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Linking Broiler farmers in the Katwe Balimi Quality Farmers group to secure markets in Kampala

Research project submitted to Van Hall Larenstein University of Applied Sciences in partial fulfilment of the requirements for the degree of Master of Science in Agricultural Production Chain Management, Livestock Chain Specialisation

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Dedication

I would like to dedicate this works to my parents, Mr Nelson Lutalo and Mrs May Lutalo. Thank you always for the love and advice. Thank you for setting the stage for me to take off. You live in me and I shall forever cherish that

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ABBREVIATIONS

BKQF	: Balimi Katwe Quality Farmers
FAO	: Food and Agriculture Organisation
FGD	: Focus Group Discussion
GDP	: Gross Domestic Product
IOM	: Intergrated Organisation Model
KCCA	: Kampala Capital City Authority
LTD	: Limited
MAAIF	: Ministry of Agriculture Animal Industry and Fisheries
NAADS	: National Agricultural Advisory Services
NGO	: Non-Governmental Organisation
PAU	: Poultry Association of Uganda
PMA	: Plan for Modernisation of Agriculture
POs	: Producer Organisations
UBOS	: Uganda Bureau of Statistics
UNBS	: Uganda National Bureau of Standards

Abstract

This research was undertaken to explore opportunities of secure markets in the broiler value chain of Kampala and recommend a business model that the producer group Balimi Katwe Quality farmers group can adopt to link its broiler farmer members to secure market. The research was carried out in Kampala, Uganda. The study was both qualitative and quantitative in design; involving a desk research, focus group discussion, interviews and a survey. A desk research, from existing literature was carried, along with total of 15 interviews to selected stakeholders in the broiler value chain of Kampala. Also a survey with 32 BKQF group broiler farmers was carried to out understand the general characteristics of the BKQF broiler farmers. Additionally, two focus group discussions were also carried with the broiler farming members and leaders of the BKQF group to provide additional research information. The findings from this research indicated that the Kampala broiler value chain consists of two major channels, one formal and the other informal. Most of the broiler farmers in Kampala are small or medium in scale and they sell their broilers predominantly in the informal channel where they lack adequate market information and sell at low prices to traders. The formal channel consists of processors that have adequate information on customer preferences. Due to the better pricing in this channel gross margins for actors in the formal channel are relatively higher than those in the informal. The formal channel also had secure market features like; use of trade agreements in form of verbal or contract agreements to cement relations, acquisition of quality certifications by processors and better gross margins per kg of meat for broiler farmers. The BKQF group was found to be lacking in many organizational management aspects and its current business model fell short of meeting the major needs of the BKQF broiler farmers, and had not played a role yet in linking them to secure markets. There is an opportunity however of a deficit in chicken supply in the formal chain that the BKQF group can take advantage of by collectively marketing broilers from its members. The other strengths is that the broiler farmers in the group are willing partners to supply inputs that can create value proposition for broiler processor customers. This research recommends that the BKQF group makes tangible efforts to improve on its internal organisation and adopt a new business model that addresses the immediate needs of its broiler farming members and creates strong partnerships in the market. The research recommends that group incorporateS broiler farmers as suppliers in the BKQF business model to create a new value proposition and products that meet the requirement of processors through a meticulous production and broiler supply plan.

Key words: Secure markets, producer organisation, broiler value chains

1 INTRODUCTION

1.1 Agriculture in Uganda

The agricultural sector (Livestock, horticulture, fisheries and forestry) employs 72% of Uganda's 13.9 million working population (UBOS, 2017). The sector is also the primary source of inputs for Uganda's industrial sector. Food processing, beverages and several other industries are all dependent on agriculture (MAAIF, 2011) (UBOS, 2017). Agriculture thus has the potential to spur economic growth and reduce poverty in Uganda (UBOS, 2017). The contribution of Agriculture to Uganda's Gross Domestic Product (GDP), has however reduced drastically over the past 20 years, from 50% in the early 1990s to the current 24.8%. The drop has been due to reduced agricultural production, arising from unfavourably declining produce prices (FAO, 2010), the growth of the services sector and rapid economic growth in urban areas (UBOS, 2017). The sector still however contributes 85% of Uganda's export earnings (USAID, 2017).

1.2 Poultry farming in Uganda

Poultry farming is an integral part of the agricultural sector in Uganda. Close to 97% of Ugandans keep an indigenous chicken (Ekesa et al., 2015). Poultry is a source of; income, food security and nutrition for many households in Uganda (FAO,2015)(UBOS, 2017). Poultry production has improved over the years as well. In the period between 2014 and 2016, production of poultry meat, rose from 60,000 to 65,135 metric tonnes (FAOSTAT, 2016). This increasing trend was attributed to; more birds being slaughtered in formal slaughter places, increasing demand of chicken in urban areas, changing consumer tastes and preference, plus the growth of supermarkets in Uganda (Ekesa et al., 2015). Due to changes in demand in poultry products and farmers adopting better health and production management practices, there has been significant growth in the poultry population(MAAIF, 2011)(Ekesa et al., 2015). The national poultry population, between 2012 and 2016, grew from 36.96 million to 46.3 million (UBOS, 2017).

Chicken, which forms 98.9% of the poultry population in Uganda (UBOS, 2008), contributes tremendously to the livelihoods of Ugandans (FAO, 2009). Chicken farming is an attractive form of enterprise for women, youth, the physically handicapped, plus peri-urban and urban farmers (Byarugaba, 2007). This, according to Byarugaba (2007) is because chicken farming; requires less spatial requirement in comparison with other forms of stock production, can be started with relatively lower capital investment and is less labour intensive. Byarugaba (2007) notes further that chicken products are a generally acceptable source of nutrition in many cultures and religions in Uganda. Uganda's chicken population has a composition of 88% traditional or native chicken and 12% exotic breeds. The native varieties are mostly reared in rural settings, while the exotic ones are raised in commercial units close to or within urban and peri-urban areas(UBOS, 2008)(USAID, 2017). The Central Uganda region districts of; Kampala, Mukono, Wakiso, Masaka and Mpigi's combined total of 4.65 million exotic chicken, represents close to 74% of Uganda's exotic chicken population. In the central region exotic population, 1.6 million chicken are broilers (UBOS, 2009). Broiler farming is the most dominant farming enterprise in Kampala. The district has close to 1 million broiler birds and about 8000 broiler farmers (KCCA, 2016)

1.3 Research context

Despite being in close proximity to opportune markets, urban broiler farmers still find challenges accessing reliable markets for their produce. To access these markets they must meet stringent supply requirements in volumes, quality and payments terms, which in most cases is an uphill task. These farmers additionally face challenges like; expensive feed (Kilimo,2017), lack of useful post-harvest storing technology, high transport costs, exorbitant taxes, irregular farm input supply, low production on farm and poor quality produce (Nyapendi et al.,2004). Nanyeenya et al (2018) on the other hand notes that the major challenges of broiler farmers arise entirely from lack of regulations and standards in the poultry subsector. This has riddled the subsector with suppliers of low quality inputs.

The absence of a strong regulatory framework for inputs like animal feeds, a major input for broiler farmers, has led to supply of low quality feeds, reduced farm productivity, thereby increasing production costs. Loss of income has led to some farmers giving up on broiler farming and turning to rearing of slower growing and less efficient local birds or cross breeds (Nanyeenya et al., 2018). To address these issues, farmers need to; acquire quality training services on good production practices, access useful market information, get organized in groups for collective action, have links to adequate financing and access suitable farm use technology (Nyapendi et al., 2004).

1.4 Research problem

The Balimi Katwe Quality Farmers (BKQF) group is one of the many farmer groups in Kampala. It is a relatively new poultry farmer group, that is composed of farmers keeping broilers, layers and local hybrid chicken, who are united together in an effort to manage the challenges they face. Whereas the BKQF group members have common challenges, many broiler farmer members in the group are finding it hard to sell their chicken. They have no secure market for their produce. They sell their broilers to mostly chicken traders who offer low prices and buy irregularly. As a result, they are unable to earn enough money to offset their costs of production (BKQF, 2018). The BKQF group is concerned because most of its broiler farmers have started giving up on the business. The problem owner is the –Balimi Katwe Quality Farmers group.

1.5 Research objective

The objective of this research therefore is to explore opportunities of secure markets in the broiler value chain of Kampala, and recommend a business model the BKQF group can adopt to link its broiler farmer members to secure markets.

1.6 Research questions

Main Question 1: What are the potential secure markets in the broiler value chain of Kampala?

Sub-questions

- a) What are the existing markets in the broiler value chain of Kampala?
- b) What are the features of secure markets in the broiler value chain of Kampala?
- c) What means do broiler farmers use to market their broilers?
- d) What challenges do farmers face in marketing their broilers?

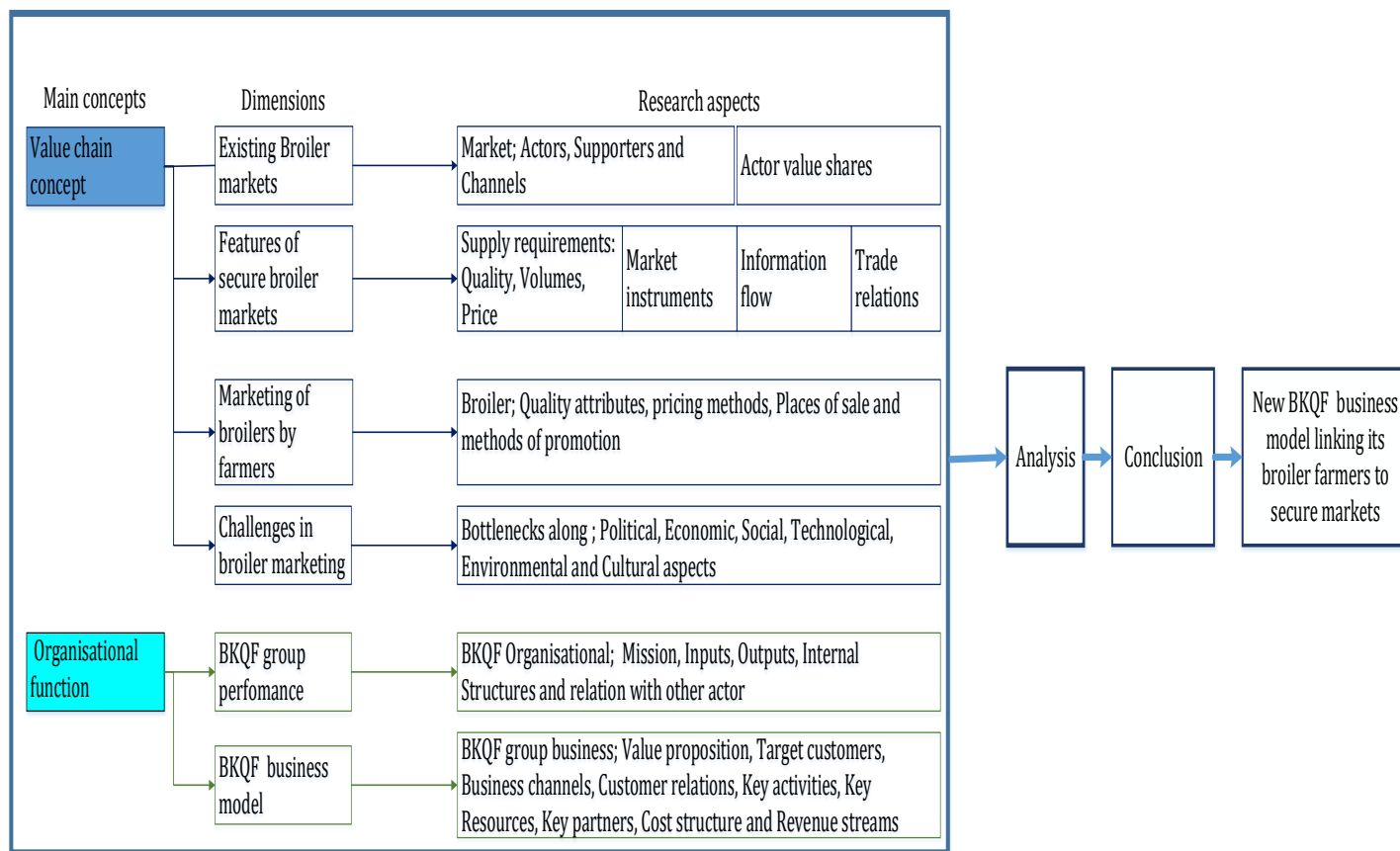
Main question 2: What is the functioning of the BKQF group in linking its broiler farmers to secure markets?

- e) What is the performance of the BKQF group?
- f) What is the current business model of the BKQF group?

1.7 Conceptual framework

This research, as depicted in the conceptual frame work (figure 2), based on the value chain concept to analyse the broiler value chain in Kampala, explore secure broiler market opportunities, and then with the use of organisational analytical methods, determine the preparedness of the BKQF group in linking its broiler farmer members to the identified secure broiler markets. The planned output was a new BKQF group business model that can enable broiler farmers in the group to access secure markets.

Figure 1: Research Conceptual framework



Source: Author

2 LITERATURE REVIEW

2.1 Definition of terms

The terms following terms have been used regularly in this research. Here below I present their definitions in relation to this research.

Value chain: Refers to the full range of activities that are required to bring a product (or a service) from conception, through the different phases of production, to final consumers and disposal thereafter. A value chain exists when all the stakeholders in the chain operate in the way to maximise the generation of value along the chain (Tschumi et al., 2008). In a value chain, each of the actors is prepared to invest in the chain and to support the other actors, to make sure that it functions smoothly (KIT et al, 2006).

Actors: Are those involved in producing, processing, trading or consuming a particular agricultural product. They include direct actors who are commercially involved in the chain (producers, traders, retailers, consumers) and indirect actors who provide financial or non-financial support services, such as financial institutions, business service providers, government, researchers and extension workers (KIT et al.,2006).

Value chain analysis: Involves the use of the value chain concept to; identify key actors in the chain, show their relationships, trace product flows, shows value additions at different stages and identify enterprises that contribute to production, service and the required institutional support. Through the value chain concept, bottlenecks and strategies to prevent the bottlenecks can be identified and a framework for sector-specific action can be obtained (Bammann, 2007).

Business model: The basic means by which an organisation creates for and delivers value sustainably to its customers. An organisation's business model is an essential part of its overall strategy. As part of its strategy over time, an organisation can change its business model (Hamel, 2018).

Producer Organization: Is 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 (Bijman and Wollni, 2008).

Agricultural trade: Method for transferring commodities from farms to the next stages of food production (McDonald and Korb, 2011).

Contract: An agreement between two or more parties to carry out a specified activity (Thesaurus).

Chain relations: Relationship between stakeholders in a value chain. Producers can have relationships with input suppliers, produce buyers, extension workers and the local administration office (KIT and IRR, 2008).

Value share: According to KIT and IRR (2008), value share is expressed as the percentage of the retail price that an actor in a value chain earns. *Value share = Added value x 100 / Final retail price.*

Added value: Refers to the amount of value that an actor in the chain adds. It is expressed as the difference between the price the actor pays for the produce, and the price they sell it for. *Added value = Price received by actor – Price paid by actor.*

Selling price- Is the money an actor earns by selling a unit of produce or by-product of production. This is the actor's revenue (KIT and IRR,2008)

Variable costs: Costs that change depending on the amount of produce handled. To a produce buyer, the variable costs could include; cost of produce, commission to brokers, health certificates, transport, local taxes and interest on loans used to buy produce(KIT and IRR, 2008).

Fixed costs: Costs that are independent of the amount of produce produced or traded. For a broiler farmer, such costs may include; land and chicken houses. To the produce trader, fixed costs may include; space in the market, trading licenses and wages of assistants.

Gross income: Calculated by deducting variable costs from revenues: *Gross income = Revenue – Variable costs*

Gross margin: Is the gross profit per unit of produce. It is expressed as a percentage .. *Gross margin = Gross income x 100 / Revenue.*

2.2 Agricultural markets

McDonald and Korb (2011) identifies that transfer of agricultural produce from a farm to the next level in the value chain can occur through;

Spot (or cash) markets: Where producers are paid for their products when ownership of the product is transferred off the farm, with prices based on prevailing market prices, under agreements reached at or after harvest. These are typically cash-and carry markets. In such markets, producers have control of their production and financial decisions. Producers in such markets must also find buyers, determine pricing, and deliver produce on their own. Spot markets represent a big proportion of farm product transactions in Agricultural trade.

Vertical integration: Where transfer of produce from the farm to actors occurs along the chain, while the produce is still under single ownership. Farmers for example, in a cooperative can own a processing plant.

Agricultural contracts: Where agreements that govern the terms under which value in produce can be exchanged between farmers and produce buyers, are made prior to or before the completion of the production stage. In comparison to spot markets, agricultural contracts provide secure relations between producers and specific buyers, thereby limiting a farmer's exposure to the risks of market price fluctuations.

2.2.1 Agricultural contracts

Agricultural contracts provide farmers with incentives to deliver produce that meets the needs of consumers, while reducing transaction costs and risks. This ultimately makes the chains more efficient and leads to better retail prices (RTI International, 2005). Besides providing secure relations between producers and specific buyers contracts also give the buyer greater control of production decisions upstream (McDonald and Korb,2011).

McDonald and Korb (2011) explain that depending on the specifics in contractual designs, contracts in agriculture can be classified as;

Production contracts

In these contracts, the buyer remains the owner of the produce while being produced. The farmer is paid a fee for the services they provide instead of the produce market value. Such contracts usually cover and specify; the services to be provided by the farmer, how the farmer will be compensated for the services and the contractor's responsibilities in provision of inputs. A broiler farmer with a production contract can be compensated for services and costs associated with; labour, housing, and equipment utilized in production. The contractors on the other hand would provide inputs like; day old chicks, feed, veterinary service, and stock transportation. Since the contractor-provided inputs have the lion share of the production costs, the farmer has a lower value share.

Marketing contracts

Marketing contracts focus on the farm produce as it is transferred from the farmer to the buyer(contractor) rather than on the services provided by the farmer. The producer in this case, retains ownership of the produce during production and has substantial control over major production and financial decisions, with limited influence from the buyer. Such contracts specify the; quality of produce, weights, price or pricing procedure, the point of delivery is and quantities to be delivered. They also can have specific pay premiums for extra quality features in a product. The parties in the contract usually agree to the terms there in before transfer.

Advantages of using contracts in farming

According to McDonald and Korb (2011) the advantage of using contracts in a farming context include;

Reduction of price risk

Price risks often arise due to the occurrence of un-anticipated changes in output or input prices, which are influenced by unexpected changes in production or demand of a product. By making contract prices independent of market prices, production contracts can eliminate output price risk. Production contracts for example will reduce input price risk because contractors provide the inputs that account for most operating expenses for the farmer. Also, in marketing contracts where cash for produce is paid upfront farmers are able to mitigate on input price risks.

Investment assurance

Contract terms can provide assurance to farmers that have invested capital in expansion that their money can be recouped.

Secured market access

Contracts provide win-win situations for both produce producers and buyers. Farmers in contracts have a secure market for their produce, while produce buyers like processors are able to access assured supplies. This secured nature of transactions enables producers to plan for production much efficiently and ultimately making them specialists in their role in the chain. Contracts can enable broiler processors to have secure access to broilers which leads to realization of economies of scale in their processing operations.

Access to finance

Financing institutions prefer borrowers that have limited risk of defaulting on loans. Producers that have secured markets through contracts can have un-limited access to services from financing institutions. For farmers wishing to expand with the use of debt financing having a contract with a buyer is a pre-requisite.

Quality Assurance

In a farming context, contract terms can often be adapted to foster improvements in product quality. Processors can demand for specific product quality and variety attributes from the producers, which when adopted by the farmers become guiding principles in their production process. Proving quality inputs to the producers along with field monitoring is a good example of a processor's effort in maintaining quality assurance using production contracts. Through specifying production and post production practices, contracts can help assure compliance with desired market standards, and means by which standards can be verified at key stages in production.

2.3 Chain relations

There can be many relationships existing between stakeholders in a value chain. Producers can unite to relate closely in a value chain. Producers can also have relationships with input suppliers, produce buyers, financing institution, extension workers and the local administration office. Traders can seek to have relations with; wholesalers, transporters and market authorities. Stakeholders in a value chain are in general "players in a game". They are influenced by the rules in the game, but can also influence the rules in the game (KIT,2008).

Markets with strong chain relations have stakeholders in relatively stable relations that are based on mutual respect and transparency. Such markets have; strong, inclusive and well organized producers. Stronger relations lead to reduced risks and transaction costs for actors within the chain. Also, they can join forces to tackle issues of common interest, like expanding the market, or improving the quality of the product (KIT,2008).

Weak markets on the contrary have weaker relations between the stakeholders and producers are not organized. In such markets, there is generally lack of trust between actors, and the relations between them are often spot in nature. Producers and produce buyers in such markets often have squabbles over; prices, quality of produce and services being exchanged in the market, cheating to make a dash for a quick buck while ignoring the long term consequences of such actions (KIT,2008).

Figure 2: Chain relations



Source: KIT (2008)

2.3.1 Strategies for strengthening market relations.

To improve trading relations, there is need to; have stronger relations of actors in the chain. Stronger relations of actors lead to improvement of conditions for trading within the value chain (KIT,2008). In order to have stronger relations in the market actors KIT(2008) emphasizes that actors need to;

Get organised

Chain actors (producers or buyers) coming together in a business organization is indeed the first step in strengthening chain relations. On their own, most producers in African agricultural settings are too small to have an impact. They can only have bigger influence if they can team up in an organized group where they can; support one another, consolidate their skills, learn from each other, know consumer demands, bargain with input suppliers and produce buyers, as well as have access to financial and training services.

Create mutual understanding

For strength to exist in the chain, it is important that actors respect each other's role and needs. Producers must respect the role of produce buyers like traders or processors in linking them to the consumers. Produce buyers on the other hand must contend with the fact that good produce marketing conditions motivate the producers to indulge more in production. To create or maintain mutual understanding, producers and produce buyers must interact with open-ness. Mutual respect between producers and produce buyers, sets the stage for role specialization.

Specialise

Mutual actor growth powers chain strength. For mutual actor growth to exist in the chain, there is need for the interacting actors to specialize in their roles. Producers can specialize in producing the quality and quantity of produce that the market desires, while the produce buyers can specialize in; finding the best markets for the produce, acquiring new customers and enabling flow of information between consumers and producers. Role specialization paves way for effective coordination of the value chain.

Coordinate

Organised producers or produce buyers, that have become specialized in their roles, must seek ways of effectively coordinating the way they relate and interact in the value chain. Effective coordination is attainable through relentless exchange of information between chain actors. This process ultimately delivers value that meets the needs of the consumers. The benefits of effective coordination are; minimized losses or performance inefficiencies along the chain. Coordination in the chain can be spear headed by producer groups, buyers in a group or even a chain facilitator.

Develop chain partnerships

Development of chain partnerships is derived from strong chain relations. Partnerships however do provide further strength in the chain. Partnership involves producers and produce buyers agreeing on a shared vision and joint work plans that eventually strengthen the chain relations much further. Jointly, the actors could; take on a new line of business for a certain niche in the market, create a stakeholder platform to address their industrial issues regularly, carry out a marketing program or even establish a quality certification system.

2.3.2 Producer organisations

Producer organisations can fulfil; economic, social, advocacy, information sharing, capacity building and coordination activities fully in a chain. Coordination however is the most important of them all. In coordination, producer organisations are in a good position to establish linkages at all levels and to integrate the all the other activities as well (Bienabe and Sautier, 2007). Brancaert et al (2000) equally agree that in producer groups, farmers in urban and peri-urban areas can easily access farm use inputs like; feed, bird stock, animal health products, training, advisory service, suitable financing, bulk transportation and marketing of their produce .

According to Bijman (2007) a producer organisation's major role is to link producers with buyers, and that it is typically characterized by;

- Mission and objectives: The producer organization must have short and long time goals, and a time frame to achieve them that all members in the group support and adhere to.
- Collective action: Group of individual farmers coming together for the purpose of joint economic action.
- Are established bottom-up: Membership is voluntary. Members are free to ally as long as they comply with group regulations.
- Democratic decision-making structure: Decision making must be inclusive, with all members having equal opportunities to participate in group decision making.
- Member-owned and member-controlled: Control of the group is collective, and not only to a few individuals.
- Economical focus: The producer organisation's main purpose is to enable its members to access markets or enhance their position in the market.
- User-oriented firm: Members must make engage maximally in the services provided by the organisation for the benefit of the group and its members.
- It is an association of members: The organization is indeed a social community where social processes like; like commitment, common identity, solidarity and clear communication must blend well.

Bijman (2007) identified seven challenge areas that producer organisations must strive to maintain to survive. They include;

Membership base: Every Producer Organization has clear rules and regulation that members that are well laid out prior to members joining.

Governance and Leadership: Producer organisations should compose internal democracy. Leaders must be elected and the duties of leaders well documented. Every member of the organisation must take part in electing leaders. Each member of the association should be aware of his/her responsibilities, duration and mandate of a leadership position well defined. Members must have good collaboration and regular meetings for the association must occur.

Management of financial resources : Good financial management determines trust in the organization. Members of should be able to contribute dues to maintain the financial stand the group. The group should be be able to function financially with no external support. The treasurer should submit regularly financial reports to members as stipulated in the group laws.

Stakeholder Collaboration and networks: The organization must strive to link members' products to reliable market and also provide regular information market information to its members. Such organisations should work

together with; local authorities and create a favourable link between producers and buyers. Linking members to banks and input supplies makes the organization more efficient.

Service provision to members: These organisations assist their members in adapting product quality to market needs, by providing extension service and providing a support structure allowing exchange of experience and knowledge among members. By adopting market requirements and providing technical support, POs support members to make proper production choice by.

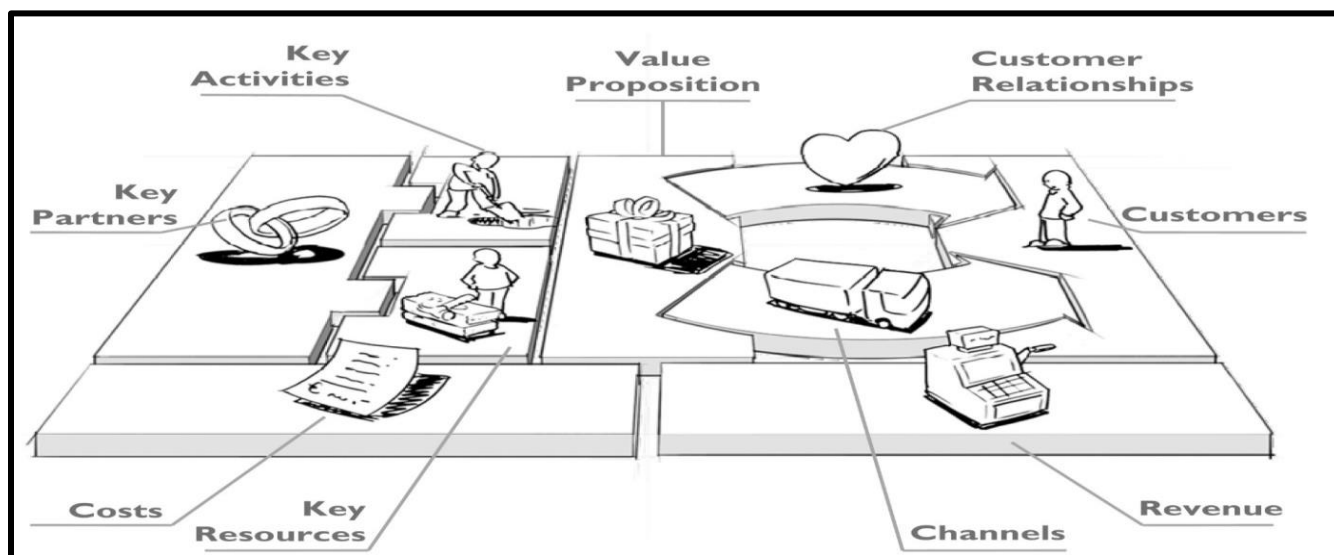
Entrepreneurial skills: POs empower their members to; take initiative, get organized, turn resources and skills into products and to accept the risk of failure.

Cost and marketing: A well-coordinated PO must assist members accurate information so as to sell their produce in a timely and seamless manner. It is the POs role to identify or search for new markets for members.

2.3.3 Business modelling

Business modelling can be achieved by use of the Canvas business model (figure 3). The canvas business model is a strategic management template for developing new or documenting existing business models. Within it are elements describing an organisation's activities, partners, value proposition, revenue streams, key resources, customers segments and cost structure. The formal descriptions of the business then become the building blocks for its activities (Osterwalder, 2004).

Figure 3: Business canvas model components



Source: Osterwalder, 2004.

According to CIAT (2014), the goal of the business model is to; assess how a key business in the value chain functions, develop and assess a business model and create a baseline for the development of innovations in the business model. CIAT (2014) Elaborates further that the role of the canvas business model is to;

- Facilitate a grounded dialogue between farmers and buyers relations in order to establish formal business relations.
- Highlight bottlenecks and imbalances in the business model areas
- Identify areas for innovation and enhance business thinking
- Present complex business issues in an easy and accessible fashion.
- Evaluate how distinct relationships between small-scale farmers and formal buyers are functioning.
- Provide a quick sketch of an organisation's business model so as to facilitate future analysis
- Nourish the construction of a business plan.

An organisation like the BKQF that is in its infants stages of running as an efficient producer organisation shall find its planning much efficient with the canvas business model.

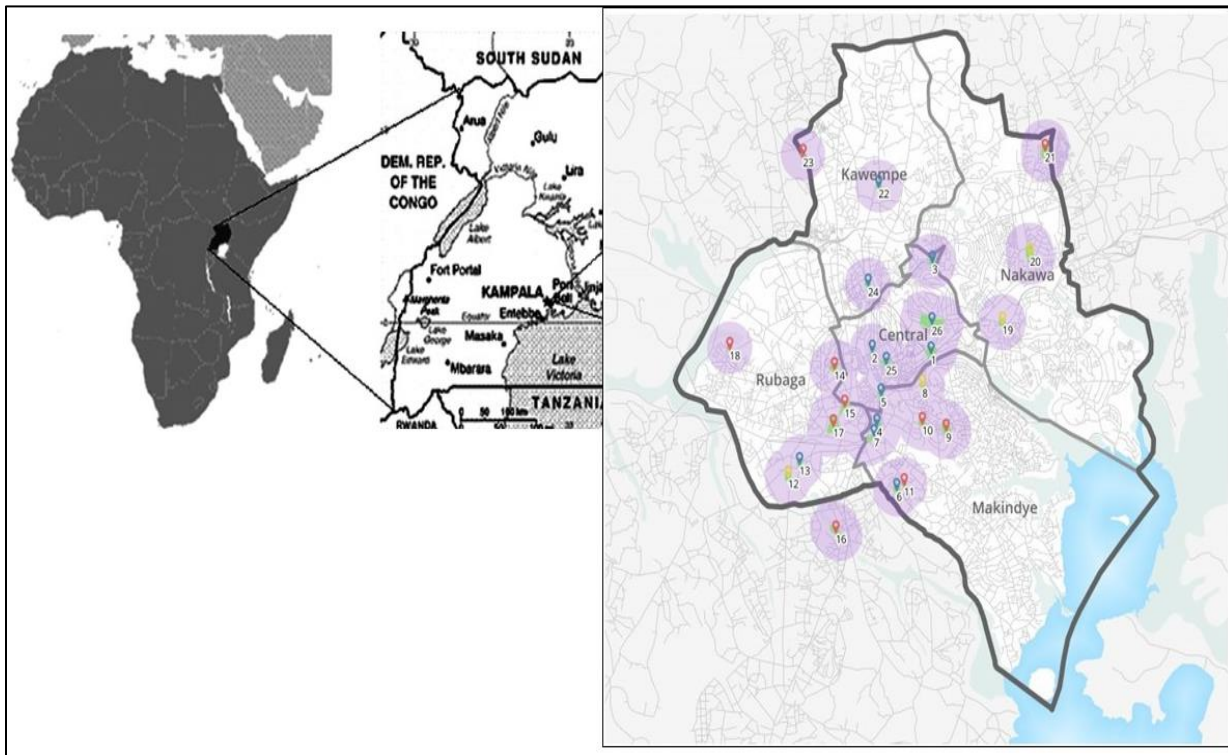
3 METHODOLOGY

This chapter

3.1 Study area

The proposed research will be carried out within Kampala District in Uganda. Kampala, the capital city of Uganda, is situated at 0°15'N, 32°30'E (Okalebo et al., 2010). The city, which covers an area of 195 km², is situated on the northern shores of Lake Victoria, at an altitude of 1,180 metres above sea level (Okalebo et al., 2010). Kampala is also Uganda's administrative, political, commercial, industrial and educational centre (Banadda et al. 2009). Administratively, the city is subdivided into five divisions namely; Rubaga, Kawempe, Nakawa, Makindye and Central. Nakawa and Makindye are the largest divisions, covering 46.5 and 40.7 km², respectively. Central division is the smallest, with an area of 14.7 km² (Okalebo et al., 2010).

Figure 4: Map of Kampala in Uganda, showing administrative divisions



Source: <http://www.getamap.net>

3.2 Research strategy

The proposed research is of both quantitative and qualitative in design. The choice of this research design, as explained by Baarda (2010) is influenced by the need to describe and test the constructs in the research while gaining new insights in the broiler value chain of Kampala.

3.2.1 Research design

The research will use a combination of a desk and field study methods to obtain secondary and primary data respectively (. The field study shall involve; survey, case study and focus group discussions (FGD) methods. The data collecting tools and proposed sources of information for these methods are as stipulated in Table 1 below.

Table 1: Operationalisation of research constructs

Question	Research aspects	Source of data	Data collection method	Data collection tools
1 a)	<ul style="list-style-type: none"> Market actors and supporters Market channels Actor value shares 	Secondary data	Desk study	Literature review
		BKQF broiler farmers	Focus group discussion Survey	Checklist Questionnaire
		BKQF group leader, chicken traders, processors and retailers	Semi-structured interviews	Checklists
		District production officer & Poultry Association of Uganda (PAU) leadership	Semi-structured interviews	Checklists
1b)	<ul style="list-style-type: none"> Supply requirements for stable markets; quality, quantities, trading terms and price Information flow Trade relations 	Literature review	Desk study	Literature review
		Chicken traders, processors, retailers	Semi-structured interviews	Checklist
		District production officer & PAU leadership	Semi-structured interviews	Checklist
		Successful farmer groups	Semi-structured interviews	Checklist
1c)	<ul style="list-style-type: none"> Quality attributes of broilers Basis of pricing Places of sale Methods of promotion 	Literature review	Desk study	Literature review
		BKQF group broiler farmers	Survey	Questionnaire
		Successful farmer groups	Focus group discussion	Checklist
			Semi-structured interviews	Checklist
1 d)	<ul style="list-style-type: none"> Bottlenecks in marketing broilers 	Literature review	Desk study	Literature review
		Poultry Association of Uganda	Semi-structured interview	Checklist
		BKQF group broiler farmers District production officer Processors, traders, successful groups	Survey	Questionnaire
			Semi-structured interview Semi-structured interview	Checklist Checklist
2a)	<ul style="list-style-type: none"> Organisational performance; Mission, internal set up, Input, outputs, Gender issues partnerships and external environment 	Literature review	Desk study	Literature review
		BKQF group leadership, successful group BKQF Broiler farmers	Semi-structured interview Survey	Checklist Questionnaire
2b)	<ul style="list-style-type: none"> Group business; Value proposition, channels, Gender issues, customer relations, partnerships, activities, resources, cost and revenue 	BKQF group leadership and BKQF broiler farmers, successful groups	Focus group discussion	Checklists
		Microfinance institution	Semi-structured interview	Checklist
		Input suppliers & processors	Semi-structured interview	Checklist

Source: Author

3.2.2 Research units

The targeted research population from which the sample for the research will be drawn includes; farmers from the BKQF group and other stakeholders in the broiler value chain of Kampala (Table 2).

Table 2 : Research units

Target population	Sample in the population	No.	Location
Farmers of the BKQF group	BKQF broiler farmers	32	Central, Makindye, Nakawa, Rubaga and Kawempe divisions
Farmers organisations	BKQF leadership	1	Katwe, Central division
	Successful poultry farmer groups	2	Nsambya, Bamunanika
Input suppliers	Animal feed suppliers	1	Central division
	Drug and vaccine	1	Central division
	Day old chick supplier	1	Central division
Traders	Chicken trader	2	Central division
Processors	Chicken processors	4	Wakiso and Bombo
Retailer	Chicken retail shop	1	Central division
Supporters	Microfinance institution	1	Central division
	Poultry Association of Uganda	1	Central division
	District Production officer	1	Central division

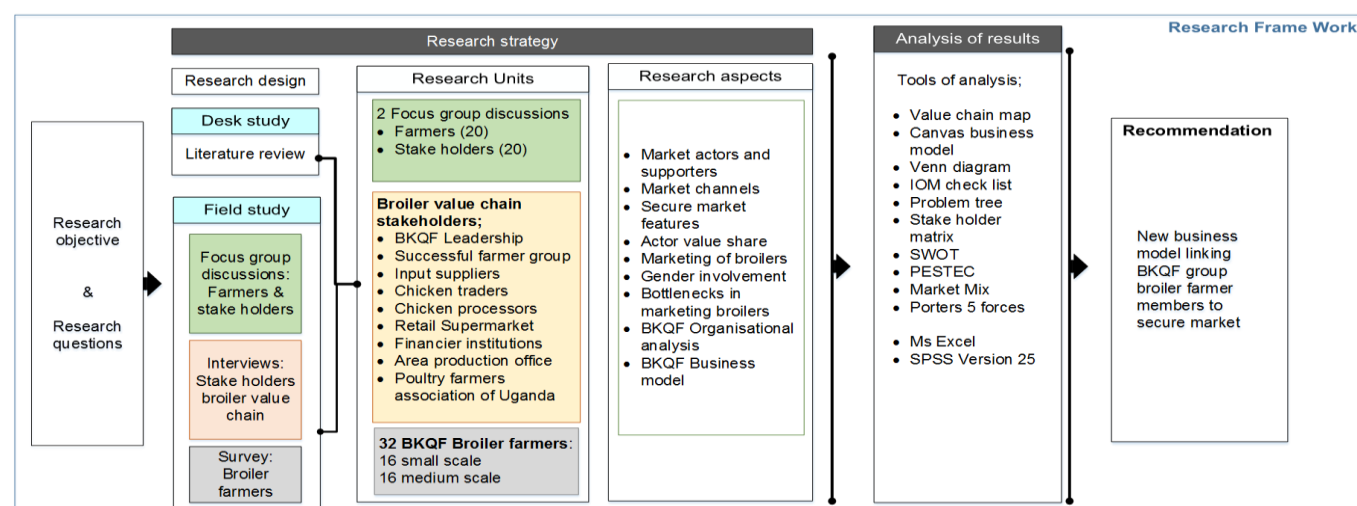
Source: Author

From the updated BKQF group farmer list, the 32 broiler farmers in the group will be purposively selected for the survey. The stakeholders to be interviewed individually (Figure 8) or those needed for the focus group discussions shall be selected also purposively, basing on the belief that they have useful knowledge for this research.

3.3 Research frame work

The summary of the proposed research (figure 8) from the research objective, research strategy and research analysis and possible recommendations is as visualised in the research framework.

Figure 5: Research framework



3.4 Desk study

Desk research, from existing literature was carried out to gather information supportive to the research concepts, dimensions and aspects of this research. The information obtained gave insights on; the broiler value chain in kampala, performance of producer groups and business modelling. Sources of data for the desk study included; articles in journals, books and publications from research databases like google scholar and HBO kennis-bank. Additionally, other secondary information was obtained from data bases of Uganda Government agents like; MAAIF,UBOS and KCCA as well as official publications from the FAO. Publications from NGO databases of USAID and Agriterria was utilised as well.

3.5 Field study

3.5.1 Interviews:

A total of 15 Individual interviews were administered to selected stakeholders in the broiler value chain of Kampala. The interviews were guided with semi-structured interview checklists (Annex 1). The stake holders interviewed included; 4 chicken processors, 1 chicken traders, 3 input supplier, 1 member of the BKQF leadership, 2 successful poultry farmer groups in the area, 1 retailer chicken shop and 3 value chain supporters. The information from the interviews has provided an in-depth insight into; stake holder functions, secure market channels, value shares of actors, market information, market relationships, the functioning of the BKQF group and the business model the group is operating.

3.5.2 Survey

A total of 32 BKQF group broiler farmers from the different areas in and around Kampala, were surveyed using a questionnaire (Annex 2). The farmers who were clustered into two groups depending on whether they were operating on a small scale (stocking less than 500 birds) or medium scale (stocking between 500 and 3000 birds). From this survey, descriptive information from the broiler farmers on; which stakeholders they interact with, how they market their broilers, access to market information, challenges they face and how they rate the support they receive from the BKQF group was obtained. This information was vital in examining the characteristics of the broiler farmers, their relationship with the BKQF group and how this will affect the link to secure markets.

3.5.3 Focus group discussions:

With the guidance of checklists (Annex 1), two (2) focus group discussions were carried with the broiler farming members and leaders of the BKQF group. Both FDGs took place within a 2 weeks interval (Annex 15) of each other, at the headquarters of the BKQF group in the Katwe area of the central division of Kampala district.

The first focus group discussion was attended by 15 group members, eight (8) of which were men and seven (7) were women. In this FGD, the objectives of the research and the planned activities were introduced officially to the group. Also, information on; the stake holders in the BKQF broiler value chain, broiler farmer gross margins, challenges framers face in marketing broilers, market information, market relations and the business model the BKQF group in operating was obtained. In this FGD, there was use of participatory tools like; the value chain map, to map stakeholders, farm budget and the venn diagram. These tools were used to; map stake holders in the BKQF broiler value chain, determine the profitability of broiler farming, and to assess the nature of relations that members in the group have with other stakeholders in the broiler value chain.

The second focus group discussion was conducted as the last data collecting activity in the research schedule. This FGD had 6 BKQF farmers (3 from the leadership committee and 3 broiler farmers) and 1 input supplier (Drugs and vaccine supplier, Quality Chemicals Ltd) in attendance. The author presented the findings from all the field study activities in this FGD, with the use of visual aids supported by analytical tools like; The organogram, the value chain map, problem tree, Canvas Business model, Farm budget, Income statement, broiler production planning chart, and a stake holder matrices. The author, shared the views obtained; on secure broiler markets, potential

partnerships that can be made in the chain, functioning of the BKQF group, some preliminary actions that can be taken to improve organization management , and business model that the group could adopt to link its members to secure broiler markets in Kampala. Reactions from the group to validate and complement the information were sought thereafter and the information given was used to enrich the results. The author used the occasion to address also the questions on what steps were to be taken by the BKQF group after the research had been accomplished and

3.5.4 Processing qualitative data

Qualitative data collected from the FGDs, interviews, observations and related audio recordings was converted into interview transcripts after every session (Annex 1). The qualitative data was processed using the grounded ground theory approach. The processed qualitative data from the interviews and focus group discussions was then analysed using different analytical tools as shown (Table 3). Additionally, quantitative data from the survey, was coded , then analysed using the statistical data analysing programme SPSS version 25.

Table 3: Analytical tools and justification for their use

Analytical tool	Justification
Stakeholder matrix	Identified stake holders, their roles in the chain, their needs and constraints they face
Value chain map	Used to; map stake holders, identify information and product flows plus overlays
Business canvas model	Used to depict how the how the BKQF group is creating or will create and deliver value
Organogram	Used to analyse the organisational structure
IOM check list	Used to obtain a quick impression on the strength and weaknesses of the BKQF organisation
Problem tree	Identified clearly the relations between problems and their causes
PESTEC	Used to give insights on the environment in which BKQF broiler value chains and group exist
Farm budget	Used to show costs of production and broiler farm profitability from the BKQF farmers
Income statement	Used to analyse the current and future financial situation of the BKQF group
Ms Excel	Used in data filtration, calculation of income and gross margins

Source: Author

3.5.5 Limitations of the study

Despite the research going on as planned, there were some limitations that presented hurdles in the process. With the respondents in the survey being located kilometres apart in different areas of Kampala, the time needed to carry out the survey became twice higher than previously planned. It was also difficult to get timely appointments with the survey respondents as many of them had other jobs they were carrying out during week days and could thus only give appointments on weekends. Due to failure to agree with the BKQF group on an appropriate date for the final FGD, some processors earlier invited to attend the event could not make it finally when the date for the meeting was established.

4 Results

4.1 Existing markets in the broiler value chain of Kampala

In this research the stakeholders in the broiler value chain were identified to be mainly actors in the chain and the supporters who they are interacting with in the chain.

4.1.1 Stakeholders

Market actors

The key actors identified in the Kampala broiler value chain include; Input suppliers, broiler farmers, poultry farmer groups, broiler chicken traders, broiler meat processors, wholesalers, retailers and consumers at the end of the chain.

Input supply

The input suppliers include; day old chicks suppliers, feed suppliers and suppliers of veterinary drugs and vaccines. The common chick suppliers are ; Asiima Agriconcern, Agrarian systems, Ugachick poultry breeders Ltd, Biyinzika Poultry Ltd, Kuku chick Ltd and Eram (U) Ltd. Broiler feeds commonly used in this market are broadly divided into home made feeds, and commercial feeds. Where as supply of feed concentrates is common to most of the feed suppliers, companies like Kaffika feeds Ltd Champrisa Ltd and Kyaterekera also supply other feeds ingredients to farmers making own feed, while others like Ugachick, Kuku chick and Biyinzika Poultry International Ltd supply commercial feed. Supply of vaccines and veterinary drugs in this value chain is done by mainly pharmaceutical companies like; Quality chemicals Ltd, Global vet pharmacy, KS pharmacy, Word vet-nateete and Eram (U) Ltd.

Production

Broiler production is done by the close to 8000 small and medium scale farmers in Kampala. The majority of them market their broilers individually to the broiler traders. There are some farmers that are already in groups, like the Bamunanika poultry farmers group, based in Luweero that has been collectively marketing its broiler chicken to Ugachick for close to 5 five years. The BKQF poultry farmers group and the Nsambya poultry SACCO farmers are also among the many producer groups in Kampala, which though functioning in collectively input purchase and financing its members, are yet to embrace collective marketing of broiler chicken.

Trading:

Trading in broilers is done by both farmers and broiler traders. Some broiler farmers supply live or home slaughtered broilers to; households within their neighbourhood, schools and roadside roasted chicken vendors. Broiler traders who operate stalls in the urban and peri-urban produce markets of; Nakasero, Owino, Nansana, Bulenga and Entebbe, can source live broilers from small and medium broiler farmers, at farm gate or receive them from farmers in those markets. These traders who operate commonly as sole proprietors also occasionally buy dressed chicken from processors.

Broiler processing

Broiler processors depending on installed processing capacity vary in size as; large, medium and small. Large size operators have installed capacity of more than 20,000 birds a day, medium size between 10,000 and 20,000 birds per day and the small one process less than 10,000 birds per day. All these processors are intergrated in function. They all have in common their own; feed mills, broiler farms and broiler processing plants. The processor HMM-Rainbow is the largest in the market. HMM-Rainbow, has a broiler farm with close to 576,000 broilers and a slaughter house with a processing capacity of 22,000 birds in Semuto. HMM-Rainbow, currently sources its broilers internally but plans to have an out grower supply scheme in 2019. The medium sized broiler processing operators include; Royal Agrovet Ltd and Ugachick (U) Ltd. Royal Agrovet have a 200,000 broiler farm that supplies their 10,000 birds per day broiler processing plant in Bombo. Royal Agrovet also buy broilers from close to 30 broiler farmers with formal relations and others spot selling. Ugachick processes birds from its 100,000 capacity broiler farm in Magigye, but also has running contracts and informal agreements with contract farmers, organised farmers like the Bamunanika poultry farmer group and spot market suppliers. Golden Kuku, one of the smaller

processors, operates a 6000 birds per day broiler processing unit in Vumba, Ziobwe. Gold Kuku, that mainly used to source birds for processing from their 23,000 capacity broiler farm, recently started buying broilers from selected growers to supply a broiler deficit in its supply operations. It is worth noting as well that some broiler traders and some farmers, including a few in the BKQF, carry out small scale slaughtering of between 1 to 500 birds a day from market slaughter slabs and within their homes respectively.

Wholesale , export and retail

HMH-Rainbow exports through its Yokuku brand about 500mt of broiler meat, which represents close to 80% of its monthly processing output, to the neighbouring countries; Kenya, Democratic Republic of Congo & Rwanda. The rest is the broiler meat is sold locally. HMH-Rainbow wholesales chicken to specialize butcheries like Fresh cuts Ltd and Your choice in Kampala. The processor operates also 8 kuku shop retail shops in Kampala and 5 more across Uganda selling their premium brand, “Yokuku” to high value household consumers, plus over 4 contracted retailers in Kampala, selling their standard “Enkoko” chicken brand to middle and low income earners in peri-urban areas close to the city. The company, through its Bukoto based major outlet, that has a cold storage capacity of 22000kgs of broiler meat also supplies meat to; 21 big supermarkets, major restaurants and hotels like Serena and Kampala Sheraton.

Figure 6: Chicken on sale in a Kuku shop outlet



Ugachick and Royal agrovet operate retail outfits selling their Ugachic supa and Royal kuku chicken brands to customers with urban and periurban Kampala. Ugachick has 12 retail outlets while Royal agrovet has 8. These two processors also sell to, supermarkets, hotels and restaurants in the city. Golden Kuku does not run retail outlets. They sell their un-branded chicken directly to restaurants in and around Kampala. Chicken from traders and some farmers also ends up directly with; mobile catering services operators, small restaurants and roadside chicken roasters. Analysis of actors, their roles in the chain and how they influence in the market is as shown in the stakeholder matrix table 4 below.

Table 4: Stakeholder matrix -Actors

Function	Actor	Role in the chain	Influence on broiler value chain	Constraints
Input supply	Day old chick suppliers	Supply of broiler day old chicks	Quality and volumes of chicks supplied affect volumes of broiler meat in market and broiler farmer gross margins	Bureaucracy in process of acquiring parent stock, high costs of inputs and cash flow limitations
	Feed suppliers	Supply of; feed, feed additives and concentrates	Feed quality affects broiler farmer gross margins	Fluctuations in feed raw material price and improper use of feeds by broiler farmers
	Veterinary pharmaceutical companies	Supply of drugs, vitamins, disinfectants and vaccines	Products affect quality of broiler meat and broiler farmer gross margins	Improper use of health products by farmers and periodic product stock outs due to delays in product import process
Producing	Broiler farmers	Supply of market bound broilers	Production practices affect volumes and quality of broiler meat plus farmer gross margins	Low farm income due to; lack of stable markets, high cost of production and low farm production
	Farmer group	Marketing broilers of members	Nature of trade relation with buyers affects member income	Income of broiler farmer members dwindling.
Trading	Broiler traders	Buy live broiler chicken for re sale	Trading terms and pricing affect broiler farmer gross margins	Low quality broilers, high transaction costs (transport), meat deterioration due to lack of effective cooling technology, delayed payments by institutional consumers and side selling by farmers
Processing	Broiler processors	Conversion of live chicken into special broiler meat cuts	Capacity to process and store and quality or volume demand of their markets can influence production practices and income of producers	Inability to meet chicken demand, high processing costs (Power), retailers sell their products expensively, breach of supply quality requirements by farmers
Wholesale and Retail	Butcheries Retail outlets	Buy dressed chicken	Eating habits and quality requirement affect volumes of broiler meat traded and gross margins of the other actors in the chain	Irregular power supply affecting keeping quality of meat. Inconsistent supply of broiler meat.

Market supporters

This research indicates that support in the Kampala broiler value chain is derived from, the Kampala Capital City Authority (KCCA), The NAADS program, financial institutions, input suppliers, producer organisations and a poultry stakeholder platform. Within the KCCA Ordinance act 2006, there are policies, laws and regulations that govern farming practices in the city. KCCA reserves the right to practice poultry farming in the city. The production department of KCCA is responsible for spearheading the Authority's production related activities. Training farmers, research and demonstrate appropriate urban farming technologies, at their Kyanja demonstration farm

to farmers in their jurisdiction, collaborate with development partners and government agencies like NAADS on improving urban livestock production, and promote veterinary public health standards in the city. The NAADS programme has currently provides financial support to farmers in the city through providing grants to small holders to enable them access inputs.

Some financial institutions like Finance Trust bank, a pro-women bank, train their clients in financial literacy, and have policies to support farmers in groups that are involved in collective action and contain a substantial number of female members, to easily access affordable financing. Their financial service options could be tailored to the business models the groups engage in.

Producer organisations like the BKQF and the Makindye SACCO poultry group also support their members financially with loans from group savings at affordable rates. The Poultry Association of Uganda is a stakeholder platform providing an opportunity for poultry industrial actors to lobby the Government of Uganda on issues like oppressive laws, taxes, trade barriers, and policies.

The other supporters in the value chain adding their effort are suppliers of feed, chicks and pharmaceuticals plus the broiler processors that offer training services to broiler farmers. Analysis of the supporters and how they influence the broiler value chain is as shown in the Stakeholder matrix table 5 below.

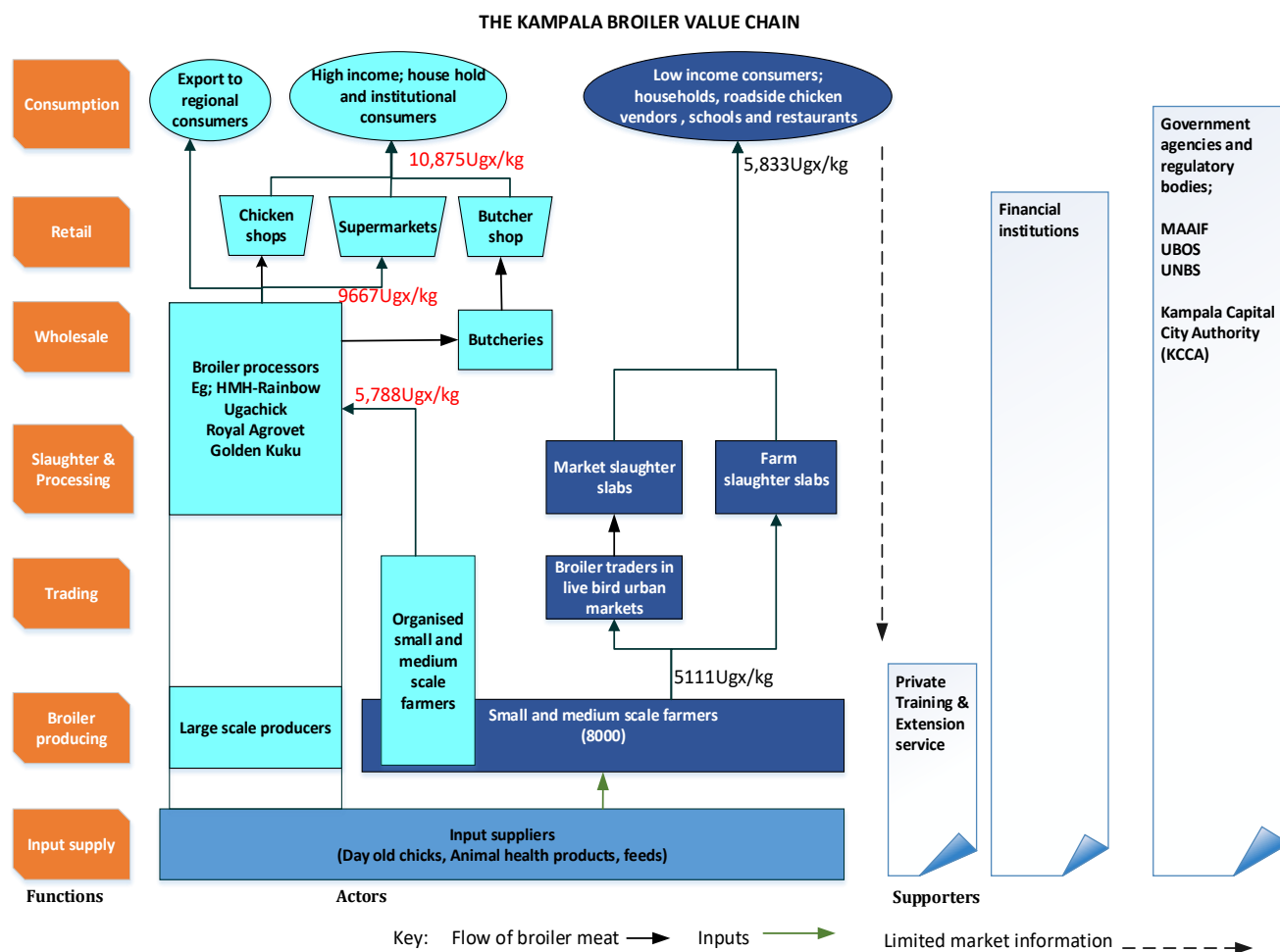
Table 5: Stakeholder matrix-Chain supporters

Name of Supporter	Role in the chain	Influence on broiler value chain	Constraints
Kampala Capital Authority	Draft, enforce laws in regulating farming in the city, training, technology dissemination, maintain public health and collaborate with development partners	Rules and regulation affect , consumer buying habits, broiler production practices and the efficiency of the value chain.	Lack of accurate information on poultry subsector in Kampala
NAADS programme	Financing quality input acquisition by small holder broiler farmers	Access to quality lowers unit cost of production for broiler meat	
Banks; Finance Trust bank and Producer organisations; BKQF & Makindye SACCO	Financial support to broiler farmers	Financing affects farmer gross margins and volumes of broiler meat in the market	Farmer members defaulting on loans given
Input suppliers; Veterinary pharmaceuticals, feed suppliers and day old chick suppliers along with broiler processors	Training	Quality of training affects broiler farmer productivity, their their gross margins and strengthens relation in the chain	Funding limitations to finance frequent trainings

4.1.2 Market channels

The broiler value chain in Kampala as depicted in the value chain map below has 2 major channels through which broiler farmers access markets. The channels are generally short with no wholesale or retail functions. Farmers in this group sell their broilers to either broiler traders in live bird markets nearest to their farm locations, or slaughter the birds on farm and sell to nearby consumers like schools, households and roadside roast chicken vendors.

Figure 7: Broiler value chain in Kampala



4.1.3 Actor value share

To compute the actor value share, information from the actors of the two main channels in the Kampala broiler value chain was analysed for actor variable costs and their revenues. The cost of producing 1.8kg of broiler live weight from a farmers perspective determined in the Focus group meeting with the BKQF broiler farmers was found to be 8,696Ugx. The cost of producing a kilogram of broiler live weight was thus 4,831Ugx (Annex 5).

Table 6: Actor variable costs and revenues in the traders channel

Actor	Costs (Ugx) per kg of broiler meat							Revenue (Ugx)/kg
	Purchase	Production	Transport	Slaughter	Freezing	Other	Total	
Broiler farmer		4,831					4,831	5,111
Trader	5,111		111.1				5,222.1	5,833
Consumers	5,833							

Most farmers are selling to traders at farm gate so they do not incur any other costs. The traders usually meat transportation and slaughter costs. The broiler farmers in the trader channel, despite having a large value share of 88%, their gross margin at 5% is quite low.

Table 7: Value share for actors in the trader channel

Chain actor	Variable costs	Revenue	Gross income	Added value	Gross margin	Value share
Broiler farmer	4,831	5,111	280	5,111	5%	88%
Chicken traders	5,311	5,833	522	722	9%	12%
Consumer		5,833				

In the processor led channel, retailers and processors are an addition to the chain actors (table 8). Broiler farmers in this chain incur delivery costs to the processor sometimes. Processors incur costs attached to; slaughter, cooling, freezing, storage and delivery. Retailers on the other hand must meet for costs for mainly; storage premises, staff and cooling.

Table 8: Variable costs and revenue for actors in processor channel

Actor	Costs (Ugx) per kg of broiler meat							Revenue (Ugx)/kg
	Purchase	Production	Transport	Slaughter	Freezing	Other	Total	
Broiler farmer		4,831	25				4,856	5,788
Processor	5,788				370		6,158	9667
Retailer	9,667					55	9,772	10,875
Consumer	10,875							

Table 9: Value share for actors in the processor channel

Chain actor	Variable costs	Revenue	Gross income	Added value	Gross margin	Value share
Broiler farmer	4,856	5,788	932	5,788	16%	53%
Processor	6,158	9,667	3,509	3,879	36%	36%
Retailer	9,722	10,875	1,153	1,208	11%	11%
Consumer		10,875				

The processor led segment of the broiler value chain presents better income prospects to all actors in the chain. Broiler farmers selling in this segment at the same cost of production as those in the trader segment have a value share of 53% and earn a gross margin of 16% per kg of broiler meat(table 9).

4.2 Features of secure markets in the Kampala broiler value chain

4.2.1 Trading relations

Processors and traders were found to be the dominant destination of broilers in Kampala. Traders were found not to seek any form of regular supply relations with broiler farmers. They prefer to mostly operate on spot relations where they are contacted by farmers ready to sell, by mobile phone or physical interactions in the markets where they operate. Traders buy live birds from the farm gate and transport them to markets. Broiler traders prefer paying cash on farm and often buy less than 500 birds at any time. They prefer to pay the value per bird and not on the basis of weight. Broiler traders operate as unregistered individual entities that can be traced easily, and have limited knowledge about quality requirements for broilers.

Processors on the other hand have good connections with ordinary and high value consumers up stream and thus are have demand and quality requirements to fulfil. These processors all also seek annual approval quality certifications of local standards agency, Uganda National Bureau of Standards. HMH-Rainbow, the largest operator in this function also has; ISO 22000, FSSC 22000, Halal and Q mark certifications. The processors there fore seek to maintain stable relations with broiler producers so as to keep a steady supply of broiler meat up stream but to also maintain a certain level of broiler quality right from production that suits the customer

requirement. The table below is a summary of the form of trade relations and terms of trade across the different processors

Table 10: Business trading relations across different processors

Name of processor	Scale	Relations sought with suppliers	Terms of trade
Ugachick	Medium	Mix of formal, informal and spot relations	Have formal production contracts with contract farmers and informal marketing agreements with farmer groups like the Bamunanika group. Both these categories of suppliers are must agree to a set of terms with Ugachick.
HMH-Rainbow	Large	Planning start of formal relation with outside suppliers in 2019	Willing to offer production contracts to only contract farmers that will meet their requirement.
Royal Agrovet	Medium	Formal and informal relations	Have formal marketing contracts and informal agreements with the close to 30 individual farmers that supply them. They are willing to take on more organised supplier.
Golden Kuku	Small	Formal and informal relations	Currently operating informal marketing agreements with some individual farmers. They plan in the future to have production contracts with selected farmers.

4.2.2 Market information

With background knowledge that lack of market information was one of the barriers to access markets in the Kampala broiler value chain, this research sought to uncover from broiler farmers in the BKQF and some actors in the chain on the kind of their knowledge and the kind of market information available. Broiler farmers in the BKQF know scanty information about what is happening up and downstream of the chain. The farmers in the Bamunanika group who are engaged in collective marketing to Ugachick know adequate market information. Broiler traders similarly have limited market information and it is not surprising that they do not share much information with the farmers they deal with. The four major processors in the market have a combined broiler supply deficit of 374,000 birds per month, which if compared with the current supply to those processors of 1,100,000 birds, represents a 34% deficit.

Table 11 below shows the nature and detail of information with chain actors.

Table 11: Market information

Actor	Quality of birds needed	Pricing & Pay mode	Volumes	Mode of relaying information	Other information
Chicken traders	<ul style="list-style-type: none"> Birds needed live or dressed Birds with big thighs and big breast preferred Weight of birds preferred is 1kg to 1.8kg 	<ul style="list-style-type: none"> 9,200Ugx per bird Pay cash 	<ul style="list-style-type: none"> Traders buying between 100-500 birds a day 	<ul style="list-style-type: none"> Physical contact with suppliers or by telephone 	
HMH-Rainbow (processor)	<ul style="list-style-type: none"> Cobb 500 breed 32-37 days of age Weight 1.6-1.7kg Bird health report per batch from a reputable source 	<ul style="list-style-type: none"> Pay by 15 day cheque Price range is 5600-5800Ugx per kg live weight 	<ul style="list-style-type: none"> Minimum order quantity possible is 2000 birds Process capacity of 22,000 birds a day Have a supply deficit of nearly 50% 	<ul style="list-style-type: none"> Via annual production contracts and meetings in the future 	<ul style="list-style-type: none"> Feed withdrawn 8 hours to delivery Antibiotic free birds Delivery to slaughter house owners cost Farms supplying to be within an 80km radius Inspect farms for suitability Slaughter 5 days a week
Ugachick (Processor)	<ul style="list-style-type: none"> Birds 35-40days old Live weight of 16-1.8kg Cobb 500 breed 	<ul style="list-style-type: none"> Price changes communicated 1 week for hand Pay by 15 day cheque 	<ul style="list-style-type: none"> Processing capacity of 10,000 birds a day Have a deficit of 4000 birds per day 	<ul style="list-style-type: none"> Production and marketing contracts plus quality assurance office announcements 	<ul style="list-style-type: none"> Suppliers deliver at farm in Magigye at own cost. Drug withdrawal 7 days before delivery Feed withdrawal 12 hours before slaughter Deliveries accepted between 12am and 4am, Process 6 days a week. Inspect farms for suitability
Royal Agrovet (Processor)	<ul style="list-style-type: none"> Below 42 days old Weight 1.7-2kg 	<ul style="list-style-type: none"> Pay by 15 day cheque Buying at 5600-5800Ugx per kg 	<ul style="list-style-type: none"> Process capacity of 10,000 birds per day Minimum supply quantity is 1500 birds Have a monthly supply deficit of 60,000 birds 	<ul style="list-style-type: none"> Contract meetings and 	<ul style="list-style-type: none"> Have delivery trucks and crates for hire
Golden Kuku (Processor)	<ul style="list-style-type: none"> Below 42 days old Less fat Free of antibiotics 	<ul style="list-style-type: none"> Pay by 15 day cheque 	<ul style="list-style-type: none"> Process capacity of 6000 birds a day Have a weekly supply deficit of 2000 birds 	<ul style="list-style-type: none"> Contract meetings and 	<ul style="list-style-type: none"> Feed should not contain fish meal Delivery at farmers own cost

4.2.3 Marketing of broilers

Broiler farmers in the Kampala market their broilers to; individuals or households in their neighbourhoods, broiler traders, local schools, restaurants, road side chicken roasters and processors. Depending on destination the birds are sold live or dressed. Farmers prefer to sell the birds at farm gate though some deliver to the customers when need arises. Farmers in the BKQF and the Makindye SACCO group are among the several farmers individually marketing their own birds to predominantly broiler traders. Farmers in this predicament promote their broilers through; looking directly for buyers(traders) in the urban produce markets, calling buyers by phone, announcements on social media groups like whatsapp and face book, plus occasional sign posts outside their homes reading “broilers on sale”. Some farmers in groups, like the Bamunanika farmers group collectively sell the broilers to processors like Ugachick where they have a trading relation strengthened by an informal market agreement that has been running for more than 5 years.

4.3 Challenges in marketing their broilers

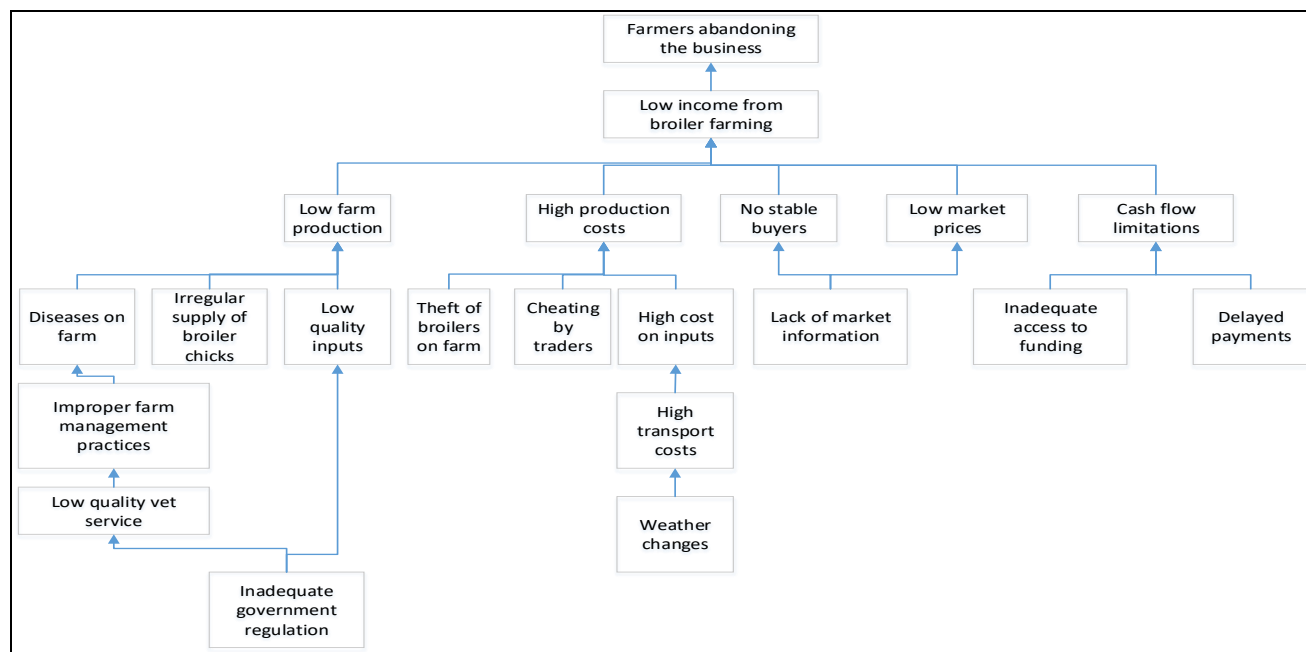
The challenges faced by actors in the chain from; farmers, traders, processors to retailers have varying origins. The table below is a result of PESTEC analysis of these challenges depicting their nature, across the; political, economic, social, technological, environmental and cultural aspects.

Table 12: PESTEC analysis of challenges in marketing broilers

	CHALLENGES
POLITICAL	<ul style="list-style-type: none">• Inadequate Government regulation
ECONOMIC	<ul style="list-style-type: none">• Low income from broiler farming• Delayed payments to farmers• Inadequate funding access• High cost of inputs• Cash flow limitations• Low market prices.• Irregular broiler markets• High production costs
SOCIAL	<ul style="list-style-type: none">• Lack of reliable market information• Urbanisation limiting access to land expansion• Theft of broilers on farm
TECHNOLOGICAL	<ul style="list-style-type: none">• Irregular supply of broiler chicks• Diseases on farm• Poor quality veterinary service• Improper farm management practices• Low quality inputs• Low production output
ENVIRONMENTAL	<ul style="list-style-type: none">• Weather changes
CULTURAL	<ul style="list-style-type: none">• Cheating traders declaring less birds during collection of birds

These challenges when subjected to problem tree analysis (figure 6) revealed that; the main problem is low income from broiler farming, and the main cause of the problem are; low farm production, High production costs, lack of stable markets, low market prices and cash flow limitations. The main effect of the problem is farmers abandoning the business.

Figure 8: Problem tree –Challenges in marketing broilers



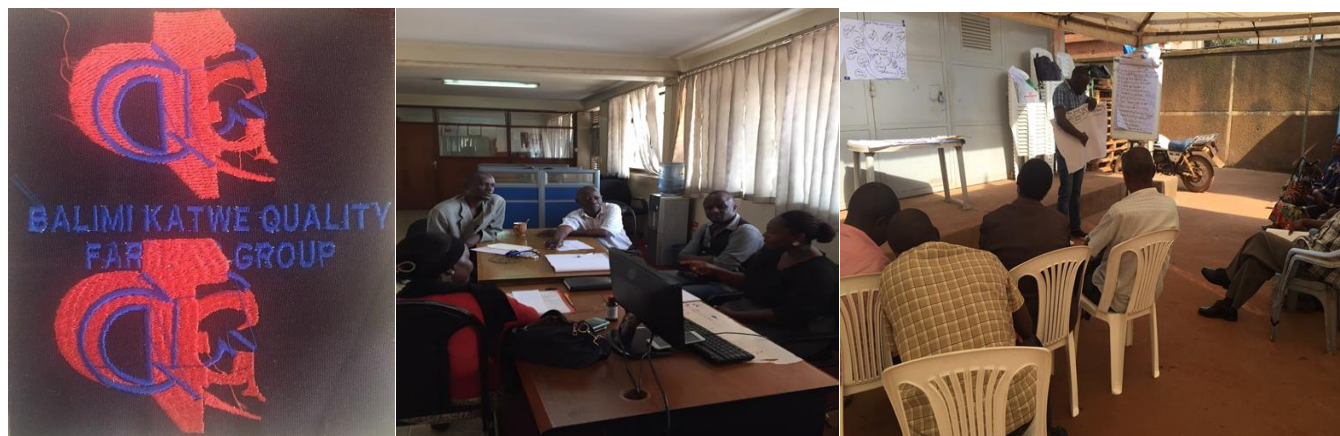
4.4 Performance of the BKQF group

With the objective of linking BKQF group members to secure broiler markets in Kampala still in focus, this research sought to establish; the characteristics of the BKQF broiler farmer members, the nature of the BKQF as an organisation, the role of the BKQF group in serving its members and the interaction the group does with partners, and the environment in which it dwells. Here below is the analysis of information gathered from; an interview with BKQF leaders, a focus group discussion with 12 group members and a survey of the 32 broiler farmers in the group, using the IOM checklist tool and statistical analysis software SPSS version 25.

4.4.1 Group profile

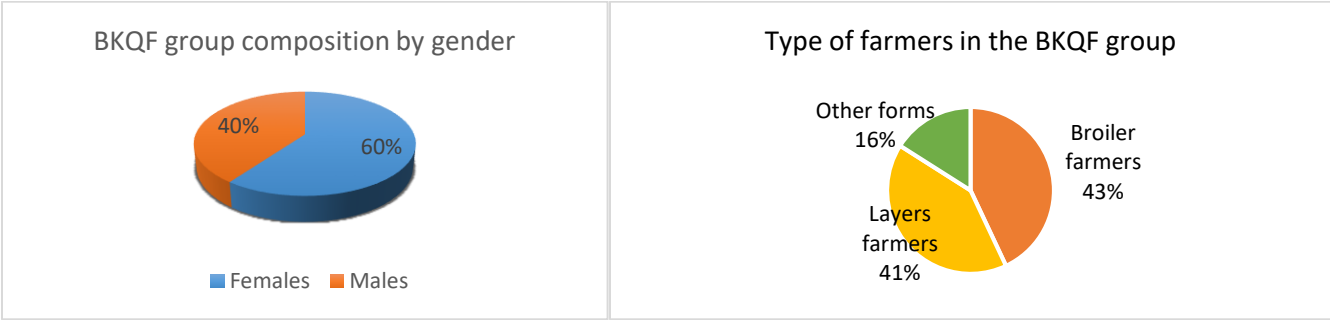
The Balimi Kawe Quality Farmers group, was established on February 2013 by a group of poultry farmers. It was formally registered in Uganda on 15th February 2017, as a producer organisation whose primary course business ins poultry production. The group has a set of bylaws that govern the organisation under the laws of Uganda.

Figure 9: BKQF group logo plus photographs of group members during the interview and focus group discussion



Though based at plot 64/65 Katwe road in Kisenyi III Parish, of central division in Kampala, the group’s territorial limit is open. The BKQF has 75 members, 60% of which are females. In this group there are slightly more farmers keeping broilers than layer farmers. The rest keep alternative forms of chicken that include; local hybrids and exotic dual purpose birds like kuroilers or rainbow roasters.

Figure 10: BKQF group gender and farmer type composition



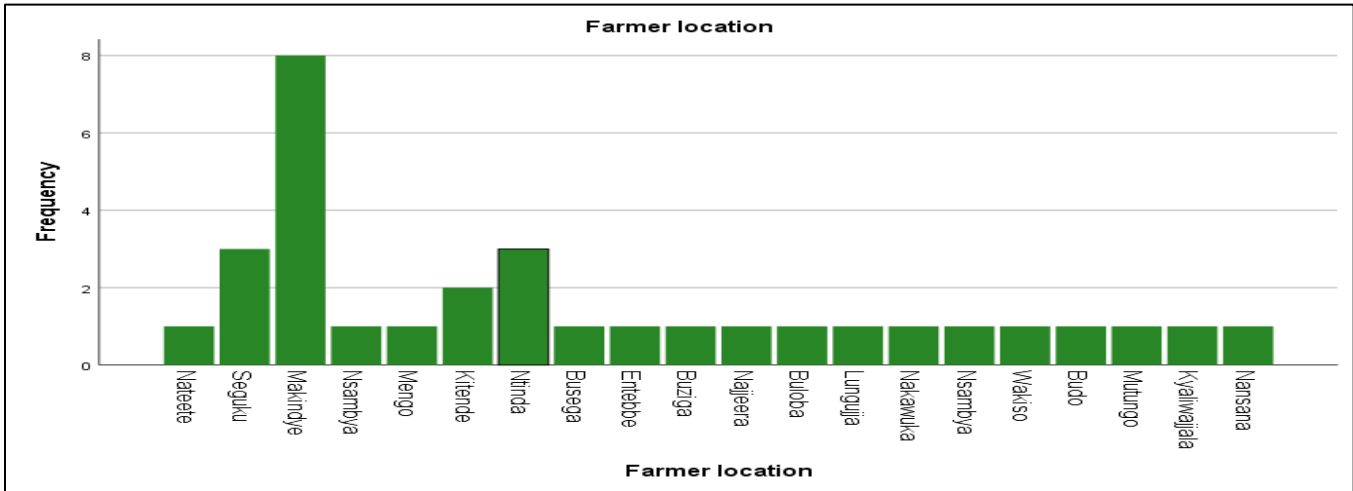
4.4.2 Broiler farmers in the BKQF group

The 32 broiler farmers, who are grappling with market access constraints and are at the centre stage of this research were all subjected to the survey. 17 of these broiler farmers are categorised as small scale, keeping less than 500 broilers, while the other 15 belongs to the medium scale category that keeps between 500 to 3000 broilers.

Location

Broiler farmers in this group though location wise were dispersed in different areas in and around Kampala, the majority practiced their farming in Makindye (figure 9), an area very close to Kampala city and the BKQF office in Katwe.

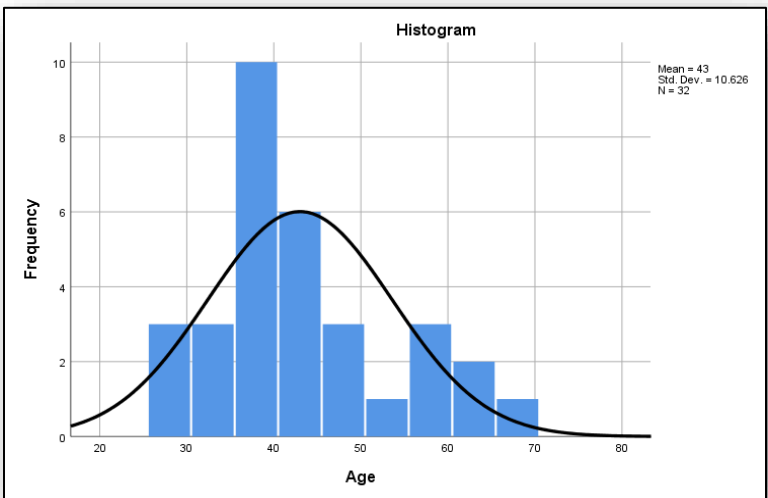
Figure 11: Histogram and frequency table showing age of BKQF broiler farmers



Age

Close to 69% of the farmers were female. The average age of the broiler farmers was 43 years and the most common age amongst them was 38 years (figure 10). The youngest and oldest members were 28 and 66 years respectively.

Figure 12: Histogram and frequency table showing age of BKQF broiler farmers

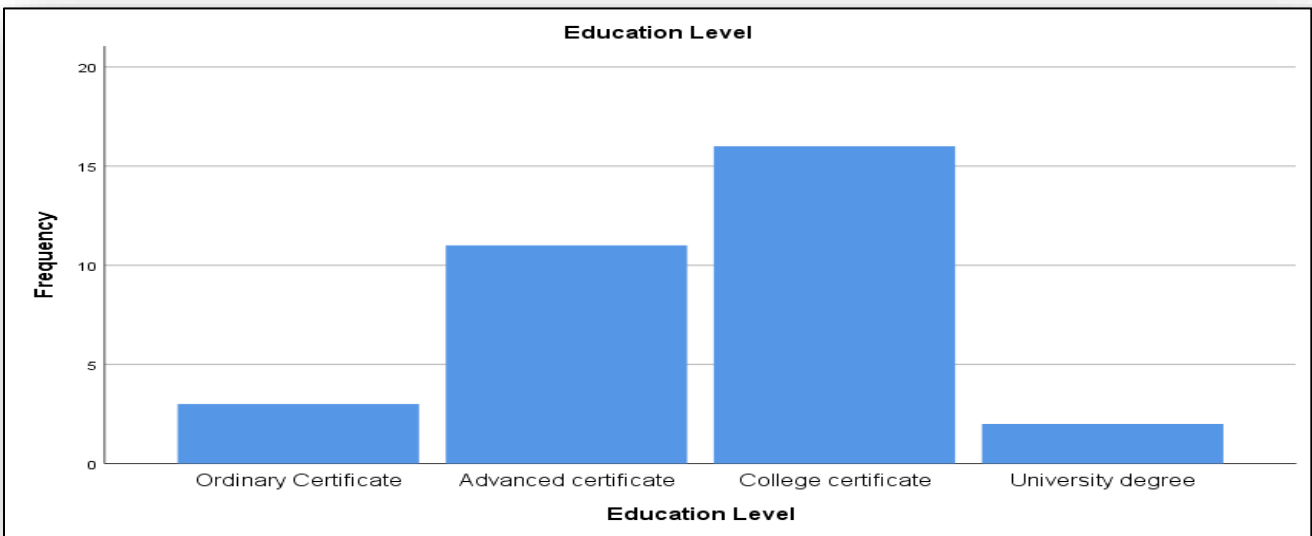


Age of broiler farmers in the BKQF group		
N	Valid	32
	Missing	0
Mean		43
Std. Error of Mean		1.878
Median		40
Mode		38
Std. Deviation		10.63

Level of education

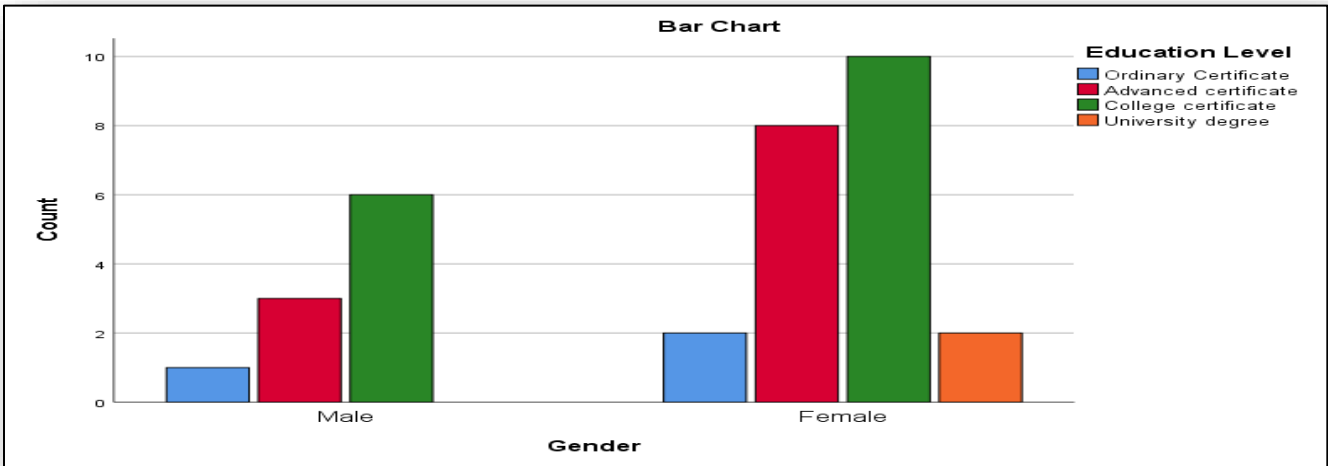
It was worth noting that each of these broiler farmers has had a good exposure to formal education (figure 11). More than half of the group had a college certificate and the least educated of them all have an ordinary certificate.

Figure 13: Education levels in the BKQF broiler farmers



Women had the most educated members of the group (figure 12). Whereas the highest level of education in men was a college certificate, the women broiler farmers had two members that had attained a University degree.

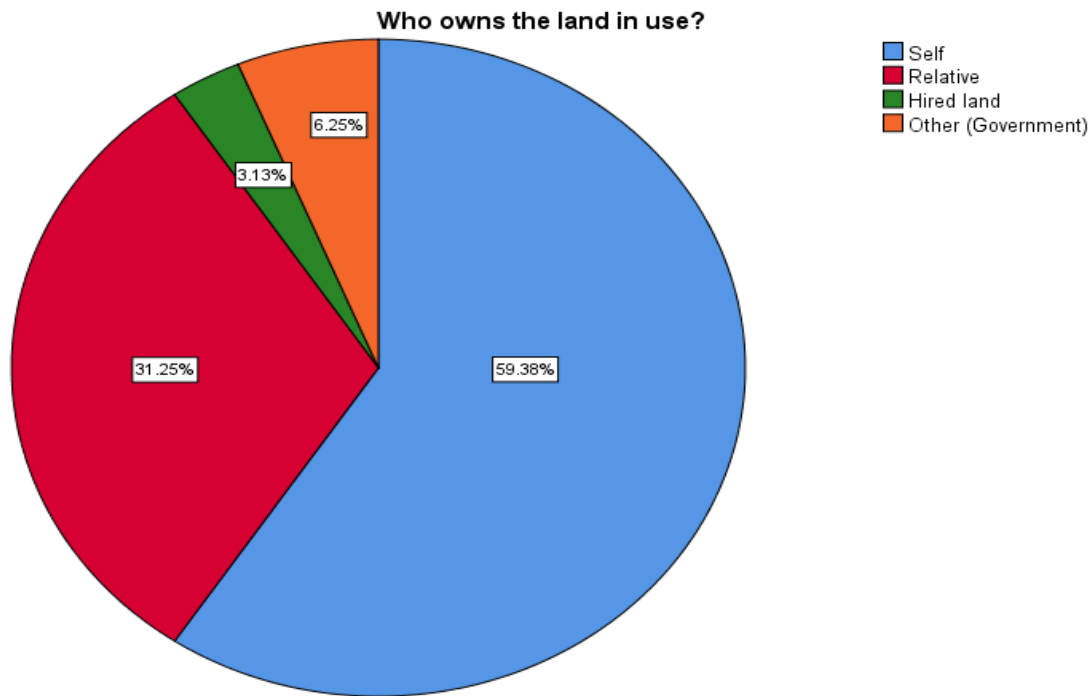
Figure 14: Gender and education levels in the BKQF broiler farmers



Land ownership

Land ownership within the group was diverse. Some farmers owned the land in use, some were using land belonging to a close relative, while others were using hired land or land belonging to the government of Uganda. The majority (59.38%) of the KBQF broiler farmers owned the land that they are using (figure 13). In general, the land sizes the members were using were small, and they ranged from 0.12 to 0.57 acres. The average size of the land in use was about 0.063 acres and the majority of these broiler farmers had less than 0.200 acres of land.

Figure 15: Ownership of land in use by the BKQF broiler farmers

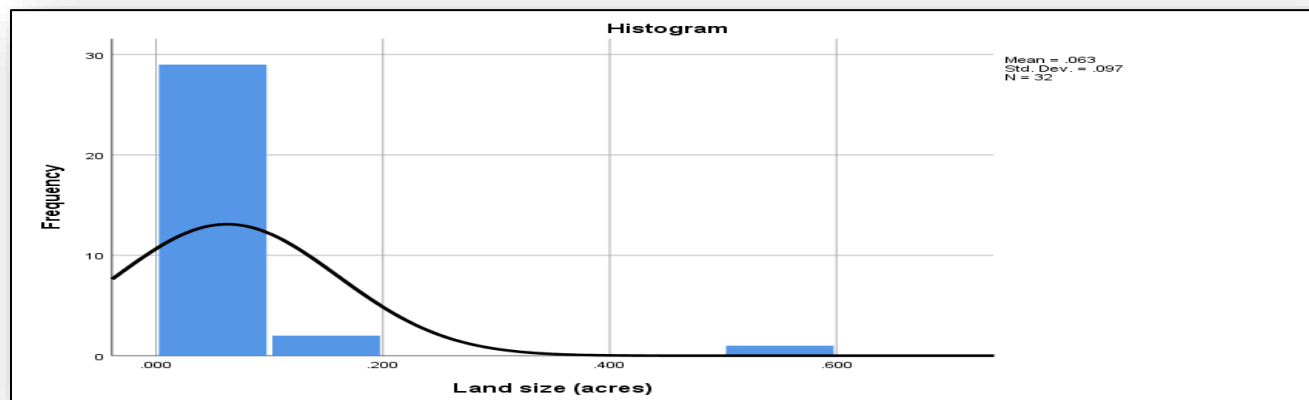


The majority of the broiler farming men owned the land in use (Table 13). For female broiler farmers in the group, nearly half owned the land in use. The females that did not own the land, were mostly using land from close relatives like a brother or a parent, while the remaining was hiring or using government land.

Table 13: Cross tabulation gender in the group and land ownership

Gender and land ownership cross tabulation						
		Who owns the land in use?				Total
		Self	Relative	Hired land	The Government	
Gender	Male	9	1	0	0	10
	Female	10	9	1	2	22
Total		19	10	1	2	32

Figure 16: Land sizes used by the BKQF broiler farmers



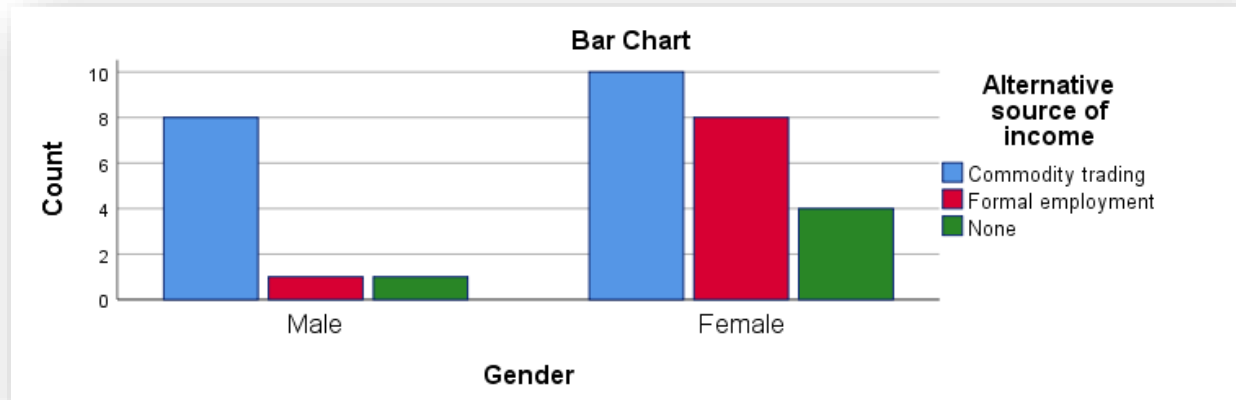
Alternative sources of income

In this group, only 15.6% were relying entirely on broiler farming as a source income (table 14), the rest were either involved in commodity trading or were formally employed. Commodity trading was the most popular source of alternative income in the group. Gender wise, females and male members supplemented their income through commodity trade (figure 15).

Table 14: Alternative sources of income for BKQF broiler farmers

Alternative source of income					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Commodity trading	18	56.3	56.3	56.3
	Formal employment	9	28.1	28.1	84.4
	None	5	15.6	15.6	100
	Total	32	100	100	

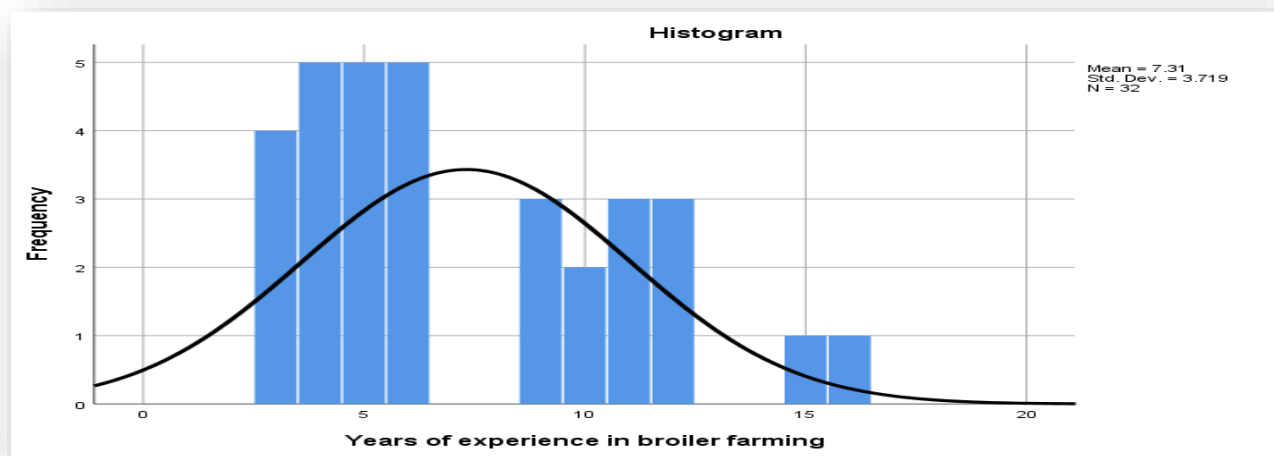
Figure 17: Gender and alternative income source comparison



Years of experience in broiler farming

Whereas 16 years was the highest number in broiler farming experience, the average years of experience in keeping broilers for members in this group was 7.31 years (figure 16). The majority (75%) of the broiler farmers had a less than 10-year experience in broiler farming.

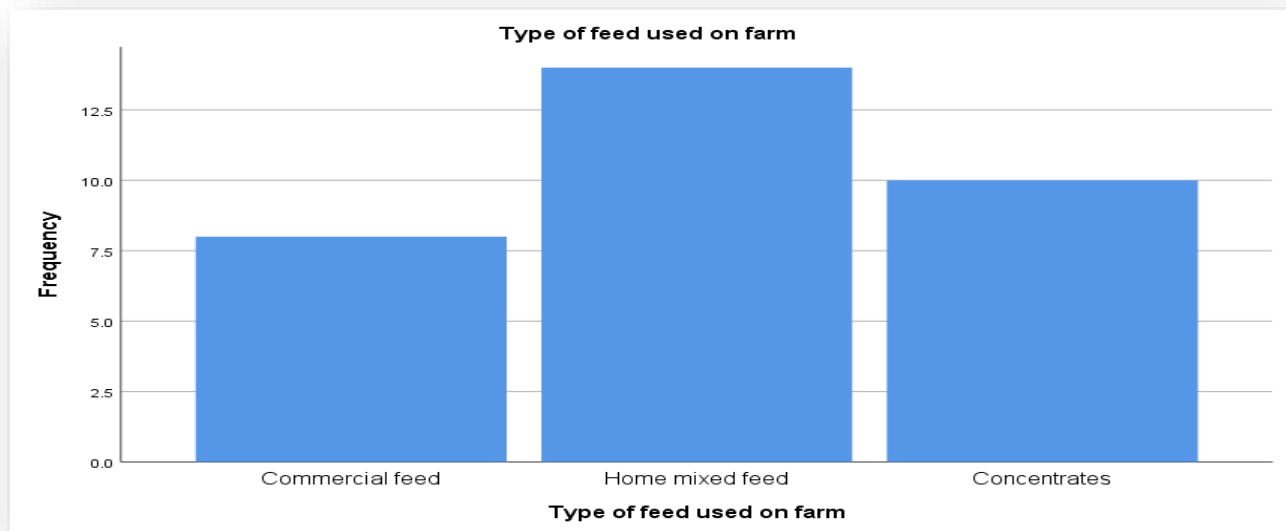
Figure 18: Years of experience in broiler farming



Sources of key inputs

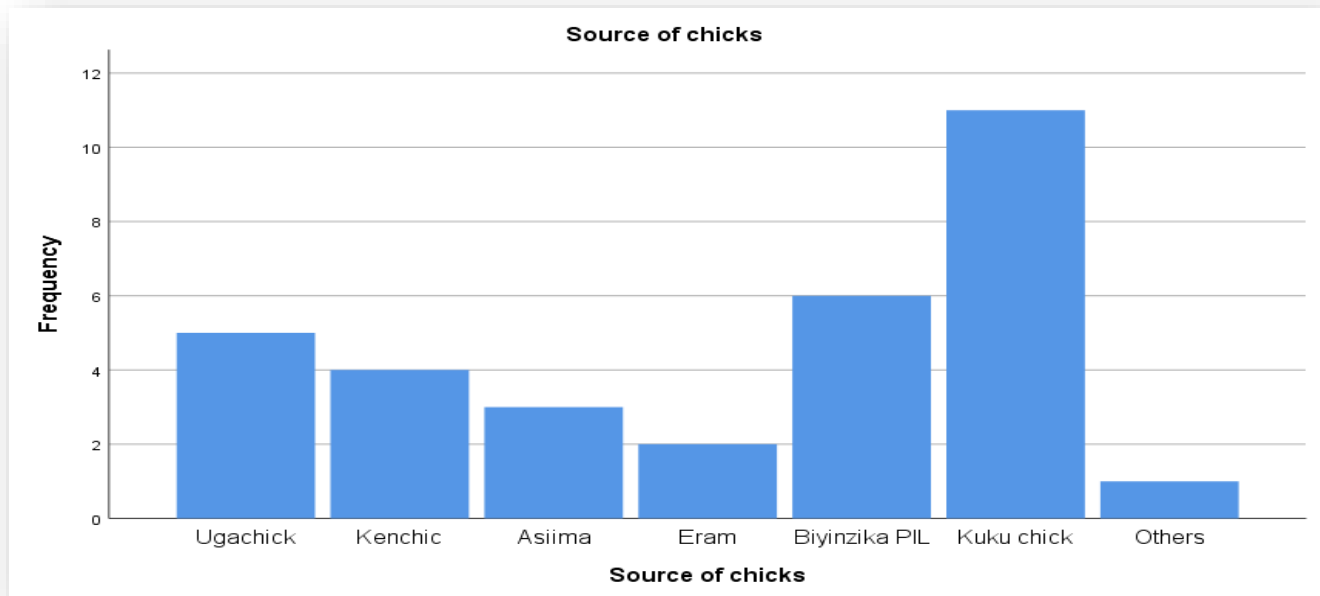
Preference for sources of major inputs, feeds and day old chicks in the broiler farmers was also scrutinised. Even though the farmers had knowledge of the different sources of feed for broilers, nearly 43% preferred to purchase feed ingredients from feed ingredient suppliers or feed millers, separately and then mix the feed on their own at the farm. The rest used concentrates and commercial feeds (figure 17).

Figure 19: Types of feed used by broiler farmers



The farmers reported to have a wide variety of sources of day old chicks suppliers. They included the common suppliers; Ugachick, Kenchic, Biyinzika Poultry Intenational Ltd, Asiima , Eram ,Kuku chick and several other smaller players. Kuku chick (Figure 18) was however, the most popular source of day old chicks. Nearly 34% of the farmers preferred buying their broiler day old chicks from Kuku chick.

Figure 20: Sources of day old chicks



Marketing of broilers

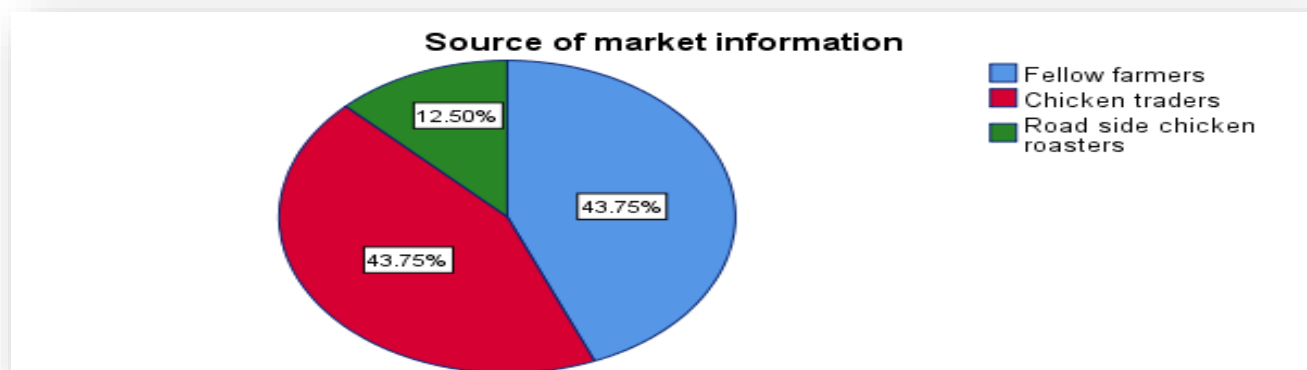
The broilers were sold as either live or dressed depending on their final destination (Table 15). Close to 88% of the broiler farmers sold their market bound broilers as live birds to mainly traders. A few ventured into on farm slaughter of birds, there by selling dressed broilers to particularly small restaurants and roadside chicken roasters.

Table 15: Form in which broilers are sold

In which form do you sell your broilers?					
N=32		Frequency	Percent	Valid Percent	Cumulative Percent
	Live	28	87.5	87.5	87.5
	Dressed	4	12.5	12.5	100
	Total	32	100	100	

Farmers in their quest to market their broilers, generally obtained market information on; prices, volumes and quality of produce needed from mostly their colleagues and chicken traders (figure 19).

Figure 21: Sources of market information for BKQF farmers

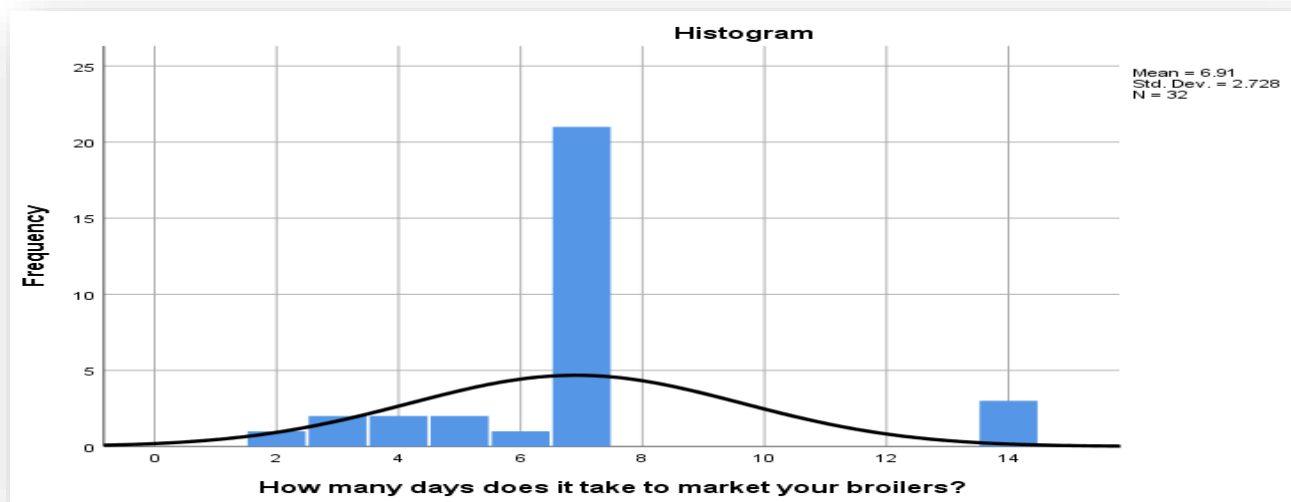


To market their broilers when ready, farmers were mainly making phone calls to known potential buyers or searching for them physically in the urban markets, restaurants, roadside chicken roasters or schools, to arrange for transactions (Table 17). On average, it took broiler farmers in this group (figure 19) nearly 7 days to sell off all their broilers. The shortest it took some members was 2 days and the longest time reported was nearly two weeks.

Table 16: Promotion of market bound broilers

How do you promote your broilers?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Phone calls	22	68.8	68.8	68.8
	Visit buyers	10	31.3	31.3	100.0
	Total	32	100.0	100.0	

Figure 22: Days taken to market ready broilers



The majority (66%) of the farmers sold off their broiler to traders at farm gate (Table 17), who then take them to their live bird market stalls in the urban markets of Kampala.

Table 17: Destination of market bound broilers from the BKQF group

Where do you sell?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Traders at farm gate	21	65.6	65.6	65.6
	Live chicken market	7	21.9	21.9	87.5
	Restaurant	3	9.4	9.4	96.9
	Road side chicken roaster	1	3.1	3.1	100
	Total	32	100	100	

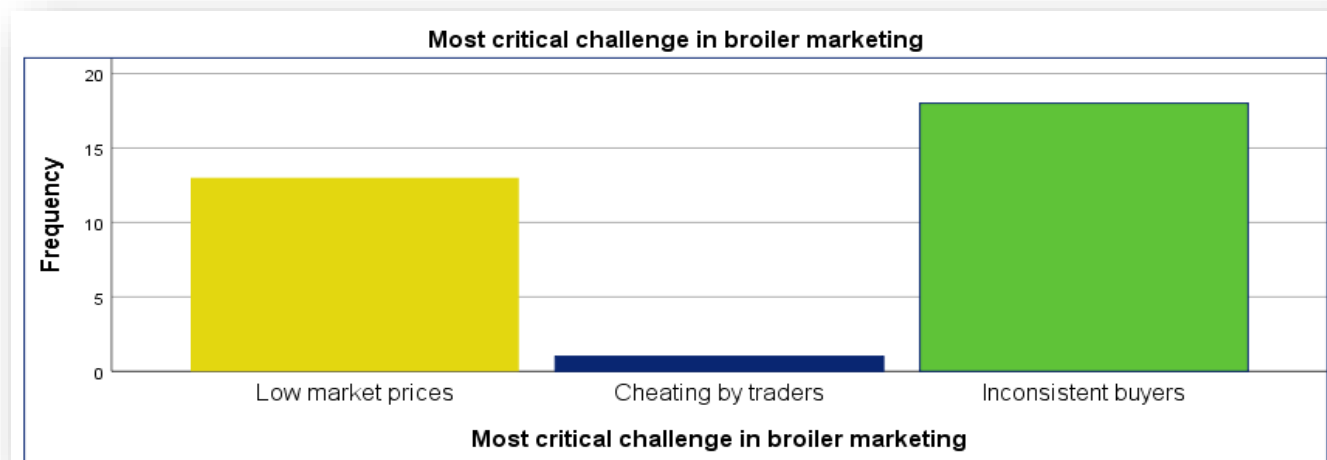
As far as relating with buyers in the market was concerned, there were no strong relations between the farmers in this group and the buyers of their broilers. Only 12.5% of the farmers had a verbal agreement to supply broilers (Table 18). The majority were indulging in spot or adhoc market relations, selling their broilers with no intentions of keeping permanent relations with the buyers.

Table 18: Destination of market bound broilers from the BKQF group

What kind of relations do you have with your buyers?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	28	87.5	87.5	87.5
	Verbal agreement	4	12.5	12.5	100
	Total	32	100	100	

Amongst the main challenges in marketing broilers, most farmers (56.3%) in the group indicated that inconsistent buyers was the most critical (figure 21). The other important challenges were; low market prices and cheating broiler traders

Figure 23: The most critical challenges in broiler marketing



Rating of BKQF service delivery.

The broiler farming members of the group believed generally that the BKQF group with its current activities of mainly providing affordable financing to them, was providing fairly sufficient service (table 19).

Table 19: BKQF Service delivery rating to its members

How do you rate BKQF group service delivery?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sufficient	7	21.9	21.9	21.9
	Fairly sufficient	25	78.1	78.1	100.0
	Total	32	100.0	100.0	

4.4.3 Organisational analysis of the BKQF group

The results in this section are from interview session with four members (figure 7) of the BKQF leadership. The group was interviewed on matters of the organisation and the information obtained analysed with use of the IOM model checklist.

Mission

The BKQF has no mission statement. It only has a set of objectives that are laid out clearly in their group bylaws. The objectives of establishing the group were to;

- I. Develop economically through income generating activities
- II. Create market opportunities for member products
- III. Maintain high quality standards for member produce
- IV. Commiserate in times of sorrow
- V. Learn from each other and other farmers beyond the group

Outputs

The group's major business output is; provision of financial services to its members through low cost short time loans. Loans of more than 6,000,000Ugx can be given to eligible members. The cost of finance is between 10-12% of the value per annum and is payable in less than a year. The other minor business is renting out plastic chairs for events. The benefit of engaging in these outputs so far are; improved financial access for members and increased dividends for members as shareholders of the organisation. The group currently has close to 220,000,000 Ugx available for lending its members. The demand for the loans is high so all the money is lent out. In the year 2016, 63% of loans taken were accessed by women and 37% by men.

Inputs

The group is run by volunteer members elected annually into office. The six member executive committee consists of; a chairperson, vice chairperson, secretary, assistant secretary treasurer and mobiliser or publicity officer. Although men dominate the two top positions, the group executive committee has an equal representation of males and females. The executive members have no prior professional training in leadership and management of a producer group. The group has office premises at plot 64/65 Katwe, a central and accessible location within Kampala, and it is furnished with office amenities. To run its daily activities, the BKQF group depends on member savings, plus annual & membership fees. The other inputs needed are; stationery in the form of; ledger books receipt books and printing paper. The major risk the business faces thus far is defaulting of members paying back loans. There is no cover yet for members who default on loan pay back.

Key actors

The key actors interacting with the group in business are identified as; customers, financiers, suppliers, professional and service providers. The table 20 below summarizes the key actors and their roles.

Table 20: Key actors in BKQF business environment

Role		Key actors
Customers	Loans	All 75 members of the BKQF group
	Chairs	Chair hire customers; Like battery plus Ltd and Quality chemicals and other
Financiers		All 75 BKQF members with their; savings, subscription and membership fees
Suppliers:		Stationery and printing service shops in Kampala Cleaning tools suppliers
Office premises and storage space hire		Given free by Quality chemicals Ltd in Katwe
Professional services	Accounting	No actor solicited yet
	Banking	Centenary bank
	Advisory	CBS Pewosa program –(Helped in group formation)

External factors

The external factors affecting the group performance along the; political, economic, technological, social legal and environmental divides are as summarised in the table 21 below.

Table 21: External factors affecting group performance

Factors	Influence on groups performance
Economic	High cost of transport and inputs affecting member income negatively and savings ultimately
Technological	Inadequate access to training services and skilling in poultry production affecting member income
Political	Support programmes from the NAADS available but the group is not yet engaged in them
Socio-cultural	No limitations known
Legal	Officially registered and legally able to transact in business. No trading license for 2018.
Physical environmental	No idea about it

Strategy

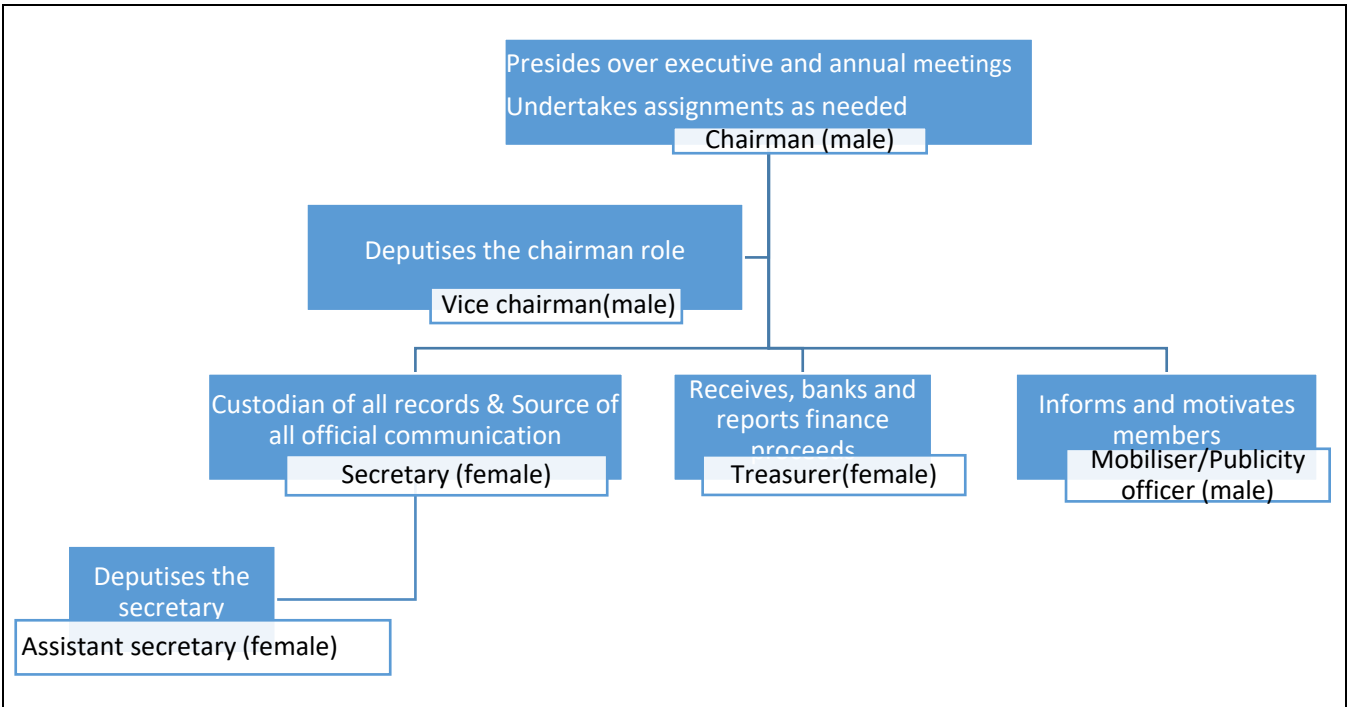
The group has no overall strategy or strategic plan yet. Analysis of gender involvement clauses in the strategy could not be assessed. The group does not have an annual working plan, and there is no evidence of monitoring or evaluation activities in the group's records.

Management structure

The executive committee, which has the mandate of the group members via election annually, is the decision-making organ of the group (figure 22). The executive meets monthly to discuss group progress, while the entire groups meets annually to discuss group performance. According to the group's bylaws, the role of the committee is to;

- I. Preside over all decision making in the group
- II. Ensure group cohesion and functioning
- III. Submit reports to annual general meeting
- IV. Appoint consultants for specific activities as need arises
- V. Preside over management of group finances
- VI. Appoint sub-committees that assist in group management

Figure 24: BKQF group organogram



The executive has the mandate to appoint Sub-committees that are made of group members to assist in running group tasks. A member of the group must be an ordinary Ugandan adult of good character that is paid up and active in the group activities. The role of ordinary members in general is to participate actively in group activities as stipulated in the group bylaws.

Systems and Processes

The group has no clear management and financial reporting procedures. The treasurer prepares a relevant but un-detailed report. There is no monitoring and evaluation procedures in place and there is no record of a financial audit of the group’s annual performance.

Human resources performance

There is no performance review plan for human resource. There are no emoluments for work done, as working members are generally voluntary basis. There has been no improvement training activity for the executives since group inception. In the bylaws, however there is no clause supporting gender inclusiveness in allocation of executive roles.

Management style

To assess the management style in the group, this research using information from the group leadership, examined the commitment of management over key organisational factors. The table 22 below is a summary of the outcomes.

Table 22: BKQF group management commitment

Factor	Outcome
Relationships with other actors	Management committed to establishing partnerships in the poultry value chain and that collective marketing of broilers is the next project.
Quality and volume of outputs	Improving quality of produce from group members is mentioned in their objectives. The leadership are concerned about quality and volume of outputs since they affects group income.
Welfare of its members	The role of the publicity officer has the mandate to ensure proper welfare of group members.
Information to members	The office of the secretary and publicity officer work hand in hand to ensure members get adequately informed.
Group performance	Management concerned about the high demand for loans from members that is outstripping supply. They would like to venture into collective input purchase where credit for inputs can be extended to the membership to ease on cash challenges.
Turn around time between decision making to implementation	Currently It takes at least 60days for decisions to be turned into actions. The group leadership wishes to improve it to a much lower period.

Organisational culture

Balance between common organisation cultural factors and how the group performs on them was examined as shown in the table 23 below.

Table 23: BKQF group culture factors compared

Cultural factors compared	BKQF group status
Hierarchy vs participation	Balanced. All members including executives are actively participating in group activities.
Performance of group vs welfare of its members:	Skewed more towards welfare. Currently the business of savings and loans is observed more of an approach to address welfare needs.
Short term thinking vs long term thinking:	Skewed towards short-term thinking. Planning culture is still inadequate.
Risk taking and risk reduction:	Skewed towards risk reduction. The group is yet to engage in ambitious or risk prone business.
Individual responsibility & team spirit:	Skewed towards individual responsibility. Group members still involved in individual marketing of own produce, 4 years since the group started.
Accountability and transparency:	Skewed towards transparency. Accountability needs to clearly made
Gender inclusiveness vs Participation	There is generally good balance. The group has 60% women members. Management board has 50% women leadership, though the top two positions in hierarchy have since the start been occupied by men only.

4.5 Current BKQF group business model

Information from the interview with the BKQF group leadership and the initial focus group discussion carried out with 12 members of the group provided the content for this section. The analysis of the information with guidance from the Canvas business model (figure 23) revealed;

Target customers and value proposition

The group's main customers are the 75 poultry farmers in the group, the majority of whom are broiler and layer farmers. The other customers some companies within the Katwe area that hire chairs. The BKQF group is thus mainly offering affordable financing as its value proposition to its main customers. Loans are the main product on offer as they contribute to close to 94% of the group business. The other product being chairs for hire.

Channels and customer relations

Group members who satisfy loan requirements, access loan monies through Centenary bank, the banking services supplier. Customer relations are maintained through group meetings. The loans committee meets customers on a weekly basis. Loan information is shared verbally and on special loan documents given out in such meetings.

Revenue stream

Loan repayment is the major revenue stream. Members make monthly repayments to the group bank account through the bank. With annual sales revenue from loans of about 140,830,000Ugx, the gross income from loans is 15,356,600Ugx. This represents an 11% gross margin from loans. The other source of income is renting of chairs.

Key resources

The BKQF group is using key resources to deliver its value proposition that include; an office and store, members volunteering as human capital, a money safe and cash in Centenary bank.

Key activities

The major activities done to deliver the value proposition include; collection of membership dues, annual subscription and savings. The other activities include; banking, loan disbursement procedures and management of records.

Key partners

Direct partners to the BKQF group consist of; the 75 members of the group that are also the major source of funds, stationery suppliers, chair suppliers and Quality chemicals that provides free office space. The indirect partners are the advisory program CBS Pewosa that was instrumental in group formation.

Cost structure

To run the activities of the group, create and deliver the value proposition to its customers, the group incurs costs linked to; bank charges, transport, allowances, stationery, printing services, cleaning and loan disbursement. Office, meeting and storage space is currently provided free at plot 64/65 in Katwe by Quality chemicals. The total annual variable costs are currently 156,186,600Ugx.

Figure 25: Current BKQF group business model

The current BKQF business model				
<div>KEY PARTNERS</div> <div><div>Direct partners:</div><ul style="list-style-type: none">75 BKQF membersQuality chemicals Ltd (office)Chair suppliers (chairs)Centenary BankStationary shops<div>Indirect partners:</div><ul style="list-style-type: none">CBS Pewosa Programme(advisory)</div>	<div><ul style="list-style-type: none">Collecting member savings, annual fees & membershipBanking savingsLoan disbursementRecord Management</div> <div><ul style="list-style-type: none">Office & StoreManagement committee (Human Resource)Money safe boxCash in Bank (Capital)</div>	<div>VALUE PROPOSITION</div> <div><ul style="list-style-type: none">Affordable financing for broiler farmers(loans)Event chairs for hire</div>	<div>CUSTOMER RELATIONSHIPS</div> <div><ul style="list-style-type: none">Group meetingsLoans committee meets prospective recipients weekly</div> <div><div>CHANNELS</div><div><ul style="list-style-type: none">Loans disbursed through the bank</div></div>	<div>CUSTOMERS</div> <div><ul style="list-style-type: none">75 BKQF group members (94% of business)Quality chemicals & Battery plus Ltd (chair hire)</div>
<div><ul style="list-style-type: none">Bank chargesCleaning itemsAllowancesOffice space/Venue for meetings cost(free)Transport costsStationeryLoans disbursement</div> <div>Total annual costs : 156,186,600Ugx</div>	<div>REVENUE STREAMS</div> <div><ul style="list-style-type: none">Loan repayments;Loan sales annually of about 140,830,000UgxSome revenue also from hired chairs-1,200,000Ugx</div> <div>Annual Gross income of: 16,556,600Ugx</div>			

5 Discussion

In line with the objective of exploring opportunities of secure markets in the broiler value chain of Kampala, and recommending a business model the BKQF group can adopt to link its broiler farmers to those secure markets, this section discusses the findings on secure markets in the broiler value chain, as well as the functioning of the BKQF group in enabling group members access secure markets.

5.1 Stake holders in the broiler value chain

The key actors identified in the Kampala broiler value chain include; Input suppliers, broiler farmers, poultry farmer groups, broiler chicken traders, broiler meat processors, retailers and consumers. The results indicate that the producers in this chain are predominantly small and medium scale farmers. Many of these farmers belong to farmer groups. Some farmer groups have taken on collective marketing roles assisting members to access better markets, while some other groups have only managed collective input purchase and links to adequate financing. KIT et al (2006) confirm that farmers in their organisations may indeed improve their position in the chain through functional or intra chain upgrading where they take on new activities in the chain or undertake a mix of activities that can improve their interaction with input suppliers or produce buyers. Taking more activities by actors in the chain can however present additional costs, risks along with the need of new assets and skills.

Broiler traders and some farmers in this market engage in trading live broilers to particular consumers. In the absence of traders, farmers engage in trading by approaching and selling directly to restaurants, hotels and major market vendors (Atukunda et al.,2003). Some broiler farmers and traders are also involved in slaughtering from slaughter slabs on farm or in the urban markets. This is in agreement with Ekesa et al (2015) who noted that there was an increasing trend in demand for dressed chicken, largely driven by consumer preferences and the development of supermarkets in the retail function.

Broiler processors in this market regardless of size are integrated in function. They own their; feed supply, broiler production, processing, wholesale and retail functions. Whereas broilers from traders and some farmers end up directly with; low income households, small or mobile restaurants and roadside chicken roasters, processors sell to; high income earners through their retail shops, specialised restaurants, big hotels, supermarkets and regional export. Sabiti et al (2014) mentions that processor led channel is indeed the formal channel of trade.

Support to the actors in the chain is from mainly; producer organisations, input suppliers, financial institutions and processors. These are providing; access to adequate financing and training. There is some regulatory and financial support, though not strong from local government bodies or agencies. Ishagi et al (2002) confirms indeed that the institutional support for stock farming in Kampala is almost in-existent, while KIT et al (2016) contend that dwindling institutional support is hampering access to local markets by farmers in African settings.

5.2 Features of secure markets in the value chain

The broiler value chain map in Kampala (figure 5) has the trader led channel and the processor led channels as the two major channels through which broiler producers access markets. The trader channel is led by traders who are largely unregistered individuals buying live chicken from farmers. This channel, that is default for most broiler farmers, is characterised by absence or limited relations between farmers and traders, less cooperation, counter accusation of cheating and high value shares for farmers but with very thin gross margins. KIT and IRR (2008) endorse that such markets with generally lack of trust between actors, and spot relations are weak markets, that thrive most when producers are not organised.

This research shows that formally registered actors that have invested heavily in the processing function dominate the processor led channel and more functions like feed supply or chick supply up stream or retail downstream. The processors have good connections with ordinary and high value consumers and thus are have demand and quality requirements to fulfil. Processors in the chain seek annual approval for the local quality certifications of the local standards agency, UNBS. HMMH-Rainbow, the largest processor in the chain has made efforts to acquire; internationally accredited quality certifications. Most of the processors have informal or formal production or market contracts with farmers and farmer groups. They (processors) seek to maintain stable relations with broiler producers so as to keep a steady supply of quality broiler meat up stream. KIT and IRR (2008) note that markets that have organised stakeholders in relatively stable relations that are based on mutual respect and transparency are indeed strong markets. The value share and gross margin (table 4) of actors in this channel resonates with KIT and IRR (2008)'s argument that stronger relations lead to reduced risks and transaction costs for actors within the chain. Mc Donald et al (2011) also concurs that agricultural contracts provide secure relations between producers and specific buyers, and that contracts limit a farmer's exposure to the risks of market price fluctuations.

5.3 Marketing of broilers

Broiler farmers in the trader-dominated channel sell from their farm gate, lower quality products, often at low prices to broiler traders. In the absence of the traders, they can sell directly to some lower income markets. These farmers promote their broilers through direct searching for buyers or telephone calls to known buyers at time of sale, or sometimes they use social media platforms and occasional signposts outside their farms to inform potential buyers. McDonald et al (2011) confirms that this market, where farm produce is sold at prevailing market prices, under agreements made on spot is indeed a cash or spot market. However, farmers in a spot market situation, if interested in a better market may organize themselves and form more stable relations with buyers in the chain where they are able to negotiate delivery contracts and prices (KIT and IRR.,2008). In line with this notion, broiler farmers in the Bamunanika group organised themselves and got involved in collective marketing five years ago. They are currently honouring a market contract to supply broilers to Ugachick. In this research it was noted that farmers in this group had adequate knowledge on market information on prices, volumes and quality of broilers, in comparison to the farmers in the BKQF that were yet to engage in collective marketing.

5.4 Challenges in marketing broilers

This research indicated that farmers in the BKQF group found inconsistent buyers and cheating by broiler traders to be the most critical to them in marketing broilers. The overall challenges, though had varying origins (figure 21), the most common were of economic and technological nature. The main problem faced in marketing broilers is low income. The main source of problems are; low farm production, lack of stable of markets, high production costs and limited space for expansion. The effect of the problem is farmers abandoning the business to pursue other ventures. Atukunda et al (2003) confirm that the sources of problems elaborated by the farmers in this research are indeed major issues to market access, along with theft of farm stock. McDonald et al (2011) describe an unstable market as one with limited buyers and that given the perishable nature of broilers, buyers in such markets tend to buy at very prices, knowing well that farmers have no viable alternatives.

5.5 Functioning of producer groups in linking farmer members to secure markets

The BKQF is a poultry producer organisation and currently has 75 members. Bijman and Wollni (2008) note that information exchange and monitoring activities can be done much easier with fewer group members. The group is managed group's procedures and activities are managed through a set of bylaws. Sebuliba-Mutumba et al (2017) argue however, that laws alone cannot promote proper functioning of a producer group and that group experience and proper leadership are equally important.

Even though the BKQF has no mission statement, its objectives are clearly set out in its bylaws. The objectives of the group are to; develop economically through income generating activities, create market opportunities for

member products, maintain high quality standards for member produce commiserate in times of sorrow and foster learning from within or outside the group.

The group's current major business output is; provision of financial services to its members through low cost loans. Bijman and Wollni (2008)'s assertion that producer groups must purpose to provide services that support group members in their farming activities, including the marketing of farm produce, agrees with the group's objectives and the activities they have engaged in thus far. KIT and IRR (2008) also note that producers forming a business organization is indeed the first step in strengthening chain relations. And that in an organised group producers can; have bigger influence, support one another, consolidate their skills, learn from each other, know consumer demands, bargain with input suppliers and produce buyers, as well as have access to financial and training services.

With no formal employees, the executive team, a committee of volunteer members elected annually into office runs the group. The members have no special skills and clear management and financial reporting procedures in place. Bijman and Wollni (2008) oppose this position and contend that vertical coordination activities that producer groups aspire to take on, require market oriented and professional expertise that must be hired or acquired. Whereas KIT et al (2006) note that monitoring and evaluation are important for producers and their producer organizations, the BKQF group does not have clear monitoring and evaluation procedures.

5.6 Producer group business models

This research revealed that the group aspires to render support to its members through offering new value propositions related collective marketing and input supply, through establishing strong partnerships with input suppliers and produce buyers. CIAT (2014) notes that business modelling using the canvas business model is useful for producer organisations seeking to; forge partnership with a new actors in the chain, improve own performance, introduce innovative products or processes and to develop a new business plan. CIAT (2014) reports that use of the canvas business model approach with, Alianza Hortofrutícola ALSUR of Colombia in 2012, aided in establishment of direct partnerships between rural producer groups and customers in different market channels which led to better income levels and acquisition of tangible assets by producers through the use of secure trading terms and long-term relationships.

6 Conclusions

The objective of this research was to explore opportunities of secure markets in the broiler value chain of Kampala, and recommend a business model the BKQF group can adopt to link its broiler farmer members to secure markets. With that background in hand, the conclusions from this research are as follows;

The Kampala broiler value chain consists of two major channels, with one being informal and the other one formal. The informal channel involves a few actors, often farmers, and traders and low income consumers and characterised by; disorganised actors, limited sharing of information, spot relations and low gross margins.

Formal channel: The formal channel consists of processors of large, medium or small scale that have adequate information on customer preferences, and have invested heavily in quality certifications and vertical integration, taking on more functions in chain like input supply (chicks and feeds), broiler production, wholesale (export) and retail, in order to meet the quality and supply needs of their customers. Due to the better pricing in this segment, the 16% gross margin earned by broiler farmers in the formal chain is 293% more than their counterparts in the informal chain. Processors in this chain aim to keep stronger relations with broiler suppliers and so have informal (verbal) or formal (production or marketing) agreements with broiler farmers in groups or individuals. The formal broiler chain with its combined broiler supply deficit of 374,000 birds per month, presents a good supply opportunity for organised farmer groups.

Features: The features in the processor segment like; use of trade agreements in form of verbal or contract agreements to cement relations, acquisition of quality certifications by processors and better gross margins per kg of meat for broiler farmers present the processors as potentially secure markets for broiler farmers seeking to sell off their broilers in strong relations. Within the processors, however, features in secure markets differ. Whereas Ugachick, Royal agrovet and Golden Kuku are open to having informal agreements and production or market contracts, HMH-Rainbow seeks to have supply relations with only production contracts to individual farmers with sizeable output. This implies that the terms of trade at HMH-Rainbow are not flexible or inclusive to producer groups like the BKQF, with scattered smallholder to medium scale farmers. The BKQF and other producer groups seeking to supply in secure markets must then target to supply the 154,000 broiler birds per month deficit that is required amongst the other processors; Ugachick, Royal agrovet and Golden Kuku.

Marketing: The farmers supplying broilers to the informal channel are indeed operating in a spot market and they are not benefitting economically. It is conclusive that the problems of inconsistent and cheating buyers, mentioned to be critical to the BKQF broiler farmers when marketing broiler are indeed economical. The low gross margins earned by farmers and traders in this market, at 5% and 9% respectively are triggers for dishonesty, cheating and demotivation for engaging in broiler business. Under these circumstances, it is more likely that the broiler traders will cheat the farmers at collection, by declaring less birds so that they can pay less money for more birds and cover up for their low gross margins. The lack of knowledge that there is a market supply deficit of at least 374,000 birds per month with the processors, confirms that access to market information is indeed a major challenge in marketing broilers for small and medium broiler producers in the chain.

The characteristics of members of the BKQF do not differ from those of other broiler farmers and they have no peculiar characteristics in general that would jeopardise the performance of the BKQF. The majority of them own the land in use and find that the BKQF group is providing sufficient service to them.

The conclusion on the performance of the BKQF group in linking its broiler farmer members to secure markets were drawn on grounds of; culture, systems and processes, human resource, gender and relations with actors.

Organisational culture: The culture of short-term thinking and reluctance to take on risk is affecting the performance of the BKQF group tremendously. Short-term thinking in the group has resulted into lack of planning that is evident in the absence of; a mission, strategic plan and viable annual plans. Lack of planning has also exposed the absence of systems and processes. The reluctance to take on risk as a cultural factor could be the reason why they are yet to engage in collective marketing, a move that would link their broiler farmer members to secure markets, four years down the road.

Systems and processes: Due to absence of systems and processes, the group is unable to monitor properly its current outputs and as a result, it is not delivering substantially on the financing aspect of its members. This is evident in the demand for loans outstripping supply. The lack of systems is also evident in absence of effective management and financial procedures.

Human resource: Volunteer members, as human resource in the group though good for cohesion and motivation of group members, is not in line with the objectives of the group. The group's structure lacks market oriented human resource and professional expertise in marketing or accounting that are needed when taking on commercial activities like collective marketing and input purchase.

Gender: The group though has an equitable representation of gender in the management structures; there is no effort or policy to promote female participation in the top two positions of chairperson and vice chairperson. Males have occupied these positions since the inception of the group.

Relation with actors: The BKQF has a strong relationship with Quality chemicals limited, an input supplier and supporter to the group. Quality chemicals provides free office, storage and meeting space for the group. The gesture, though good, gives excessive over reliance to Quality chemicals, plus an apparent distortion to the cost structure and gross income of the group, which may not be sustainable in the future.

The current business model of the group falls short of meeting the major needs of the BKQF broiler farmers and has not played a role yet in linking them to secure markets. Even though this research identified weaknesses and threats it faces, there are also strengths in the model and opportunities in the business environment.

Threats: The value proposition in the current business model though meets financing an essential part of the needs of broiler farmers, is not adequate as it tackles a fraction of their needs. The threat to the current value proposition is that it is funded majorly by savings and fees from group members, whose volume of funds contributed are so dependent on the economic performance of their individual farming businesses.

Weakness: The weakness is that, the group business model is lacking in its human resources; knowledge, internal drive and expertise to tap into the opportunities in the market and are thus not very attractive for a formal buyer

Strength: The strength of the BKQF business model is that in the broiler farmers, it has willing partners to supply new inputs (broilers) that can create value for group through sales of broiler meat.

Opportunity: The opportunity before the BKQF model is that there is a market with buyers whose business models are open to include organised suppliers like the BKQF into their supply chains, have deficits in supply and are willing to work with secure relationships.

The business model could use some additional activities and chain partners to generate new value positions or products that can be beneficial to the group member.

7 Recommendations

The objective of this research was to explore opportunities of secure markets in the broiler value chain of Kampala, and recommend a business model the BKQF group can adopt to link its broiler farmer members to secure markets. Basing on the conclusions made, the opportunities of secure markets in the broiler value chain of Kampala exist with the processors. In addition, the problem owner, the Balimi Katwe Quality Farmers group, a poultry producer organisation that is aspiring to link its broiler group members to the secure markets in the value chain must improve its internal organisation and adopt a new business model that addresses the immediate needs of its broiler farming members and creates strong partnerships in the market. The recommendations therefore to the BKQF are;

Build leadership capacity: Adopt and implement an annual training programme in; group dynamics, leadership and management for its incoming executive committee to address bottlenecks in organisational culture, decision making and planning

Strengthen actor partnerships: Create more and stronger relations with indirect and direct actors. The group needs to routinely seek professional accounting service to put in place transparent accounting systems and audit. There is need to open and maintain close relations with preferred input suppliers for group and farmers in the group and the Production department of Kampala Capital City Authority that finances access to inputs.

Recruit commercially oriented staff: Address the staffing inadequacies in line with the planned new chain related activities (collective input supply and marketing) by recruiting staff for the marketing and group administrator functions.

Enforce gender equity in leadership: Make changes in bylaws to address improvements in the management structure that encourage females to vie competitively for the top two leadership positions in the group.

Make systems and processes work: Assign roles to committee members to oversee as part of their mandate the implementation of financial reporting and evaluation of customer or supplier satisfaction.

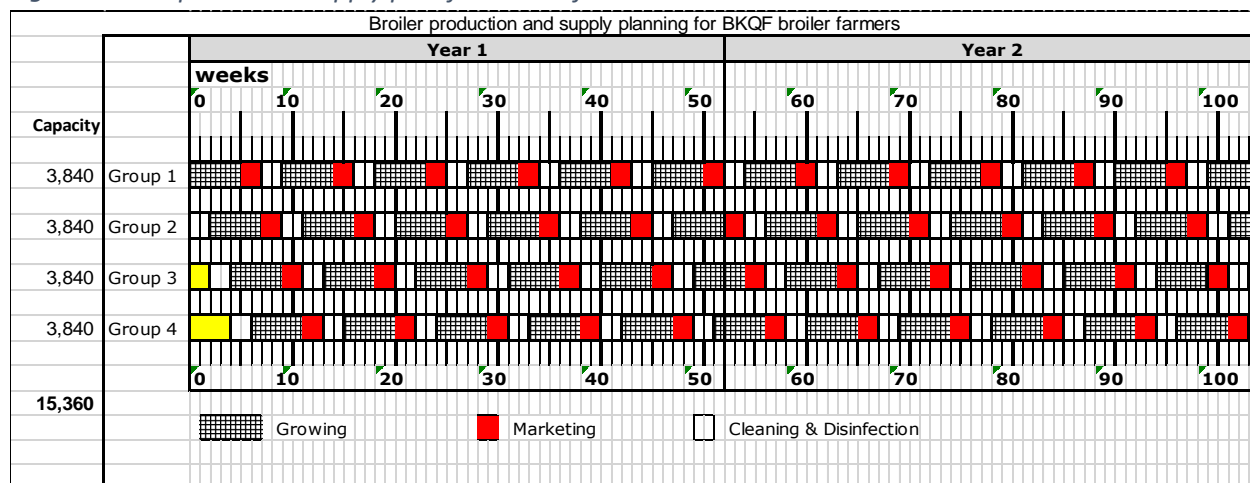
Generate new revenue streams: Incorporating broiler farmers as suppliers in the BKQF business model, then create a value proposition and products that meet the requirement of processors like Ugachick, Royal agrovot or Golden kuku, through a meticulous production and broiler supply plan, plus a new business model.

Proposed broiler supply plan;

Assumptions;

- Broiler farmers in BKQF incorporated in group business model as supplier of chicken as required by buyer
- 32 Broiler farmers stocking at least 500 broilers each per cycle, clustered into 8 groups of 4 farmers
- Each 8 farmer group producing stocking 4000 birds at a given time (8 farmers x 500)
- Allowing a time planning of House cycle occupation of 10 weeks; 5 for production, 2 for marketing and 2 for cleaning and disinfection (figure 24).
- Allowing a 4% mortality by end of production
- Birds sold at a live weight of 1.8kg
- Unit Cost of production for a kg of broiler meat is 4831sh
- Secure market buyer is offering 6000sh per kg live weight
- The group purchases collectively 20 batches of 4000 broilers plus other inputs and sells collectively 20 batches of 3840 broilers per year.
- BKQF charges 80Ugx commission to the suppliers per kg of broiler sold off

Figure 26: Proposed and supply plan for broiler farmers in BKQF



Proposed new revenue stream and cost structure

Revenue per annum for broiler group members: $6000 \times 1.8 \times 3840 \times 20 = 829,440,000\text{Ugx}$
 Variable cost per annum for broiler group members: $4831 \times 1.8 \times 3840 \times 20 = 667,837,440\text{Ugx}$
 Gross income for broiler farmers (before commission): $= 161,602,560\text{Ugx}$
 Marketing commission per kg to the BKQF: $80 \times 1.8 \times 3840 \times 20 = 11,059,200\text{Ugx}$
 Gross income after commission deduction: $= 150,543,360\text{Ugx}$
 Gross margin for broiler farmers: $= 24.2\%$

Proposed new business model

Figure 27: Proposed new BKQF business model

The proposed new BKQF business model				
KEY PARTNERS	KEY ACTIVITIES	VALUE PROPOSITION	CUSTOMER RELATIONSHIPS	CUSTOMERS
Direct partners: <ul style="list-style-type: none"> Chick suppliers Feed suppliers Trainers Accounting services 75 BKQF members Other input suppliers Chair suppliers (chairs) Centenary Bank Stationary shops Indirect partners: <ul style="list-style-type: none"> Advisory Accounting service Training services Financing (KCCA) 	<ul style="list-style-type: none"> Organising broiler production and supply Marketing broilers Collecting member savings, annual fees & membership Banking savings Loan disbursement Record Management <ul style="list-style-type: none"> Office & Store Management committee (Human Resource) Money safe box Cash in Bank (Capital) 200 plastic chairs 	<ul style="list-style-type: none"> Quality and reliable supply of broilers Affordable financing for broiler farmers (loans) Event chairs for hire 	<ul style="list-style-type: none"> Group meetings Loans committee meets prospective recipients weekly Formal supply agreements with processors CHANNELS <ul style="list-style-type: none"> Loans disbursed through the bank Direct delivery of broilers to processing plant or a central collection point near producers 	<ul style="list-style-type: none"> Broiler processor (85% sales) 75 BKQF group members Quality chemicals & Battery plus Ltd (chair hire)
<ul style="list-style-type: none"> Chicks, feed & other inputs Bank charges Cleaning items Allowances & consult fees Office space/Venue for meetings cost Transport costs Other supplier payments Loans disbursement 		REVENUE STREAMS <ul style="list-style-type: none"> Broiler sales-829,440,000Ugx Commission off broiler sales Loan repayments; Loan sales annually of about 140,830,000Ugx Some revenue also from hired chairs -1,200,000Ugx 		
Total annual costs : 156,186,600Ugx + 667,837,440Ugx		Annual Gross income of: 16,556,600Ugx + 11,059,200Ugx		

REFERENCES

- Atukunda,G.G., Baseke,F., David,S., Jagwe,J., Kalyebara,M., Kaweesa,M., Miiro,R., Musoke,P., Nabulo,G., Namagembe, A., Niringiye,C., Nyapendi,R., Odongo,B., Owori,C., Azuba-Ssemwanga,M. and Tumwegamire,S.,2003. *Farming in the city: Participatory appraisal of urban and peri-urban agriculture in Kampala, Uganda*. CIAT Africa Occasional Publications Series, No. 42. CIAT, Kampala, Uganda.
- Baarda, B., 2010. *Research. This is it. Guidelines how to design, perform and evaluate quantitative and qualitative research*. 2nd ed. Gronigen, Netherlands: Noordhoff Uitgevers, pp.1-110.
- Bammann, H., 2007. Participatory value chain analysis for improved farmer incomes, employment opportunities and food security. *Pacific Economic Bulletin*, 22(3), pp.113-125.
- Banadda, E., Kansime,N.F., Kigobe, M., Kizza, M. and Nhapi,I., 2009. Land use based non-point source pollution: A threat to water quality in Murchison Bay, Uganda. *Water Policy* 11(Supplement 1):93–104
- Benin, S., Nkonya, E., Okecho, G., Randriamamonjy, J., Kato, E., Lubadde, G., Kyotalimye, M. and Byekwaso, F., 2011. *Impact of Uganda's National Agricultural Advisory Services Program*. Washington, DC, USA: International Food Policy Research Institute (IFPRI).
- Bienabe., E. and Sautier, D. 2005. The role of small-scale producer organizations to address market access. [pdf][online]. Available at <http://www.r4d.dfid.gov.uk/PDF/.../2ProducerOrganisationsBienabefinal24Feb>. [Accessed 30/08/2018].
- Bijman, J. 2007. The role of producer organizations in quality-oriented agrifood chains; an economic organization perspective. ISBN 978-90-8686-027-2. *Tropical food chains: Governance regimes for quality management* [Online]. Available at <http://www.cabdirect.org/abstracts/20083019322.html?freeview=true> [Accessed 27/08/2018] pp. 257-277
- Bijman, J. and Wollni, M., 2008. Producer Organisations and vertical coordination: An economic organization perspective. In *International Conference on Cooperative Studies (ICCS)*. Koln Germany: pp 1-17
- BKQF.,2018. Balimi Katwe Quality Farmers Poultry group Report. Katwe.
- Byarugaba, D.K., 2007. *Poultry sector country review, Uganda*. Food and Agriculture Organisation of the United Nations, Rome, Italy: FAO publications.
- Brancaert, R.D.S., 2000.*Transfer of technology in poultry production for developing countries*. Animal Production and Health Division (AGA) Research, Extension and Training Division (SDR), FAO.
- Mark,L., Alexandra, A, Jhon, H., Gertjan,B., Zamierowski,N., Fernando,R. and Eliana, M. 2014. *LINK methodology: A participatory guide to business models that link smallholders to markets.*: Centro Internacional de Agricultura Tropical (CIAT). (CIAT Publication No. 398) ISBN 978-958-694-114-3 (PDF).
- Delgado, C., 1999. Sources of growth in smallholder agriculture in sub-Saharan Africa: The role of vertical integration of smallholders with processors and marketers of high value-added items. *Agrekon*, 38, pp.165-189.
- Deloitte-NAADS. 2014. *Market studies and Value Chain Analyses of Five Selected Enterprises*. Kampala, Uganda: Deloitte.
- Ekesa, B., Rao, J., Cadilhon, J.J., Ayebare, P., Bashaasha, B., Muyanja, C., Tenywa, M., Tumusi,D., Twinamasiko, J., Jagwe, J., Mango, N. and Muchunguzi, P. 2015. *A situational analysis of agricultural production and marketing, and natural resource management systems in the central region of Uganda*. ILRI/Bioversity Project Report. Kampala, Uganda: Bioversity International and Nairobi, Kenya: International Livestock Research Institute (ILRI).
- FAO.,2010. *Uganda Nutrition Profile 2010*. Nutrition and Customer Protection Division. FAO. Available at: <ftp://ftp.fao.org/ag/agn/nutrition/ncp/uga.pdf>
- FAO.,2015. *Country fact sheets on food and agriculture policy trends*. Food and Agriculture Organisation of the United Nations, Rome, Italy: FAO publications.

- Hamel, G., 2018. *The relationship between business model and strategy*. Available at: <http://smallbusiness.chron.com/relationship-between-business-model-strategy-25963.html>. Accessed July 03, 2018.
- Ishagi, N., Ossiya, S., Aliguma, L. and Aisu, C. 2002. *Urban and peri-urban livestock keeping among the poor in Kampala City*. Ibaren Konsultants, Kampala, Uganda, pp 66-70.
- Kilimo Trust., 2017. *Characteristics of markets for animal feeds raw materials in the East African Community: Focus on Maize Bran and Sunflower seed cake*. Pp 1-48
- KIT, Faida MaLi and IRR., 2006. *Chain empowerment: Supporting African farmers to develop markets*. Amsterdam, The Netherlands: Royal Tropical Institute (KIT), pp.1-160.
- KIT and IIRR., 2008. *Trading up: Building cooperation between farmers and traders in Africa*. Royal Tropical Institute, Amsterdam; and International Institute of Rural Reconstruction, Nairobi, pp. 11-45.
- Komakech, A.J., Banadda, N.E., Gebresenbet, G. and Vinnerås, B., 2014. Maps of animal urban agriculture in Kampala City. *Agronomy for sustainable development*, Springer Verlag 34(2), pp.493-500
- Lukuyu, B., Baker, D., Baltenweck, I., Poole, J., Kabi, F., Katongole, C., Nadiope, G., Byaruhanga, A., Kugonza, J., and Wabwire, R., 2013. The concentrate feeds supply chain: Emerging trends and implications on quality and access of smallholder farmers and chain efficiency: East Africa Dairy Development report. Uganda, pp 1-20
- McDonald, M.J. and Korb, P., 2011. *Agricultural contracting update report: Contracts in 2008*. Economic Research Service of the United States Department of Agriculture. Economic Information Bulletin No.72. Available at www.ers.usda.gov.
- Mcleod, A., Thieme, O. and Mack, S.D., 2009. Structural changes in the poultry sector: Will there be smallholder poultry development in 2030?. *World's poultry science journal*, 65(2), pp.191-200.
- Ministry of Agriculture, Animals Industry and Fisheries (MAAIF), 2009. *Needs of identified farmers categories and differentiated strategies for a plan of action*. Plan for Modernisation of Agriculture (PMA) Secretariat, Kampala
- Ministry of Agriculture Animal Industry and Fisheries., 2011. Operationalisation of the Rural Development Strategy for Increased Agricultural Productivity. Entebbe.
- NAADS., 2011. *National Agricultural Advisory Services Act 2001: Farmer Institutions Development Training Manual*. Kampala, NAADS Secretariat.
- Nanyeenya, W., Kabirizi, J., Taabu, L., Kasadha, M. and Omaria, R., 2018. Animal feeds legislation: Chicken value chain actors practices and predicaments in Uganda. *African Journal of Agricultural Research*, 13(2), pp.67-76.
- Nyampendi, R., Kaganzi, E., Kaganzi, E., Best, R. and Ferris, S., 2004. Identifying Market opportunities for smallholder farmers in Uganda. *Uganda Journal of Agricultural Sciences*, 4, pp.64-76.
- Okalebo, O.F., Haas, T., Sengendo, H., 2010. Planning of Kampala city 1903–1962: The planning ideas, values and their physical expression. *J Plan Hist* 9(3):151–169
- Osterwalder, A., 2004. *The Business Model Ontology - A Proposition in a Design Science Approach*. PhD Thesis University of Lausanne.
- Ouma, E.A., Dione, M.M., Lule, P.M., Pezo, D.A., Marshall, K., Roesel, K., Mayega, L., Kiryabwire, D., Nadiope, G. and Jagwe, J., 2015. Smallholder pig value chain assessment in Uganda: Results from producer focus group discussions and key informant interviews. ILRI Project Report. Nairobi, Kenya: ILRI
- RTI International, 2005. *Spot and Alternative Marketing Arrangements in the Livestock and Meat Industries*. Report prepared for USDA, Grain Inspection, Packers and Stockyards Administration.
- Sabiiti, E.N., Katongole, C.B., Katuromunda, C., Sengendo, H., Basalirwa, C.P.K., Atukunda, G. and Nambuubi, S.K., 2014. *Building urban resistance : Assessing Urban and Peri-urban agriculture in Kampala, Uganda*

- Sebuliba-Mutumba, R., Kibwika, P. and Kyazze, F., 2017. Barriers to collective action and implications for promoting innovation among poultry farmer groups in sub counties of Wakiso district in Uganda. *African Journal of Rural Development*, 2 (3), pp.367-379.
- Sebuliba-Mutumba, R., Kibwika, P. and Kyazze, F., 2017. Drivers of collective action and innovation adoption in successful poultry farmer groups in Wakiso District in Uganda. *African Journal of Rural Development*, 2 (3), pp.353-365.
- Tatwangire, A., 2013. Successes and failures of institutional innovations to improve access to services, input and output markets for smallholder pig production systems and value chains in Uganda. Nairobi, Kenya: International Livestock Research Institute (ILRI).
- Tatwangire, A., 2014. Uganda smallholder pigs value chain development: Situation analysis and trends. Nairobi, Kenya: International Livestock Research Institute (ILRI).
- Tschumi, P. and Hagan, H., 2008. A synthesis of the making markets work for the poor (M4P) approach. UK Department for International Development (DFID) and Swiss Agency for Development and Cooperation.
- UBOS, 2015. *Summary report of the Uganda national livestock census*. Kampala, Uganda: Uganda Bureau of Statistics. Pp 48-90.
- UBOS, 2017. *Statistical Abstract 2017*. Kampala, Uganda: Uganda Bureau of Statistics. Pp 45-90.
- USAID, 2010. *Regional poultry value chain analysis report: Partnership for safe poultry in Kenya program*, USAID, Kenya, pp 1-19

ANNEXES

Annex 1: Check Lists

Check list- Focus Group Discussion 1									
·	List and functions of key broiler value chain stakeholders in a stake holder matrix								
·	Market channels for smallholders								
·	Market relations								
·	Sources of market information (price, volumes, quality)								
·	Gender roles and perceptions in the value chain								
·	Marketing of broiler chicken by farmers in the group								
·	Challenges faced in the broiler subsector								
·	Drawing of the value chain map								
·	Drawing of Venn diagram to indicate relations								
·	Drawing of problem tree to show cause and effect of problems								
Checklist- Focus Group Discussion 2									
·	Summary presentation of preliminary results from FGD-1, interviews and survey								
·	Discussion, feedback and validation of results								
·	Conclusion and preliminary recommendations								
·	The business model of the BKQF group								
Checklist-Business model (Based on Canvas business model)									
·	Value Proposition								
·	Customer segments targeted								
·	Customer relationships								
·	Distribution channels								
·	Key activities								
·	Key resources								
·	Key partners								
·	Cost structure								
·	Revenue streams								
Checklist-Input Suppliers Interviews									
·	Value proposition to broiler farmers								
·	Type of products supplied to broiler farmers								
·	Products unique for only broiler farmers								
·	Services given to broiler farmers								
·	Terms of product supply								
·	Willingness to do partner with producer groups on input supply								

Checklist- Chicken Trader Interview							
•	Sources for broilers						
•	Units of purchase and resale						
•	Volumes needed per week						
•	Volumes purchased per week						
•	Prices per bird; buying price and selling price						
•	Costs incurred per bird						
•	Quality attributes of broilers needed						
•	Other requirements broiler producers must meet						
•	Services offered to broiler producers (delivery, training, input supply)						
•	Business trading terms (contracts) with broiler suppliers (secure supply)						
•	Challenges faced with broiler suppliers						
•	Destination (buyers) of purchased broilers						
Checklist-Broiler Processor Interview							
•	Sources for broilers						
•	Units of purchase and re-sale						
•	Volumes needed per week						
•	Volumes purchased per week						
•	Types of products of processing plant						
•	Buying price per unit of purchase						
•	Selling price per unit of sale						
•	Costs incurred in processing per bird						
•	Quality attributes of broilers needed						
•	Other requirements broiler producers must meet						
•	Services offered to broiler producers (delivery, training, input supply)						
•	Business trading terms (contracts) with broiler suppliers (secure supply)						
•	Challenges faced with broiler suppliers						
•	Destination (buyers) of processed broiler meat						
Checklist-Broiler Chicken Retailer Interview							
•	Sources of broiler meat in outlet						
•	Units of purchase and re-sale-Per bird or per kg						
•	Broiler meat product types available for sale						
•	Volumes procured per week						
•	Volumes needed per week						
•	Unit buying price and selling price?						
•	Costs incurred as a retailer per unit of sale						
•	Type of consumers that buy broiler meat						
•	Quality attributes of broilers preferred by consumers						
•	Business trading terms with broiler meat suppliers						
•	Challenges faced with retailing broiler meat						

Checklist- BKQF Leadership Interview (Based on IOM checklist)						
•	Mission of Organisation					
•	Outputs of the organisation					
•	Inputs of the organisation					
•	Key actors in the functioning of the organisation					
•	Factors affecting the functioning of the organisation					
•	Strategy of the organisation					
•	Organisational structure					
•	Systems and processes in the organisation					
•	Human resource (staff) use					
•	Management style in the organisation					
•	Organisational Culture					
Checklist-Kampala Capital City Authority (District) Production Officer Interview						
•	Function of the district production office					
•	Services currently offered by to chicken producer groups					
•	Stakeholders in the district broiler value chain					
•	Policy governing subsector, laws and regulation					
•	Challenges faced in the subsector					
•	Solutions to challenges					
Checklist-Poultry Association of Uganda (PAU) Secretary Interview						
•	Description of PAU; Vision for poultry subsector, role, membership					
•	Services currently offered by the association to producer groups					
•	Stakeholders in the broiler value chain					
•	Challenges faced in the subsector					
•	Potential solutions to subsector challenges					
Checklist- Finance Institution representative Interview						
•	Policy for financing producer organisations					
•	Financial products or services for poultry producer organisations					
•	Other services given to poultry producer groups					
•	Business terms for accessing financing products					
•	Challenges faced dealing with producer groups					
Checklist-Successful Poultry Farmer Group Interview						
•	Organisation profile					
•	Group activities					
•	Reasons for being successful that far					
•	Trading terms with actors in the chain					
•	Challenges they face thus far (Internal/ External)					
•	Challenges faced					
•	Potential solutions to challenges faced					
•	Advice for new groups taking the same trajectory					
Annex 2: Survey questionnaire-BKQF group broiler farmers						

Annex 2: Questionnaire BKQF interview

SURVEY QUESTIONNAIRE –BKQF –Group broiler farmers									
General characteristics of farmers									
1 Location									
2 Farm size (scale)	A) Small scale: 0-500 birds				B) Medium scale: 500- 3000 birds				
3 Gender	A) Male				B) Female				
4 Age	Years								
5 Education level	A) Never been to school				B) Primary Certificate		C) Ordinary Level Certificate		
	D) Advanced Level Certificate				E) College Certificate		D) University degree		
6 What size of land is available for broiler farm use?	acres								
7 Who owns this land?	A) Self				B) Relative		C) Hired land		D) Other; specify
8 Do you have other sources of income besides poultry ?	C) Commodity trading				A) Dairy enterprise		B) Piggery enterprise		D) Formal employment
9 For how long have you been engaged in broiler farming?	Years								
Major input sources									
10 What feed type do you use ?	A) Commercial feed				B) Home mixed feed		C) Concentrates		
	C) Other; specify								
11 Where do you purchase your day old chicks ?	A) Ugachick P B Ltd				B) Kenchic		C) Asiima		
	D) Eram Ltd				E) Biyinzika PIL		F) Kukuchick		
	H) Other; specify				G) Agrarian systems				
Marketing									
12 How long does it take to market broilers once ready?	days								
13 In what form do you sell your birds	A) Live				B) Dressed				
14 Where do you sell your broilers?	A) Traders at farm gate				B) Live chicken market		C) Broiler processor		D) Other , Specify
15 What form of payment is done by the buyers?	A) Cash				B) Credit; Specify length				
16 What kind of trade relation do you have with the broiler buyers?	A) None				B) Verbal agreement		C) Contract Agreement		C) Other
17 Where do you normally obtain market information(quality, prices, volumes needed)?	C) Others; Specify				A) Fellow farmers		B) Chicken traders		C) Broiler processors
18 How do customers get to know you have broilers for sale?	A) Phone calls				B) Social media		C) Sign board outside farm premises		
	D) Visits buyers				E) Other; Specify				
Challenges in marketing broilers									
19 Which of the following challenges in marketing broilers is the most critical to you?	A) Lack of market information				B) Low market prices		C) Cheating by traders		D) Inconsistent buyers
BKQF group services									
20 How do you rate the services offered by the BKQF group currently to you as a broiler farmer in the group ?	C) Fairly Sufficient				D) Insufficient		A) Very sufficient		B) Sufficient
					E) Very Insufficient				
21 Which of the following services would you wish the group to promote immediately?	A) Collective marketing				B) Collective input purchase		C) Training in better broiler production		D) Access to affordable financing for farms
Thank you for your cooperation									

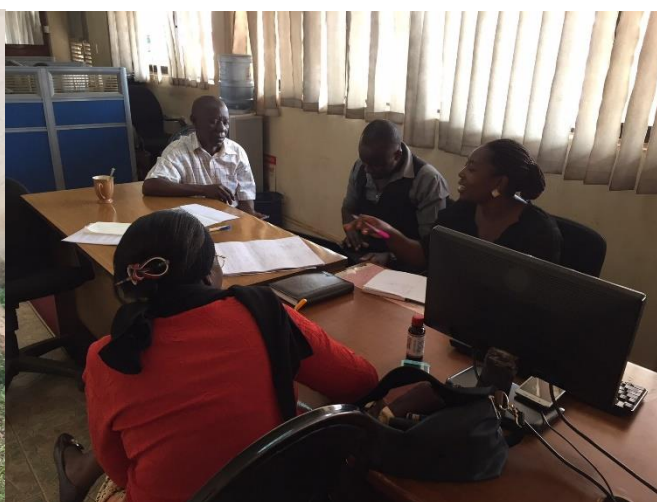
Annex 3: Selected Interview transcripts

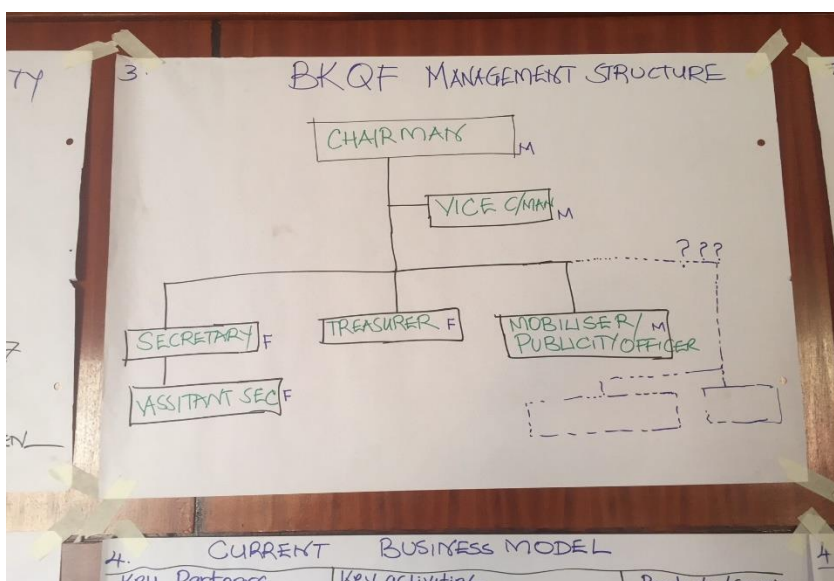
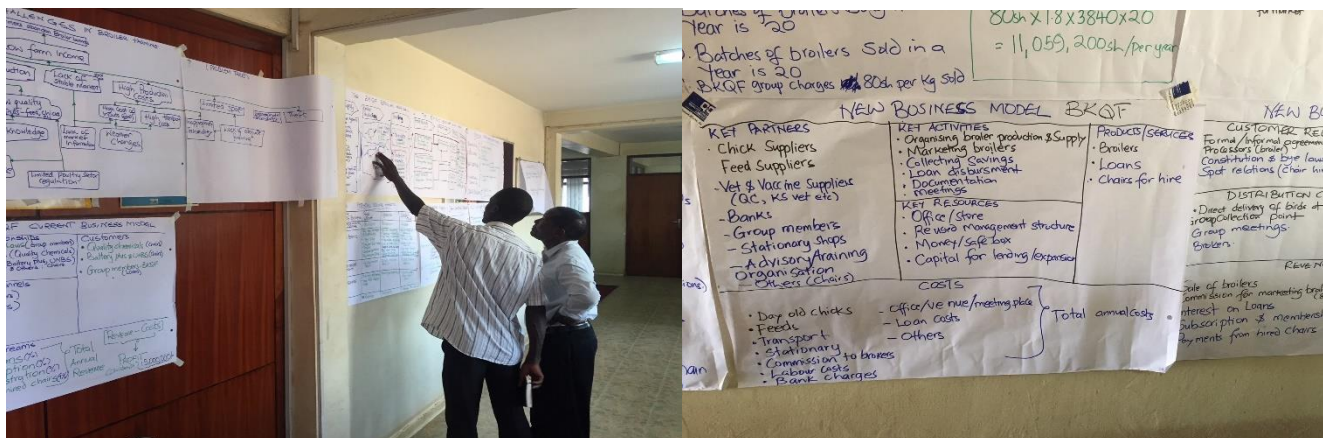
ROYAL AGROVET/FARMS/ROYAL KUKU (Broiler processor) INTERVIEW –Transcript															
Business name: Royal Kuku				Name of officer: Mr Rustam Lalani											
Job title: Managing Director				Address: Plot 705, Tirupati House,Mawanda Rd, Kamapala											
Phone contact: 0752236248				Type of business: Broiler farm, slaughter house and Vet shop											
Source of Broilers they process															
· Own broiler farm (200,000 capacity)															
· Also buying from broiler farmers with whom they have supply agreements and contracts, plus those spot selling. Currently have 30 out growers with flocks varying from 3,000 to 10,000															
Units of purchase and re-sale															
· Buys chicken live weight (kgs). Sales as dressed weight(kgs)															
Supply quality requirements															
· Live weight 1.7-2kg, with limited leg or body tissue damage															
·															
Other requirements suppliers must meet															
· Birds delivered to slaughter house, in Bombo, Luweero district															
· A transporting truck (1500-2500 birds capacity) and transport crates can be provided to producers. Producers must pay a transport cost of 100,000- 150,000sh per trip															
Volumes needed and actuals sourced															
· Processing 10,000 birds per day for 26 days a month (260,000 birds a month).															
· 320,000 birds are needed in the market per month. Monthly deficit of 60,000 birds															
Pricing															
· Buying price-5,600sh/kg live weight															
· Sells dressed chicken at 10,000sh/kg at wholesale and 13000sh/kg at retail at their retail outlets															
· Costs incurred in processing-5500sh/kg															
Payment terms															
· Formal and informal agreements possible. Are willing to come into contract with suppliers of birds															
· Payments is by cheque 7 days from delivery															
Information to suppliers															
· Price changes communicated in contract amendments															
· Price, quality and trading information are provided by telephone or on contact through their extension officers.															
Other services provided to broiler producers															
· Free farmer consulting, training and extension services by their Extension officers															
· Quality inputs (feed additives, supplements and equipment) from their Royal Agrovets shops															
· Planning in the future to supply also; vaccines, medicines, day old chicks and finished feeds															
Who they sell broiler meat to															
· Selling through their 8 Retailing outlets within and around Kampala (where?) and directly to hotels															
· Own 80% of hotel market share in Kampala															
Challenges faced															
· Breach of supply quality requirements by farmers; Farmers side selling															
Brochure? . Location pin of slaughter house															

KCCA PRODUCTION OFFICE INTERVIEW –Transcript Dr Kabanda															
Department: Directorate of Gender, Community Service & Production															
Name of officer: Dr Kabanda Robinson															
Job title: Animal Production Officer Address: Plot 1-3 Apollo Kaggwa Road, Kampala, Uganda															
Phone contact: +256772460974 or +256794661269															
Website: www.kcca.go.ug															
Services of the Livestock District production office:															
<ul style="list-style-type: none">• Training Urban farmers• Provide start up support through inputs to farmer groups with support from the NAADS program• Research and disseminate appropriate urban farming technologies to farmers in their jurisdiction• Have a Demonstration farm in Kyanja where urban farmers can visit and learn• Draft, enforce laws and bi laws concerning livestock production in the city• Plan for livestock production in Kampala City• Collaborate with development partners and government agencies on urban livestock production• Attending to sick animals and controlling nuisance animals in the city• Promote proper veterinary public health standards in the city• Advise on production and marketing of livestock products in the city• Keep an inventory of livestock and production enterprises in Kampala															
Policies, laws or regulations governing the poultry the broiler subsector in Kampala															
<ul style="list-style-type: none">• The KCCA Ordinance 2006, specifies guiding laws that govern poultry farming that farmers must abide eg;															
§ Ordinance 2006/4-Domestic animals like poultry should not cause inconvenience to the neighborhood.															
§ Ordinance 2006/5- Persons engaged in keeping domestic animals in the city must get valid permits to do so.															
§ KCCA meat Ordinance 2006/4-Specifies that birds to be sold for public consumption must be slaughtered in a licensed slaughter house.															
Knowledge on the Broiler value chain in Kampala															
<ul style="list-style-type: none">• The directorate does not detailed information on the broiler value chain in Kampala• They are however interested in improving in general the poultry value chain in Kampala.• They recently made calls for a consultant to offer market study services on the poultry value chain in Kampala.• Actors they know currently are: 99 poultry farmer groups in the different divisions of Kampala that are benefitting from the NAADS input financing program for urban poultry farmers• They also estimate ; that Kampala has about 8000 small holder broiler farmers and also that the annual value of broiler meat produced in Kampala is about 20 billion Ugx• Kampala is estimated to have about 1.2 million broiler chicken															
Services offered by KCCA to broiler farmers and other actors in the chain															
<ul style="list-style-type: none">• KCCA has Animal production officers in every division to provide training and guidance services• Broiler farmers in the city can access financing from NAADS and the directorate (worth up to 1,000,000sh) in form of inputs (chicks and feeds). 6,867 farmers in Kampala had benefited by June 2018.															
§ The farmers must meet certain requirements to qualify for this service like; location in city, existence of farm infrastructure, quality of farm infrastructure and hygiene levels															
§ The facility and information on services of KCCA are freely accessible to farmers at the nearest parish or division in which they are located.															
<ul style="list-style-type: none">• KCCA's Kyanja Agricultural Centre-Works as a demonstration centre for appropriate urban farming technology. Will in the future be accessible as a centre for bulking and marketing urban produce															
Challenges in the broiler subsector of Kampala															
<ul style="list-style-type: none">• Low production and poor production methods by farmers in the city• Urban expansion depriving farmers of land to grow broiler business• Many farmers are in broiler farming temporarily. They don't own the land they are using• Low quality inputs (feeds, medicines, chicks) sold to farmers• Low market prices• Negative attitude towards farming															
Solutions for challenges															
<ul style="list-style-type: none">• Providing tailor made trainings and extension services• Demonstrating appropriate technologies at the Kyanja ARC so that farmer citizens can adopt them• Working together (form multisector platforms) with other government agencies (NDA,UNBS, MAAIF) to curb fake products and other challenges in the poultry subsector.															

Transcript- BKQF Focus Group Discussion 1				
BKQF broiler value chain stakeholders and market channels				
Actors				
Input supply:				
<ul style="list-style-type: none"> Day old chicks ; Asiima Agriconcern, Agrarian systems, Ugachick poultry breeders Ltd, Biyinzika Poultry Ltd, Kuku chick Ltd and Eram (U) Ltd Feed; Kuku chick, Kaffika feeds Ltd, Champrisa International Ltd, Kyaterekera feeds and Biyinzika Poultry Ltd Poultry Drugs and vaccines: Quality chemicals Ltd, Global vet pharmacy, KS pharmacy, Word vet-nateete and Eram (U) Ltd 				
Trading: Broiler chicken traders in urban or peri-urban produce markets of; Nakasero, Owino, Nansana, Bulenga and Entebbe.				
Consumption: Institutional consumers (schools), Households, road side chicken roasters and restaurants				
Supporters				
Financial services: BKQF group and Nsambya Savings and Credit Cooperative				
Training and extension services: Quality Chemicals Ltd, Kyaterekera feeds and Agrarian systems ltd				
Veterinary services: Quality chemicals ltd , Global Vet pharmacy Ltd and other independent providers in area				
Market relations				
<ul style="list-style-type: none"> Only look for buyers when birds are ready for sale verbal agreements to supply broilers to roadside chicken buyers Verbal agreements to supply schools (St kizito Primary school) 				
Sources and type of market information (price, volumes, quality)				
Sources of information: Broiler traders and fellow farmers				
Type of information:				
<ul style="list-style-type: none"> Form of birds needed; Dressed or live Quality of birds; Heavy 1kg -1.4kg, big thighs or big breast Age of birds needed; 8 weeks old 				
Marketing of broiler chicken by farmers in the group				
Unit of sale: selling per bird (not kgs live weight)				
Sell to: Traders in markets, schools and roadside vendors				
Promotion; Visiting markets to meet buyers, phone calls, announcements on social media (whatsapp groups with friends) and roadside 'broilers on sale' signposts.				
Challenges faced in marketing broilers				
<ul style="list-style-type: none"> Broiler price fluctuation Unreliable buyers Cheating traders during counting birds at time at time of sale Small birds they produce attract low prices Lack of reliable market information Feed costs when birds are not bought in time reduce gross margins Delayed payments by institutional consumers 				
Challenges faced in the broiler subsector				
<ul style="list-style-type: none"> Low quality inputs (feed, vaccines, drugs) High feed costs Diseases on farm Lack of capital to expand Increased urban migration pressure on land in and around the city. No room for expansion High cost of transport Use of low and less efficient technology in production Poor housing of birds Inadequate access financing Poor veterinary services Un committed and incompetent farm human resource Theft on birds Poor bird management by farmers Poor feed storage 				
Unit Cost of production for a broiler				
Costs incurred per batch of 500 Broilers				
Cost item	Units	Cost/unit	Ammount	Cost per bird
Day old ch	500	2,300	1,150,000	2,421.05
Feeds	1,463	1,880	2,749,500	5,788.42
Heating	1	80,000	80,000	168.42
Lighting	1	23,400	23,400	49.26
Health cos	1	53,400	53,400	112.42
Litter				-
Water	1	18,400	18,400	38.74
Transport	1	55,680	55,680	117.22
Other cost				-
Total costs			4,130,380	8,695.54
Birds sold (5% mortali		475		
Cost per bird sold		8,696		
Average weight of bir		1.8 Kgs		
Unit cost of productic		4,831 Ugx/kg		

Annex 4: Data collection pictures





Annex 4: Cost price calculation for a kg of broiler meat

Cost price calculation for a broiler				
Costs incurred per batch of 500 Broilers				
Cost item	Units	Cost/unit	Ammount (ugx)	Cost per bird
Day old chicks	500	2,300	1,150,000	2,421.05
Feeds	1,463	1,880	2,749,500	5,788.42
Heating	1	80,000	80,000	168.42
Lighting	1	23,400	23,400	49.26
Health costs	1	53,400	53,400	112.42
Litter			-	-
Water	1	18,400	18,400	38.74
Transport	1	55,680	55,680	117.22
Other cost			-	-
Total costs			4,130,380	8,695.54
Birds sold (5% mortality)		475		
Cost per bird sold		8,696		
Average weight of birds sold		1.8 Kgd		
Unit cost of production		4,831 Ugx/kg		

Annex 5: Research Budget

Activity	Units	Cost / unit (Euros)	Total (Euros)	Source of Funds
1 Air ticket -Return ticket: Amsterdam -Entebbe	1	800	800	Employer
2 Fuel in Kampala using own car during research (17 days)	102	0.9	92	Employer
3 Communication Phone calls to book appointments	21	2.2	47	Self
4 Stationery and printing or copy charges	1	89.7	90	Self
6 FGD refreshments (refreshments)	40	2	80	Self
7 Living costs (Meals)	21	2.2	47	Self
Total			1,156	

Annex 6: Research Schedule

[illegible]