research work is dedicated Almighty God for divinely enabling me to complete my study and to my beloved family for their endurance during in my study. I love you all.

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List of Abbreviations

A.I.	Artificial Insemination
AEZ	Agro Ecological Zones
BDS	Business Development Services
CDI-WUR	Centre for Development Innovation- Wageningen University and Research Centre
COMESA	Common Market for Eastern and Southern Africa
DCO	District Cooperatives Officer
DFID	Department for International Development
DLP	Department of Livestock Production
DLPO	District Livestock Production Office
EAC	East African Community
FAO	Food and Agriculture Organization
FGD	Focus Group Discussions
FOPA	Farmers' Organization for Poverty Alleviation
GDFP	Good Dairy Farming Practices
GDP	Gross Domestic Product
GMP	Good Manufacturing Practice
GOK	Government of Kenya.
GTZ	German Agency for Technical Cooperation
HH	Households
IFAD	International Fund for Agricultural Development
ILRI	International Livestock Research Institute
KARI	Kenya Agricultural Research Institute
KCC	Kenya Co-operative Creameries
KDB	Kenya Dairy Board
KEBS	Kenya Bureau of Standards
KENDAPO	Kenya National Dairy Producers Organization
KSh.	Kenya Shillings
MCC	Milk Collection Centers
MFI	Micro-Financial Institutions
MOA	Ministry of Agriculture
MOLD	Ministry of Livestock Development
NALEP	National Agriculture and Livestock Extension Programme
NGO	Non-Governmental Organization
PO	Producer Organizations
SDCP	Smallholder Dairy Commercialization Programme
SDP	Smallholder Dairy Project
SNV	Netherlands Development Organization
SPS	Sanitary and Phytosanitary standards
SRA	Strategies for Revitalizing Agriculture
VCA	Value Chain Analysis
VCD	Value Chain Development
WTO	World Trade Organization

ABSTRACT

This study assessed the firm-farmer relationships in smallholder dairy value chains in Borabu and Kiambu East districts of Kenya between July and August 2012. The objective of the study was identifying strategies for improving firm-farmer relationships by exploring the existing challenge areas. Field research used a "2 – tango framework" that is based on semi-structures interviews (SSI) and a self-assessment survey. In the survey a total of 60 farmers: 30 farmers of Borabu Farmers' Cooperative Union and 30 of Kiambaa Dairy Farmers' Cooperative Society were selected randomly. A checklist on firm-farm relations challenge areas was used to guide and record observations on each case. The key variables investigated included production challenges, functioning of farmers' groups, markets and prices, quality standards and record keeping and benefits of contract trading. In addition, Focus Group Discussions with farmers and firms in both cases were done to obtain deeper insight into reasons behind scores for (dis)agreements. SSI were also conducted targeting key stakeholders like Kenya Dairy Board, District Livestock Production Officer, District Cooperatives Officer and development agencies like SNV and FOPA representatives with a purpose of getting more information and triangulation.

The findings of this study show that the farmers and firms in both cases were generally positive (overall average scores of 57.3% and 63.3% for BFCU and KDFCS) on their respective business relations. However it was noted that in both cases production challenge, contracts and prices got negative overall scores. Farmers and firms agreed positively on quality standards and benefits of contract trading.

Generally the two cases showed that there is limited mutual understanding and appreciation of risks borne by each actor. Firms do not have support for farmers towards improving productivity. Quality standards are met by farmers screening milk at collection points but the state of Good Agricultural Practices is still unsatisfactory. There is the use of contracts in both cases but lack of feasible enforcing mechanism was the reason why perception were that they are not binding.

It is first concluded that the '2-Tango' tool proved to be instrumental in facilitating dialogue between the firms and farmers. Being a self-assessing tool it can be used by actors themselves to assess the state of their business relations. A pre-requisite is that the partners must be willing to improve their business relations.

Secondly, information asymmetry due to poor interactions or lack of a dialogue platform contributed significantly to the weak areas of the relationship (production, contracts and prices). Recommendations are therefore centred on strengthening chain relations on VCA logic through dialogue by developing contract enforcement mechanisms, provision of financial and business support, chain coordination using continual communication and developing partnership on a shared vision and action plan. Farmers and firms can periodically use the "2 to tango" tool to elicit dialogue for continual strengthening of their business relations.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The agricultural sector in Kenya contributes 24% to Gross Domestic Product (GDP) out of which half is from livestock sub sector (MOLD-a, 2010). The sector also contributes another 27% to GDP indirectly through linkages with processing industry. The livestock sub sector employs over 50% of the agricultural labour force and supports feed manufacturing, veterinary, farm equipment, value adding industry such as processing meat, milk and leather (MoA, 2011).

Kenya's dairy sub-sector is dominated by smallholder farmers who account for over 80% of milk marketed through both formal and informal channels. It is the most developed subsector in Kenya's agricultural sector and accounts for 3.8 % GDP. Kenya's Dairy Master plan (MOLD-a, 2010) indicates there are about 1.6 million small scale farmers and approximately 2000 medium to large scale farms located mainly in the Central highlands and Rift Valley province.

Strategies of transforming smallholder dairy production into viable and profitable commercial ventures have been a priority of both the government and its development partners. Government policy documents such as SRA (2004-2014) and Vision 2030 indeed emphasize strategies for transformation of agriculture. Kenya's Vision 2030 acknowledges that: "Considering that the current economic growth of 6.1% has come primarily through rapid utilization of existing capacity, rather than efficiency gains or new investments, achieving the 10% growth will require a dedicated campaign to alleviate existing constraints to future growth, and in particular to use our resources more efficiently". Specific strategies for this achievement will target increasing productivity of livestock and improving market access for small holders (MOLD, 2007).

1.2 Problem description

Kenya's annual milk production of cow milk is estimated at 5.2 billion kg (FAO, 2011a). Presently only 65% of produced milk is marketed with about 50% being channelled through informal channels. 80% of the processed milk is sold as fresh milk and 20% as value added dairy products (MOLD-a, 2010).

Major milk processors in Kenya have about 50% of their installed capacity underutilized (MOLD-b, 2010). They take milk on contractual arrangements with farmers, but responsible business practices, contract enforcement mechanism and dispute resolution mechanisms in the sector are wanting. Farmers and their organizations violate contract terms frequently by being insufficiently prepared to be trustworthy suppliers of milk of sufficient quantity and quality (Schrader, 2012). They are often said to be diverting milk deliveries elsewhere (side-selling or extra-contractual marketing) due to attractive prices offered by cash fluid informal milk traders. On the other hand firms (processors) keep on fluctuating prices and/ or delay payments to farmers. This situation is aggravated by intense competition for milk supplies from informal traders, seasonal supply fluctuations (FAO, 2011) and governance and leadership challenges in the producer organizations. Stereotype mutual perceptions, misunderstanding and mistrust based on, and often fuelled by, disappointing experiences are common (Schrader, 2012). Such relationships are likely to deter smallholder farmers' access to market as well as limit processors to operate below their capacity if the two partners do not understand each other well.

Based on this background, this study will aim at assessing the existing shortcomings in farmer-firm relationship in Borabu and Kiambu districts in Kenya from which recommendations was developed towards improving smallholder dairy producers' access to market.

Problem Owner: Milk Processors and farmers.

1.3 Justification of the study

Schrader (2012) explains that in order for the farmers and firm to do business there need be mutual understanding and minimum level of trust in each other. Without this there is no transaction or the transaction risks and costs are (too) high and vice versa. This in turn will make the value chain less competitive in the regional and international markets as well as less inclusive of the smallholder dairy producers. The writer further posits that firms and farmers need to understand functions, interests, risks and perceptions of each other.

Currently, the Government of Kenya is committed to transform the informal milk marketing system to formal processing systems, an objective in the Dairy Master Plan 2010 and vision 2030, as a strategy to meeting the growing urban demand and while creating jobs, incomes and public revenue (MOLD-b, 2010). The target action is to shift more milk to market and a larger proportion through formal market outlets. Legislation is in the offing to ensure only pasteurised milk is sold in Kenya. Efficient, integrated and responsive market institutions are important in linking producers to market. Without links of producers to markets, increments in output, increased rural incomes and improved livelihoods cannot be sustained.

The value chain concept has, in the last decade, been appreciated as avenues of fostering agricultural development and linking farmers to markets (Webber, 2008). In value chains there exists competition since all actors pursue their own interest but they do need each other to successfully operate in markets (Schrader, 2012). A value chain, therefore, is a specific type of supply chain where the actors know each other well and form stable long-term relationships to increase their efficiency and competitiveness (FAO, 2011a).

1.4 Research Objective:

To assess the state of smallholder firm – farmer relations in Kenya's dairy chains so as to identify strategies of improving these relations.

1.5 Research questions:

To address the research objective, two main research questions are formulated. Equally a set of sub questions are formulated to address the main questions.

1.5.1 Research Question 1:

What are the present features of the dairy value chains in Kiambu and Borabu districts?

1. What are the dairy farming systems in the target district?
2. Who are the dairy value chain actors/operators, supporters and facilitators?
3. What are the current marketing practices and outlets?
4. What are the volumes and prices of products traded in the value chains?
5. What challenges do smallholder farmers and processors face?

1.5.2 Research Question 2:

What is the status of business relations between smallholder farmers and firms in the dairy value chains?

1. Which market institutions are present in the dairy value chains?
2. What is the functioning of producer organisation on agri-business partnership?
3. Which risks do the firms and farmers bear in the value chain?
4. Which chain development strategies can be appropriate for improving the firm-farm relations?

1.6 Significance of the study:

This study is expected to trigger dialogue between farmers and processors on how to improve their supplier-buyer business relations. In addition, it will also give suggestions on strategies that will serve as a guide for value chain facilitating agencies to develop dairy value chains in other regions.
The study will also put into test the 'two to tango tool' for self-assessment of business relations among actors.

1.7 Definition of terms

The following terms was used in the study and their operational definitions given.

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.
Chain relation	Relationship between two or more chain actors.
Contract	The actual bilateral agreement between the buyer and seller of a commodity or transaction as defined by specified terms and conditions.
Firm	Companies engaged in business transactions within the agricultural supply chains.
Formal milk marketing	The channel through which farmers deliver milk directly to the milk processing plant or to a milk collection centre (MCC) or traders who buy the milk from farmer and sell to processor.
Informal milk marketing	Direct delivery of raw milk by the farmer to consumers or through traders or vendors /hawkers before reaching the consumer
Linkage	A business relationship between two parties 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 (Staal et al., 2008).
Producer organization	An 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.
Small holder farmers	Farmers with less than 1.5ha land that depend substantially in the production of dairy in an intensive or semi extensive system for their livelihood
Trust	A social capital formed between two parties enabling a more efficient linkage through the reduction of transaction costs
Value chain development	A multiple and participatory process that leads to coordinated interventions by chain stakeholders towards satisfying consumer needs.

1.8 Organization of the Proposal

Chapter Two contains a description of concepts used in the study, an overview of Kenya's Dairy Value Chain and the theories on strengthening business relations and building market institutions. Chapter Three describes the methodology used to answer the research questions, and justification for the choice of each technique and the research limitations and challenges. Chapter Four describes case studies undertaken during the research and the results of self-assessment and interpretations done by the farmers and their respective processors. The next section, Chapter Five looks at comparisons of the case studies followed by Chapter Six that gives a brief discussion of results, conclusions and recommendations and the next section will be a list of the references which have been used in this research. In the last section are the appendices which carry information that are relevant to the study.

CHAPTER TWO: FIRM-FARM RELATIONS CONCEPTS:

2.1 Value Chain Development

A value chain is a full range of activities that are required to bring a product or service from conception to the final consumers and final disposal after use. It consists of transactions from one business to another. A value chain of a particular sector is always embedded into a market system consisting of various supporting functions and rules. Within this system different actors are engaged in business transactions with support from organizations such as BDS providers, government institutions or NGOs. Value chains are developed by developing the systems into which they are embedded. In order to conceptualize value chains it is crucial to recognize the importance of macro, market and micro level conditions that impact the value chains. Firm- farm relations can be analysed on this value chain analysis logic.

The Rural Innovative Systems and Entrepreneurship (RISE)

This scheme has been adopted from work by Ted Schrader (2012). The framework guides work on promoting farmer entrepreneurship. It integrates approaches and concepts related to value chain development (value links), institutional economics, market system development, transaction economics, rural innovation systems and others (Figure 2.1). This model was found suitable for this study because of its simplicity and because the connection between the variables can be easily seen.

Three major stakeholders are distinguished: Chain actors/operators, chain supporters and chain influencers. The players need to interact in order to have well-functioning agri-food market systems, reduce transaction risks and costs and to arrive at competitive, sustainable and inclusive value chains.

The conceptual frame work tries to see how milk marketing is influenced by pricing and bargaining power difference as a result of interdependent four elements between farmers and processors. These elements are processor-producer relationship, market access, qualities of product and chain embedded services with their sub-elements. These elements help producer farmers and processors (or their organisations) to position their product or service in appropriate market chain.

Based on results of the analysis and the literature review, conclusion and recommendations were drawn to strategies of improving business relations in the dairy value chains.

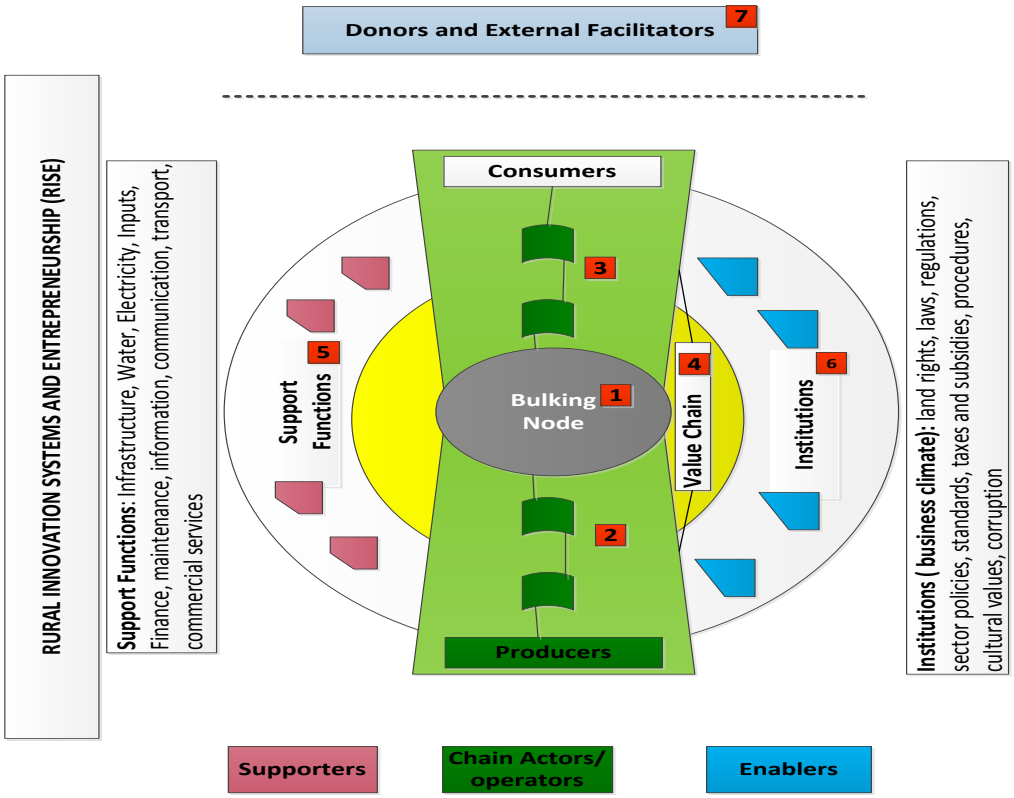

Figure 2.1: Rural Innovative Systems and Entrepreneurship (RISE) Conceptual framework, adapted from Schrader (2012).

2.2 Market Access

Chen and Rozelle (2001) argue out that participation in output and input markets is limited by low production values and high transaction and transport costs. If there is a growing demand for dairy products, transaction costs become one of the main factors determining not just participation but general market maturity of output and input markets. Transactions costs can include not just transfer and transportation costs; they are also the costs associated with searching for markets, bargaining and arranging contracts and the risks implicit in sometimes having less market information than other market agents (Staal et al., 2008).

Small scale producers generally do not have access to all factors that are needed for delivering a product that responds to market demand. They often face strong economic, social and physical disadvantages: in some areas the infrastructure is poor, while in other areas upto-date market information is not always available to everyone. Another challenge is the difficulty in accessing technical advisory services, agricultural inputs and financial services.

Private sector actors operate in a different context. Regardless of the problems faced by their suppliers, they have to respond to market requirements. Depending on the product and the market these can be either strict or more flexible. The private sector looks for reliable business partners who are able to deliver the required volumes of produce, at a good price, on schedule, and in compliance with quality standards

2.3 Value Chain Upgrading Strategies:

Value chain upgrading is synonymous with trading up which allows poor people to access viable value chains or improve their position in existing value chains (Mitchelle et al., 2009). These writers describe upgrading as a means of acquiring technological, institutional and market

capabilities that allow resource-poor rural communities to improve their competitiveness and move into higher-value activities. They come up with 7 upgrading strategies (figure 2.2) that are:

Horizontal coordination: Producers (and even processors) come together for achieving economies of scale and reduce transactional costs under set regulations and quality management.

Vertical coordination: the producers form longer-term inter-nodal relations with traders or processors like in contract farming. This strategy can result in certainty about the future but requires building of trust relations between partners for strong contractual commitment.

Functional upgrading: Producers can take up more functions like processing to add value. This is often picked up by horizontally coordinated institutions like cooperatives. Processors can also take up production functions.

Process upgrading: This involves improving value chain efficiency by increasing output volumes or reducing costs for a unit of output for example by applying good agricultural practices for improved quality.

Product upgrading: Changing the form of the product to the requirements of the market like organic, fair-trade etc.

Inter-chain upgrading: Use of skills and experience developed in one value chain to productively engage with another (usually more profitable) value chain.

Upgrading the enabling environment: Improvements to support, services and institutional, legal and policy framework, in which chains operate by development agencies.

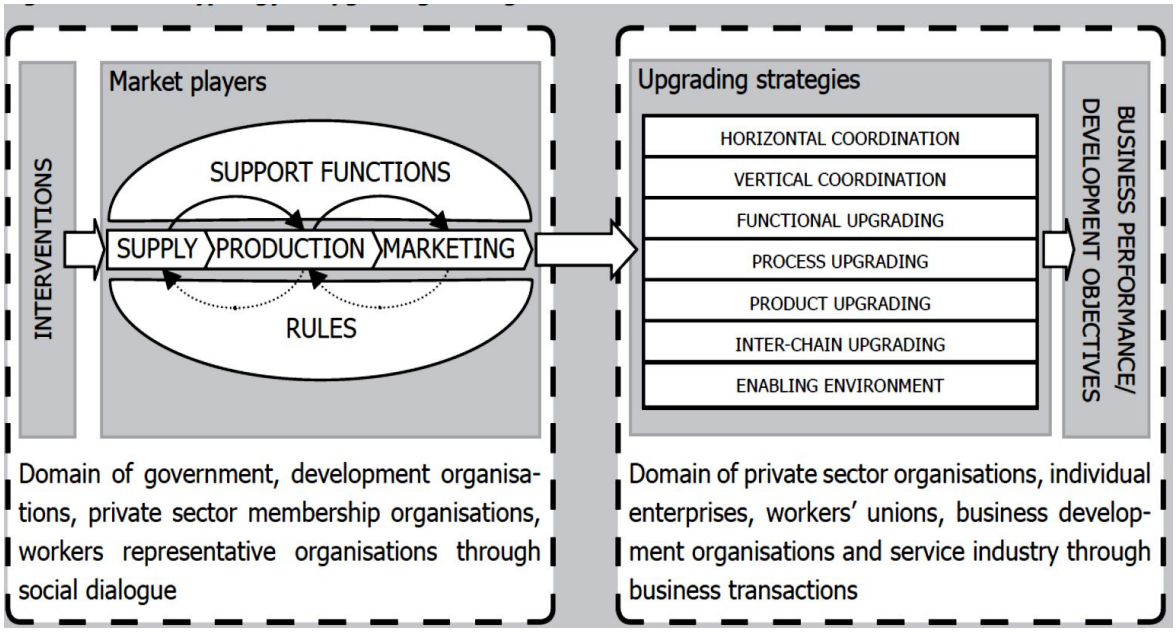

Figure 2.2: Typology of upgrading strategies (Herr and Muzira, 2009)

2.4 Competition and Coordination

Buyers and sellers in value chains are increasingly becoming interdependent despite having tension of opposing interests, which will always exist. Schrader (2012) notes that farmer suppliers want to have highest price for their product whereas sourcing firms look for the lowest possible price. The writer further alludes that both selling farmers and buying firms depend on the final consumers to buy the end product(s). These chain relations are therefore marked by both competition and coordination. Changing market conditions and consumer demands require them

to closely align their activities. In order to benefit from each others capacities, the producer and the private sector should overcome the obstacles that inhibit cooperation. A producer organisation can play a central role in enhancing this cooperation, either as a full-fledged chain actor or as an external actor that facilitates the link between chain actors. Chain actors benefit by working together to coordinate their transactions (Mangnus and Piters, 2010b) on the market.

2.5 Strengthening Chain Relations:

Farmers and processors in a chain are engaged in a chain relation. Strong chain relations are characterised by strong organizations, trust, open and frequent communication and cooperation for mutual growth (KIT and IIRR, 2008). Weak chain relations are often characterised by farmers and buyers being fragmented, mistrust, fight over prices, few permanent relatioships, delivery of poor products and services. It is common that firm-farm relations operate between these two extremes whereby they cooperate to a greater or lesser degree.

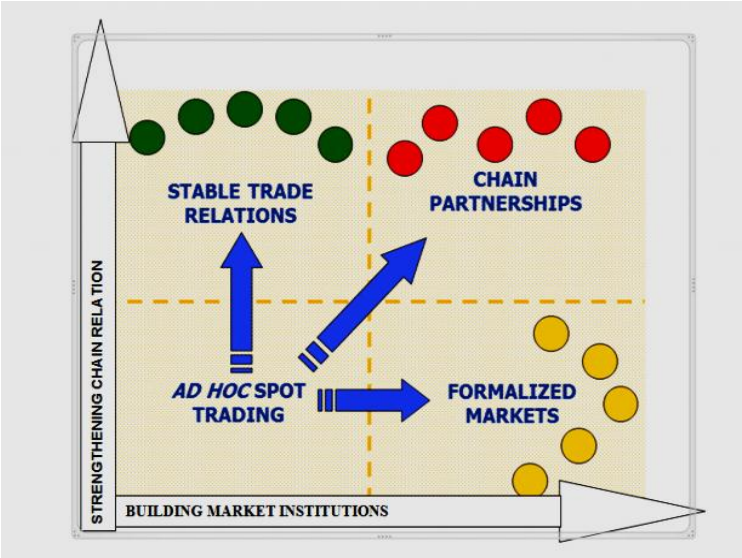

Figure 2.3. Movements in the market interactions matrix (KIT and IIRR, 2008)

Strengthening weak aspects of chain relations call for commitment of the partners towards a more stable, transparent and better organized relationship so as to reduce their transactional costs and risks as well as tackle issues of common interest. In turn the improved chain relation will benefit all stakeholders including consumers.

KIT and IIRR (2008) offer five possibilities towards strengthening chain relations. These are reproduced in Box 2.1.

BOX 2.1: Possibilities for Improved Chain Relations

1. Organize the chain actors: Farmers and traders need to organize themselves if they want to improve their businesses. As an individual most farmers and traders are too small to make a difference. But if they team up with their colleagues, they can support one another to strengthen skills and technologies, upgrade products and services, learn about consumer demands, gain access to finance, negotiate with clients, etc. Association of the chain actors in business organizations is a first necessary step to improve chain relations.

2. Create mutual understanding: The marketing chain will only function well if all actors in the chain respect the roles and needs of the other chain actors.

Farmers should understand that traders are a vital link to bring farm products to consumers, whereas traders should understand that farmers need good marketing conditions to keep on producing foodstuffs. This seems obvious, but regrettably in many situations there is a lack of respect for each other.

Farmers and traders may be so much focused on prices that they forget that they need one another. Open dialogue and exchange visits can then help to create mutual understanding.

3. Specialize on certain roles and services: Once farmer and traders recognize each other's roles in the value chain, conditions are there for both to specialize in their own businesses. By improving their products and services they strengthen the value chain to the benefit of all. Farmers can specialize in producing high-quality products in amounts and at times that the markets need. Traders can specialize in getting the best market for these products, developing new customers, and providing feedback from the market to the producer. This will generate a process of mutual growth.

4. Coordinate in the chain: As farmers and traders become specialized in their businesses, they also need effective coordination of their relationships and interactions. This will help to tailor the farm products to the demands of the consumer, and to minimize any losses, damage or inefficiencies that may occur at any stage of the value chain. Chain coordination is achieved through continual communication between the chain actors. This can be steered by the business organizations of farmers and traders, but it may also be taken care of by a chain facilitator or service provider.

5. Develop a chain partnership: When chain relations are really strong, then farmers and traders can agree upon a shared vision and a joint action plan to strengthen the value chain as a whole. They may, for example, identify and introduce new crop varieties for specific market segments, establish a chain platform for permanent dialogue, set up a certification system to ensure product quality, or jointly undertake a marketing campaign. This idea may seem far-fetched, but as this book will show there actually are several experiences in Africa where farmers and traders have joined forces in a single organization to improve the performance of their businesses.

Source: KIT and IIRR 2008

2.6 Building Market Institutions 'The rules of the game':

So as to open up opportunities for smallscale producers, Vermeulen et al. (2008) indicate that there are several market institutions that need to be analysed. These writers define these institutions as formal and informal rules and agreements by which people interact with each other to shape the way markets work. KIT and IIRR refer to the as 'rules of the game' that help shape the interactions and incentives in the market.These institutions are summarized in the illustration in figure 2.4. In Box 2.2 , a summary of how market institutions can be improved.

BOX 2.2: Improving Market Institutions:

1. **Standardize quality, weights and measures:** Quality grades and calibrated weights and measures help trade to become more efficient. They avoid the need for personal inspection, reduce handling costs (weighting and bagging), and stimulate long-distance trade. They improve business returns and client satisfaction because quality will be rewarded with higher prices.
2. **Develop contract enforcement mechanisms:** Formal or informal mechanisms to prevent and punish breach of contract are also important to make trade more efficient. When farmers and traders can trust that agreements will be respected, they will be in a much better position to buy or sell on credit, trade at long distance, make long-term agreements, invest in business growth, etc. Contract enforcement can be a public service, e.g., courts and police, but they can also be private, e.g., certification schemes.
3. **Develop market information systems:** Market information is crucial for efficient trading. Buyers and sellers need accurate information for making good decisions as to where, when, to whom, and at what price to buy or sell. Incomplete or non-transparent market information leads to what economists call "market failures". Market information systems can be a public service or private, and can involve various media, such as radio, television, internet, cell phones and SMSs.
4. **Provide financial services:** Without finance, trade cannot exist. Merchandise cannot move from farmer to consumer without somebody paying for the value of the goods while they are under way. This is called "trade finance". In addition to trade finance, chain actors need capital for investments in staff, a new truck, an irrigation system, etc., so their businesses can grow. Insurance and savings are also important. Access to financial services is vital to keep trade going and to make it grow and prosper.
5. **Provide business support services:** Besides financial services there is a series of other services that are important in supporting business and trade. Some of these are: transport, accountancy, security, research and development, utilities, road maintenance, etc. Some of these services are public, others are private. The better these services are organized, the better trade can perform.
6. **Use policy leverage:** Finally, it is important for trade and business to have some participation in decision-making over government policies. Policies influence business through taxes, permits, sector policies, trade tariffs, subsidies, etc. Often these decisions are taken without due consideration of the points of view of farmers and traders. When farmers and traders get organized to achieve policy influence, it is likely that the trading conditions will improve.

Source: KIT and IIRR 2008

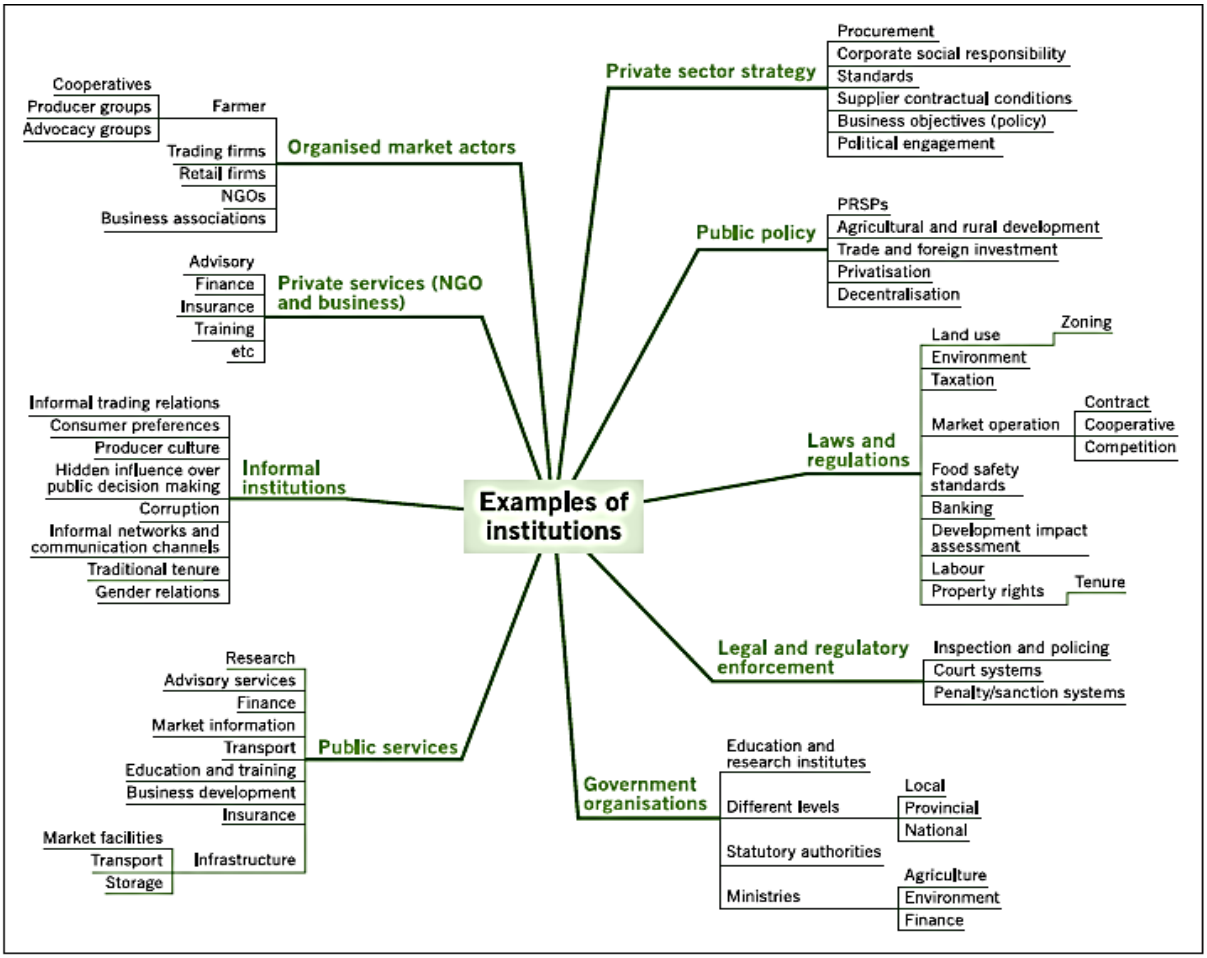

Figure 2.4: Agrifood Market institutions Source; Birner, 2006 cited in Vermeulen et al., 2008

In this study, the focus will be on institutions that influence market operations production and productivity, contracts and contractual conditions, functioning of farmer groups/cooperatives, competition, quality standards, and public services such as training and credit .

2.7 Contracts

Contractual arrangement in value chain upgrading is the vertical coordination between growers of an agricultural product and buyers or processors of that product. Shepherd (2007) describes it as a mechanism to govern transactions between farmers and traders, processors, retailers, etc. Contracts may provide production inputs, credit, and extension services to the grower in return for market obligations on such considerations as the methods of production, the quantity that must be delivered, and the quality of the product. The basis of this agreement is the commitment of contracting parties to their obligations.

Mangnus and De Steenhuijsen Piters (2010) posit that contracts are used to partnership on different levels: between a cooperative and its producers, between a cooperative and a company but also directly between a company and an individual producer. The authors add that contract is used to coordinate both parties and to enforce the parties' compliance to the terms of the agreement.

The intensity of contractual arrangements varies according to the depth and complexity of the provisions in each of the following three areas (Eaton and Shepherd, 2001).

- *Market provision:* The grower and buyer agree to terms and conditions for the future sale and purchase of a crop or livestock product;

- *Resource provision:* In conjunction with the marketing arrangements the buyer agrees to supply selected inputs, including on occasions land preparation and technical advice;
- *Management specifications:* The grower agrees to follow recommended production methods, inputs regimes, and cultivation and harvesting specifications.

Therefore, if well managed, contracts can be a means to profitably develop markets and to bring about the transfer of technical skills for both the firm and farmers and strengthen relations.

2.8 Contract farming and producer organizations:

Bijman and Wollni (2008) define producers' organisations (POs) as a formal, voluntary membership organisation set up for the economic benefit of agricultural producers (the members) by providing these producers with services that support the farming activities, such as bargaining with customers, providing inputs, providing technical assistance, providing processing and marketing services. Producer organisations may support contract farming by arranging or channelling the technical assistance needed to help producers increase product quality and uniformity.

In 2.2 it is noted that high transaction costs form major barriers to market access for smallholder farmers. Contract farming can be considered as a transaction cost minimizing arrangement in organizing the production and sales of quality food products as spot market entails high transaction costs in form of uncertainty and lack of incentives. Grouping small-scale farmers into co-operatives, farmers' organisations or business units; or putting in place contract farming and grower outreach production, can all help with this. Mangnus and De Steenhuijsen Piters (2010) argue that producer organisations can play an important role in reducing transaction costs. Firms use producer organisations to avoid doing business with a large number of farmers.

Finally, producer organisations can improve the power balance between farmers and firms, thereby strengthening the incentives for both parties to continue with bilateral contracts (Mangnus and Piters, 2010b). However, the benefits of producer organisation membership in the context of economic engagement in modern markets can be mixed. Producers' organisations need to define their market role and functions clearly if they are to provide effective support to small-scale producers engaging in modern markets.

2.9 Dairy production systems in Kenya

Smallholder dairy production systems in the Kenya highlands are marked by declining farm size, upgrading into dairy breeds and an increasing reliance on purchased feeds, both concentrates and forage (Bebe, 2002). Upgraded dairy breeds tend to be kept in stall-feeding (zero-grazing) units, cross-bred cattle in semi-zero-grazing systems and zebu cattle in free-grazing systems. Zero-grazing system though more labour intensive can increase milk production when feeding and animal management is sufficient.

Smallholders keep 1 to 3 cows on 0.2 to 3 hectares holding concentrated in the high rainfall zone highlands. They integrate dairy with crop enterprises because of easy access of manure to maximize the returns from declining farm holding and limited capital. Crop- dairy integration offers opportunity to achieve multiple livelihood objectives. Smallholders milk producers and traders handle more than 80% of all the domestic marketed milk. This milk marketing system is characterised by:

- Low compliance with safety and quality standards
- Diffuse market structure consisting of many small-scale market agents
- Artisanal processing, labour intensive handling and transport methods
- Low cost products, mostly liquid and limited in diversity
- Great diversity in market behaviour and roles

Of the total produced cow milk, 35% is consumed at farms by family (28%) and calves (7%). The rest is marketed through predominantly informal channels and formal channels (see Appendix G).

2.10 Dairy Value Chain:

Kenya's dairy value chain is characterised by divergent interests of different key players in and around the industry (Springfieldcentre, 2002). Divergence is between those who want cold-chain pasteurised milk system and those who seek improvement of 'warm-chain' raw milk system that accounts for 50% of all marketed milk (MOLD-a, 2010). Figure 2.6 shows the current milk value chain in Kenya.

2.10.1 Value Chain Stakeholders: Actors, Supporters and Influencers

Key Chain Actors (and functions)

a). **Input suppliers (input supply)**: They supply of heifers, artificial insemination (AI) services, feeds, drugs, equipment. Most of the agricultural inputs are accessed from private service providers and stores that are located at urban centres close to farmers. However, most of the inputs are said to be of high costs lowering their utilization by smallholders. Organized producer organizations have taken up this function to cushion the effects of high costs by utilizing the economies of scale to avail the inputs at relatively lower costs.

b). Dairy farmers /Producers (production): Smallholder dairy farmers dominate the industry at the production level. There are about 1.8 million smallholder dairy farmers contributing more than 80 % of gross marketed production from farms (MOLD-a, 2010). In general, smallholders each have 0.5ha to 8 ha of land – although some have slightly more than 20 acres (8 ha) and others less than 0.5 acre (0.2 ha) – and about 1 to 4 head of cattle yielding about 5 -10kg of milk per cow per day. Milk sales are low, at less than 10 kg per day. The use of inputs is low, but varies depending on community traditions and the level of market orientation. There are about 2,000 medium-large scale producers country wide.

c). Cooperatives (collection, Bulking and cooling): Collect bulk and sell milk to processors and sometimes to traders or directly to consumers. Sometimes they also process. Bulking is carried out by about 350 farmer cooperatives/organizations. There are over 70 cooling plant though many are not operational (KDB, 2011).

d). Traders and Retailers (collection, Bulking, retailing); Buy milk from farmers and supply to consumers. Retailers include milk bars, kiosks / shops and supermarkets. Retailing involves selling of raw or processed milk and milk products to consumers. This is normally carried out by supermarkets, milk shops, milk bars and mobile traders.

e). Processors (**Processing and packaging):** Process and add value to milk by transformation of warm or cooled raw milk into pasteurized milk or dairy products before selling to consumers through supermarkets and shops. There are about 34 licensed milk processors, two of which process more than 60% of the total processed milk. The largest four processors combined process more than 80% of the total (KDB, 2011). Other licensed mini dairies, cottage industries and cooling plants.

f). Transporters (Transport and distribution): Transportation of milk between each step of the chain. According to KDB, Annual report, 2011, this is carried out by over 5000 informal and formal traders including producers, cooperatives and processors.

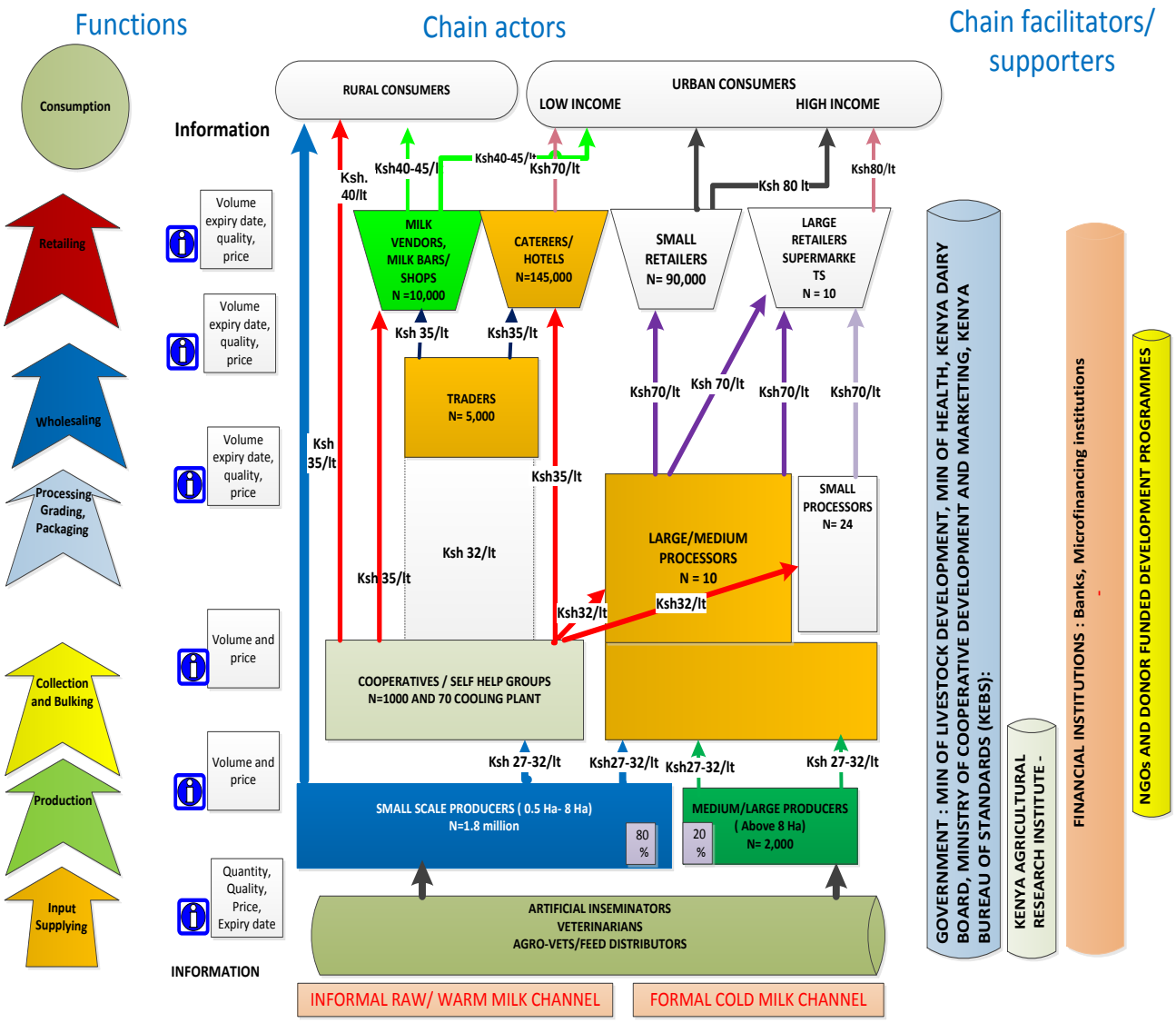

Figure 2.5: Kenya's Milk value chain Source: Springfield (2002) updated by author.

From the chain map (figure 2.5) it can be seen that sales by smallholder producers sell their milk to all actors, both in formal and informal channels. Often, no binding agreements are existing between producers and buyers resulting in insecure relationships. Trading agreements are normally done between producer organizations and buyers though some processors have direct supply contracts with individual producers.

g). Consumers: End users of the milk and milk products. They are segmented in rural and urban consumers as well as low and high income earners. Consumers are major actors and have an important influence on how other players perform. Despite an aggressive regulatory regime that discourages the raw milk trade, consumer demand results in only about 20% of marketed milk being processed.

Milk customers in Kenya's local market are varied. They include individual customers in the rural areas, who are not themselves producers or are from milk deficit areas. Others are individuals in the rural and urban trading centres or towns who mainly are businessmen and wage earners with regular income. Other customers are institutions found both in rural and urban centres mostly schools, hospitals, prisons and hotels.

According to a report written to East African Dairy Development Programme (EADDP), consumer behaviour is influenced by drivers that are more to do with perception and consumer awareness and less with price, making raw milk more attractive than the processed milk to a large number of consumers (Technoserve, 2008). This report mentions these drivers as:

- Most milk is consumed immediately, usually mixed with tea, so most Kenyans buy milk in small quantities when needed. Most do not have a need for storing milk, and most do not have refrigerators.
- A number of consumer studies show taste preference for raw milk, perceived as creamier and richer.
- Consumers believe that boiling makes raw milk safe for consumption, reducing the willingness to pay a premium for pasteurized milk

Chain Supporters and influencers:

The following table indicates the major stakeholders that support or have an influence on milk value chains in Kenya.

Table 2.3: Kenya's chain supporters and influencers

Supporter/ Influencer	Roles
The Government	The ministry of livestock development is responsible for policy formulation and implementation; facilitate production, research and delivery of extension services through the departments of livestock production (DLP) and the department of veterinary services (DVS), while the ministry of cooperatives is responsible for the management of dairy cooperatives.
Kenya Dairy Board	Responsible for regulating the dairy sub sector though licensing, inspection, and certification. It also ensures quality control of milk and dairy products from production to marketing by training actors on milk handling practices and promotional activities.
Research Institutions- KARI and ILRI	KARI collaborates with the above chain supporters in ensuring that milk and dairy products are free from veterinary drugs, residues and disease causing organisms. KARI is also the government agency on research and development aspects of forages.
Universities and mid- level Agricultural Colleges	Train manpower in areas related to animal husbandry and health, feeds and milk processing
Kenya Bureau of Standards- KEBS	Providing standardization and conformity assessment services that consistently meet the customer's requirements, including product certification.
Ministry of Health	To is enforced through food safety standards and regulations as in Public health Act (CAP 242) and the Dairy Industry Act (CAP 336)
Financial Institutions (K-REP, EQUITY BANK, Cooperatives, Micro-financial Organizations)	Provision of savings and credit facilities for chain actors Capacity building clients on financial management.
Donor Organizations and NGOs and Church-Based Organizations - FAO, DFID, IFAD,SNVLand O'Lake, Heifer Project International, Techno-Serve, Agriterra, Agri-profocus,	They support various projects along the chain in collaboration with the government and service providers. Trains mainly farmer organizations on technical and organizational development issue as well as marketing.

Kenya National Dairy Producers Organization (KENDAPO)	A national dairy producer's organization serving as a strong voice for dairy farmers towards improving their bargaining power processors and feeds manufacturers and negotiate for the mutual benefit of all parties.

2.10.2 Information and cash flow

Vorst (2001) posits that it is important to recognize the key information system issues to chain management for efficient flow of physical products, information and money for a transparent and successful value chains. Products flow from input suppliers to consumers while money flows from consumer to input suppliers but information flows in both directions.

Communication and information sharing is a vital chain coordination mechanism that also contributes to reduction of transaction costs leading to greater chain operational efficiencies (Kotabe et al., 2003). A study by Coronado et al. (2010) concluded that sustainable business relations are founded on well-established information exchange along and within the value chain.

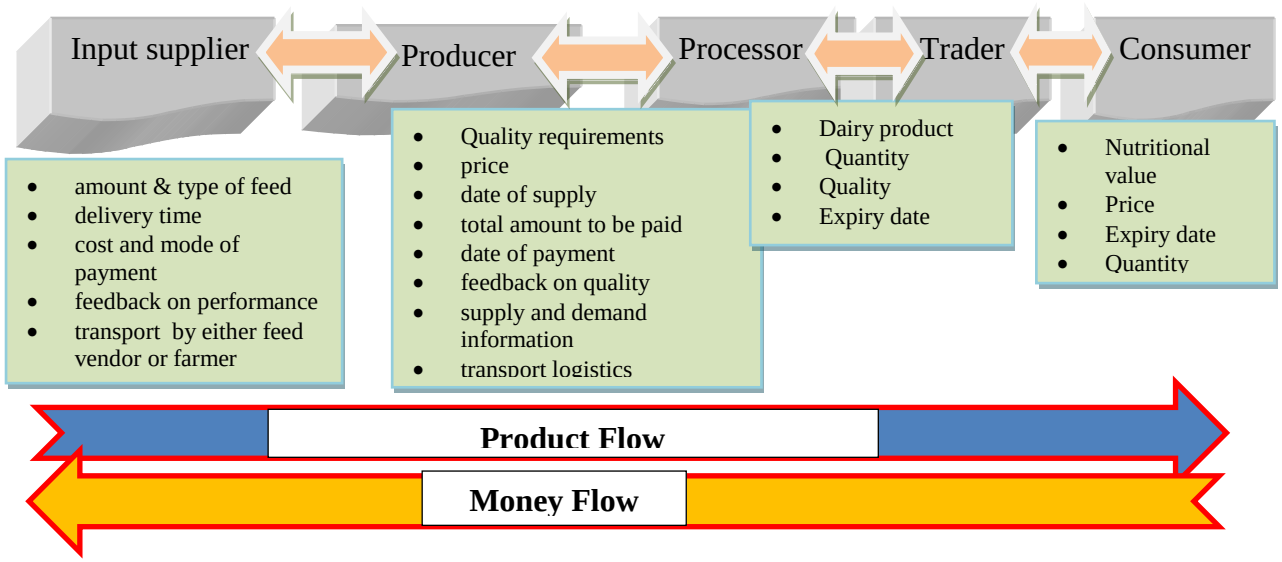

Figure 2.6: Information, product and money flow in Kenya's formal milk chain.

2.10.3 Cost structure for farm level milk production:

Table 2.1 illustrates the cost structure at farm level for producing a litre of milk. These figures differ from season to season and from farm to farm due to various factors like availability and affordability of inputs, type of feeds used, the farming system and the farm gate prices offered by buyers which fluctuate based on market situations. Based on the data collected during the study, the most important component of costs is feed (68% share revenue). The high cost is due over-reliance of purchased concentrates and minerals with purchased Napier and hay. In the study areas, Borabu and Kiambu districts, the popular farming systems are zero-grazing and semi-zero grazing.

	Breeding	Feeding	Water	Health care	Other labour	Housing	Margin	Total
Share of revenue %	2	68	5	5	7	3	10	100
Kshs/ Litre	0.5	20.5	1.5	1.5	2	1	3	30

Table 2.1 Farm level milk production costs
(Source; modified by the author from IFC dairy sector value chain study, 2006).

2.10.3 Fresh milk cost structure of the Kenya Dairy Value Chain

The overall cost structure of Kenya's value chain (figure 2.8) is based on the average milk price estimates collected during the study.

	Production	Transport	Bulking and Cooling	Transport	Processing and Packaging	Distribution	Retailing	Total
Share of revenue (%)	35	5%	3%	5%	34%	6%	12%	100
Formal Chain(Kshs/lt)	28	4	2	4	27	5	10	80
Share of revenue (%)	75%	10%	0%	0%	0%	5%	10%	100
Informal Chain (Kshs/lt)	30	4	0	0	0	2	4	40

Figure 2.7 Value share distribution in the Kenyan Dairy Value Chain
(Source: Modified by the author from IFC Dairy Sector Value Chain study, 2006)

Producers have the biggest share of raw milk (74% in formal chain and 75% in informal chain. Processors take up to 52% of formal revenue share as transport takes a significant 10%.

2.11 Quality Standards:

Luning and Marcelis (2009) posit that consumers are currently putting more demands on the assurance of quality and safety of the food products and their production process. As a result establishment of milk quality control system that regulates the measure of potentially harmful extrinsic materials such as chemical residues, toxins, pathogenic microorganisms and putrefied tissues, is necessitated (Noordhuizen and Metz, 2005).

There are different concepts for quality control namely : good manufacturing practice (GMP), international standardization organization (ISO) systems, hazard analysis critical control points (HACCP) and total quality management (TQM) (Evans and Lindsay, 1999). The Good Agricultural Practices (GAP) and Good Manufacturing Practice (GMP) codes are guidelines aimed at assuring minimum acceptable standards and conditions for production processing and storage of food products (Luning and Marcelis, 2009). On the other hand ISO certification relates to quality management systems that include management of resources, products and service delivery. Analysis of this system creates room for improvement.

Dairy quality management in Kenya is enforced through practices like Good Manufacturing Practices, Good Veterinary Practices, Good Dairy Farming Practices and conformity to set standards. KEBS is mandated in:

- Standards Development
- Product Certification (Issuance of the Diamond Mark of Quality)
- Quality System Certification (ISO 9001:2000,ISO 14001)
- Hazard Analysis & Critical Control Points (HACCP codex principles 1997) system certification
- Consumer protection through handling of consumer complaints
- Assistance with implementation of standards (Quality Assurance)
- Quality Inspection of Imports at the ports of entry

Owing to the large amount of milk that is marketed unprocessed and the weak monitoring of markets, there are concerns about public health risks from diseases and drug residues. Rural

milk bars are normally not licensed or checked for health and sanitation checks. Part of the milk in the informal channels is often evening milk or rejected milk from processors.

Milk product safety is controlled through the existing food safety standards and regulations contained in two main laws – the Dairy Industry Act (CAP 336) and the Public Health Act (CAP 242) – neither of which is very effective.
The risk of diseases such as brucellosis and tuberculosis (TB) is high. Drug residues are also of concern, even in the processed milk channel. An SDP study found the bacteriological quality of informally traded milk to be low, with variable prevalence levels of brucellosis and zoonosis TB.

There are more than 20 standards for milk and dairy products in Kenya and efforts are being made to harmonize standards across the East Africa region. The whole milk standard has been replaced by the raw cows' milk standard (figure 2.4).

COMESA	
Standard	*Bacteria count (CFU/ml)*
Class I	< 200,000
Class II	200,000 – 1 million
Class III	1 million – 2 million

Table 2.2: Harmonised standard somatic cell counts- COMESA

CHAPTER THREE: RESEARCH METHODOLOGY

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

3.1 Study Areas

The sample used in the study was drawn from two districts, Borabu District of Nyamira County and Kiambu East District of Kiambu County in Kenya. The two areas are vibrant with smallholder dairy farming production and marketing.

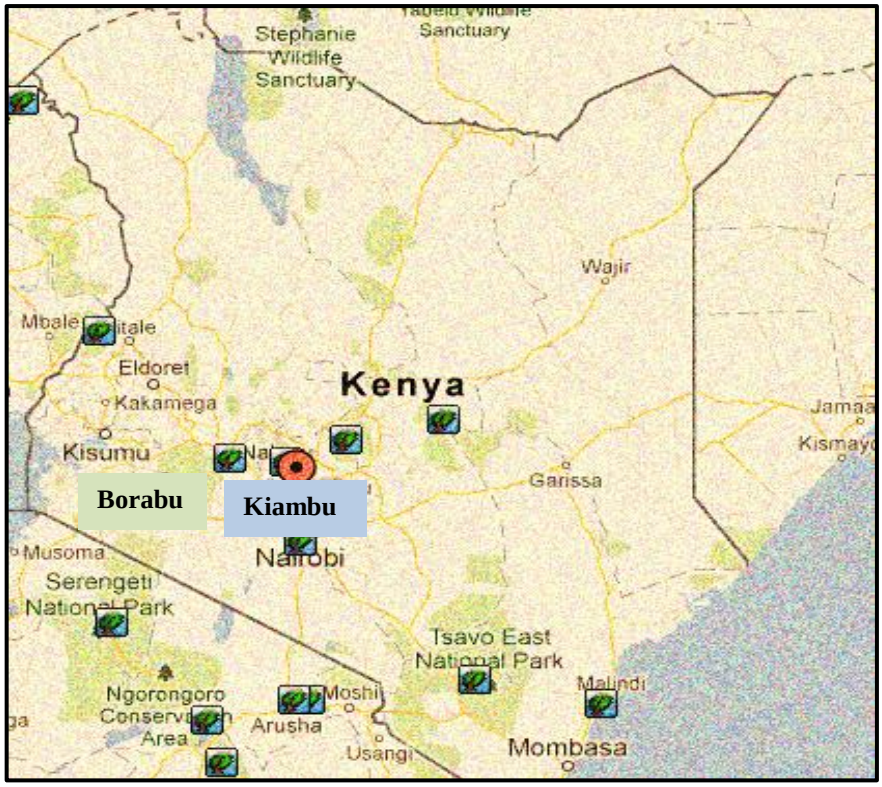

Figure 3.1: Map of Kenya showing study areas (Borabu and Kiambu)

3.1.1 Borabu district:

Borabu District is found in Nyamira County in Kenya. It covers an area of 248 km^2 and has a total population of 73,426, an average population density of 296 persons per km^2 and an average farm size of 2.15 hectares It also has an estimated 17,151 households with 11,616 farm holdings (KNBS, 2009).

In this district, the major dairy processor, New KCC Sotik, has a capacity of handling 80,000 litres per day but is currently receiving an average of only 9,000 litres per day. The processor's KCC Sotik intake in 2011 was 10,238,396 (DLPO-Sotik, 2011). Borabu district is one of the districts from which the supply to the factory is made. The District Livestock Production office annual report, 2011 show that Borabu district produced total of about 17,655,705 kgs of milk. Out of this production, about 736,995.3kgs was sold to the processors at an average price of 24.80 Kshs/Kg. Dairy industry was the leading and acted as the highest income earner accounting for over 80.0% of the total income (DLPO-Borabu, 2011). Formal marketing in the district is done through individual farmer as well as organised groups supplying milk processors.

The area is mainly a rural setting where smallholder dairy farming comprises 85% of all farm holdings and is highly regarded as an important source of farm income. Borabu provides an opportunity to investigate relationship of farms and Sotik New KCC plant, one of the largest operational units of New KCC. I worked in this region as a Livestock Extension Officer from year 2001 to 2007 thus the experience and networks established will provide me with a good base for conducting the study.

3.1.2 Kiambu district

Kiambu East district is found in Kiambu County. It borders Githunguri district to the North, Kasarani district to the East, Westland district to the South and Limuru district to the West. The district has a population of 253,751 persons in 75342 households and a population density of 1342 persons per square kilometre (KNBS, 2009).

The district is more of a sub-urban setting and supplies milk to parts of Nairobi. The district has two cooperatives (Kiambaa and Ndumberi) involved in dairy marketing (DLPO-Kiambu, 2011). I will focus my study on Kiambaa Dairy Cooperative Society (a producer organisation), its members and Eldoville Farm Dairies (a high- end processor).

3.2 Research Strategy

Data was collected through a desk study and a case study containing two cases (one in each of the two study area) to gain in-depth information regarding the farm-firm relations with the incorporation of a survey to capture perceptions of farmers and processors on their relations. In the case study, interviews were conducted targeting representatives of farmers and processors as well as key informants for triangulation purposes. During the survey a set of similar statements was used to collect and harness views of farmers and firms on their business relations. This was backed up by interviews conducted on other key stakeholders and focus group discussions (debriefing sessions).

3.3 Desk study:

A literature study was undertaken in order to acquire insights into the:
- Value chain development.
- Kenyan dairy sector.
- Producer organizations and market access.
- Firm- farmer relation.
- Value chain upgrading strategies
- Strengthening chain relations and building market institutions.

The information gathered was necessary to lay the foundation of the research and in the understanding of concepts and best practices related to farm- farm relationships in dairy chains. Sources of the information were journals and publications, literature books, the internet, cooperatives reports and reports from the livestock offices in the research areas

3.4 Field study:

The Borabu District Livestock Production Officer and District Cooperatives Development and Marketing officer were instrumental in linking the researcher with the producer organisations. Having a working experience in the study area proved to be of great value to the researcher in terms of cooperation from the respondents.

The research used the “It takes two to tango framework”; 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. The choice of this tool has been guided by the nature of the data to be collected, time available and the objectives of the study. It helps to harness views of farmers and firms on their business relation, based on the same set of statements.

Field data collection involved conducting interviews and administration of a questionnaire. The semi-structured interviews made further probing through a natural conversation possible. A checklist was used to ensure all information would be collected (appendix D). The purpose of these preliminary interviews was to have a grip on issues that are prevalent in this firm-farmer business case. Business case questionnaires were used in this exercise too (Benthrum, 2012, July) (appendix E). Table 3.1 shows the partition of the interview respondents.

Study area	Type of respondent	Number	Gender		Remarks
			Male	Female	
Borabu	Farmer	3	2	1	1 board member
	Processor (New KCC Ltd)	3	2	1	
	Key Informant	4	4	0	
Kiambu	Farmer	3	2	1	1 board member
	Processor (Eldoville Farm)	2	1	1	
	Key Informants	3	3	0	

Table 3.1 Interview sample portioning.

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.

The interview findings were then categorised into six challenge areas. These areas were: Production, Functioning of farmers' organization, Markets and prices, Contracts, Quality standards and record keeping and Benefits of dairy business. Statements for self-assessment, reflecting indicators informing about firm-farm relations, were then developed based on these challenge areas into a questionnaire (see appendix F). The statements were developed in such a way that both the farmers and the firm were able to score their perceptions on the relations between the two parties. Each challenge area has 9 statements that were formulated in the positive sense in active tense, done in English and then translated into Kiswahili to ease the understanding of the farmers.

The statements were scored on a 4 Likert-style rating scale that sought to assess if the respondent agreed or disagreed with the statement. 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". An even number of possibilities was given in order to make sure the respondent clearly indicated his/her positive or negative position in accordance with the statement (Saunders et al., 2007).

Figure 3.2: Administering the questionnaire with New KCC Sotik staff.

The questionnaires were prepared by the researcher and then given to his colleagues at the work station for a critical eye. The tool '2 to tango' was first explained to the officers 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 Swahili.

3.5 Sample selection and size

The sample for the survey consisted of 30 farmers selected for each of the Borabu Farmers' Cooperative Union in Borabu district and Kiambaa Dairy Farmers' Cooperative Society in Kiambu districts. The firms' sample was 7 and 6 for New KCC and Eldoville farm respectively (Table 3.2).

Identification of the respondents was done with the plant manager. Filling of the farmers' questionnaires was done by the researcher and an assistant from the Livestock office in order to capture the target sample within the available time. The assistant was taken through a briefing and then accompanied the researcher in first five respondents to have a common understanding with the researcher. Afterwards the assistant independently administered 12 questionnaires independently. The facilitators' role was to check if the respondents understood the statement and then fill in the answer accordingly. Explanation was given to those that needed clarification concerning the statements. Doing it together was intended to make the information gathered to be improved quality and reliability.

Study area	**Type of respondent**	**Number**	**Gender**		**Remarks**
			Male	Female	
Borabu	Farmer	30	18	12	14 board member
	Processor (New KCC Ltd)	7	6	1	
Kiambu	Farmer	30	13	17	4 board member
	Processor (Eldoville Farm)	6	4	2	

Table 3.2 Survey respondents sample

3.6 Data processing and analysis

The data collected from the respondents was then processed and analysed with the use of Microsoft Office Excel workbook pre-designed to calculate the averages, minimum and maximum scores as well as the standard deviation. The results were then plotted on 0-100 scale to come up with percentages enabling analysis and interpretation of results. These analysis results were thereafter presented in the form of tables and graphs. Two types of graphs are presented: scores and graphs showing level of (dis)agreement between firm and farmers. 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.

CHAPTER FOUR: BORABU FCU AND KIAMBAA DFCS BUSINESS CASES

This chapter describes business cases developed after case studies undertaken during the research and the results of self-assessment survey and focus group discussions for Borabu Farmers' Cooperative Union and Kiambaa Dairy Farmers' Cooperative Society.

4.1 Borabu Farmers' Cooperative Union (BFCU) - Sotik New KCC Case

BFCU was registered in 1982 as a secondary level marketing cooperative. Its aim of establishment was to provide production and marketing support services to affiliate member based organizations. These services include milk marketing, centralized book keeping and administration of senior staff, financial services and trainings. The union was formed by 8 affiliate cooperative societies namely Menyenya, Matutu, Isoge, Mwongori, Manga, Raitigo, Ekerubo and Kineni.

In 1989 the BFCU encountered management challenges as a result of liberalization of the cooperative sector. The situation was made worse with the collapse of KCC. As a result the affiliate societies also experienced a drop in membership and business volumes as members stopped deliveries through the union. In 2007, the union was revitalized but only 4 affiliate societies are currently actively delivering milk through the union. These are Menyenya, Matutu, Manga and Mwongori. Its current active membership is 399 (298M, 101F).

In the year 2008, the union entered into partnership with New KCC Sotik factory whereby the union premises are to serve as a milk bulking site for the processor. New KCC installed a 5,000 litre capacity chilling tank at this site (Figure 4.1). The processor's employee is at the site to receive collections from the union's affiliate cooperatives and individuals suppliers. With this in place the union's role has been reduced to receiving payment cheques for the affiliate cooperatives for disbursement with no deduction of commission for her services.

Figure 4.1: The Borabu New KCC Milk Collection Centre and its 5,000 litres milk chilling tank

4.1.1 Dairy Production in Borabu District.

Borabu Farmers' Cooperative Union (BFCU) members keep dairy cows which are mainly Fresians, Ayrshires and their crosses. The average yield per day is 7.5 Kg and 1.5 Kg for dairy breed and zebus respectively (DLPO-Borabu, 2011). This report indicates that the average

number of production days is 250 and 150 for dairy cows and zebus respectively. This report further shows that the milk production trends in Borabu district are on the rise due to increase in demand from urban centres and improved prices (see table 4.1). In 2011, BFCU supplied New KCC with 736,995.3 Kg at an average price of Kshs.24.80. At the beginning of 2012, there was a dry spell which registered a decrease in deliveries to processors. Brookside adjusted its prices to Kshs. 40 to attract deliveries. Many societies abandoned New KCC to Brookside dairies. In response New KCC adjusted its price to Kshs.30 for less than 500 kg delivery and Kshs. 31 for 501-1,000 kg. Currently the union is delivering an average of 1,000kg daily at Kshs. 31.

Dairy farming is integrated with other crops in the mixed farming system in most farms. The district livestock production officer reports that land scarcity has forced smallholder farmers to venture into intensive and semi-intensive systems whereby cows are permanently or partially stall fed (DLPO-Borabu, 2011). Feed shortage during the dry spell poses greatest challenge for dairy farmers resulting in decreased yields and thus low volume supply to the buyers.

Table 4.1: Estimated Milk production in the District (2011)

Livestock Species	**Population**	**Mature**	**No. in milk (Wet cows)**	**Average production/day**	**Kg/year**
Dairy cattle	19,435	9717	6,316	7.5	17,290,050
Zebu cattle	3,650	1645	658	1.5	360,255
Source: DLPO-Borabu (2012)					

Breeding is mainly done using natural mating. However there is a trend of more and more farmers going for A.I. services which are availed by BFCU and 9 other private service providers in the district. The cost of insemination is perceived by farmers to be unaffordable making some of them to opt for use of bulls (natural mating). During the interview sessions a farmer was quoted as:

> "*Artificial Insemination is beneficial in our livestock improvement. However, the cost of the service at times is unaffordable. Some farmers do not have cash at hand to pay for the service leaving them with options of using local bulls*"

BFCU has established a scheme to serve the affiliate farmers in collaboration with FOPA. The project facilitated the training of two inseminators and purchase of the A.I. kit and seed semen.

The status of Good Dairy Farming Practices at farms is unsatisfactory with gaps in housing, feeding and hygiene. Observations during interviews found that most housing units do not have concrete floors thus becoming unhygienic. Interviews with the District Veterinary Office showed that Mastitis and East Coast Fever as the most common disease cases in Borabu district. The study also showed that feeds are insufficient both in quantity and quality.

Farmers in Borabu district have the following key challenges in dairy production (DLPO-Borabu, 2011) :

- Low production breeds
- Inadequate feed both in quantity and quality
- Unstable milk prices
- High costs of commercial feeds.

4.1.2 New KCC Ltd

The business process of New KCC encompasses receiving of raw milk from farmers, processing it into various milk products and marketing and selling the products for the benefit of the company shareholders.

The product range is made up of a wide range of premium products such as fresh milk, cheese, long life milk both flavoured and unflavoured, fermented milk both flavoured and unflavoured, yoghurt, ghee and powdered milk both whole and skimmed variants.
New KCC products are of made to meet the international standards as its consumer targets are both local and international especially in the regional COMESA market.

4.1.3: Borabu Milk Supply Chain.

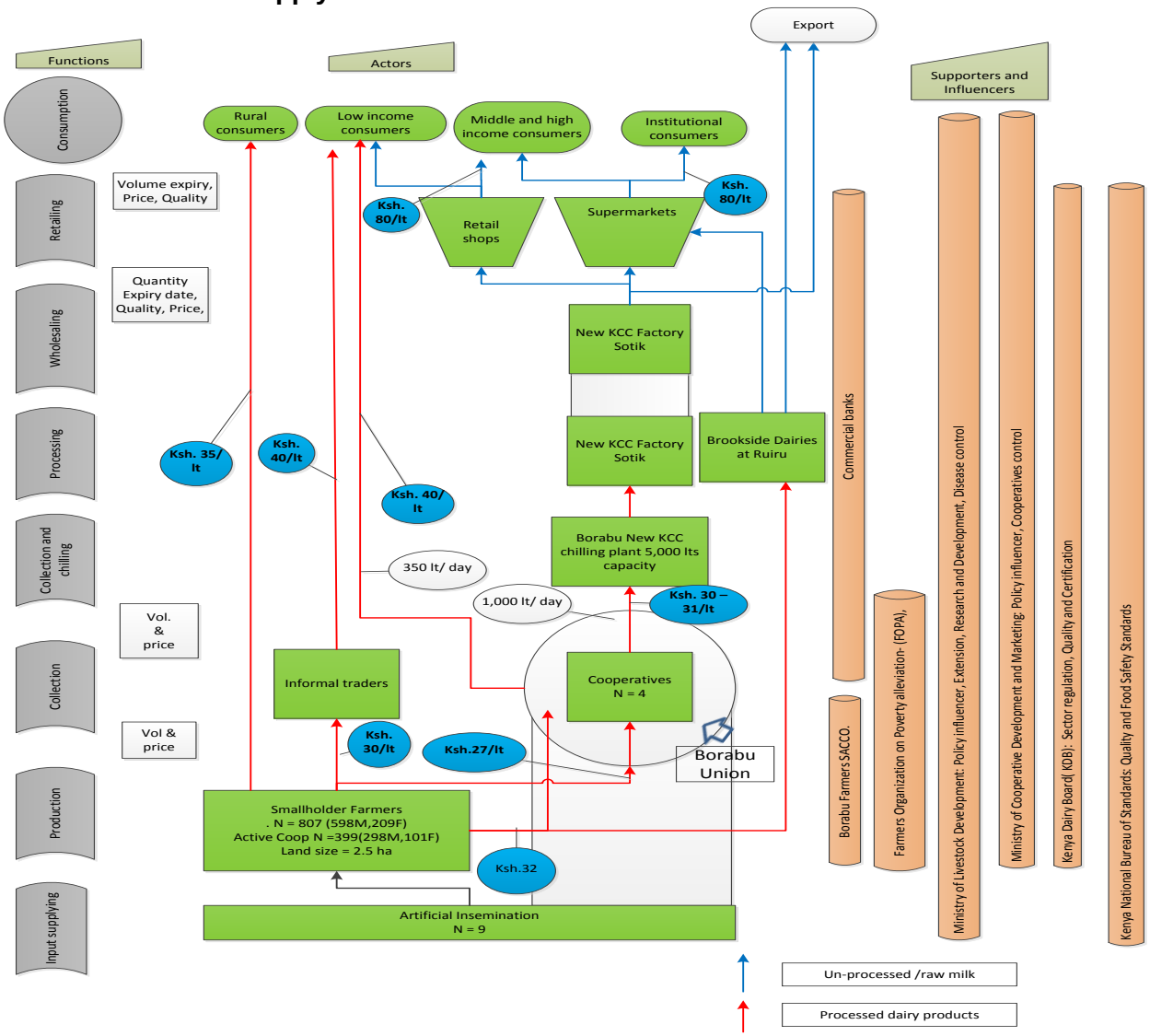

Figure 4.2: Milk supply chain in Borabu District

4.1.4 Functioning of the Farmer group

BFCU management is made up of 3 delegates drawn from each affiliate society. All the board members are themselves producers. The cooperatives also have challenges to do with leadership, transparency and accountability. "*Large transactional costs incurred by the cooperatives are not commensurate with embedded services that members get",* lamented a member. This in turn makes the market segment unattractive to the supplier farmers.

The union's affiliate cooperatives draw their membership from smallholder farmers distributed in Borabu district. The functioning of these organizations is highly influenced by the challenges that face their membership like limited or no financial resources to upgrade production. The union and

its affiliate members access loans from Borabu Farmers' SACCO, which it repays from the proceeds of milk sales.

The processor indicates that organised producer organization provides opportunities to attract better prices with higher volume bands as they bulk their milk together. Farmers get an opportunity to transfer transport risks to the processor. The plant manager alludes that it is also beneficial to the factory as it can be a base of getting more supplies from farmer who are far from the factory.

Figure 4.3: Borabu SACCO Society

However, a staff in the factory saw an opportunity for other competitors.

"*Groups with own chilling tanks can decide to fall prey to competitors who compromise official in order to secure bulked supplies especially during low season".* This indicates how valuable organized groups can be in access to markets.

On services to members the BFCU manager said:

"The union play a role in linking farmers with service providers like the ministry of livestock development and FOPA. Now FOPA has already assisted us in trainings on value addition especially yoghurt making and procurement of cup sealers to boost our incomes in the local sales. It has also facilitated the union in training of inseminators and procurement of A.I. kit".

4.1.5 Firm – farmer Agreement/ Contracts

BFCU signs a contract with New KCC on monthly basis for the supply of raw milk. The contract is signed by the union executive committee members and the processor and is purported to be before a witness who is currently not indicated to be involved. The monthly contract is meant to absorb the effects of fluctuating milk prices as stated by the production supervisor during the interview.

The buyer pays agreed price is based on banded volume. This is meant to encourage farmers to bulk their milk as a group to attract higher price and also lower firm's transaction costs. However, one farmer was critical of this in his statement;

> *"The company agreed to pay bonus for the higher volumes but the farmer does not benefit. Individual farmers supplying directly to the processor are getting better prices than us in the cooperative….."*

Another farmer said:

> *"Our milk has to be of the defined quality for it to be accepted. But I am not aware of what step can be taken if the processor delays our payments".*

4.1.6 Market and Prices

In the region New KCC competes with Brookside Dairies for milk supplyand fluid and cash based traders. Farmers often rely on cash flow from these informal traders even though the amount is not sufficient enough for investing in production. Nevertheless a farmer in Borabu was quick to note that:

"Although New KCC offers lower prices, I stick with it because of the guaranteed market. The milk traders are good during the dry spell but when there is a flush they abandon us. Some even run away with farmers' money"

Prices for raw milk keep on fluctuating with seasons. A local newspaper nation reported farmers face price cuts after the onset of rainy seasons that liberated the dairy sector from a biting shortage in the supply of feeds occasioned by drought during the beginning of the year (Wokabi, 2012). During the dry spell consumer prices of milk in supermarkets and other outlets as processors compete for the constrained supply by offering higher prices. However, a farmer from one of the societies was happy with the way New KCC has maintained a stable price; "*In the past one year, New KCC has been offering a stable price of milk regardless of the shortage or glut of milk. The price has been improved from Ksh. 23 to Ksh 30 a litre".*

4.1.7 Quality standards and record keeping

The quality parameters of the raw milk are always specified in the contract. The contract has a clause that outlines that raw milk shall be graded at New KCC and only milk that meets the quality specifications is accepted as one standard grade. Raw milk that is not meeting the standards is rejected on the spot at collection points (first screening is done by the cooperatives).

Farmers indicated awareness of quality standards requirements. However some farmers felt that the firm is stricter on quality standards during the flush period and flexible during the dry spell when supply is constrained.

The firm used to have field officer who made follow up to assist farmers improve on productivity and quality standards. The production supervisor stated that
"It is the quality control officer's duty to ensure farmers get technical assistance to meet the required standards but his workload is heavy. He cannot make follow-ups to the farms to investigate the cause of non-compliance. There is need to have the office of field service officer in order to meet the obligation".
The union manager concurs by saying
"The company gave a promise that it will provide extension services to farmer but has so far failed to honour the promise."

The union chairman was categorical that there are challenges with auditing of cooperatives in arrears. There is a shortage of staff to handle record keeping at affiliate cooperatives.

4.1.8 Costs/ benefits of the business relations:

It was a general observation that farmers and the processor have a healthy relationship. The manager of the processing firm had this to say;

"Borabu farmers union is the only society that has stood with us. They have consistently been supplying us with milk all year round. It has proven to be reliable and we would invest more into maintaining this relationship".

Farmers on the other hand saw the firm as part of their own.

"*Unlike other processors, New KCC Sotik is close to us. It has been buying from us at all times. Others do come to us when there is a general shortage in milk production and they disappear or withdraw their trucks in times of glut. Of late the prices paid New KCC have been stable and competitive"* said a farmer during the preliminary interviews.

4.2: Kiambaa DFCS-Eldoville Farm Case:

4.2.1 Kiambaa Dairy Farmers Cooperative Society (KDFCS)

Kiambaa Dairy Farmers Cooperative Society (herein referred to as KDFCS) was established in 1963 for collecting and selling milk. Presently it has 1221 (877F and 334M) active members although the total membership is 4094. During peak and low seasons the society collects an average of 14,000 litres/ day and 11,500 litres / day respectively. KDFCS and its members own the following steps in the chain: input procurement for its farmer members, breeding, feeding, milking, grading & collection/ bulking, chilling, and transportation to processors/ hotels/ their retail outlets are owned by the farmers through Kiambaa Dairies. The cooperative board takes charge of grading and bulking on behalf of members.

Since it owns these steps, KDFCS also bears the risks of pest & diseases, side-selling risk, timeliness, volume risk, quality risk, financial risk, storage risk, transport risk, marketing risk, reputational risk.

To its members the company offers extension services by using its Field officer and collaborating with other providers like SNV and the Ministry of Livestock Development. It also provides Artificial Insemination services, input supply (mostly on credit) and credit to members to support their dairy enterprises and school fees.

Direct customers of the farmer organization are processing companies like Eldoville, Brookside, Happy cow, and BIO and Institutional consumers (Hotels), and the rest of the sales go directly to consumers.

4.2.2 Eldoville Farm- The Firm

Eldoville Farm Ltd was established in 1985 as a small family business by Mrs Lucy Karuga at Karen neighbourhood 15km from Nairobi city centre. The family had a manual cream separator that was used to prepare cream for big Hotels such as Hotel Intercontinental in Nairobi. They started with their own stock of one dairy cow yielding 20 litres per day, and supplied 6 litres of cream per week. Seeing how lucrative the business promised to be, the family invested into expanding their zero-grazing unit and raised a herd of 20 cows. This opened the way into processing yoghurt for their niche market (hospitality institutions). Because of big demand of their quality products, the firm started sourcing quality milk from other suppliers, like dairy cooperatives.

The firm now has modern machinery and trained staff on milk processing specializing in yoghurt and cheese making locally and in France. The company has expanded to supply the supermarket chains with its products. It specializes in producing 13 flavours of yoghurt, two types of cream (whipping and double) and a variety of cheese (Brie, camembert, port-salut, feta, Cheddar, Mozarella, Paneer, Cream and cottage cheese). The firm has Quality standards certification from Kenya Dairy Board, KEBS, HACCP and ISO 22000:2005 (SGS). Eldoville produces mainly for the local market and partly exports.

"*Quality is what we regard highly to enable sustain our much esteemed relations with our buyers. Our products end up in highly classified hotels and export destinations in Kigali, Rwanda. This necessitates us to source from highly screened suppliers. We are happy with Kiambaa that though they do not meet our contractual volumes, we have never had reject based on quality. They are also reliable in timeliness on deliveries",* said the company's production manager

Eldoville has 15 plant employees and 5 working in sales/marketing. Its current capacity is to handle 10,000 litres per day but has an intake of 5,000 litres of raw milk per day. It sources mainly from two cooperatives; Kikuyu Dairy Farmers' Cooperative Society for 2,000- 3,000lts/day and Kiambaa Dairy Cooperative Society for 1,500-2000 lts/day. Its own production intake is 60-100lts/day.

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Eldoville produces 200kg of cheese, 800-1200 liters of yoghurt and 500kg of cream on a daily basis.

4.2.3 Dairy Production and Marketing

KDFS members keep dairy cows which are mainly Friesians, Ayrshires and their crosses. The average yield per day is 10 Kg (DLPO-Kiambu, 2011). This report further shows that the milk production trends in Kiambu district are on the rise due to increase in demand from urban centres and improved prices. In 2011, KDFS union reports to have had an intake of 4,824,363 litres of which it supplied processors with only 1,249,344.5 litres (about 26%). The rest was mainly sold locally or through its outlets in Nairobi.

Smallholder dairy of zero-grazing is widely practiced with average herd size of 1-3 animals. The average land holding is 1 acre (0.5 ha) which is diminishing due to high human population growth. Main breeds kept include Friesians, Ayrshires, Guernsey, Jerseys or their crosses, with average milk production/cow being 10 kg/cow/day. Common roughages used include Napier grass, road side cut-and-carry grass and crop residues (DLPO-Kiambu, 2011).

Kiencha et al. (2011) in their study on marketing strategy development and business planning for company growth had findings indicating that quality and reliability is valued in most market segments that KDFS supply. This report shows that the segments vary in their profitability (see figure 1a and 1b below). However, this organization still values the less profitable segment of processor because of its role in periods of flush. Excess milk during this period can be delivered to these processors reducing the total risk of the society.

Table 4.3: Milk Intake and Sales Kiambaa Dairy Farmers' Cooperative Society 2011

	Total Intake (Litres)	**Sale to Processors (Litres)**	**Local sales (Litres)**	**Wastage (Litres)**	**Pay Rate (Ksh/ Lt.)**
2011	4824363	1249344.5	3550885.5	24133	

Source: Kiambaa Dairy Farmers' Cooperative Society 2012

Table 4.4: Financial Data

Year	**2009**	**2010**	**2011**
Turnover (Ksh.)	147953098	155951418	161853013
Operational cost (Ksh)	131228625	134096005	140148159
Overhead cost (Ksh.)	15746040	20518219	23742169
Profit / loss (Ksh).	978433	1337194	-2037315.00

Source: Kiambaa Dairy Farmers' Cooperative Society 2012

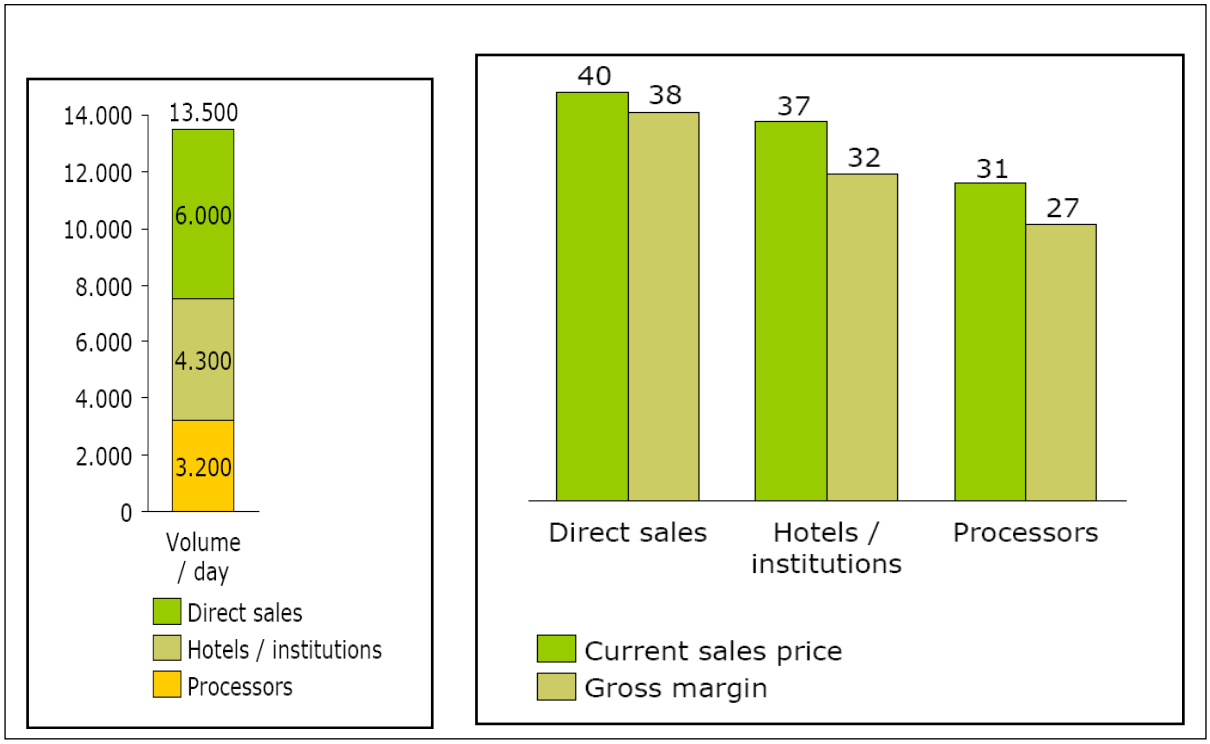

Figure 4.4: Average daily sales and market segments contribution to prices
Source: Adopted from Kiencha et al. (2011).

A.I services in the district are offered by private individuals and KFCS and Ndumberi FCS which offer it jointly (DLPO, 2011). In addition, the farmers get trainings on breeding by the societies' extension staff.

During the interview sessions a farmer was quoted as:

> "*Although Artificial Insemination is expensive and requires patience we can nowadays get our cows served on credit courtesy of our society. Sometimes there are repeats but we have no option as our land sizes cannot allow us to keep bulls."*

Good Dairy Farming Practices at farms are unsatisfactory with gaps in housing, feeding and hygiene. Being in the peri-urban setup of Nairobi city, land pressure is so huge that most households possess about ½ acres of land. This has so far compelled farmers to practice intensive zero-grazing whereby they depend on stall feeding animals with feeds grown on the parcels or bought from the neighbours. Feeding was thus found to be insufficient both in quantity and quality.

One farmer explained, *"Feeding is one of the challenges we have to face in this area. Leave alone the expensive commercial feed; we do sometimes look for 'sara' (Napier grass) from sellers away in order to breach the gaps in our farms. The situation is worse during the dry spells…"*

The Kiambu District Livestock Production annual report (2011) shows that dairy farmers in the district have the following key challenges in dairy production:

- High cost of inputs
- Low production of cows
- Low milk price paid by the dairy cooperatives @ Kshs 28/kg-Ksh29/kg (0.27- 0.28 Euro)
- Poor Management practices – housing, nutrition, diseases.
- Mismanagement of dairy cooperatives.

(Source: district livestock office report, 2011)

4.2.4 Milk Supply Chain

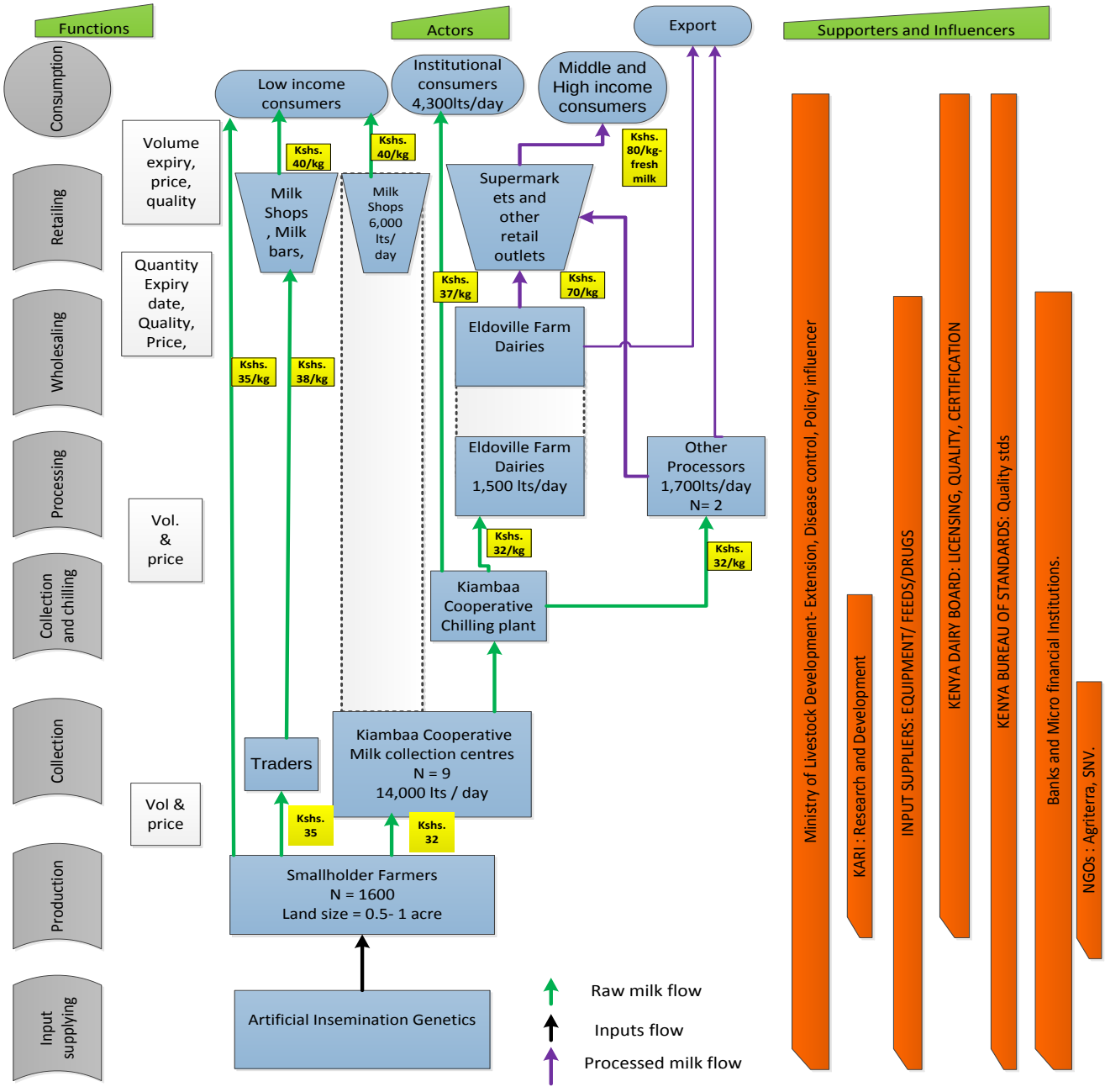

Figure 4.5: Kiambu milk supply chain stakeholders *Source: Author*

4.2.6: Functioning of Kiambaa Farmers' Cooperative Society

Producer organizations (POs) are recognized as key actors in agricultural development (WDR, 2008). The report argues that POs are a major of institutional reconstruction, one that uses collective action to strengthen the position of smallholders in the markets for farm inputs and outputs. They achieve this by reducing transaction costs, strengthen bargaining power and giving smallholders a voice in the policy process, thus becoming the fundamental building blocks of agriculture for development agenda (Bijman, 2008).

Most of the Kiambaa Dairy Cooperative Society's membership is comprised of smallholder farmers (majority of who are women, 57%) with average land sizes of ½ acres. They practice intensive production systems whereby cows are confined and stall-fed in zero-grazing units. Kiambu district lies in the peri-urban setup of Nairobi city. Each farm holding has an average stocking rate of 2 cows yielding averagely 10litre/ day at peak season.

KDFS has its Annual General Meeting (AGM) as the supreme authority. Immediately under the AGM is the Management Committee that is comprised of board members with representation from its 9 route centres and a manager. All board members are themselves producers. Under the management are the technical, marketing and financial departments headed by them quality controller, operations supervisor and the accountant respectively. In addition, it also provides other services to members and non-members like inputs supply, extension services, credit and A.I. services. There is continuous training of employees and farmers on good agricultural practices and hygienic milk handling as quality has been appreciated as a driver to sustained commercial relations.

Figure 4.6: One of the MCC with a store for Kiambaa at Karuri

The processor indicates that organised producer organization provides opportunities to attract better prices with higher volume bands as they bulk their milk together. The plant manager alludes that it is also beneficial to the factory as it can be a base of getting more supplies from farmer who are far from the factory.

4.2.7 Firm – farmer Agreement/ Contracts

The relationship of KDFCS with Eldoville Farm is drawn up in a contract. KDFS signs a contract with Eldoville on annual basis but is usually updated on quarterly basis because of price fluctuations. The contract is to supply the processor with milk of specified quality at agreed price. Details of the contract can be seen in appendix H. The contract is signed by the society executive committee members and the processor.

Most contracts do not specify in details the rights and obligations (including the penalties for the breach of contract by either sides) between the producers and the buyers (Baumann, 2000, Singh, 2002). This makes the contract to be susceptible for manipulation by either of the parties.

Most of the interviewed farmers agree that the contract was binding for them as a group, since they have to meet the laid down quality requirements for their milk to be accepted by the society. However, they are less conversant with what contract details exist between the society and its buyers. The manager and the board members of the society are responsible for discussing and signing business contracts with respective buyers. There seems to be no clear way in the contract for the farmers to deal with the buyer in case the latter terminates the contract prematurely. The contract with Eldoville Farm is always done in English language and ordinary members are ignorant of its details.

4.2.8 Markets and Prices:

A farmer in Kiambaa said:

"The informal traders give us cash daily and sometimes their prices are better than what we get from the society because the society deducts some money for its operations. However, we are happy for the valuable services like inputs, A.I and credit for school fees and developing our farms."

A board member interviewed was quoted as saying:

"Although we are involved in discussing the contract, we always find ourselves as price takers, for the buyer always has a say in fixing prices, our suggestions are always ignored".

Deliveries of milk from cooperatives' collection centres to the buyer are done at a cost of farmers. Transport risks are therefore owned by the farmers.

It is notable that the board members are reluctant to supply Eldoville with higher volumes because of the relatively lower price the firm is offering (Ksh.32) as compared to other buyers (Ksh.35-40).

4.2.9 Quality standards and record keeping

The contract specifies quality standard that have to be met by suppliers. KDFCS screens milk at collection centre and Eldoville re-screens upon delivery. Raw milk that is not meeting the standards is rejected on the spot at the firm's reception. Milk rejections at MCCs are accompanied with advice / support by the society's field extension officers.

The contract has a clause that outlines that raw milk shall be tested at Eldoville Dairies and milk that meets the above specifications shall be accepted as one standard grade.

KDFS has taken strides in achieving quality milk supply by instituting internal control measures that include establishment of a strong quality department with complaints registration and handling. The department also monitors quality milk production and deliveries at farm levels. Personnel as well as farmers are periodically trained on hygienic handling of milk.

Being a small processor, Eldoville Farm currently has no extension services. Its main concern is to receive and buy supplies that meet their quality requirements. This was stressed by a member of its top management who said:

"We are with no obligation of providing embedded services to our suppliers. Our business is centred on getting supplies meeting our contractual volume and quality specification at the right time. However, milk quality is of paramount importance for us to remain leaders in processing of quality products like cheese and yoghurt".

4.2.10 Costs/ benefits of the business relations:

KDFS members had a general feeling that the business relation with Eldoville was healthy as it guaranteed them a market outlet for a portion of their daily intake.

The company was positive in the relationship for the society supplies the required quality of milk at the stipulated time.

"*We are happy with KDFS for since we started business we have had no rejections of their milk and the delivery is always in time. We yearn to strengthen our business with them as we expand on our Niche market of cheese and yoghurt production"*

However, despite the fact that dairy provides families with reliable steady income, the high costs of inputs dilute its profitability. Dairy is thus practiced along other enterprises in the farms (mixed farming).

Farmers also associated their accomplishments to being members of the society. One farmer quoted saying;

"This society has helped me in schooling my children. My son was able to attend and finish his school from 2 litres of milk I used to sell through the society. I got school fees credit and the recovered it from my supplies"

CHAPTER 5: SELF-ASSESSMENT SURVEY RESULTS

This chapter looks into the results of self–assessment survey based on perceptions by farmers and the firms on their relationship challenge areas.

5.1 Borabu- New KCC results

30 farmers (12M, 18 F) and 7 firm's staff (6M, 1F) were involved in this exercise. The mean age of the farmer-respondents is 52.3 years indicating that majority are fulltime farmers and elderly.

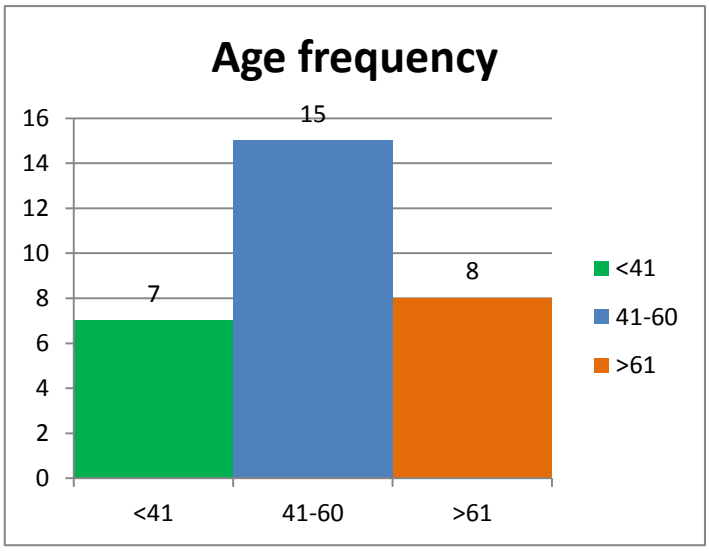

Figure 5.1.1: Distribution of age of respondents

5.1.1 Self-assessment on Business Relations '2 to tango'

This part provides information about the self-assessment of the challenge areas that affect the business relations between Borabu Union farmers and New KCC limited.

Overall results

Graph 0a gives an overview of the overall assessment of all challenge areas indicated in Table 2.0 below.

Generally the overall score shows that the farmers and the firm are positive on their perceptions on the state of current relationship with an average overall score at 57.3%. The two actors scored positively in 3 out of 6 challenge areas. They both scored low on challenge area 1 (production challenges) and challenge area 4 (contracts).

Table 5.1.0: Challenge Areas	
1	Production Challenges
2	Functioning of Farmers' group
3	Markets and Prices
4	Contracts
5	Quality standards and record keeping
6	Costs/ benefits of contractual arrangements

The overall average score is 57.3%. The highest score was 70.4% given by the firm on challenge area 5 (quality standards and record keeping) indicating a positive perception on this market institution.

It is remarkable that the parties are more positive on functioning of farmers group, quality standards and benefits of the arrangements. However, they were significantly negative on the production (challenge area 1) and on contracts (challenge area 4). On markets and prices the company is more positive than are the farmers a situation seen in challenge area 6 (costs/ benefits of the relationship).

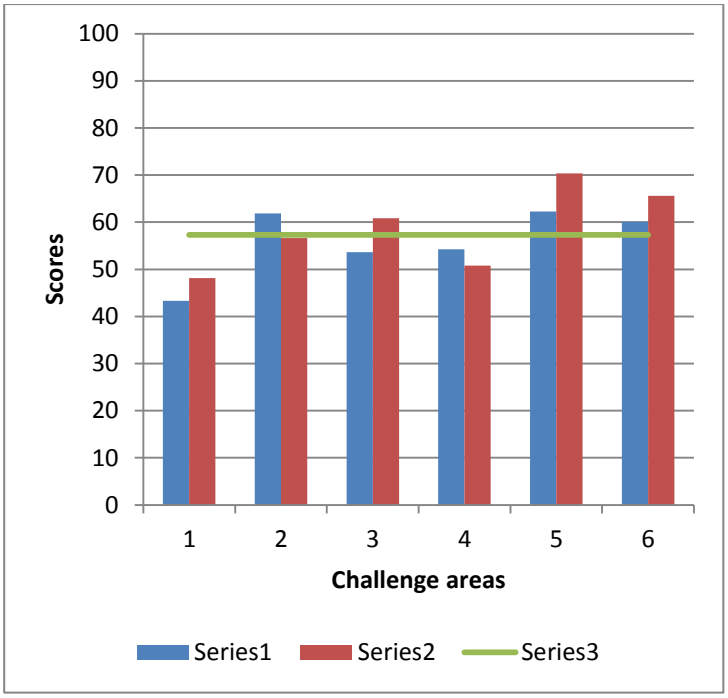

Figure 5.1.2 Overall score for Borabu case

At first sight, there is disagreements in all areas but to a lesser extent in areas 1 (production) and area 4 (contracts).

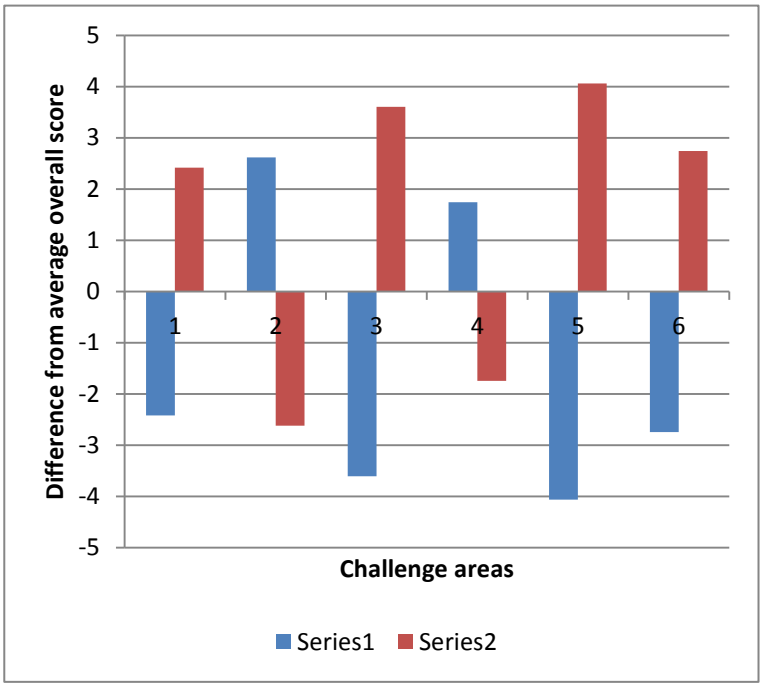

Figure 5.1.3: Overall level of agreement- Borabu

Challenge area "Production challenge"

As seen in Graph 1a, the scores by both the actors in this challenge area are way below the overall average score with farmers scoring an average of 43.3% while the company is at 48.1%. The lowest score is seen on statement 1.9 indicating that the costs of inputs (feed and drugs) pose the greatest challenge on production (challenge area 1). The other weak area is in provision of extension services by the company (statement 1.8). Both parties concur that the extension services are not operational.

Table 5.1.1 Statements challenge area "Production Challenge"	
1.1	Farmers have sufficient artificial insemination services available
1.2	Farmers have easy access to credit for farming
1.3	Farmers have sufficient feeds (concentrates) available.
1.4	Farmers can get the different types of recommended concentrates
1.5	Farmers' yields are increasing.
1.6	The company provides quick feedback to farmers' questions related to production
1.7	The company has provided farmers sufficient know-how on milk production
1.8	The Company's extension services are operational
1.9	Prices for inputs (feeds and drugs) are affordable

In this area it clearly comes out that the farmers are negative about statement 1.3 (Farmers have sufficient feeds), 1.8 (The company's extension services are operational) and 1.9 (Prices for inputs are affordable). Unlike farmers, the company is more positive on statement 1.3.
The company and farmers gave the lowest score for statement 1.9.

Figure 5.1.4: Borabu production area scores

It can be observed that there is much more agreement between the parties in statements 2, 6, 8 and 9.

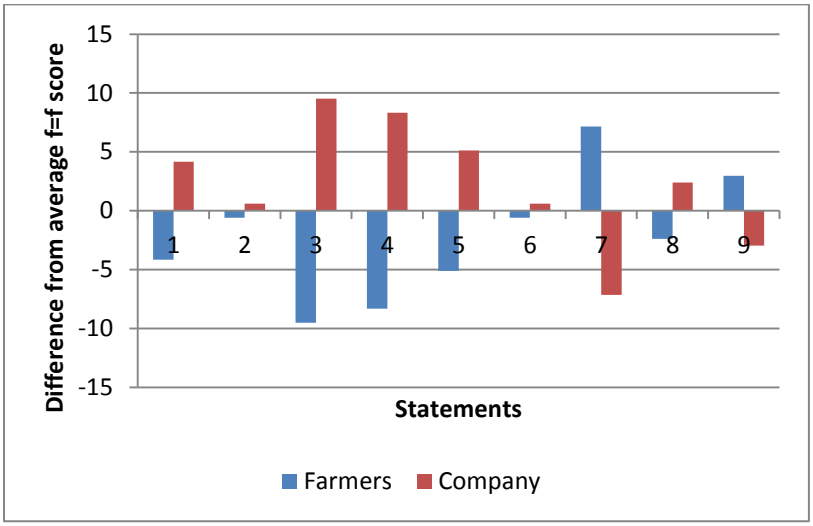

Figure 5.1.5: Level of agreement on production area- Borabu

Challenge area "Functioning of Farmers' Organization"

Table 5.1.2: Statements challenge area "Functioning of Farmers' Group"	
2.1	We agree with the way New KCC selects farmer groups for contracting.
2.2	We agree that farmers sell the milk through the group, and not as individual farmers
2.3	The constitution and by-laws cater for internal and external issues of dairy farmer groups
2.4	Elected farmer group leaders adhere to the tasks and responsibilities defined in the constitution and by-laws
2.5	Farmer group meetings are regular and effective
2.6	All members are informed and understand group financial issues
2.7	New KCC is happy with the way the farmer group is operating
2.8	The farmer group leaders always represent the common interest of the farmers
2.9	The farmer group always assists members get other services to develop their farming

The farmers and the firm are more positive on the functioning of farmers' organization with an average score at 59.2%. The company scored highest in statements 7 (New KCC is happy with the way the farmer group is operating). It is clear that the firm and farmers are less positive about collective milk marketing (2.2). Interestingly farmers were more positive on 2.3 (use of group constitution) and 2.6 (all members are informed and understand group financial issues)

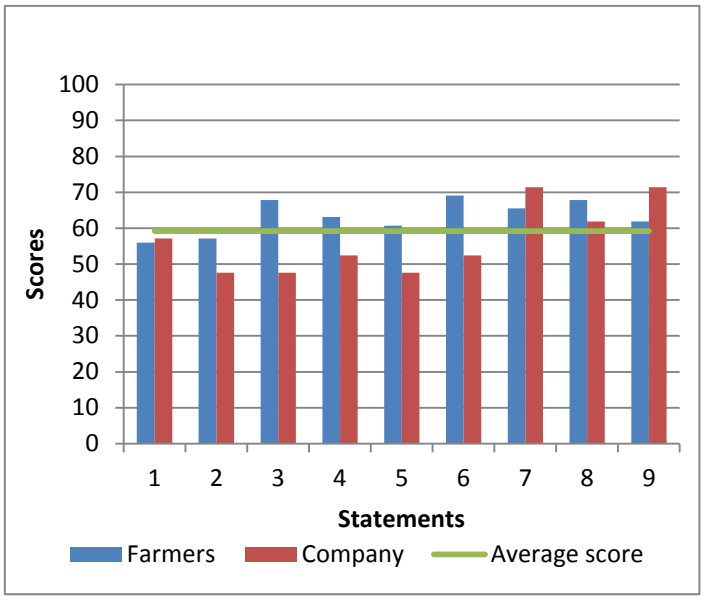

Figure 5.1.6: Scores on functioning of farmers' group- Borabu

At first sight there seems more agreements on 2.1 (We agree with the way New KCC selects farmer groups for contracting) and 2.7 (New KCC is happy with the way the farmer group is operating). Higher levels of disagreements are seen in 2.3 (The constitution and by-laws cater for internal and external issues of dairy farmer groups).

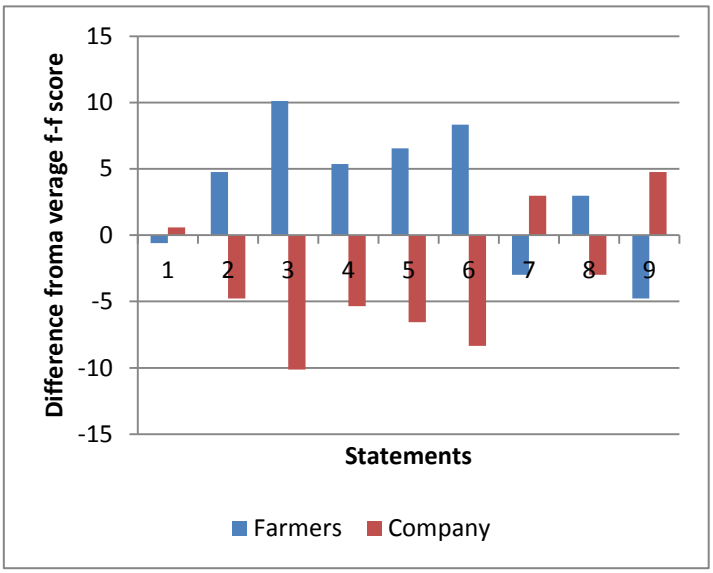

Figure 5.1.7: Level of agreement on functioning of farmers' group-Borabu.

Challenge area "Markets and Prices"

Table 5.1.3: Statements challenge area "Markets and Prices"	
3.1	The company is clear about the amount of produce it wants to buy from the farmers.
3.2	The company clearly informs farmers about quality requirements of milk.
3.3	There are other milk buyers on the market.
3.4	Before starting milk supply, farmers are sensitized about milk prices to be paid.
3.5	Farmers know what products are the processed at the factory.
3.6	The farmers think the company pays them a fair price.
3.7	The company pays farmers according to schedule.
3.8	Farmers are satisfied by being paid through the farmer group account.
3.9	The company pays bonus for quality supplied.

Positive scores were scored by both parties in statements 3.3 (There are other milk buyers on the market) and 3.8 (Farmers are satisfied by being paid through the farmer group account). They both agree that the quality requirements are clear (3.2).

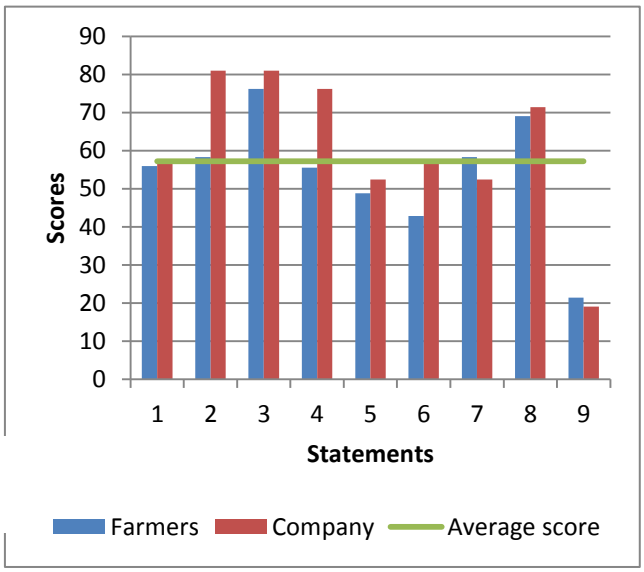

Figure 5.1.8: Scores on 'Markets and Prices'- Borabu

There is a high degree of disagreement seen in statements 3.2 (The company clearly informs farmers about quality requirements of milk), 3.4 (Before starting milk supply, farmers are sensitized about milk prices to be paid), and 3.6 (The farmers think the company pays them a fair price).

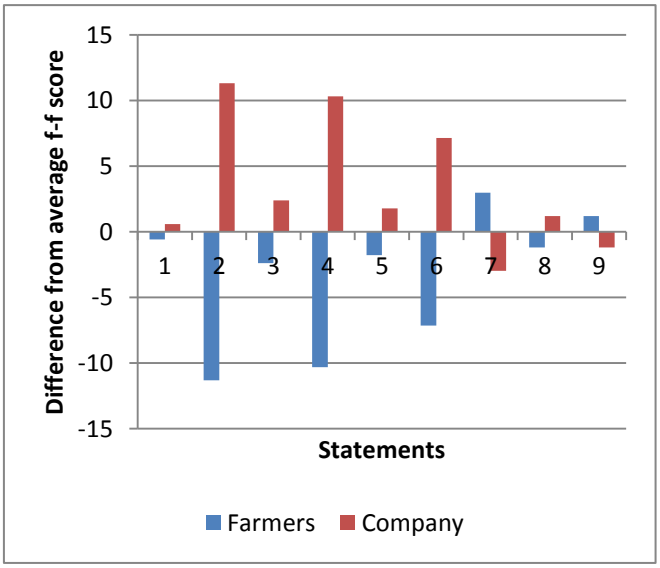

Figure 5.1.9: Level of agreement on markets and prices- Borabu.

Challenge area "Contracts"

Table 5.1.4: Statements challenge area "Contracts"	
4.1	Each individual farmer understands the content of the contract with the company
4.2	Farmer groups can always discuss contract issues with the company.
4.3	The company takes farmers' opinion on contract matters into consideration.
4.4	The contract is binding.
4.5	The contract is clear on dispute resolution.
4.6	The farmer group follows the rules laid down in the contract.
4.7	The company follows the rules laid down in the contract.
4.8	Farmer groups penalize members for breach of contract.
4.9	The company takes measures for breach of contract.

The overall average score for this challenge area is 52.5% indicating a general negative score. The results indicate that both parties do not see the contract as binding (statement 4.4). Farmers were negative on knowledge of the contract content whereas the firm perceived that all the farmers had the knowledge (4.1). The firm scores indicate that farmers opinions are considered in contract matters but farmers were rather negative (4.3).

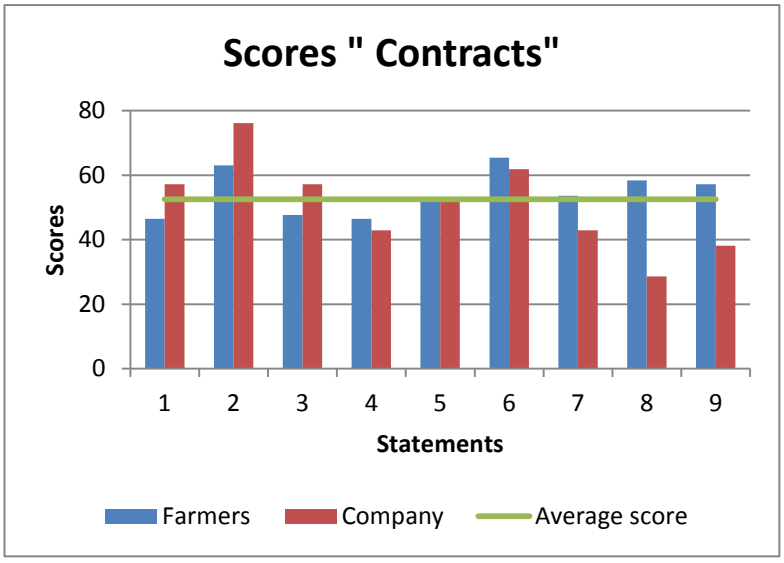

Figure 5.1.10: Scores on 'contracts'-Borabu

Farmers were more positive on 5 statements in this challenge area whereas the firm respondents were positive in 4 statements.
At first impression shows more agreements in statements 4.4, 4.5 and 4.6. High level of disagreement was in statements 4.8 and 4.9.

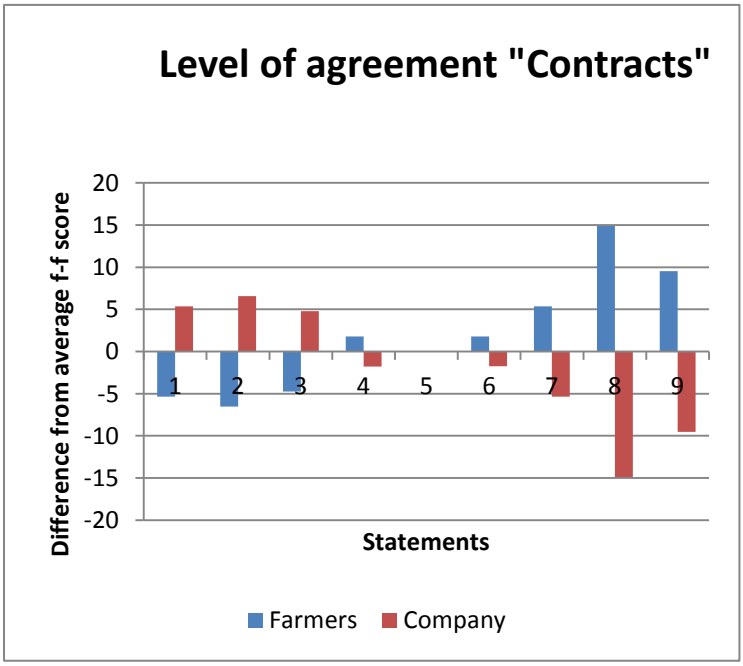

Figure 5.1.11: Level of agreement on 'contracts'-Borabu

Challenge area "Quality standards and Record Keeping"

Table 5.1.5: Statements challenge area "Quality standards and record keeping"	
5.1	Farmers follow good agricultural practices
5.2	Quality standards and reasons for rejection are clear
5.3	At collection points farmers follow the hygiene standards
5.4	The company staff at collection points follow the hygiene standards
5.5	The farmer groups keep records of the milk delivered to the company
5.6	Farmer groups engage in milk testing
5.7	At collection points, milk is collected under recommended shaded facility
5.8	Farmer groups correctly file the feedback overviews provided by the company
5.9	Farmers trust the delivery records by the company.

The average score for this area was 66.3% showing positive perceptions on the statements. Both the farmer gave low scores on farmers applying good agricultural practices (GAP) as in statement 5.1. Interestingly the farmers themselves were more negative than the firm scoring 44%. Other scores below the average score were on statement 5.7 (collection points being under recommended facilities). The actors are also positive on 5.4 (The company staff at collection points follow the hygiene standards) 5.9 (Farmers trust the delivery records by the company).

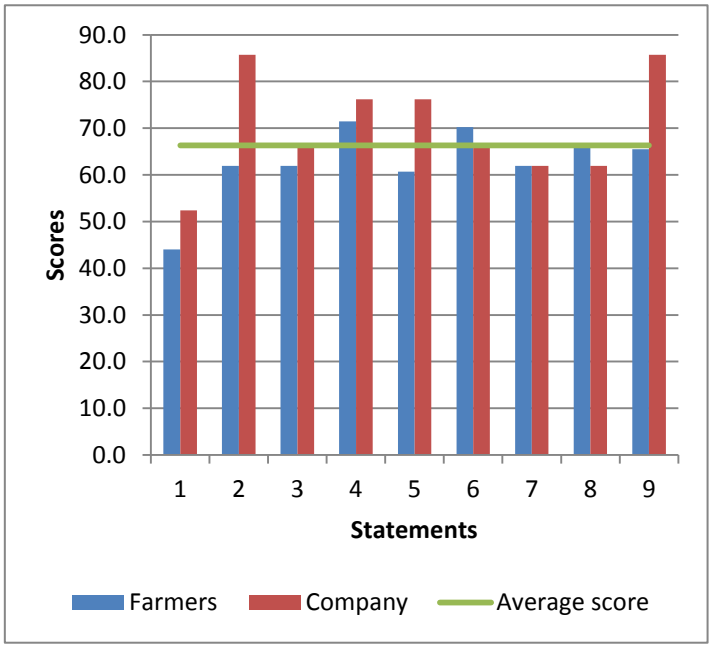

Figure 5.1.12: Scores for quality standards and record keeping- Borabu

The level of agreement is not high with big disagreements being shown in statements 5.2 (Quality standards and reasons for rejection are clear), 5.5 (The farmer groups keep records of the milk delivered to the company) and 5.9. More agreements are closer in statements 5.6 and 5.7(At collection points milk is collected under recommended shaded facility).

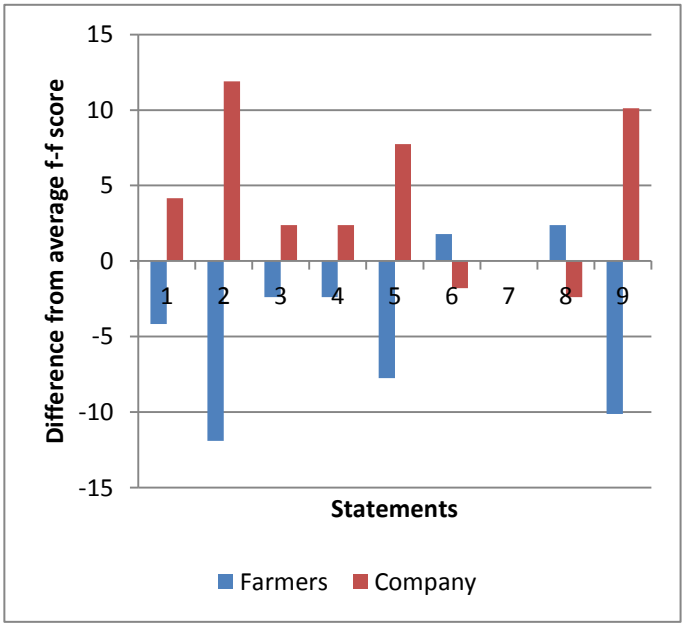

Figure 5.1.3 Level of agreement on quality standards and record keeping- Borabu

Challenge area "Costs/ Benefits of Contractual Arrangements"

Table 5.1.6: Statements challenge area Benefits of contractual arrangement	
6.1	Farmers are happy to have a guaranteed market for their produce
6.2	Milk farming provides farmers with a steady income
6.3	Farmers are happy with the services offered by the company
6.4	The company is happy about the relationship with the farmers
6.5	The money from milk farming is the most important income for the family
6.6	All farmers (large and small, men and women) benefit from the sale of milk to the company
6.7	Milk revenues are invested in other farm enterprises
6.8	In this area, milk farmers manage to get bank loans
6.9	Milk farmers are developing other income generating activities

The average score for this area is 62.9%. Both the farmers and the firm were negative on equity on beneficiaries of the enterprise. Notably the farmers had a lower score of 45%. Interestingly is statements the positive score of 6.4 (The company is happy about the relationship with the farmers) by both parties.

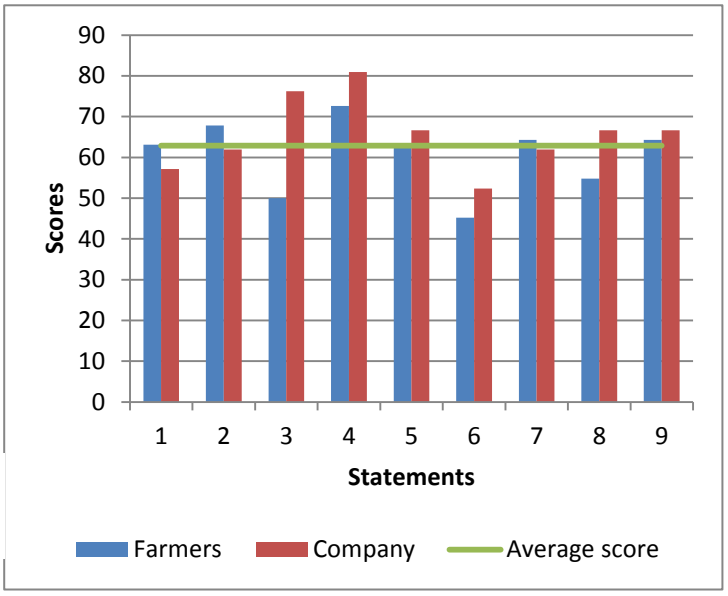

Figure 5.1.14: Scores on benefits of contractual trading

The greatest level of disagreement is seen in statement 6.3 where farmers scored negative perception on whether they are happy with services offered by the company.

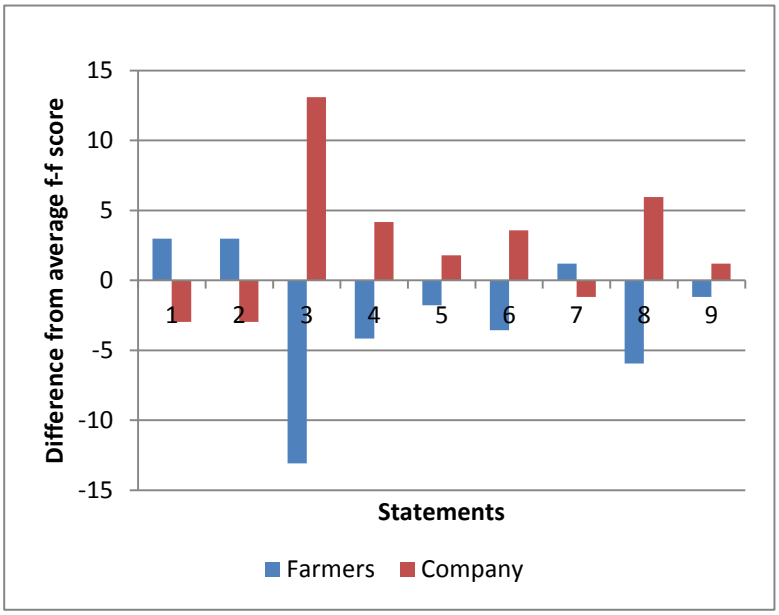

Figure 5.1.15: Level of agreement on benefit of contract trading scores- Borabu

5.1.2 Focused Group Discussions with Farmers and the Firm:

Table 5.1.7: Issues for low or high scores and suggestions that can contribute to improving firm – farmer relationship

Challenge Area	Issues contributing to high or low scores on challenge areas.	Farmers' Suggestions for improving firm-farmer relationship	Firm's Suggestions for improving firm-farmer relationship
Production	- A.I. cost is high with high incidences of repeats. - Feed costs are too high. - Poor quality feeds. - Feed shortage in forage during dry spells. - New KCC has no extension services. - Trainings on managements by the society and NGOs like FOPA, MOLD and MOCDM. - The union links farmers with service providers like SDCP, NALEP, BDS and FOPA - Low yields.	- Trainings on breeding. - Feed conservation, on-farm feed formulation. - New KCC to employ extension officer. - Farmers to plant varieties of quality fodder crops. - Quality stores for farmers	- Restore Field services - Strive to increase contact with producers through exhibitions and seminars. - Partner with the society to manage production risks facing producers. - Training farmers on feed conservation and on-farm feed formulation - Collaborate with MOLD, FOPA for trainings
Functioning of farmer organizations	- No direct contracts with individual farmers. - Meetings limited to AGMs - Agenda: review performance and conduct elections. - Leadership has been a challenge: some leaders make decisions without consulting their members. - Inadequate knowledge on business skills, marketing skills. - BFCU services: trainings, A.I., access to inputs, and credits. - Democratically elected and equitably distributed leaders.	- Cooperatives to bond their members – commitments. - Meetings for pre-planning and forecasting operations. - Training of board members on leadership and governance, business skills and approaches, marketing, contracting and negotiation skills. -	- Strive to understand the society's functions, interests and risks to nurture mutual understanding. - Encourage quality deliveries through premiums.

Markets and Prices	- Ordinary members do not know volumes required by New KCC. - New KCC products are little known by ordinary farmers. - The price of milk has been stable of late. - Prices by other buyers especially the traders is often much higher. - Price is not pegged on quality of milk.	- Promote consumption of KCC products. - New KCC and BFCU to negotiate and agree to stick on a stable price. - Pay premiums on quality. - Timely price information - Put value for commissions deducted by societies. - Use of un-roadworthy vehicles to be discouraged.	- Initiate and nurture interactions or contact with farmers - Let farmers understand the transaction risks that the company has and vice versa. - Consider premiums for quantity and quality of supplies. - Promote consumption of KCC products
Contracts	- Contract in English. - No embedded services in contract. - Price fluctuates with market forces - No feasible enforcement mechanisms. - There is no binding agreement between societies and its members. - The breach for contract is not penalized.	- BFCU to commit its farmers with agreements. - New KCC to discuss and agree with farmers on prices. - Respect contracts - Make the contract binding, sign it before a witness. - Respect the contracts.	- The farmers to all know details of the contract. - Awareness creation meetings. - Do contracts in Kiswahili. - Sensitize farmers on contract terms
Quality Standards and record keeping	- High costs of inputs and limited knowledge - Inadequate incomes from dairy - High incidences of mastitis. - Poor collection sheds - Limited communication firm-farmers and society-members. - Poor record keeping.	- Training of farmers and staff on GAP and quality control. - Increase the price for farmers to encourage investments. - Record milk rejections. - Purchase digital scales - Premiums for quality. - Develop a communication plan.	- The company to start auditing the society to fill gaps on standards. - Use the IT for records transfer and custody. - Start audit through field services
Benefits of contractual business relations	- No support from KCC - KCC bears transport risk to factory - In most male headed households un-equitably benefit distribution - Milk revenues used for recurrent family expenses. - Commercial banks have high interest rates	- Reduce transactions costs to raise members' pay price. - Improve communication between farmers and the cooperatives and the firm (processor).	- Strive to limit the producer's cost of production. - Increase communication with the group and its members. - Encourage supply of more milk.

5.2: Kiambaa- Eldoville case results

30 farmers (17F, 13 M) and 7 firm's staff (6M, 1F) were involved in this exercise. The mean age of the farmer-respondents is 52 years indicating that majority are fulltime farmers and elderly.

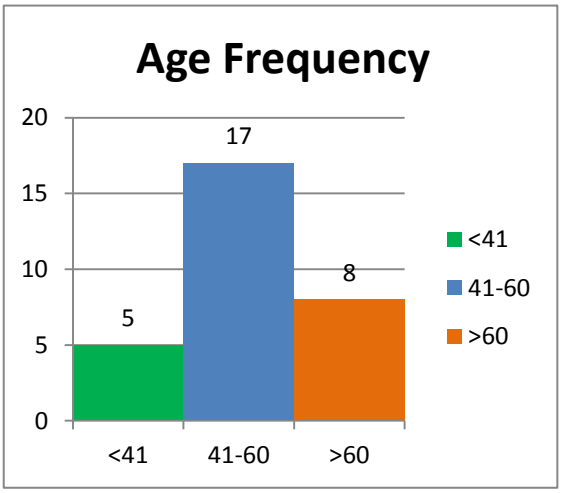

Figure 5.2.1: Distribution of age amongst respondent

5.2.1 Self-assessment on Business Relations '2 to Tango'

This part provides information about the self-assessment of the challenge areas that affect the business relations between KDFS farmers and Eldoville farm.

Overall Result

The average total score is 63.3%. Generally, there is a uniform trend in the way the parties scored on the challenge areas but there are specific differences that need in-depth examination at individual challenge areas level. Both the farmers and the firm gave low average scores in 3 (challenge area 1, 4 and 5) out of 8 challenge areas. Comparatively, the firm was more negative on the production challenges and farmers were more negative on price and contract challenges.

Table 5.2.0 Challenge areas

Challenge Areas	
1	Production Challenges
2	Functioning of Farmers' group
3	Market challenges
4	Price challenges
5	Contract challenges
6	Delivery and Collection challenges
7	Quality standards and record keeping challenges
8	Costs/ benefits of business relations

The overall average score is 63.3%. The firm appears to be more positive than farmers in all challenge areas but area 1(production). It is remarkable that both the farmers and the firm scored positively and above the average on challenges 2 (functioning of farmer groups), 6 (delivery and collection of milk), 7 (quality standards and record keeping) and 8 (benefits of the business relations). The firm seems more positive on contracts, a situation farmers scored less positively (5).

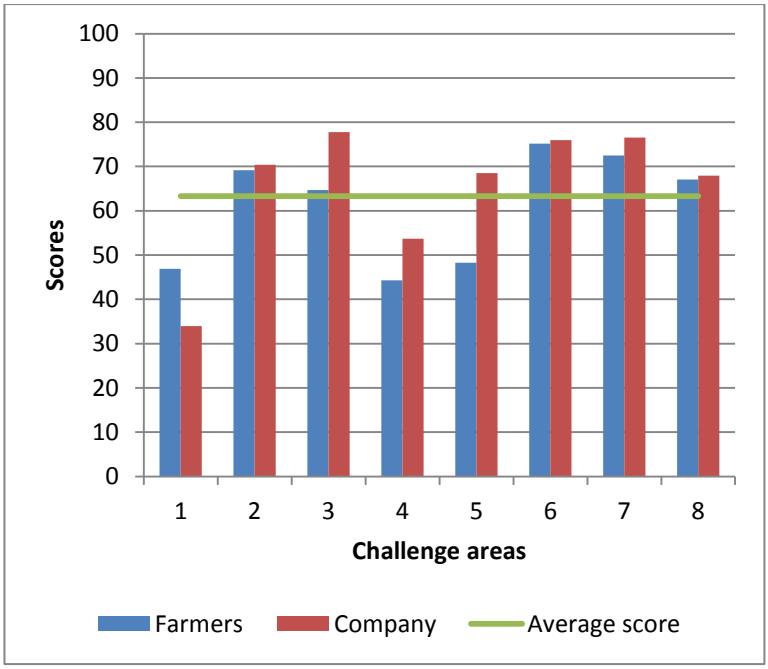

Figure 5.2.3: Overall scores on all challenge areas- Kiambaa

It can be observed that the perceptions of farmers and the company are quite different for challenge area 1 (Production challenge), area 3 (Markets) and area 5 (contracts).

At first sight, there is more agreements in areas 2 (functioning of farmers' group), area 4 (prices), area 6 (delivery and collection of milk), are 7 (quality standards and record keeping) and are 8 (cost/ benefits of business relations.

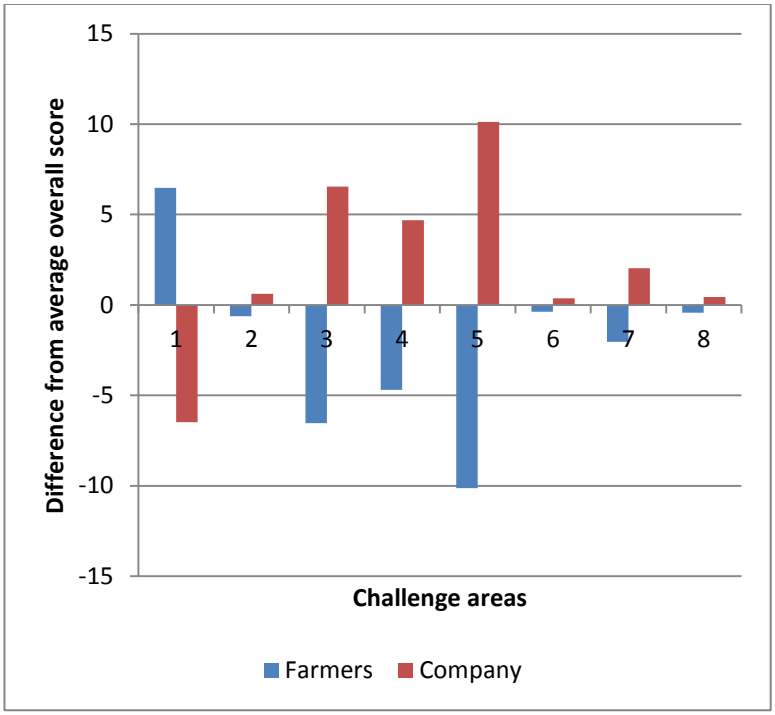

Figure 5.2.4: Level of agreement per challenge area-Kiambaa

Challenge area "Production challenge"

In this challenge area, the average score is 40.4% which is way below the overall average score. Farmers were more positive than the firm in this area. Farmers had more positive scores on statements 1 and 5 with 72.2% and 71.1% respectively.

Table 5.2.1: Statements for Production challenges

Statements challenge area "Production Challenges"	
1.1	Farmers have access to artificial insemination services when required.
1.2	Farmers have easy access to credit for farming
1.3	Farmers have sufficient feeds (concentrates) available.
1.4	Farmers can get the different types of recommended concentrates
1.5	Farmers' yields are increasing
1.6	Eldoville provides quick feedback to farmers' questions related to production.
1.7	Eldoville provides farmers support when faced with milk production challenges.
1.8	Eldoville's extension services are operational.
1.9	Prices for inputs (feeds and drugs) are affordable

The average score for this area is 40.4%. Negative scores are given by both parties on 1.6 (Eldoville provides quick feedback to farmers' questions related to production), 1.7 (Eldoville provides farmers support when faced with milk production challenges), 1.8 (Eldoville's extension services are operational) and 1.9 (Prices for inputs (feeds and drugs) are affordable). Positive score were noted in 1.5 (Farmers' yields are increasing).

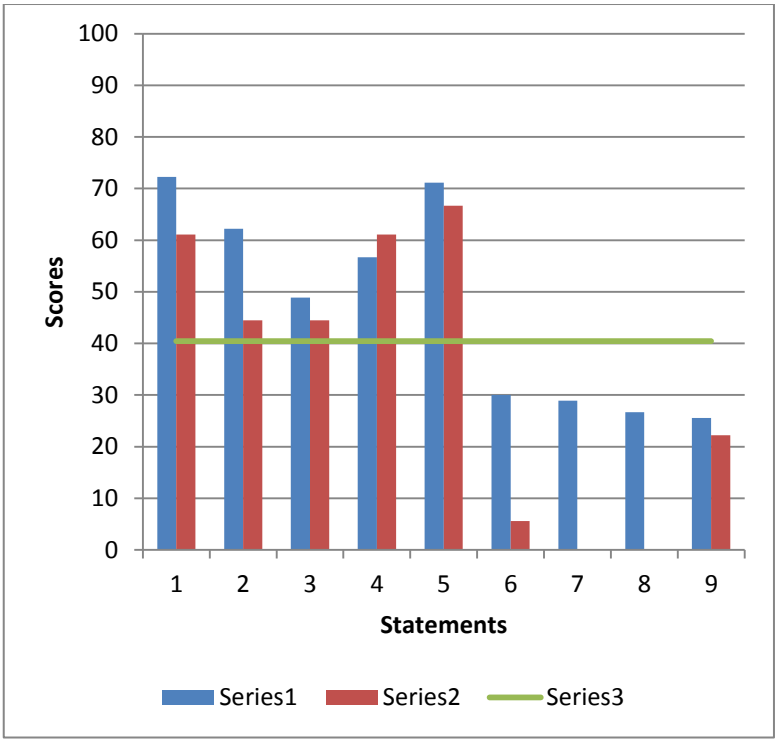

Figure 5.2.5: Scores on production challenge- Kiambaa

It can be observed that in this area the level of agreement is not very high more so in statements 1.6 (Eldoville provides quick feedback to farmers' questions related to production.), 1.7(Eldoville provides farmers support when faced with milk production challenges) and 1.8 (Eldoville's extension services are operational).

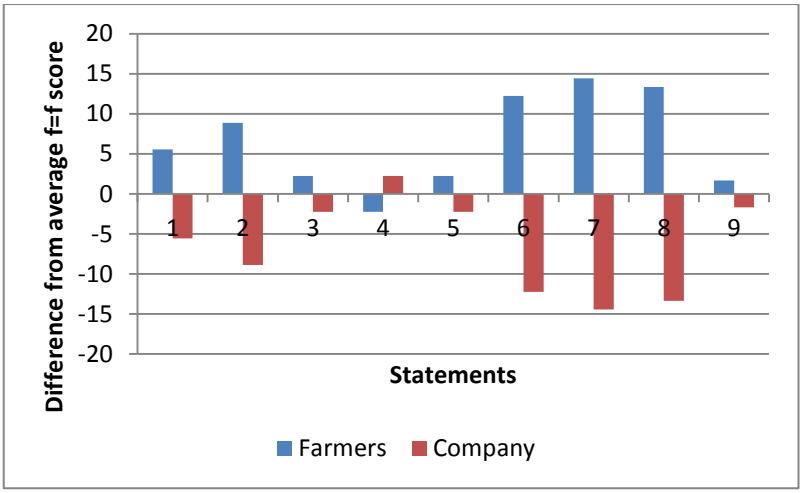

Figure 5.2.6: Level of agreement on 'production' scores

Challenge area "Functioning of Farmers' Organization"

The average score for the two parties in this challenge area is 69.8%.

Table 2.2: Statements for Functioning of Farmers' Group

Statements challenge area "Functioning of Farmers' Group"	
2.1	We agree with the way the company selects farmer groups for contracting
2.2	We agree that farmers sell the milk through the group, and not as individual farmers
2.3	The constitution and by-laws cater for internal and external issues of dairy farmer groups
2.4	Elected farmer group leaders adhere to the tasks and responsibilities defined in the constitution and by-laws
2.5	Farmer group meetings are regular and effective
2.6	All members are informed and understand group financial issues
2.7	Eldoville is happy with the way the farmer group is operating
2.8	The farmer group leaders always represent the common interest of the farmers
2.9	The farmer group always assists members get other services to develop their farming

The actors scored positively in this area with an average of 69.8%. The farmers are more positive in 2.4 (Elected farmer group leaders adhere to the tasks and responsibilities defined in the constitution and by-laws) and 2.8 (The farmer group leaders always represent the common interest of the farmers). They were negative on 2.1 (We agree with the way the company selects farmer groups for contracting). The firm on the other hand is highly positive about this statement and that of 2.9 (role of farmers group on provision of embedded services).

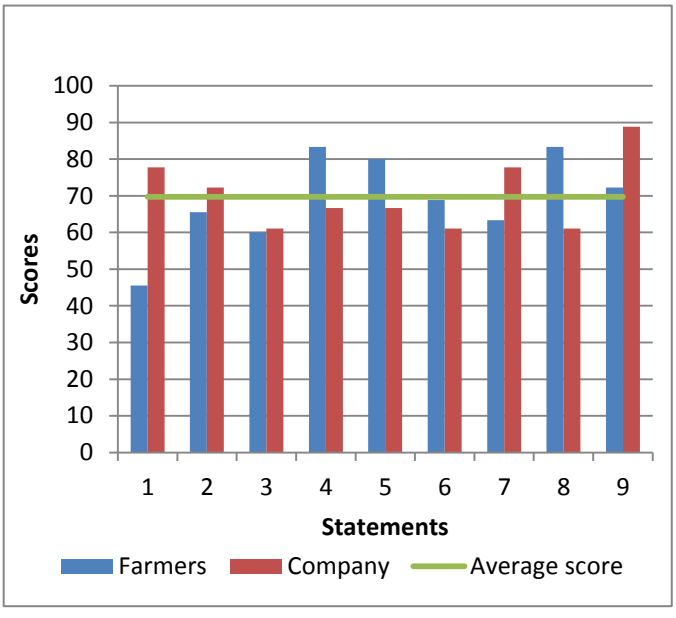

Figure 5.2.7: Scores for functioning of farmers' group- Kiambaa.

The bigger disagreement is seen in 2.1 (We agree with the way the company selects farmer groups for contracting.

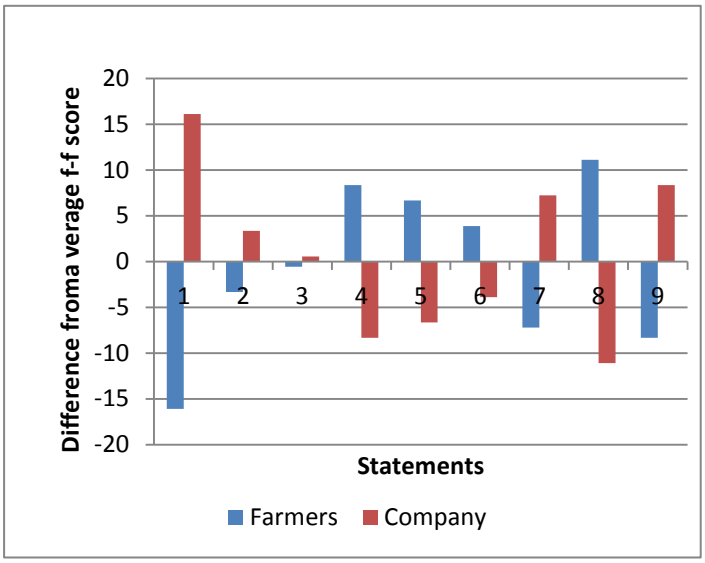

Figure 5.2.8: Level of agreement on functioning of farmers' group- Kiambaa

Challenge area "Markets"

The average firm- farmer score for this area is 71.2%. The firm registered a more positive perception than the farmers with its highest score of 94.4% being at statements 3.3 and 3.9. Farmers had the lowest score of 26.7% in statement 3.1.

Table 5.2.3: Statements for Market challenges

Statements challenge area "Markets"	
3.1	Eldoville is clear about the amount of produce it wants to buy from the farmers.
3.2	Eldoville clearly informs farmers about quality requirements of milk.
3.3	There are other milk buyers on the market.
3.4	The demand for processed milk is growing.
3.5	Farmers know what products are the processed at the factory.
3.6	The demand for milk is growing in the area.
3.7	Customers of milk prefer high quality milk.
3.8	Farmers sell all their marketable milk through their cooperative.
3.9	Eldoville takes all the milk supplied by the farmers.

Both parties were positive on statement 3.6 (the demand of milk in the area as growing). The two actors seem to agree on a negative score in statement 3.5 (farmers know the products processed by the firm) and 3.8 (Farmers sell all their marketable milk through their cooperative). Farmers scored negatively on 3.1 (Eldoville is clear about the amount of produce it wants to buy from the farmers).

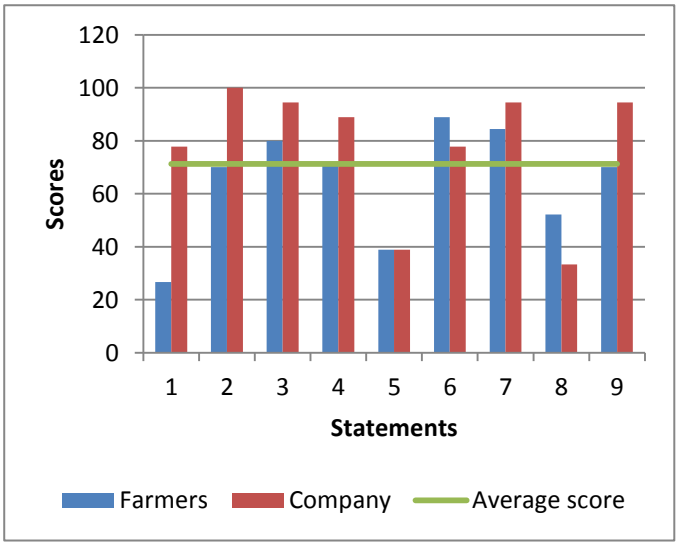

Figure 5.2.9: Scores on market area- Kiambaa

The disagreement is significant in statement 3.1 (Eldoville is clear about the amount of produce it wants to buy from the farmers.

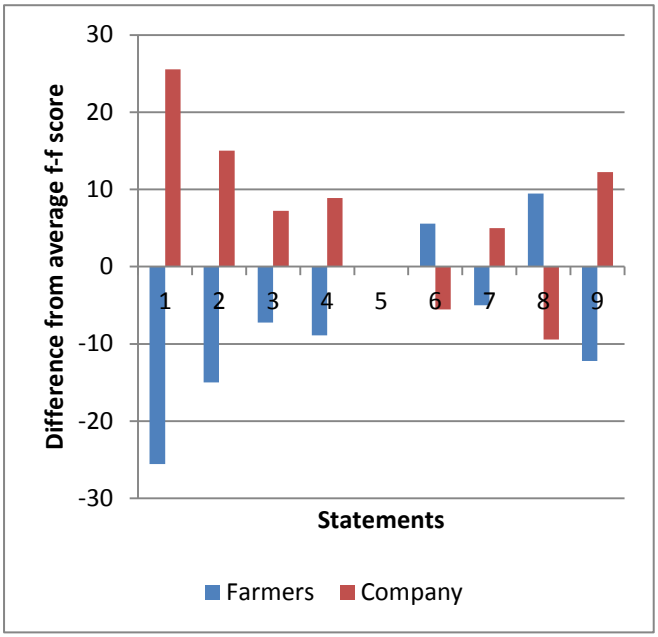

Figure 5.2.10: Level of agreement on Markets- Kiambaa

Challenge area "Prices"

This challenge area registered more negative scores with the average score being as low as 49%. The firm and farmers had the lowest score of 11.1% and 22.2% in statement 4.5 and 4.8 respectively.

Table 5.2.4: Statements for price challenges

Statements challenge area "Prices"	
4.1	Before starting milk supply, farmers are sensitized about milk prices to be paid.
4.2	The farmers think Eldoville pays them a fair price.
4.3	Eldoville pays farmers according to schedule.
4.4	Eldoville pays a price depending on volume supplied.
4.5	Eldoville pays a price depending on quality supplied.
4.6	Farmers are satisfied by being paid through the farmer group account.
4.7	Eldoville pays the price responding to market situations.
4.8	Farmers' organization is always involved in price setting.
4.9	Eldoville informs farmers of intended changes in price in time.

he two parties scored lowly on statement 4.5 (the company pays a price depending on the quality of milk). Unlike the firm, the farmers were more negative on statements 4.1 (the farmers are sensitized on the prices before the supply), 4.2 (the farmers think the firm pays a fair price) and 4.9 (the firm informs farmers of intended changes in prices in time). The two differentially scored negatively on statement 4.8 (farmers' organization is always involved in price setting). They both agree positively that the firm pay the price depending on the market situation though farmers gave lower score (statement 4.7).

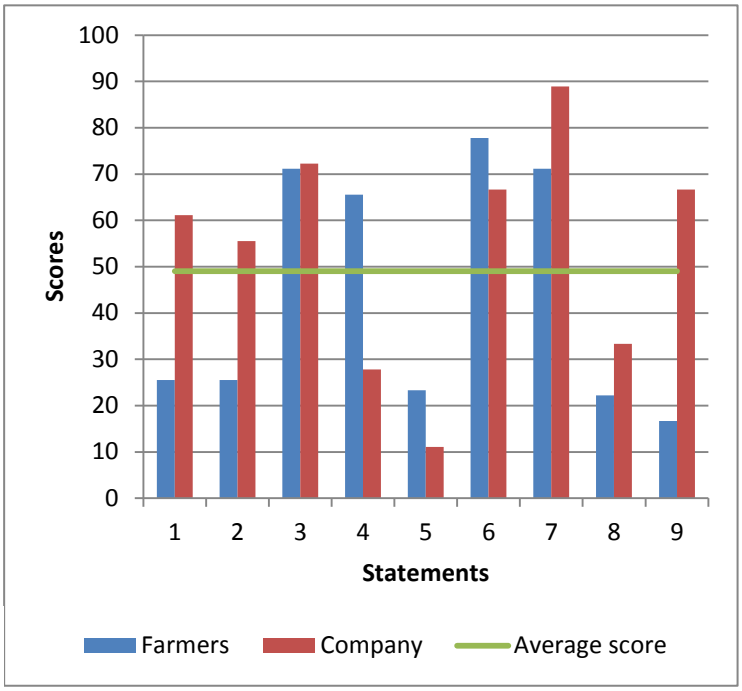

Figure 5.2.11: Scores on prices- Kiambaa

There is a significant level of disagreement in statements 4.1 (Before starting milk supply, farmers are sensitized about milk prices to be paid), 4.4 (Eldoville pays a price depending on volume supplied) and 4.9 (Eldoville informs farmers of intended changes in price in time).

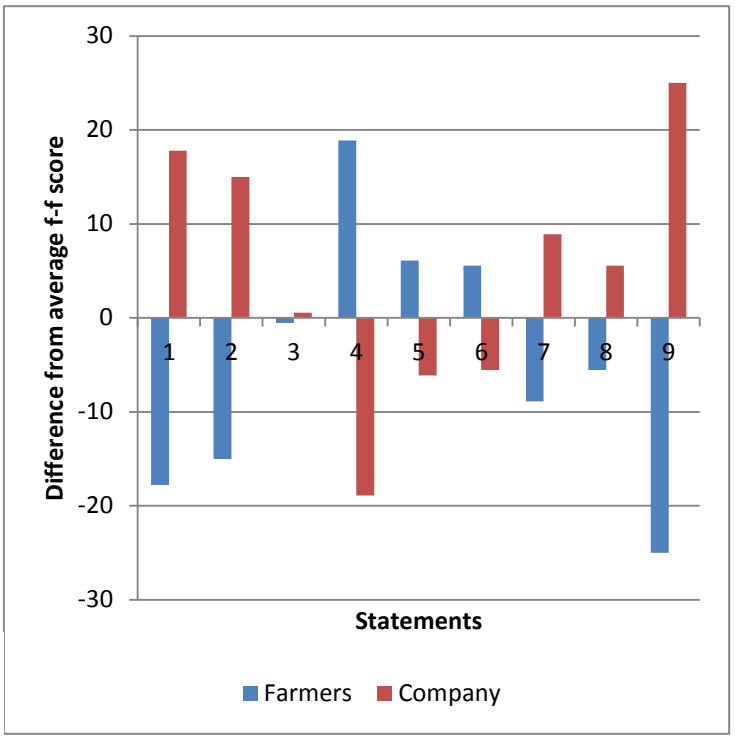

Figure 5.2.12: Level of agreement on prices scores- Kiambaa

Challenge area "Contracts"

Farmers' score depict that they are less positive about this challenge area. Their total average score of 48.3% is way below the average firm-farmer statement score of 58.4%. The lowest score by farmers is in statement 5.1 (27.8%) whereas the firm has it lowest score in statement 5.8 (38.9%).

Table 2.5: Statements for Contracts

Statements challenge area "Contract"	
5.1	Each individual farmer understands the content of the contract with Eldoville.
5.2	Farmer groups can always discuss contract issues with Eldoville.
5.3	Eldoville takes farmers' 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 farmer group follows the rules laid down in the contract.
5.7	Eldoville follows the rules laid down in the contract.
5.8	Farmer groups penalize members for breach of contract.
5.9	Eldoville takes measures for breach of contract.

The firm score more positively above the average overall score in 5 statements. The farmers are negative in virtually all statements except in two where they score slightly above the average overall score.

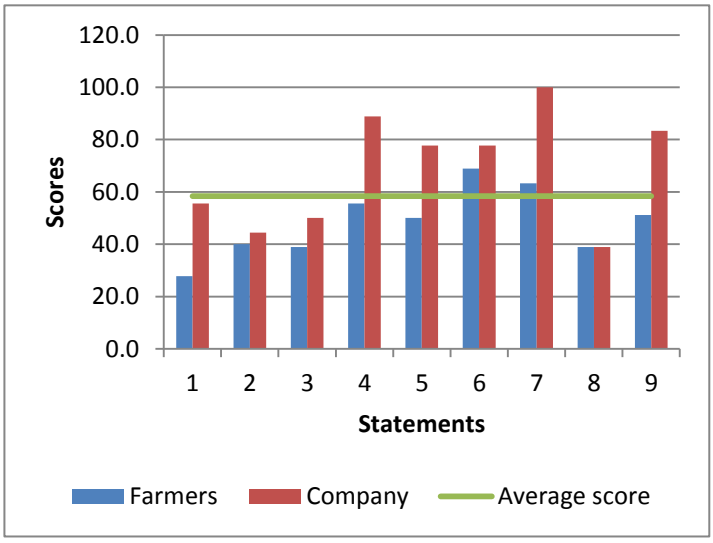

Figure 5.2.13: Scores on contracts- Kiambaa

Notable disagreement is seen in statements 5.1 (Each individual farmer understands the content of the contract with Eldoville), 5.4(The contract/ agreement is binding), 5.5(The contract is clear on dispute resolution), 5.7(Eldoville follows the rules laid down in the contract) and 5.9 (Eldoville takes measures for breach of contract).

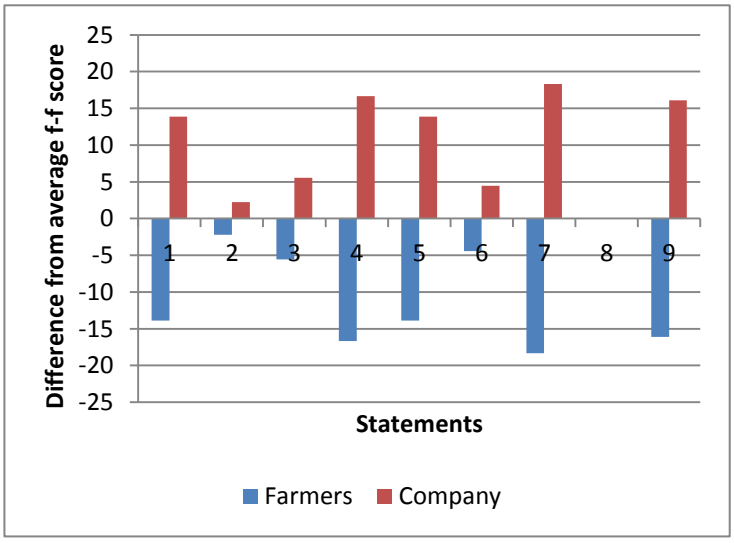

Figure 5.2.14: Level of agreement on contracts score- Kiambaa

Challenge area "Delivery and Collection of Milk"

Table 5.2.6: Statements for Delivery and Collection of Milk

Statements challenge area "Delivery and Collection of milk"	
6.1	Collection centres are close to farmers
6.2	Farmers deliver milk to collection points at the right time.
6.3	Milk collection at the milk collection centre is done at the right time
6.4	The staffs at the collection centers are appropriately skilled.
6.5	Records at the collection centre are well maintained.
6.6	Farmers deliver required volumes to Eldoville.
6.7	Farmers deliver milk using recommended containers.
6.8	Eldoville is happy with farmers' deliveries.
6.9	Farmers are happy with the way Eldoville collects the milk.

Both parties were positive on this challenge area with their average area score being at 75.6%. The highest score is at 94.4% by the firm in statement 6.7 (farmers deliver milk in recommended containers). The lowest score here is on 6.6 (Farmers deliver required volumes to Eldoville) by both parties.

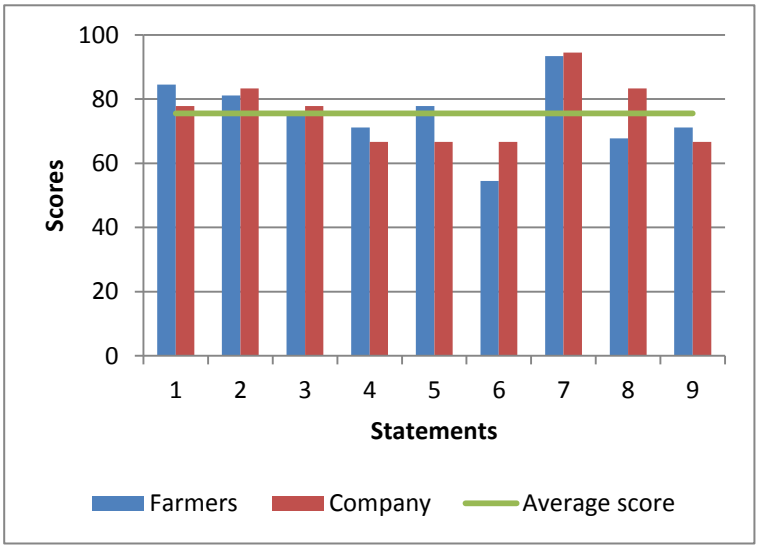

Figure 5.2.15: Score on deliveries and collection- Kiambaa

Farmers seem more positive than the firm in 4 out of 9 statements. The lowest score is in statement 6.6 (farmers deliver required volumes of milk to the firm).
Disagreements are notable in statements 6.6 (Farmers deliver required volumes to Eldoville) and 6.8 (Eldoville is happy with farmers' deliveries).

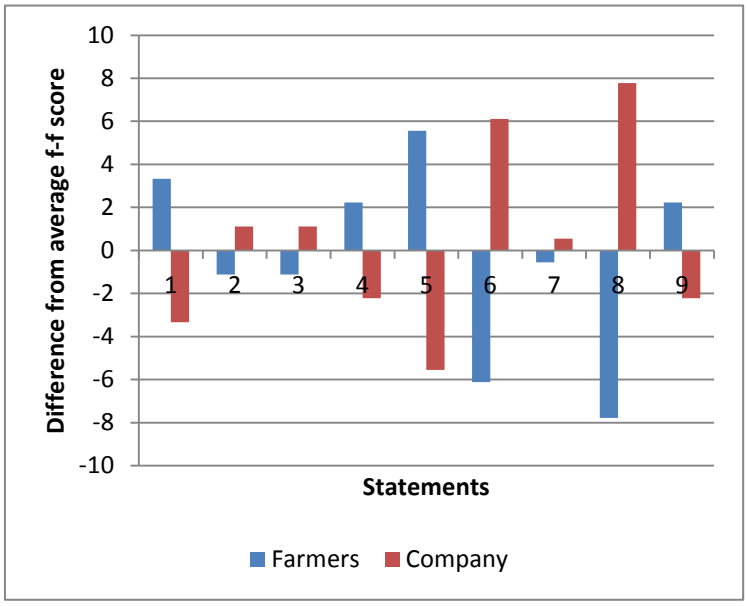

Figure 5.2.16: Level of agreement on deliveries and collection scores- Kiambaa

Challenge area "Quality standards and record keeping"

Table 5.2.7: Statements for Quality standards and record keeping

Statements challenge area "Quality standards and record keeping"	
7.1	Farmers follow good agricultural practices (GAP).
7.2	Quality standards and reasons for rejection are clear.
7.3	At collection points farmers follow the hygiene standards.
7.4	Eldoville staffs at collection points follow the hygiene standards.
7.5	The farmer groups keep records of the milk delivered to Eldoville.
7.6	Farmer groups engage in milk testing at collection points.
7.7	At collection points, milk is collected under recommended shaded facility.
7.8	Farmer groups correctly file the feedback overviews provided by Eldoville.
7.9	Farmers trust the delivery records by Eldoville.

The two parties were positive about the quality standards and record keeping with a higher overall area average score of 74.5%. Three areas whose score is relatively low is on statements 7.1 (Farmers follow good agricultural practices -GAP), 7.7 (use of recommended shaded facilities in milk collection areas) and 7.8 (farmers correctly file feedback overview by the firm).

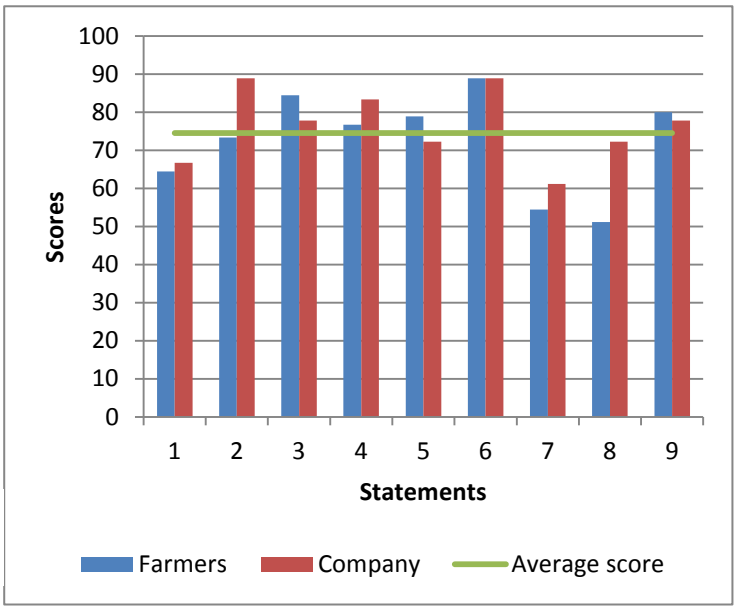

Figure 5.2.17: Score on quality standards and record keeping

There seem to be a high level of agreement in this area with exception in statements 7.2 (Quality standards and reasons for rejection are clear) and 7.8(farmers correctly file feedback overview by the firm)

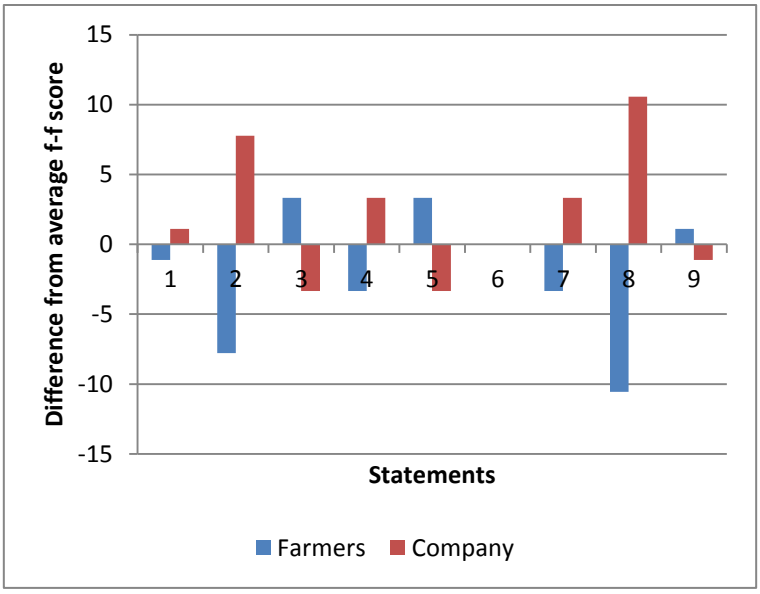

Figure 5.2.18: Level on agreement on quality standards and record keeping- Kiambaa

Costs / Benefits of Contract trading

Table 5.2.8: Statements for Costs/Benefits of trading enterprise

Statements challenge area "Benefits of Trading enterprise"	
8.1	Farmers are happy to have a guaranteed market for their milk.
8.2	Milk farming provides farmers with a steady income
8.3	Farmers are happy with the services offered by the Eldoville.
8.4	Eldoville is happy about the relationship with the farmers.
8.5	The money from milk farming is the most important income for the family.
8.6	All farmers (large and small, men and women) benefit from the sale of milk to the Eldoville.
8.7	Milk revenues are invested in other farm enterprises.
8.8	In this area, milk farmers manage to get bank loans.
8.9	Milk farmers are developing other income generating activities.

Generally the scores by both the parties were more positive with an overall average area score of 67.5%. Negative scores were on statements 8.7(milk revenues are invested in other farm enterprises) and 8.8 (milk farmers manage to get bank loans in this area).

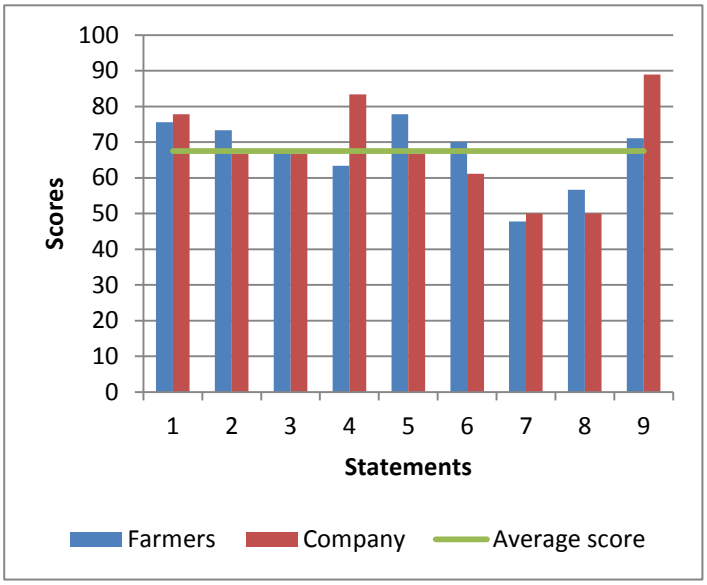

Figure 5.2.19: Scores on benefits of contract trading- Kiambaa

There seem higher agreement levels in this area except for statements 8.4, 8.5, 8.6 and 8.9. Farmers scored higher than the firm in 5 out of 9 statements in this area. The firm scored higher than farmers in 4 statements.

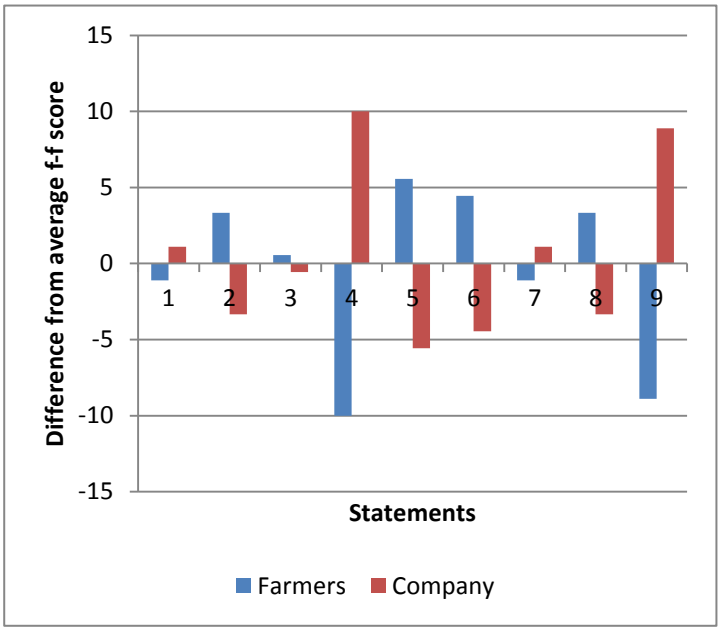

Figure 5.2.20: Level of agreement on benefits of contract trading- Kiambaa

5.2.2 Focused Group Discussions with Farmers and Eldoville:

Table 5.2.9: Issues for low or high scores and suggestions that can contribute to improving firm – farmer relationship

Challenge Area	Issues contributing to high or low scores on challenge areas.	Suggestions for improving firm-farmer relationship by farmers	Suggestions for improving firm-farmer relationship by Eldoville
Production	- High A.I. and feed costs. - Eldoville has no extension/ support services - Trainings on managements by the society and NGOs like SNV, MoLD and KARI. - The society's extension services are good but inadequate.	- Training of farmers. - Feed conservation, on-farm feed formulation. - Quality fodder by research. - Collaboration	- As the company grows it has to plan to have field officers. - Conduct exhibitions and seminars. .
Functioning of farmer organizations	- Meetings limited to AGMs - Services: Trainings, A.I., access to inputs, and credits for school fees and dairy enterprise development. - Large number limits meetings	- More frequent meetings. - Meetings for pre-planning and forecasting operations - Bonding members through clusters - Training of board members on leadership and governance, business skills and approaches, marketing, contracting and negotiation skills.	- Strive to understand the society's functions, interests and risks to nurture mutual understanding. - Encourage quality deliveries through premiums. - Conduct organizational strengthening seminars.
Markets	- The times for milk collection are for some members too early and therefore resort to sell their milk to other buyers. - Eldoville is little known by ordinary farmers. - Higher prices by traders.	- The society to inform members on details of their market requirements. - Eldoville to conduct shows to popularize their products. - Value chain finance- voucher system.	- Initiate and nurture interactions or contact with farmers - Let farmers understand the transaction risks that the company has and vice versa. - Target low income markets.

Prices	- Seasonal fluctuations - Ordinary members do not know of their prices in advance. - Price is not pegged on quality of milk.	- Eldoville and society to negotiate and agree to stick on a stable price. - Eldoville to grade and pay premiums on quality. - Eldoville to accommodate farmers suggestions on pricing - The two parties to inform farmers on prices changes in time.	- Consider premiums for quantity and quality of supplies. - Strive to pay market prices.
Contracts	- Only board members know the contract terms. - Often price is changed. - Contract in English. - There is no binding agreement with farmers. - The contract does not state penalty to the firm in-case it breaches it.	- The society to bond farmers with agreements. - Eldoville to discuss and agree with farmers on prices. - The parties to agree not to bend contract conditions at all costs. - Explore possibility of using an arbitrator to be agreed by the chartered Institute of Arbitrators, Kenya branch.	- The farmers to all know details of the contract (do it in Kiswahili and sensitize farmers always on changes)
Delivery and collection of milk.	- The society supplies low volumes to Eldoville because of lower prices compared to other market segments. - There is continuous staff training. - Farmers shoulder all the transport risks. - The society facilitated farmers to acquire recommended containers. - The society is strict on quality through hygienic handling.	- Eldoville to pay extra shillings to attract higher volumes from the society. - Maintain staff training. - Eldoville to consider sharing transport risks. - Maintain logistical facilities. - Pay prices on banded volumes. - Limit losses while on transport and at shops.	- Encourage information exchange - Work more closely with the company.
Quality Standards and	- High costs of feeds, inputs and housing impede good agricultural	- Promote periodic training of farmers and staff on dairy	- The company to start auditing the society to fill gaps on standards.

record keeping	practices - Inadequate incomes from dairy hence not able to invest in building cow shed. - Limited knowledge and skills on good dairy management and quality control. - Some collection points are in open grounds especially at early morning hours. - The digital scales and computers at the society facilitate good records. - Limited communication is done from the firm to farmers	management, record keeping and hygienic milk handling - Increase the price for farmers to encourage investments. - Facilitate access to credit for farmers - Society to upscale its yoghurt processing and marketing for increased margins. - Develop a communication plan to farmers and staff as well as to customers on quality of milk.	- Use the IT for records transfer and custody.
Benefits of contractual business relations	- The processor is always reliable to take milk even at times of glut. - Milk revenues are used for recurrent family expenses and buying feeds for cows. - Commercial banks have high interest rates and rarely consider farmers as potential customers for credit. - Being labour intensive, most youth have negative attitudes to dairy farming. - Vicinity to Nairobi city has made men and youth to leave dairy for women. - Farmers grow horticulture and tea and keep poultry, pigs apart from dairy.	- Increase farmers' income by value addition - Encourage use of appropriate technology in dairy farming.	- Strive to limit the producer's cost of production.

CHAPTER SIX: DISCUSSION OF RESULTS:

This chapter describes a comparative analysis of the firm-farmer relations based on the results in chapter 4 and 5 along the challenge areas in the two business cases. First is the discussion of demographic characteristics followed by a SWOT analysis that will provide an overview of weak and strong points in the challenge areas. The SWOT is followed by a comparison of the business cases showing their differences and similarities

6.1. Demographic characteristics:

Majority of farmers (83% and 77% in Borabu and Kiambaa respectively) were more than forty years old with respective means of 52.03 years and 52.27 years (figure 5.1.2 and figure 5.2.2). This indicates that primary production is mainly done by elderly people. Further probing for reasons behind this situation found that the youths had negative attitude to dairy farming due to: lack of capital, relative low profitability of the enterprise, rural-urban migration of the youth in search of employment, dairy under zero grazing being labour-intensive and lack of motivation by parents as they work in the farms. This scenario has significant implication on the sustainability of commercial dairy production as there is a generational gap as few youth are taking over the business in succession. This confirms what is noted in previous literature that the continuing rural-urban migration, unattractiveness of rural life and low returns from farming may draw the most productive youths away from dairy farming (FAO, 2011b). Furthermore with the intensive labour requirements of zero grazing and semi-zero grazing systems in the study area the optimal performance of the enterprise is unlikely to be achieved. With this the likelihood of farmers producing increased volumes for supply to firms is limited. Interventions to improve productivity will have to be tailored for the elderly.

The results show that 60% of the respondents in Borabu case were men. FGD revealed that despite this, women were more involved in the day to day dairy activities. In Kiambaa, 57% of the respondents were women a situation confirming earlier studies that showed women are involved more in dairy farming activities (Njuki et al., 2004, Kristjanson et al., 2010, Mullins et al., 2005). Njuki et al (2004) further indicate that the reasons for the higher labour contribution by females in all the crops are partly male migration to urban areas for wage employment and men's higher involvement in off-farm activities relative to women. However Upadhyay (2005) and Kristjanson et al (2010) argue that women are severely limited in their ability to make decisions regarding livestock enterprises. They also 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. It is therefore argued that interventions should be tailored to focus on women inclusion.

6.2 SWOT analysis

SWOT Borabu-Sotik	SWOT KDFS
Strengths	Strengths
• Highly motivated and determined board	• Good and focused management and board.
• Reliable milk supply from members.	• Good quality milk.
• Good experience in the milk business by the manager.	• Reliable milk supply from members.
• Owns a truck for milk transport.	• Capacity to chill milk at Banana.
• Cooperative well positioned in the milk market.	• Well experienced in the milk business
• Good housing facilities next to tarmac	• Good transport system – adequate

road and with good electrical and water supply grid.	trucks
• Healthy institutional partnership with Borabu SACCO, FOPA, MOLD and MOCDM.	• Cooperative well positioned in the milk market.
• Favourable weather conditions for dairying.	• Assistance from Agriterra and SNV (technical and organizational development).
• Established linkage with New KCC limited which has supplied them with a chilling tank of 5000lt capacity.	• MCC with 4,100 litre/day capacity chilling tanks.
• Equitable representation of members in the Board	• Equitable representation of members in the Board.
•	• Functional extension department
• Long term trading relations with New KCC (5 years).	• Long term trading relations with Eldoville (10 years)
• Has established own A.I. scheme	• Functional A.I. scheme
Weaknesses	**Weaknesses**
• Lack of own capacity to cool milk.	• Capacity to cool milk limited.
• Majority of members are small scale farmers with 1- 2 cows.	• Majority of members are small scale farmers with 1- 2 cows.
• Agreements with New KCC are not binding.	• Agreement with Eldoville with not binding
• Lack of farmer commitment arrangements to the cooperative no bonding mechanisms.	• Lack of bonding mechanisms with cooperative members.
• Majority of members are middle aged and elderly.	• Majority of members are elderly and women. Young and energetic farmers are often moving to Nairobi to seek employment.
• Product loss in the distribution system due to spoilage	• Product loss in the distribution system due to spoilage
• Limited staff and board skills in business and marketing.	• Limited staff skills in marketing
• Limited product range; trading on warm milk.	• Limited product range; trading on chilled milk and warm milk
• No pricing and sales strategies	• No pricing and sales strategies.
Opportunities	**Opportunities**
• High potential of milk availability in the area.	• Enough milk available in the area.
• Demand for milk growing. More potential buyers have been approaching Borabu Union for supply of milk.	• Demand for milk growing. The Cooperative has a waiting list from potential buyers.
• Dairy Development programmes by the Government and Partners are willing to support and revitalize the Union.	• In different segments including the lower end of consumers with 32% per year growth.
• Milk deficient districts in Nyanza offer a market	• Good road network.
• Value addition into yoghurt	• Interest by Ndumberi Cooperative to do

	business together (joint venture)
Threats	**Threats**
• Competition from other operators for the same markets.	• Competition from other Cooperatives for the same market and Hawkers.
• Harsh climatic conditions, dry and wet periods create heavy supply fluctuations and hence price fluctuations: in wet times: oversupply, in dry times: shortages.	• Harsh climatic conditions, dry and wet periods create heavy supply fluctuations and hence price fluctuations: in wet times: oversupply, in dry times: shortages.
• Production and transportation cost depending also on high fuel prices	• High competition in the market, only 30% goes through official channels.
• Breakdown of old transport vans due to poor road networks	• Production and transportation cost depending also on high fuel prices

6.3 Business Cases' Similarities:

Generally the two business cases are comparable on challenge areas identified as they both share similar challenges with slight degrees of differences. In the next section are the similarities identified per challenge area.

Production:
This challenge area was scored below overall average scores in both cases signifying a need for improvement. Both cases indicate that this challenge area needs improvements in aspects to do with provision of embedded services like technical and access to inputs and credit. Firms in both cases do not have operational extension services towards improving primary production limiting interactions and sharing of market information. Kiambaa DFCS, unlike Borabu FCU, has invested in provision of extension service to bridge the gap. This gap is being bridged by the strategy of upgrading the enabling environment.

Furthermore, the costs of agricultural inputs and services are perceived to be major constraints. Low yields are common as a result because optimal performance of the enterprise is not realized. Of the total production costs, feed constitutes the greatest (65-80%) part, a situation corroborated by findings in a previous studies (Technoserve, 2008, Wambugu et al., 2011). Another study details that the high cost stems from purchase of concentrates and hay or Napier (USAID, 2010). All production risks are therefore borne by farmers. Low productivity by farmers will impact negatively on the relationship with the firm as they become unreliable in meeting the supply volume.

Functioning of Farmers' Organizations:
The producers' organizations and the firms are involved in a cooperative business model. The cooperatives have voluntary and open membership with democratically elected leadership. The General Assembly (the AGM) has the overall right to decide the directions of their respective organization. In all the cases members are autonomous and independent.

The producer organizations are providing support services for their membership though they have some significant deficiencies. The POs organize for trainings from organizations and development agencies to improve their knowledge and skills. It was observed that the Government and other development agencies are actively supporting the producers' organizations technically as well as in organizational development (Upgrading of enabling environment). Borabu Union is a beneficiary of SDCP, NALEP and FOPA. Kiambaa Union is linked with NALEP, Agriterra and SNV.

The scores for this challenge area were generally above the overall average score for all challenge areas in both cases. Producers in Borabu case were not very happy with collective milk marketing for individuals supplying New KCC were taking home a higher price than their counterpart in cooperatives. Producer organizations need funds for operations but they need to give value to the money subscribed by members. Communication needs to be in place to inform members of the appropriate use of funds. However, the producer organizations have played a role of catering for some services like provision of A.I services and stores for resale. Linkage for access to credit has been made possible via institutional partnerships. Also, by participating they will feel involved and be motivated to take responsibility for their actions (Mangnus and Piters, 2010a).

The boards are democratically elected under guidelines by MOCDM and are equitably distributed within catchment areas. Women are also represented in executive management positions.

Both firms were happy with the operations by the producer organizations. This position was informed by the duration in which they have had the business relation. New KCC and Borabu Union have been in a 5 year relationship while Eldoville has been in relations with KDFS for 10 years.

Farmers noted that meetings were held routinely but were limited to annual assemblies and board meetings. An organisation usually performs better when its members are involved in decision making, as they are often closest to the information needed to make decisions. During FGDs it was clear that agenda are always on issues and rarely do they focus on planning and forecasting the future.

Markets:

On markets it is clear that farmers are not bound to supply specific volume of milk to their buyers. The firms in turn are encouraging larger volumes supply by paying bonus for bigger volumes as is the case with New KCC. Eldoville on the other hand give a range of volumes in the contract whose upper limit has not been reached by Kiambaa. From the two cases score indicated that not all milk produced by farmers is supplied to the buyer through the cooperative. FGDs revealed that some milk is sold to neighbours or traders in order to get cash for recurrent family expenditure. This confirms previous reports that described the need for cash to cover daily expenses as a strong cause for producers to sell to informal traders/hawkers (Technoserve, 2008). In addition, there is no quality control in the informal market allowing producers to sell poor quality milk that would be rejected. Some farmers in Kiambaa cited the time to deliver milk (as early as 3.am) contributed towards seeking alternative buyers.

Interestingly farmers had low scores on whether they knew products processed by the firms. This indicates information asymmetry on what is happening upstream in the chain. Interventions towards improving supply to firms should therefore focus on quality improvement and sharing of information among actors. Effective communication provides relevant information to business partners to assess each other, thus increasing transparency and affecting trust level. Earlier studies have shown that communication or information sharing are positively related to trust levels in business relationships (Fischer, 2009, Kumar, 2000).

Prices:

It is apparent that the ordinary farmers, from their low scores, do not agree that they are informed of prices before starting the supply. In New KCC- Borabu case the monthly contracts do not serve to give farmers adequate time to make informed decisions. In Kiambaa ordinary farmers do not know what the firm offers but only know what they receive from the cooperative. Both actors are disagreeing on prices as there lacks a mutual mechanism of determining prices. The statements on prices show that farmers are not happy with the prices offered by firms. There is definitely a level of mistrust since the partners do not understand each other's interests and risks (KIT and IIRR, 2008).

Contracts

In the two cases this challenge area scored poorly looking at the respective scores of 58.4% (Kiambaa) and 52.5% (Borabu). From both cases it is evidenced by the scores that farmers are less positive about understanding the details of their contract with the firms. The firms are of the view that they expect the farmers to understand the contract through communications from their representatives.
The parties also scored lowly on whether the contract was binding. Farmers' board representatives felt that no clear clause was in the contract on action to be taken in case the company breaches the contract.

It is also indicated that in both cases farmers are not bonded to their organization in terms of commitment towards supplying specified volumes once in production. They are under no obligation to remain in supply terms with the cooperative. This give room for selling to alternative segments at will. This is weakness that needs improvement to strengthen the producer organizations. This strategy of horizontal coordination needs to be built up.

Interestingly, there is some level of trust between the parties as the suppliers are readily operating on credit delivery terms while meeting the basic quality and time of delivery requirements while the processors are paying promptly. The parties have sustained this positive relationship over time. The element of trustworthiness is instrumental to upgrade this relationship.

Quality Standards and Record Keeping

Scores for this are for the two cases were above the overall average scores indicating strengths. Both agree that despite the scores being positive the state of the good agricultural practices at farm levels were unsatisfactory. The strict screening of milk by the POs at MCCs was responsible for the quality milk delivered to firms. Interventions should target improving GAP implementation at firms.

Farmers agree that the quality standards and reasons for rejection of milk are clear. They are sensitised of these requirements by the extension arm of the cooperative society. The firm is even more positive attributing this to the high level of compliance that the supplier depicts. Farmers were less positive on the filing of feedback overviews by the company as majority have had no access to such information. They just trust that their leadership uses the same to make appropriate decisions and payments. On the other hand the company believes that the records are limited to deliveries and payment which is transferred back daily with deliveries and backed up with soft copies using the IT system. In this challenge area both parties agree that records on milk deliveries to the buyer are well kept. This is attributed to the confidence they have on the digital scales being used at collection centres (in Kiambu case). Borabu union should consider acquisition of such scales for its affiliate cooperatives.

Another statement with low scores by the respondents in the two cases was on milk being collected under recommended shaded facilities. Farmers were less positive because they argued some of the collection points along the collection routes were on the open grounds. It is only that the collection is done at early hours when the sun has not risen.

Generally, the farmers and the firms are positive on quality, a driver for sustained commercial relations. The firms require quality supplies of milk in order to process competitive products while farmers need to attract customers who prefer quality raw milk.

Benefits of trading arrangements

The farmers and firms are positive about their linkage. Farmers are happy that the companies provide them with guaranteed markets for their milk especially during glut period. The firms on the other hand are happy with the quality supplies they get from POs always delivered at required times.

In addition the actors agree that the milk business is important to families as it provides a steady income all year round. However farmers said that they could not invest this income in other enterprises in the farm due to the high costs of feeds and other inputs for dairy.
Sustainability of the arrangement is at stake looking at the weaknesses seen in each case. In Borabu indications of some households do not share proceeds of the business equitably to benefit women and youth. In Kiambu youths are not involved because the never receive incentives. This could jeopardise the firm-farm relationship in future with reduced supplies to firms.

Business Cases' Differences

Between the two cases some differences were observed:
In each case farmers are organized to different levels. The Borabu case has farmers organized to a union level whereas the Kiambu case is organized to a cooperative level. The producer organization memberships differ; Kiambaa Dairy has an active membership of 1221(877F and 334M) members whereas Borabu Union has 399 (298M, 101F). Kiambaa dairy has more women.

Concerning the quantities of raw milk handled by the producer organizations, Kiambaa handles up to 14,000kg/day whereas Borabu handles up to 3,000 kg /day. Furthermore by the fact that Kiambaa is next to Kenya's capital city Nairobi it has more diverse market segments than Borabu. Borabu is found in a rural setup where infrastructure conditions are poor.

Kiambaa DFCS is richly endowed with facilities as compared to Borabu union whereby it has own chilling tanks, trucks for transport and digitalized scales with capacities of processing and storing records. On the other hand Borabu has one truck and depends on manual record keeping by its thin staff based on individual cooperatives.
In Borabu case the firm (New KCC) owns the product as from the MCC whereas Eldoville owns it once delivered by the PO at the factory.

Value Chain Development

Mitchelle et al. (2009) outline 7 value chain upgrading strategies suitable for smallholder farmers with a view of improving their inclusion and competitiveness in higher value activities. Farmers in the two case studies have employed some of the strategies like horizontal coordination, vertical coordination, functional upgrading, process upgrading and product upgrading. The government has policies in place that are supporting growth and development of smallholder dairy producers and created environment for development agencies.

Through vertical coordination, firms and farmers (horizontally coordinated) are now in business relations. What is required is for them to build on trust by sharing information about the market and understanding each other's risks. Production challenges as they emerged are quite significant and strategies like horizontal and vertical coordination can serve to reduce costs as well as share the risks. This calls for an effective communication plan between players.
It requires stakeholders' cooperation and inclusive policy process which must include lead firms to sustainably upgrade the position of smallholders. It is important that the interventions proposed for value chain development spring from the logic of value chain analysis and the market development approach.

KIT and IRR (2008) put emphasis on continual communication to realise effective chain coordination and improved business. The partners should strive to develop partnership by agreeing on shared vision and joint action plan. Contract should be respected and effective contract enforcement mechanisms can be agreed upon by partners.

CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATIONS:

This chapter finally describes the conclusion drawn from case study, survey results and discussions.

7.1: Conclusions

This research study had an objective of identifying strategies for improving firm farm relation by assessing challenge areas within firm-farm business setup in Borabu and Kiambu East districts. Further the research sought to assess the tool '2-tango' on its feasibility in chain relations assessment.

From the results of this study it therefore can be concluded that the relationship between the two parties in each case is generally good with opportunities for improvement. The weak areas identified in this study case are more on production and trade contracts. The weaknesses can be attributed to poor alignment to business partner's interests and success (lack of mutual understanding), information asymmetry, weak producer organisation commitment and inadequate technical and business skills knowhow. Streamlining information sharing through establishment of a communication and coordination plan between the firm and farmers as well as between the farmers' organisation with its members will be of importance.

Production challenge is characterised by low yields as a result of lack of adequate production skills, low level investments and inefficiencies due to high costs of inputs. In both cases farmers are bearing all production risks alone. This proves to be a barrier to both process and product upgrading strategies.

On functioning of producer organizations results indicate high level of satisfaction of members. Weak areas that need to be upgraded are capacity building of board members on business skills and marketing. Kiambu DFCS has linked with Agriterra and SNV to achieve this objective.

Contracts in both cases are not respected by the actors. This is because they lack stringent enforcement measures. Borabu contract with New KCC is always signed without a witness. Prices are not mutually determined but are always fixed by firms who are power holder in the chain.

Quality will be only achieved if high levels of good agricultural practices are in place at farms. It was noted from the interviewed stakeholders and livestock reports that the screening and testing milk deliveries from farms done by dairy cooperatives, processors and traders does not help to improve quality.

The relationships have a potential of improving if the firms and farmers engage themselves in constant dialogue and strategically employ chain upgrading strategies.

7.2 Remarks about the '2-tango' tool.

The '2 to tango' tool proved to be instrumental in facilitating dialogue between business partners in an agricultural value chain. The most important field data gathering instrument in this methodology was the scoring of the statements. Much more insight was gathered when the facilitator/ researcher do it together with respondents as more information and insight is captured for reasons behind selection of scores. The company and the farmers (together with their organization) were able to elicit their weak points in their linkage. The sharing of the findings of self-assessment to the parties, during the debriefing sessions, produced pertinent revelations that require interventions in order to sustain the business relations. Dialogue and further negotiations can thus be elicited and are often based on informed background yielding in a win-win situation for the two business partners.

There was need for a joint forum to be held drawing participants from both sides by the facilitator/ researcher to give chance for establishment of a coordinator and coordination mechanisms that can enhance their relations. It can be more effective if the actors themselves are willing to improve their relation.

Finally, the role of a facilitator should be clear to participating actors from the start. Wrong perceptions could lead to getting wrong information.

Recommendations

The Companies to consider (re-)establishing field extension services to support the existing government and NGO/donor efforts towards improving production quantities and qualities that meet the market demands. For the farm inputs the POs should concentrate on bulk purchases for lower costs for its members. It should source for quality inputs from reputable manufacturers. The A.I. services by the POs to be popularised with farmers getting trainings on breeding plans. Improving farmer productivity and product quality will go a long way in ensuring economic benefits for both parties.

The partners to work out a communication plan to improve on information sharing in a transparent manner. These will involve establishing coordinating team, utilization of ICT facilities and improved interactions through extension services. In addition the extension services will be useful in cultivating mutual trust and commitments towards success of both partners as well as curbing side-selling.

Accessibility to credit was found to be weak. There is need to strengthen the POs-driven scheme via SACCOs and other Micro-Financial Institutions to enable farmers access credit to develop their dairy enterprise. Farmers should be trained on credit management so as to have credible investment plans.

Farmers should be trained on dry-season feeding so as to benefit from better prices in this season. The companies should also strive to penetrate more into export markets by producing competitive products. In turn farmers can be given incentives for increased quality through premium prices. To reduce side-selling risks there is need to establish transparent pricing mechanisms by information sharing and empowering farmers in price negotiations. The partners need to understand each other's transactional costs and risks.

The screening and tests of milk should be backed up with follow up interventions by the firm's or cooperatives' extension staff to achieve high levels of GAP implementations. The government and its development partners should also realign their capacity building efforts towards GAP implementation for quality milk production.

Producers' organizations and firms to be trained on the "2 to tango" methodology so that they can review their relations periodically.

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APPENDICES

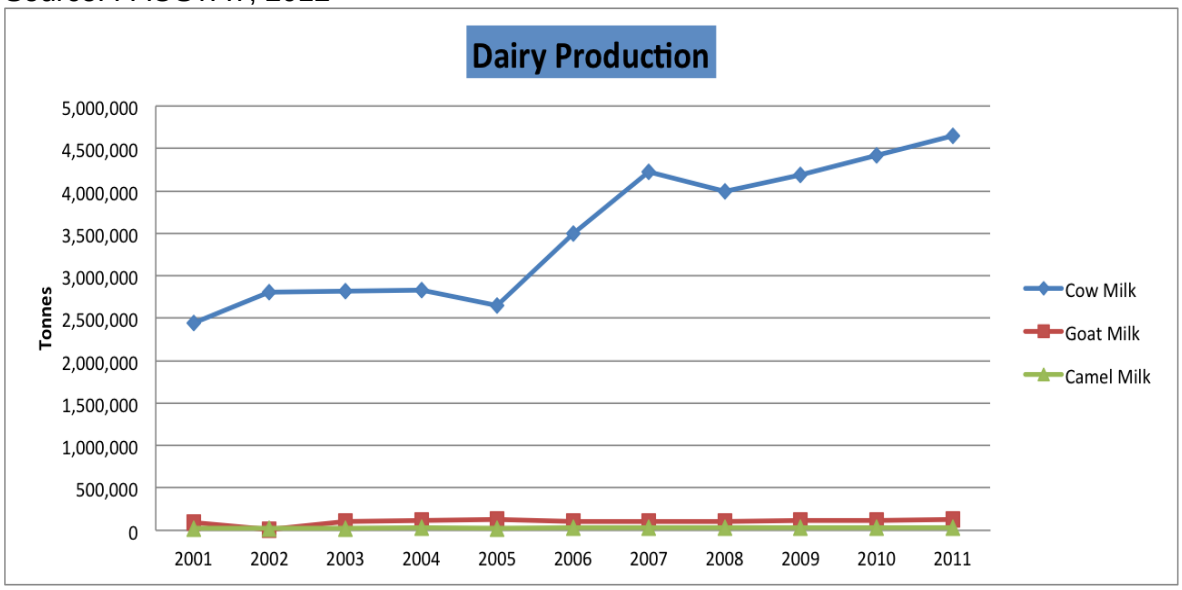
Appendix A: Top production of commodities in Kenya (2010)

Rank	Commodity	Production (Int $1000)	Flag	Production (MT)	Flag
1	Cow milk, whole, fresh	1609299		5157000	
2	Indigenous Cattle Meat	1250281	*	462831	Fc
3	Maize	437037	*	3222000	
4	Tea	424327	*	399000	
5	Mangoes, mango guavas	331765	*	553710	
6	Beans, dry	234904	*	390598	
	* : Unofficial figure Fc: Calculated data				

Source: FAOSTAT 2011

Appendix B: Milk production trends in Kenya (2000-2011)

Source: FAOSTAT, 2012



Source: KDB, 2012

Appendix C: Operationalization of research questions:

Sub-question	Operationalization	How	From who (where)
1.1 What are the dairy farming systems in the target district?	Farming systems AEZs Yields Cost structure	Observations Literatures Interviews	Farms Internet, Reports, Journals Farmers
1.2 Who are the dairy value chain actors/operators, supporters and facilitators?	Chain actors, Supporters, Facilitators, Functions/ Roles	Literature, Interviews	Journals, Reports, Stakeholders

1.3 What are the current marketing practices and outlets?	Product flow Suppliers Processing Distribution Consumer segments	Interviews, Literature	Actors, Stakeholders, Journals and publications, reports
1.4 What are the volumes and prices of products traded in the value chains?	Products, Quantities, Prices	Interviews,	Actors, Stakeholders
1.5 What challenges do smallholder farmers and processors face?	Problem/challenges/risks facing farmers Challenges/ risks facing processors	Interview, literature, Survey, FGDs	Farmers, Processors, Stakeholders, Journals and publications, reports
2.1 Which market institutions are present in the dairy value chains?	Organizations, Policies, Rules and regulations, public service, contract and contract-enforcement mechanisms, information flow	Interview, literature, Survey, FGDs	Farmers, Processors, Stakeholders, Journals and publications, reports
2.2 What is the functioning of producer organization on agri-business partnership?	Producer organizations, governance, social capital,	Interview, Survey, FGDs	Farmers, Processors, Stakeholders
2.3 Which risks do the firms and farmers bear in the value chain?	Risks in the trade functions Risk sharing	Interview, Survey, FGDs	Farmers, Processors,
2.4 Which chain development strategies can be appropriate for improving the firm-farm relations?	Value chain strategies,	Interview, literature, Survey, FGDs	Farmers, Processors, Stakeholders

Appendix D: Checklist topics for interviews

F-F challenge areas
Crop / produce: export market, bulk product for local market, … alternative crops, 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, CSR, 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 (1st and 2nd 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, …

Appendix E: Questionnaire for farmers and companies

Questionnaire for farmers

Business Case Features; interview with farmer organization (s)

1. **Basic data per case:**

Business case and respondents

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

2. **Farmers' organization**

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:	

3. 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:	

4. Production

a. Which functions are performed in ownership by the farmers?
   - Planting/sowing
   - Harvesting
   - Bulking
   - 1st processing stage (for instance: cleaning / grading)
   - Intermediate processing
   - Final processing
   - Packaging

b. Hygiene and food safety certificates required?
   - Yes
   - No

Observations:	

5. 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	

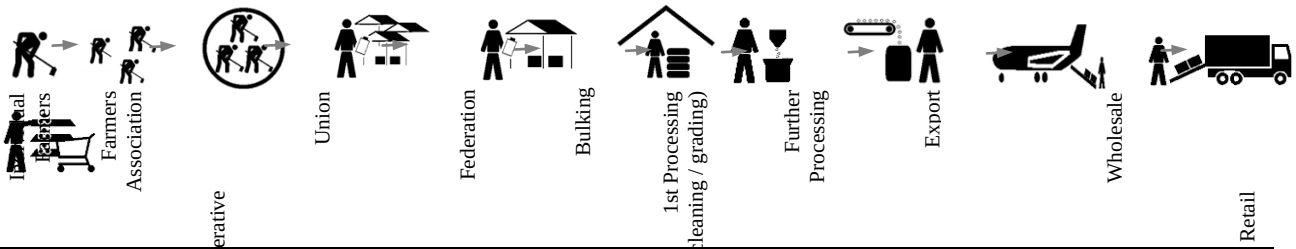
applicable):	
Observations:	

6. 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).
   - o Democratic structure
   - o 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:	

7. Product branding

a. Is the product specifically branded?
   - o Organic Certified
   - o Conventional, generic (no specific brand)
   - o Socially certified (Fair Trade, UTZ, etc)

b. Is the product sold to the customer under the specific brand name of the business/producer organization?
   - o Yes
   - o No

Observations:	

8. Customer / Market:

a. How many customers does the business/farmer organization serve?
   - o one
   - o several

b. Categorize the direct customer(s)
   - o trader,
   - o exporter,
   - o processor,
   - o wholesale,
   - o retail,
   - o end-user

c. Which market does the business/farmer organization serve?
   - o the mass market (bulk market)
   - o a niche market

d. Is the direct customer a local or an international customer?
   - o Local
   - o International

e. Is the end-market (end-consumer) a local or international market?
   - o Local end-market
   - o International end-market

Observations:	

9. 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

Observations:	

10. Pricing

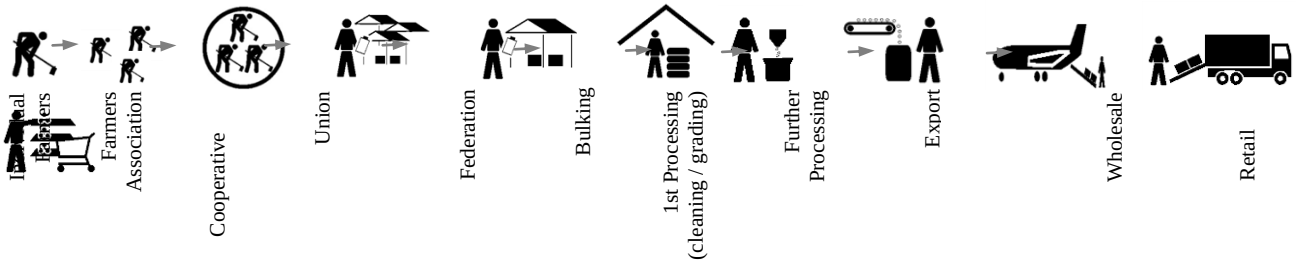
a. Which pricing mechanism is used:
   - List price: predefined fixed prices
   - Price depends on the quality of the product
   - Price depends on the type and characteristic of the direct customer
   - Price is determined as a function of the quantity purchased
   - Price is negotiated between two 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:	

11. Trade Contracts

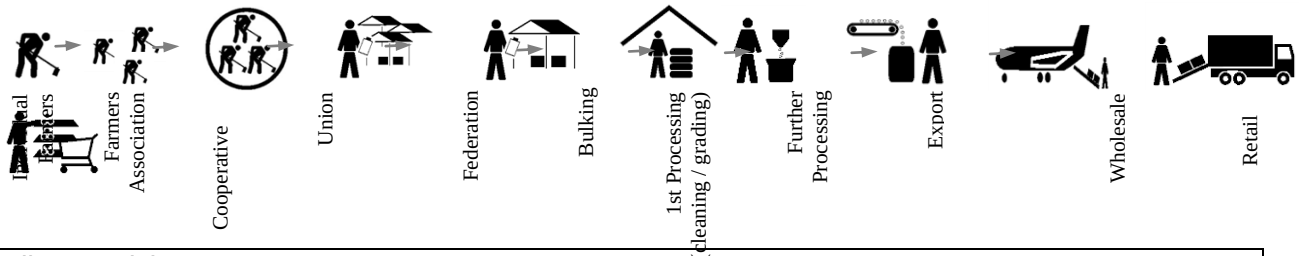
Indicate with lines between which parties trade-contracts are signed.



Observations:	

12. 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 ⟶

Observations:	

13. 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:			
Observations:			

Questionnaire for companies

Business Case Features; interview with Firm/ Company (ies)

1. Business case and respondents

Country:	
Product:	
Name of Company:	
Name of supplier organizations (s)	

Date of interview:	
Name of persons interviewed:	
Function of persons interviewed:	

2. Ownership and suppliers

Type of Organization:	

Year of establishment:	

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

e. How has the trading entity been operated?
   - Contracts
   - Open door
   - Others

Observations:	

3. Product:

Does the Company process:
- 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
- all-year-round-production?

Observations:	

4. Production

c. Which functions are performed in ownership by the company?
   - Dairy cow management
   - Milking
   - Collection and Bulking
   - Chilling
   - 1st processing stage (for instance: grading)
   - Final processing
   - Packaging
   - Distribution
   - Wholesaling
   - Retailing

d. Hygiene and food safety certificates required?
   - Yes
   - No

Observations:	

5. Quantitative data

Average intake volume of company per season (if possible details for different seasons) :	**Peak season**
	Low season
No of employees:	**Field**
	Plant
Observations:	

6. Product branding

c. Is the product specifically branded?
   - Organic Certified
   - Conventional, generic (no specific brand)
   - Socially certified (Fair Trade, UTZ, etc)

d. Is the product sold to the customer under the specific brand name of the business/producer organization?
   - Yes
   - No

Observations:	

7. Customer / Market:

f. How many customers does the business/farmer organization serve?
   - one
   - several

g. Categorize the direct customer(s)
   - trader,
   - exporter,
   - processor,
   - wholesale,
   - retail,
   - end-user

h. Which market does the business/company serve?
   - the mass market (bulk market)
   - a niche market

i. Is the direct customer a local or an international customer?
   - Local
   - International

j. Is the end-market (end-consumer) a local or international market?
   - Local end-market
   - International end-market

Observations:	

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

Observations:	

9. Pricing

c. Which pricing mechanism is used for suppliers:
   - 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

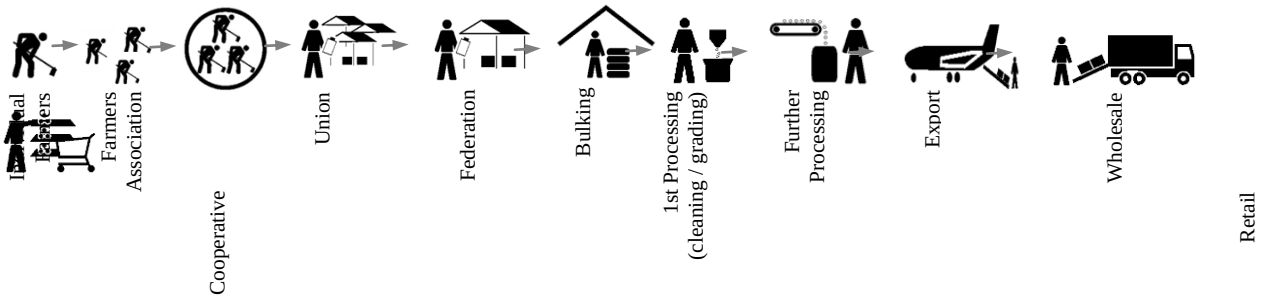
d. Which pricing mechanism is used for customers/ buyers:
   - List price: predefined fixed prices
   - Price depends on the quality of the product
   - Price depends on the type and characteristic of the direct customer
   - Price is determined as a function of the quantity purchased
   - Price is negotiated between two or more partners depending on negotiation power and/or 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

e. Is the business 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:

b. Which risks does the company bare? Up until which point in the value chain does the company 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
Parasites and diseases
Side-selling risk
Timeliness
Volume Risk
Quality Risk
Processing Risk
Financial Risk
Storage Risk
Transport Risk
Certification Risk
Marketing Risk
Reputational Risk

Observations:	

12. Other embedded Services:

Which services does the company provide suppliers with?

13. 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:			
Observations:			

Appendix F: 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:	*What is the name of the company that you work for?* .....
Position respondent:	*What is your position in the company?* .....
Duration participation:	*How long do you work for this company?* .....

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

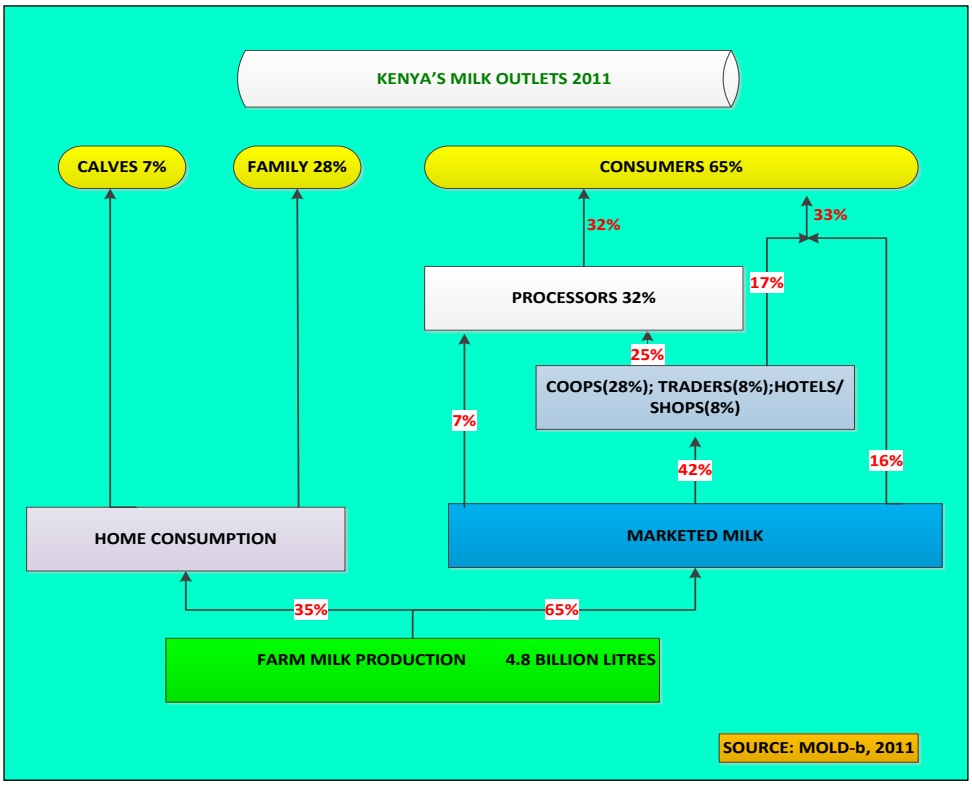
Characteristic respondent:	*What is the name of your farmer group / cooperative?* .....
Position respondent:	*What is your position in your farmer group / cooperative?* ☐ I am a farmer and sell my products through this farmer group ☐ I am a board member / member of core group ☐ My position is: .....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

	Statements	Scores			
		0	**1**	**2**	**3**
		Strongly disagree	*Disagree*	*Agree*	*Strongly agree .*
		☹☹	☹	☺	☺☺
1	*Production*				
1.1	Farmers have access to artificial insemination services when required.				
1.2	Farmers have easy access to credit for farming.				
1.3	Farmers have sufficient feeds (concentrates) available.				
1.4	Farmers can get the different types of recommended concentrates.				
1.5	Farmers' yields are increasing.				
1.6	Eldoville provides quick feedback to farmers' questions related to production.**.**				
1.7	Eldoville provides farmers support when faced with milk production challenges.**.**				
1.8	Eldoville's extension services are operational.				
1.9	Prices for inputs (feeds and drugs) are affordable.				
2	*Functioning of farmer group-*				
2.1	We agree with the way Eldoville selects farmer groups for contracting arrangements.				
2.2	We agree that farmers sell the milk through the group, and not as individual farmers.				
2.3	The constitution and by-laws cater for internal and external issues of dairy farmer groups.				
2.4	Elected farmer group leaders adhere to the tasks and responsibilities defined in the constitution and by-laws.				
2.5	Farmer group meetings are regular and effective.				
2.6	All members are informed and understand group financial issues.				
2.7	Eldoville is happy with the way the farmer group is operating.				
2.8	The farmer group leaders always represent the common interest of the farmers.				
2.9	The farmer group always assists members get other services to develop their farming.				
3	*Markets*				
3.1	Eldoville is clear about the amount of produce it wants to buy from the farmers.				
3.2	Eldoville clearly informs farmers about quality requirements of milk.				
3.3	There are other milk buyers in the market.				
3.4	The demand for processed milk is growing.				
3.5	Farmers know what products are the processed at the factory.				

3.6	The demand for milk is growing in the area.				
3.7	Customers of milk prefer high quality milk				
3.8	Farmers sell all their marketable milk through their cooperative				
3.9	Eldoville takes all the milk supplied by the farmers.				
4. *Price*					
4.1	Before starting milk supply, farmers are sensitized about milk prices to be paid.				
4.2	The farmers think Eldoville pays them a fair price.				
4.3	Eldoville pays farmers according to schedule.				
4.4	Eldoville pays a price depending on volume supplied				
4.5	Eldoville pays a price depending on quality supplied.				
4.6	Farmers are satisfied by being paid through the farmer group account.				
4.7	Eldoville pays the price responding to market situations.				
4.8	Farmers' organization is always involved in price setting				
4.9	Eldoville informs farmers of intended changes in price in time.				
5.	*Contract*				
5.1	Each individual farmer understands the content of the contract with Eldoville.				
5.2	Farmer groups can always discuss contract issues with Eldoville.				
5.3	Eldoville takes farmers' 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 farmer group follows the rules laid down in the contract.				
5.7	Eldoville follows the rules laid down in the contract.				
5.8	Farmer groups penalize members for breach of contract.				
5.9	Eldoville takes measures for breach of contract.				
6	*Delivery and Collection of milk*				
6.1	Collection centres are close to farmers				
6.2	Farmers deliver milk to collection points at the right time.				
6.3	Milk collection at the milk collection centre is done at the right time				
6.4	The staffs at the collection centres are appropriately skilled.				
6.5	Records at the collection centre are well maintained.				
6.6	Farmers deliver required volumes to Eldoville.				
6.7	Farmers deliver milk using recommended containers.				

6.8	Eldoville is happy with farmers' deliveries.				
6.9	Farmers are happy with the way Eldoville collects the milk.				
7	*Quality standards and record keeping-*				
7.1	Farmers follow good agricultural practices (GAP).				
7.2	Quality standards and reasons for rejection are clear.				
7.3	At collection points farmers follow the hygiene standards.				
7.4	Eldoville staffs at collection points follow the hygiene standards.				
7.5	The farmer groups keep records of the milk delivered to Eldoville.				
7.6	Farmer groups engage in milk testing at collection points.				
7.7	At collection points, milk is collected under recommended shaded facility				
7.8	Farmer groups correctly file the feedback overviews provided by Eldoville.				
7.9	Farmers trust the delivery records by Eldoville.				
8	***Costs / benefits of contract trading***				
8.1	Farmers are happy to have a guaranteed market for their milk.				
8.2	Milk farming provides farmers with a steady income.				
8.3	Farmers are happy with the services offered by Eldoville.				
8.4	Eldoville is happy about the relationship with the farmers.				
8.5	The money from milk farming is the most important income for the family.				
8.6	All farmers (large and small, men and women) benefit from the sale of milk to Eldoville.				
8.7	Milk revenues are invested in other farm enterprises.				
8.8	In this area, milk farmers manage to get bank loans.				
8.9	Milk farmers are developing other income generating activities.				

APPENDIX G: Milk Market Channels in Kenya



Appendix H: Kiambaa DFCS-Eldoville Contract

KIAMBAA DAIRY FARMERS CO-OPERATIVE SOCIETY LTD

PO BOX 3 KARURI TEL: 0202060258

MILK SUPPLY AGREEMENT MEMORANDUM

THIS AGREEMENT is made this **5th** day of **April** Two Thousand and Eleven BETWEEN **KIAMBAA DAIRY FARMERS COOPERATIVE S. LTD.** of Post Office Box 3-00219 Karuri in the Republic of Kenya (hereinafter called "the Supplier ") of the one part and **ELDOVILLE FARM** of Post office Box 24390-00502, Nairobi in the said Republic (hereinafter called "the Buyer") of the other part.

SECTION A.

1. NAME OF THE SUPPLIER : (Three Names)	**Kiambaa Dairy Farmers Co-op Society Ltd**
2. CONTACT ADDRESS:	**Po Box 3-00219** **Karuri**
3. CONTACT PERSONS :	**(i) Manager - 0721-613222** **(ii) Chairman -0722-625022** **(iii) Operations Manager -0721-434632**
4. PHYSICAL ADDRESS:	District: **Kiambu East** Division: **Kiambaa** Location: **Kiambaa** Sub Location: **Karuri** Village: **Banana Town**

KDF/MSAM/04/11

5. CONTACT TELEPHONE: 0721-613222/020-2513650

6. BANK DETAILS:

   I. Name of the Bank: **Co-operative Bank**

   II. Names of the Bank Branch: **Kiambu**

   III. Location for the bank (Town): **Kiambu Town**

   IV. Bank account Number: **01120063115700**

   V. Name of the account holder: **Kiambaa Dairy F. C. S. Ltd**

7. DATE OF COMMENCEMENT: **5TH APRIL 2011**

8. THIS CONTACT IS VALID UP TO: **5TH APRIL 2012**

9. (I) DELIVERY /LOCATION: **ELDOVILLE FARM**

   (II) DELIVERY TIME: **8.30 AM**

But in case of a vehicle breakdown the delivery time may be delayed and proper arrangement shall be undertaken to inform Eldoville farm on the same.

10. THE VOLUME OF MILK
    TO BE DELIVERED : **3000** MAXIMUM (KGS)
    : **1500** MINIMUM (KGS)

However the supplier offered to supply between 1000 to 1500 litres between 5th -30th April 2011 and also offered to increase the supply to 2000 litres by 1st May 2011

11. PRICE **KSHS 34** (PER KG AT THE TIME OF SIGNING) and **Kshs 33 as from 1st May 2011 less twenty (20) cents per kilo in respect to the current cess rate.**

SECTION B

WHEREAS the Buyer is the proprietor of a milk processing Dairy and has agreed to purchase fresh cow's milk and the Supplier has agreed to supply the same to the Buye of the terms and conditions hereinafter appearing:-

1. The Supplier shall deliver the milk to the Buyer's location and time shown in the memorandum endorsed hereon which location and time is subject to change by the Buyer as shall be deemed necessary.
2. The volume of milk to be supplied by the Supplier shall be that stipulated in the memorandum endorsed hereon which quantity may be increased or decreased from time to time at the discretion of the Buyer and subject to the prevailing market forces.
3. The Supplier shall deliver the milk only in sanitized aluminum cans and shall not in any event use can of any other materials.
4. The Supplier may supply milk from stainless steel milk tanks in the event that the Buyer collects milk from the seller's premises.
5. The Supplier will deliver milk of the specified and accepted quality and the Buyer will test the quality of milk in the Supplier's presence for sediment, microbial activity, purity and odour and in the event that the said milk is found to be below the specified standard, then the Buyer may at its discretion without incurring any liability whatsoever to the Supplier, reject the same.
6. Any delayed payment for more than 30 days of delivery shall lead to cancelation of credit delivery but the Buyer can continue purchasing milk in cash. The delayed payment shall not exceed 30 days of the following month.

IT IS HEREBY AGREED AND DECLARED for the purpose of this agreement that the acceptable quality of milk shall fall within the following parameters:

a) Fresh cow milk;
b) Free of any flavours and odours;
c) Free of any impurities and physical dirt;
d) pH between 6.6 minimum to 6.7 maximum;
e) Minimum butterfat content 3.5%;
f) Low microbial count resazurin reducing dye test grade 5-6;
g) Acidity 0.13%-0.14%;
h) Free from antibiotics , preservative or any additives;
i) Density between 1.028 and 1.032 maximum and solids not fat not less than 8.1%;
j) The Milk shall be negative to alcohol and clots on boiling test;
k) The milk shall be rejected if in the opinion of the grader, is unfit for processing for whatever reason. Failure to adhere to the above quality parameters, the Buyer at its discretion may terminate this agreement.
l) That the Buyer shall assume the responsibility of milk quality after reception i.e. no complain shall be accepted by the Supplier after the milk had been received.

be increased and/or decrease by both parties by giving a 15days notice as may determined by the market forces that may prevail. The net price payable to the Supplier shall be less twenty (20) cents per kilo in respect of the current cess rate and/or the prevailing cess rate determined by the relevant authority.

8. The Supplier shall invoice the Buyer for the milk delivered monthly in arrears which amount shall be settled by the Buyer upon receipt of the invoice thereto i.e. from 1st – 20th deliveries milk payable by 26th day of that month and that of 21st - 31st deliveries is payable on 10th of following month.
9. This agreement shall be governed and interpreted in all respects in accordance wit the laws of Kenya and the Buyer shall be at liberty to pursue a claim for damages i the event of breach by the Supplier of any of the terms and conditions of this Agreement.
10. This Agreement constitutes to whole Agreement between the parties hereto and th terms and conditions stipulated herein shall not be altered or modified unless done in writing and agreed by both parties.

IN THE WITNESS WHEREOF: this Agreement was duly executed the day and year first above written.

		Name	**Sign**
SIGNED on behalf of the Supplier	) **Chairman**	.....	.....
KIAMBAA DAIRY FARMERS.	) **Vice Chairman**	.....	.....
In the presence of:	) **Treasurer**	.....	.....
	) **Hon. Secretary**	.....	.....
	) **Manager**	.....	.....
	)		
SIGNED on behalf of the Buyer	) **Chairman**	.....	.....
ELDOVILLE FARM	) **Director**	.....	.....
	) **Accountant**	.....	.....

In the presence of:-

(STAMP PLEASE)

SUPPLIER S NO..... **DATE**.....

Appendix I: Borabu Union-New KCC Contract

AGREEMENT

This **AGREEMENT** is made this day 1ST ..... of MAY ..... 2012, **BETWEEN NEW KENYA CO-OPERATIVE CREAMERIES LIMITED** of Post Office Box Number 30131-00100 Nairobi in the Republic of Kenya (hereinafter called the "**Buyer**") which expression shall where the context so admits include its personal representatives and assigns of the First Part:

AND

....BORABU FARMERS CO-OP. UNION..... a body corporate/Co operative society/Self help Group incorporated in Kenya under the relevant Laws of Kenya and of Post Office Box Number ...42 NYANSIONGO..... in the said Republic (hereinafter called the "**SUPPLIER**") which expression shall where the context so admits include its personal representatives and assigns of the Second Part.

WHEREAS

1. The **Supplier** is a producer of raw milk of raw milk based in .BORABU..... district and;

2. The **Buyer** has requested and the **Supplier** has agreed to supply raw milk on the terms and conditions contained herein.

NOW THEREFOR THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. The **Supplier** undertakes to supply raw milk to the **Buyer** on terms and conditions agreed between the parties as follows:

   a) The **Buyer** has agreed with the supplier that the following banding will apply during the existence of this supply agreement;

Volume (kgs)	Delivered price (Kshs.)
1 - 499	30
500- 999	31

   b) The price of the contracted raw milk shall be NKCC prevailing producer price as provided above. However, this price may be subject to change either higher or lower if exceptional market conditions occur which shall be communicated within 14 days prior

to implementation. A chilling incentive shall only be paid for raw milk delivered at **6°C.**

c) The price is subject to all statutory deductions applicable to the industry such as the Kenya Dairy Board Cess and any other that may become due during the existence of this agreement.

d) This agreement shall be in force for a period of ONE MONTH ----with effect from 1.5.2012 --- and may be renewed for a further period as may be agreed by the parties in writing.

2. For the purpose of this **AGREEMENT** the acceptable quality of raw milk shall be subject to quality test in the presence of the **Supplier** and in the event the said milk is found to be below standard and unfit for processing for whatever reason the grader shall reject the same without incurring any liability whatsoever to the **Supplier**. The quality of raw milk shall fall within the following parameters:

   a) Fresh cow milk;
   b) Free of any off flavours and odors;
   c) Free of any impurities and physical dirt;
   d) pH between 6.6 minimum to 6.7 maximum;
   e) Minimum butter fat content 3.5%;
   f) Low microbial count resazurin reducing dye test grade 5-6;
   g) Acidity 0.13%
   h) Free from antibiotics, preservatives or any other additive;
   i) Density between 1.029 and 1.032 (Gerber Lactometer at 15°C)
   j) The milk shall be negative to alcohol (80 %) and clots on boiling test.

4. The raw milk shall be graded at N.K.C.C and the milk that meets the above specification shall be accepted as one standard grade.

5. Payment for the raw milk shall be on or before every 5th of the month but not beyond the 15th of every. In the event of delayed payments beyond the 15th of every succeeding month the supplier shall have the option of securing an overdraft facility at the cost of the buyer at maximum 3% of the invoiced amount.

6. This **AGREEMENT** constitutes the whole **AGREEMENT** between the parties hereto and the terms and conditions stipulated herein shall not be altered or modified unless done in writing and agreed by both parties.

7. Should either party wish to terminate this **AGREEMENT**, a written notice of 30 days in advance shall be given to the other party and both parties shall be deemed to perform their obligations under this **AGREEMENT** until the last day of the notice period. Should a party fail to meet its obligations under

this **AGREEMENT**, the aggrieved party shall either withhold supplies (if supplier) or withhold payment (if buyer) until a resolution is arrived at as per clause 12 of this **AGREEMENT** and the aggrieved party may seek for remedy in a court of competent jurisdiction.

8. This **AGREEMENT** supersedes all previous arrangements entered into by the parties in respect of the terms contained herein.

9. This agreement shall be read and construed to take effect in accordance with and be governed in all respect by the Laws of Kenya.

10. Failure of a party to fulfill any of its obligations under this agreement shall not be considered to be a breach of, or default under this contract in so far as such inability arises from an event of force Majeure, provided that the party affected by such an event has taken all reasonable precaution, due care and reasonable alternative measures in order to carry out the terms and conditions of this contract, and has informed the other party in writing as soon as possible about the occurrence of such event.

11. For the purposes of this agreement, the following events will constitute Force Majeure in respect of the obligation of the parties.

    (i) Physical events such as acts of God, landslides, lighting, earthquake, hailstorms, or storm warnings such as hurricanes which result in evacuation of the affected area, floods, washouts, explosions, shortage of water, severe drought, Animal diseases, interruptions in electricity or Plant repairs (or any of them) machinery or equipment (save where such events are brought about by an act or omission on the part of the parties.

    (ii) Acts of others such as strikes lock outs or other industrial disturbances, civil unrest, riots, sabotage, insurrections, or wars;

    (iii) Governmental actions such as necessities for compliance with any court order or statute or any other cause, whether similar or not, that is beyond the reasonable control of the parties and

    (iv) Any act or omission by any competent authority refusing to issue renew or canceling any licenses, approvals, permits or consents required by the parties by statute to undertake the service.

12. The parties shall use their best endeavors to settle amicably all disputes arising out of or in connection with this agreement or its interpretation.

13. Any dispute between the parties as to matters arising pursuant to this agreement that cannot be settled amicably within sixty (60) days after receipt by one party of the other party's request for such amicable settlement may be referred by either party to arbitration for the final decision, such arbitrator to be agreed upon between the parties. Failing agreement to concur in the appointment of an arbitrator, the arbitrator shall be appointed by the Chairman of the chartered Institute of Arbitrators, Kenya Branch on request of the applying party.

IN WITNESS WHEREOF the duly authorized agent/representatives of the supplier and buyer have herewith set their hand on behalf of the supplier and the buyer the day and year first hereinabove written.

SIGNED BY

NEW KENYA CO-OPERATIVE CREAMERIES LIMITED)

(Head of Raw Milk Supplies & Extension))

In the presence of)

Name----------)

Sign----------)
(Company Secretary)

SIGNED BY

BORABU F.C. UNION .....)
(Supplier)

In presence of

NAME--AMOS A. OMBASO

SIGN----------
(Witness)

BORABU F. CO-OP. UNION LTD.
P.O. BOX 42
NYANSIONGO
DATE: 20/2/...

CHAIRMAN

Treasurer

Hon/sec.

Appendix J: The Role of Stakeholder in Kiambu

Agriterra

Agriterra is a development agency founded and steered by producers' organization and agricultural cooperatives in the Netherlands. The Kenyan chapter has been involved in supporting cooperatives' farmer-led economic development through advisory and broker services. Its activities thus revolve around helping farmer-led business initiatives to develop bankable business plans, improve their capacity for financial management, access to capital and facilitate peer to peer technical support and backstopping.

With the interventions by Agriterra the performance of Kiambaa DFCS has steadily been improving. Key achievements have included

i) The supply chain has turned into a value chain. The supply is now customer focused as production is tailored to meet the quality standards and food safety. Through its good quality products the producer organization has been able to attract demand from potential buyers.

ii) The organization is vertically integrated as farmers through their organization have taken up a number of successive chain functions (input supply, production, collection, chilling and some level of processing milk to yoghurt). The organization has facilitated access to A.I. services and credit to members in form of pay advances and development loans. This integration has made it possible for the chain coordination and quality control.

iii) The procurement and utilization of digitalised scales that serve to improve record keeping at MCCs as well as facilitate transparency and accountability.

SNV

- SNV-Kenya's core business is provision of advisory services in production, income and employment. It uses value chain development approach to foster increases in productivity, facilitate access to markets, identify and enhance trade opportunities in domestic, regional and international markets. In KDFS it has a partnership with Agriterra in capacity building of farmers and the cooperative management. Currently SNV is having a dairy consultant on the ground involved in training farmers on dairy husbandry, feed conservation and fodder development and record keeping to improve animal productivity. They jointly with the KDFS extension staff handle 20 trainings per month.
- SNV also facilitates the Kiambaa Dairy value chain governance to foster an enabling environment to ensure that interests of farmers are secured.

The Ministry of Livestock Development

The ministry apart from its role in policy formulation and implementation and regulating the dairy sub-sector is involved in provision of extension services. NALEP activities have been fundamental in building farmers capacity technically through dairy common interest groups approaches. The ministry also collaborates with other development agencies involved in dairy chain development.
Through KARI, the ministry offers research and development services.

The Ministry of Cooperative Development and Marketing

This ministry is involved in development of cooperatives through its controlling and supervisory role. It provides trainings about issues such as cooperative organization, management, bookkeeping and internal law. This ministry has the District Cooperative Office who is responsible for proper running of the cooperatives in the district. The district has two dairy cooperatives namely Ndumberi and Kiambaa.