EFFECT OF MARKET ACCESS ON FARMER ENTREPRENEURSHIP GROWTH IN UGANDA: THE CASE OF UGANDA CRANE CREAMERIES COOPERATIVE UNION (UCCCU)

BY

JOSEPHAT BYARUHANGA

14/MBA/11/062

A DISSERTATION SUBMITTED TO THE SCHOOL OF MANAGEMENT SCIENCE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE MASTER'S DEGREE IN BUSINESS ADMINISTRATION OF UGANDA MANAGEMENT INSTITUTE

FEBRUARY, 2018

DECLARATION

I, **JOSEPHAT BYARUHANGA** Registration No: **14/MBA/11/062** declares that this Dissertation entitled; **"EFFECT OF MARKET ACCESS ON FARMER ENTREPRENEURSHIP GROWTH IN UGANDA: THE CASE OF UGANDA CRANE CREAMERIES COOPERATIVE UNION (UCCCU)"** is my own work and has never been presented to any University or Tertiary Institution for any award and I acknowledge that any work cited in this work, is referenced.

Signature……. Date……..

JOSEPHAT BYARUHANGA

APPROVAL

I certify that this Dissertation by **JOSEPHAT BYARUHANGA** Registration No: **14/MBA/11/062** entitled; **"EFFECT OF MARKET ACCESS ON FARMER ENTREPRENEURSHIP GROWTH IN UGANDA: THE CASE OF UGANDA CRANE CREAMERIES COOPERATIVE UNION (UCCCU)"** has been under our supervision, examined and recommended for acceptance and approval.

Signature: …… Date: …….

Dr. Edgar Mwesigye Kateshumbwa

Signature:……. Date: …….

Dr. Kiwanuka Michael

DEDICATION

I dedicate this dissertation to my loving parents Maria Pora and Alex Kizimpeire for their endless love, support, inspiration and encouragement throughout my life. Thank you for being my first teachers and for opening the door of learning in my life. Your selfless sacrifice and undying support have taught the value of hard work.

To my wife Judith and our lovely children Jean, Joan and Joel, you have been a great source of inspiration.

ACKNOWLEDGEMENT

First and importantly, I thank the Almighty God for the blessings, good health and wisdom that has enabled me reach greater heights. Thank you God for continuing to make the seemingly impossible possible.

I extend my tremendous gratitude and deepest thankfulness to my Supervisors Dr. Edgar Mwesigye Kateshumbwa and Dr. Kiwanuka Michael for their professional attitude and unwavering support. Whatever the weaknesses of this thesis, they would have been far greater without the continuous support and thoughtful advice I received from my dedicated academic supervisor Dr. Edgar Kateshumbwa. You willingly accompanied me in my journey of academic exploration through this thesis. I am forever indebted to you for your guidance, useful comments and for the precious time you spent making sure that this thesis is well on track.

Loving thanks to my wife Judith and our children, whose invaluable spiritual, moral and physical support enabled me to complete this thesis. You were a source of encouragement as I struggled with the competing demands of work, study and personal development.

I am so grateful to UMI lecturers, my course mates of MBA11 and friends who encouraged me to continue and complete this course throughout the entire period of study. I would like to let you know that you count so much.

Not least of all, I owe so much gratitude to all the farmers who participated in this study, the staff of Uganda Crane Creameries Cooperative Union (UCCCU), Mbarara District Head office, and the research assistants for the invaluable information they shared that has made this thesis possible. God bless you all.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Markets play a critical role in sustaining the livelihoods of both urban and rural communities, whether wealthy or poor. As producers, these households purchase their inputs from the markets and later sell their products into the same markets. As consumers, the earned income from the selling of agricultural products or from their non-farming activities is spent in markets to obtain their food needs and other utilities. This study primarily sought to examine the effect of Market Access on Farmer Entrepreneurship growth in Uganda, using Uganda Crane Creameries Cooperative Union, Mbarara Branch as a case study. The study objectives were; to examine the contribution of Market Information on the growth of Farmer Entrepreneurship in Uganda Crane Creameries Cooperative Union; to establish the contribution of Market linkages on the growth of Farmer Entrepreneurship in Uganda Crane Creameries Cooperative Union and to establish contribution of Input and Output Markets on the growth of Farmer Entrepreneurship in Uganda Crane Creameries Cooperative Union. The study employed a cross sectional study design combining both quantitative and qualitative methods to data collection with a sample size of 317 derived using Morgan and Krejcie (1970). Data collected was exported to SPSS version 20 for editing, coding to facilitate informative and relevant computation. Results showed that majority of the farmers were male (82%), aged 40 years and above (91%), married (60%), with primary level education (36%), and have household size of 6 people (64%). The objectives of the study were analyzed using the Factor Analysis. For objective one, results showed that market information was significantly correlated with Farmer Entrepreneurship growth with 0.002 which is below 0.05 with coefficient of 0.605. For objective two, Market Linkages was significantly correlated with Farmer Entrepreneurship growth with 0.001 which is below 0.05 with a coefficient 0.710 while for objective three; input and output markets was significantly correlated with Farmer Entrepreneurship growth with 0.009 which is below 0.05 with a coefficient of 0.501. The study concludes that, Market information, market linkages and input and output markets are paramount variables in influencing the growth of farmer entrepreneurship in Mbarara district in Uganda. The study recommends that UCCCU urgently completes the long waited milk processing plant to enhance farmer entrepreneurship, draws out outreach plans to bring all dairy farmers under the union, researches and avails farmers with up to date information, links with other value chain actors to ensure access of quality inputs by farmers in the cooperative union.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

The study examined the effect of market access on farmer entrepreneurship growth in Uganda using a case of Uganda Crane Creameries Cooperative Union (UCCCU), Mbarara Branch. There is widespread agreement among academics and development practitioners that improving market access for smallholder farmers will lead to improved farm productivity, higher investments, access to better technologies, more knowledge and innovations, jobs, better goods and services, higher farm income and food security. Over the last decade, market integration and liberalization, globalization, increased rate of urbanization, rising middle class, changing food habits, demand for more food diversity, etc. have all been taking place at an uncontrollable speed and in different ways. These changes are creating new market opportunities for farmers, triggering demand for products with high value, and creating opportunities for farmers to produce for the market. To respond to these market changes, farmers have been encouraged to become more market oriented, and to seek out new market opportunities.

Given the ever rising rivalry for competitive markets, farmers are increasingly under pressure to commercialize their production, to produce for markets and for profits, and to take "farming as a business". Farmers are expected to become more entrepreneurial as entrepreneurship is increasingly becoming the most important aspect of modern farming. This realization has led nearly all development actors to shift their attention from productivity-based interventions to market-oriented ones which require farmers to target their products for markets rather than selling the surplus. The direct and active involvement of farmers in product marketing is critical in order

to develop agricultural entrepreneurs who are not only competitive and self-reliant but also able to improve their future agribusinesses to a higher level.

Much as available documentary evidence presents positive outcomes of connecting market-oriented farmers to global markets, the interventions have created mixed results and contradictions when it comes to the reality of Ugandan agricultural context. Little is known about how market access has affected the entrepreneurial capacity of farmers.

The dairy sector is considered to be one of the important sectors in Uganda that have received attention. The dairy sector in Uganda holds a high potential for improving productivity, jobs, farm incomes, food security and welfare. To strengthen and enhance the competitiveness of the dairy sector, the Uganda Crane Creameries Cooperative Union (UCCCU) was set up in 2005 with aim of increasing dairy productivity, improving access to inputs and linking farmers to better markets among others. Overtime, UCCCU has invested and implemented market interventions such as provision of market information, market linkages, mobilization of dairy farmers, input and output access initiatives, setting up milk collection and marketing infrastructure, and developing the milk supply chain as a strategy to reduce the risks of market participation.

Despite these efforts and realignment by UCCCU, the dairy farmers in Uganda continue to suffer various marketing bottlenecks. They face marketing barriers especially those that increase their marketing risks and transaction costs as they struggle to commercialize their products. These barriers to market access are a substantial obstacle for innovative and entrepreneurial dairy farmers and this in turn makes the farmers reluctant or unwilling to invest in entrepreneurial initiatives. Several studies have found out that smallholder farmers in Uganda are not ready to respond to available market opportunities and are thus disconnected from better markets for their milk and

milk products. This could be attributed to inadequate accessibility of the available markets and inadequate availability of marketing information among other factors.

This chapter presents the study background, problem statement, study purpose, objectives of the study, research questions, research hypothesis, significance of the study, scope of the study, justification of the study, concepts, operational terms used in the study and their definitions.

1.1 Background to the Study

1.1.1 Historical background

Like many other people, smallholder farmers depend on markets to cater for their food needs and other essential services. In these markets, farmers sell their farm outputs or their labour as producers or workers respectively. With regard to consumption, they rely on markets for essential needs and services. However, these markets are often challenging or expensive to access for smallholder farmers. Overtime, as a result of the impressive work by agricultural knowledge institutions and development actors, there has been a remarkable progress in increasing agricultural productivity through sustained intensive production of key edible foods and domestic animals for farming households. Available information suggests that any further progress and focus towards increasing agricultural productivity relies crucially not only on exploring linkages to markets (Diao and Hezel 2004; Haggblade, 2004) but also on expanding agricultural activities that integrate market efficiencies, profit worthiness and market value (Kaplinsky, 2000). This implies that it is no longer enough for the producers to pay much more attention towards improving agricultural productivity and food security, without going further to explore strategies for accessing better markets for their products.

Trading and engaging in income generating activities are some of the commercial activities that African farmers have to do in order to meet household requirements. This implies that the capacity of smallholder farmers needs to be strengthened to enable them take advantage of the available market opportunities. Ensuring market access for farmers continues to be one of the most challenging interventions for both public agencies and development workers (IFAD, 2001; IFPRI, 2002).

Access to profitable agricultural markets is considered to be one of the pathways to reduce poverty especially in economies which rely heavily on agriculture. Access to profitable markets stimulates agricultural growth which in turn results into poverty reduction. Dorward and Kydd (2005), identify a set of three path ways to reduce poverty through agricultural transformation: (1) the outcomes of agricultural transformation lead to improved agricultural productivity, jobs and better household earnings; (2) by making adequate and cheap food available and accessible to urban and rural households; (3) by providing raw materials for industry thus contributing to the economy and growth of the non-farm sector.

Recognizing the importance of market access in the transformation of agriculture from subsistence to market oriented commercial agriculture has triggered research institutions and development organizations to re-think their agricultural development models. They are now increasingly shifting their attention to interventions that not only enhance productivity but also those that improve competitiveness and market access. Relatedly, national governments such as in Malawi and Uganda, are designing programs and policies that emphasize the concept of "farming as a business" which aims at encouraging farmers to become entrepreneurial by assessing the market

demands and requirements before undertaking production activities. This mind shift enables farmers to produce to meet the market demands instead of trying to market the surplus (Njuki, Kaaria, Sanginga, Kaganzi and Magombo, 2005). What remains challenging is the practicality of ensuring that smallholder farmers produce for the market, and how they can benefit from the market opportunities available to them.

It deserves no mention that the poor and marginalized sectors are often times excluded from profitable markets. This assertion is supported by Johnson (2005) who contends that farmers in hard to reach locations may not engage in the available markets due to low volumes, increased market costs and uncertainties in addition to the socio-economic constraints associated with market access. Initiatives to connect smallholder farmers with export markets have registered some considerable progress mainly because access to these markets is viewed to be an indicator of economic breakthrough (Jones et al., 2002; Hellin and Higman, 2002; GoU, 2003). The challenge, however, is that these initiatives are not driven by the farmers themselves and therefore lack farmer empowerment and capacity building. The choices and preferences made regarding to the type of commodity to be produced, where to sell or buy from, how to aggregate, and the value addition activities to undertake, are often dictated upon by the government or development organizations. For example, Uganda's Plan for Modernization of Agriculture (PMA) dictates and imposes a list of "strategic" enterprises to be targeted for export. These enterprises include the usual export crops such as coffee and tea, and the non-conventional export crops like potatoes, bananas, fish, and milk (GoU, 2000). It should also be pointed out that these export markets are often highly specialized, highly competitive, and require high quality standards thus presenting real risks to smallholder farmers. This implies that the market benefits available are usually taken over by

market oriented farmers with big commercial farms at the expense of smallholder farmers. As a result, these initiatives tend to deliver mixed results especially for smallholder farmers (Diao and Hezel, 2004).

1.1.2 Theoretical background

The study discusses several theories to spell out the notion of marketing and access to markets. The study examined the theoretical concepts purposely to identify and appreciate the main marketing factors associated and with a link to farmer entrepreneur market access. The study relied on Kirzner (1967) "Alert' Theory of Entrepreneurship which claims that there are many hidden opportunities in the environment that once identified and explored can lead to profitability. An entrepreneur is therefore expected to be "alert" and discover these unnoticed opportunities. Kirzner further asserts that this "alertness" will inspire and enable the entrepreneur to pursue different courses of action in order to discover the unforeseen market opportunities. In this theory, Kirzner argues that inefficiencies and shortcomings (due to imperfections in technology, market information, supply, logistics, demand etc.) that exist in market systems are not always noticeable by many market actors. An entrepreneur who identifies and recognizes these market inefficiencies from their everyday experiences and surrounding environments will use this knowledge as an incentive to explore the hidden market opportunities, become more competitive and generate more profits (Gunning, 1992).

Kirzner (1973) further points out that the due to the inefficiencies and imperfections, the market is always in a state of disequilibrium. An entrepreneur easily notices and discovers the market inefficiencies before other market actors. He then uses his entrepreneurial knowledge and profitably addresses the inefficiencies. In this way, he is able to reduce or eliminate those perceived

imperfections. By creating profitable market solutions to address the market imperfections, the entrepreneur makes his enterprise more competitive, generates more profits, and drives the market back to equilibrium. So from the perspective of Kirzner, an alert entrepreneur is seen as a market stabilizer (Kirzner, 1982).

According to Kirzner (1993) entrepreneurs play an important role in understanding and correcting the market imperfections identified in the marketing environment. He further explains that alert entrepreneurs are able discover the imbalances in the market (e.g. imbalances in demand and supply, price differences in different zones for the same product, or opportunities to purchase products at reduced prices and re-sale them a higher cost), grasp these opportunities and generate profits by creatively responding to them.

Market orientation theory explains that in order for an organization to remain competitive for a long time, there need for such an organization to continuously gather information about its present and future customers, understand their needs, preferences and behaviours and use this information to generate products and services that give higher value to its customers (Kotler, 1999). A company which is armed with superior information intelligence with regard to its present and future customers, fierce rivalries in the market (competitors) and operating conditions, will always be more competitive compared to its counterparts. The theory emphasizes that firms which are market oriented will always carry out market research to understand customer needs/preferences, build close relationships with their customers, and develop products/services tailored to the needs of the customers. In this way, the firms create more value for the customers, attract and retain customers, generate more profits and remain competitive.

The Evolutionary systems change theory stresses that customer needs and preferences are dynamic and always changing. Markets are therefore expected to evolve accordingly in order to respond to the changing needs of the customers. The survival and success of any company will therefore depend on its capacity to adapt to the changing market environment, and innovatively create new products that give superior customer value (KIPPRA, 2006). Such firms will be able to maintain a competitive edge.

Relationship (linkage) marketing theory looks at building customer loyalty to a given brand of a product. It points out that when a firm establishes a long term relationship with its present and future customers, it leads to customer trust, customer retention, customers continue buying the same brand for a longtime, creating customer loyalty. This approach does not only create customer value with regard to acceptable prices, but the company also values the relationship that comes with it (KIPPRA, 2006). Firms that hold on and maintain their customers for a longtime will remain competitive.

The transactional cost theory highlights the importance of market and external transaction costs in a given economic activity (Adegbidi, 2012). This theory recognizes that when making decision to undertake a transaction, a firm needs to take into account not only the prevailing market prices but also other costs involved in the transaction such as contracting costs, information gathering costs, negotiation costs, coordination costs, contract enforcement costs etc.

The marketing theories that have been reviewed provide an understanding with regard to marketing and market access. The theories have looked at different market functions including; market information gathering and market analysis, building long-term customer relationships, creating customer value, maintaining market linkage, being alert to market opportunities and using the knowledge/information to profitably correct market imbalances, accounting for all the transactional costs while undertaking an economic activity, and performance of input and output markets. Nonetheless, the reviewed theories do not adequately provide a connection between market access and farmer entrepreneurship growth. While reviewing the literature, the study attempted to provide a linkage between market access and farmer entrepreneurship growth.

1.1.3 Conceptual background

Smallholder farmers are considered to be farmers who depend mainly on their family labour for their production activities, produce mainly for subsistence and market the surplus, own limited resources and assets, employ rudimentary farming technology, and have limited access to markets, financial services and market information when compared to market oriented commercial farmers (Becx, Slingerland and Rabbinge, 2011; World Bank Report, 2013).

Smallholder farmer entrepreneurship is considered to be a creative way of undertaking farming as a business with an aim of producing for the market and earning profits (Becx, Slingerland and Rabbinge, 2011). There are barriers such as socio-economic barriers, inadequate institutional support, limited access to finance and market information that have excluded smallholder farmers from engaging in entrepreneurship (Whitefield, 2010). To enable the smallholders farmers participate in the available markets, there is need to build and strengthen their entrepreneurial capacity so that they become more innovative, market oriented and make profits (Whitefield,

2010). Smallholder farmers need to see their farms as opportunities for doing business in agriculture. Agribusiness is critical for making smallholder farmers unlock their potential and engage in profitable farming. This requires improving their entrepreneurial skills and knowledge so that they undertake market oriented farming efficiently (Ashby *et al.*, 2009). To develop their entrepreneurial skills, the smallholder farmers need government support with regard to profitable markets, affordable financial services, timely market information, better rural infrastructure, appropriate extension services and technology (World Bank Report, 2013).

Market access involves the selling of goods and services by a country or a firm domestically and beyond its borders. It also considers the tariffs and non-tariff measures put in place in order to make products and services enter certain markets. To enhance participation in both domestic and international markets, the market institutions, regulatory framework and network industries need to be present and operate efficiently.

1.1.4 Contextual background

Uganda's economy is based on agriculture as the main sector employing over 70% of its population. The dairy sector contributes over 50% of the total output of the country's GDP (Kabwanga and Atila, 2015). With the liberalization policies that were undertaken the 1990's and the sustained government intervention to attract investors, the dairy sector has registered positive outcomes with the total national milk production rising to 1.6 billion litres in 2011 from 460 million litres in 1990. In the same period, the per capita milk consumption increased from 16 litres in 1986 to 58 litres by 2010 (Mbowa, Shinyekwa and Mayanja, 2012). From a net importer of milk, Uganda has grown within a few years as a prominent exporter. The increase in milk production is mainly attributed to adoption of improved breeds, changing from communal grazing

to paddocking, improved feeds, pests and disease control, and increased investments in better managements systems such as on farm water development. The development in the dairy sector has stimulated creation of jobs and growth in incomes for households in addition to the dairy chain actors such as farm input dealers, suppliers of dairy equipment, milk vendors, transporters, processors, and distributors (Mbowa, Shinyekwa and Mayanja, 2012).

While the formal milk market was for long dominated by one processor (Sameer Agricultural and Livestock Ltd (SALL), this has drastically changed over the last few years. At the top end, two large-scale processors have recently opened dairy plants in or near Mbarara: Pearl Dairies (installed processing capacity of 200,000ltr/day) became operational in 2013 and is producing milk powder, mainly for export (to Kenya, the Gulf and Asia), Amos Dairies (installed processing capacity 300,000ltr/day) became operational in 2014, and is mainly exporting casein (to USA markets).Their entry in the dairy market has significantly altered dynamics, bringing in an element of competition (SALL previously had a90% market share). The new private processors on the market have not only opened more options for more milk products but also expanded investments in infrastructure for milk collection and marketing. There is also an increasing trend for small and micro-processors to enter the market, usually on-farm production. All these factors have created new market opportunities for the dairy farmers.

Farmers continue to get more organized under farmer associations and cooperatives. One of the well-organized cooperatives in the South Western Milk shade is the Uganda Crane Creameries Cooperative Union (UCCCU). The Uganda Crane Creameries Cooperative Union (UCCCU) is an apex cooperative that organizes dairy farmers in Uganda. UCCCU was registered under

Certificate No. 7231 as a Limited Co-operative Union in 2005. The union currently is active in the 12 districts of South and mid -Western Uganda where our membership stands at 18,506 members in 140 primary cooperatives societies and 10 district unions. The union members produce over 700,000 litres daily and market 300,000 formally. The union is completing the farmer owned dairy processing plant.

The Union's vision is to provide its members with high quality dairy products and services. The mission is to establish a dynamic dairy sector that leads to livelihood improvement of the dairy farmers through better farming practices, commercialization, market access and technological advancement. The objectives include: (I) strengthening the capacity of dairy farmers in milk handling processes and enhancing collective market access; (ii) supporting farmers to form cooperatives for quality service delivery; (iii) herd improvement; (iv) knowledge and skills development; (v) market analysis and research (vi) availability of inputs such as drugs, feeds and other production inputs; and (vii) ensuring access to affordable finance through building saving cooperatives. In this regard, the union is providing the marketing services to its members collecting milk from milk collection centres, cooling it, and marketing it to various processors on behalf of the members. The study sought to examine the effects of market access on farmer entrepreneurship growth in Uganda using Uganda Crane Creameries Cooperative Union as a case study.

1.2 Statement of the Problem

One of the mandates for UCCCU is to enhance market access for the dairy farmers. In this regard, UCCCU has invested and implemented market interventions such as provision of market information, market linkages, mobilization of dairy farmers, input and output access initiatives, setting up milk collection and marketing infrastructure, and developing the milk supply chain as

a strategy to reduce the risks of market participation. These efforts and initiatives by UCCCU notwithstanding, small-scale dairy producers continue to face many market barriers which in turn inhibit farmer entrepreneurship. The productivity of smallholder dairy farms is generally low and the volumes of milk continue to fluctuate seasonally. During the dry season, milk production is said to be 40% lower than in the wet season. In terms of animal feeding, only 35 % of all dairy households are reported to be using some feed supplements during the year. Purchase of fodder or hay is almost non-existent and on-farm production is also still very low (Agriterra, 2012).

There are two milk marketing channels: formal and informal. It is estimated that only 70 % of all milk produced on the farm reaches the market in one way or another. Evidence further indicates that only 30% of the milk reaching the market goes through the formal channel of marketing to be processed and packaged, the rest 70% is sold in informal markets. The milk reaching the market/consumer is usually in raw/unprocessed form mainly transported in plastic containers particularly jerry cans and few metallic cans. Milking at the farm is done manually, the milking conditions are poor with low hygiene standards and poor handling practices. Collecting milk from hard to reach areas, inadequate transportation and vending of raw milk are considered to be major constraints in their attempt to improve the commercialization of the dairy value chain. Quality control during milk reception at milk collection centres (MCC) is very limited. Milk quality checks or tests are rarely carried out at the milk aggregation centres. Milk collection centres continue to accept contaminated milk (with cow manure, feed residues, hairs from cows and other contaminants) even when it is obvious that its quality is poor.

The unit price of milk particularly the farm gate price is very low and fluctuates significantly

during the rainy and dry periods. The price offered to the farmers is glaringly low especially during the rainy season when the milk volumes are high. The owners of processing plants together with large private milk buyers continue to dictate the prices for milk disregarding the farmers' overall production costs. Low milk prices in addition to exorbitant prices of inputs continue to hinder farmers from making profits in their dairy farming, which in turn discourages farmers to invest in farm entrepreneurial initiatives. Dairy farmers continue to be compliant price takers with low bargaining power for better prices.

Often times, farmers have limited access to reliable information with regard to prices from processors and consumers in towns and urbanized centres; they mainly accept prices offered by milk vendors who are privileged to access timely price and market information. Most famers do not know details of demand in the market, how much to produce per season, where to sell, what kinds of milk products needed in the market at what prices, needed milk volume and the like. As a result, sometimes they are pushed to market their milk at very cheap prices offered by processors and rural agents under oversupply conditions in markets. Most farmers are suffering from market information asymmetries and this in turn reduces their bargaining power. Yet, knowing up-to-date price and demand information in real time is vital for participation in modern value chains. Without sharing available market information among the farmers, it becomes difficult for the farmer entrepreneurs in the dairy value chain in Uganda to function well, at a profitable and competitive level.

The efforts to connect dairy farmers and Milk Collection Centers (MCCs) with commercial processors and formalized markets remain inadequate. Majority of the dairy farmers lack legally recognized (contractual) business arrangements with value chain actors such processors and

transporters, and thus continue to suffer from unreliable and irregular supplies. All these barriers limit the dairy farmers from participating fully and benefiting in the available market opportunities such as; stimulating investment, encouraging farms/firms to engage in different and efficient ways of production, and offering well-paying jobs, farm products and services to a bigger population.

Since dairy farmers want to be more entrepreneurial, want to invest to increase productivity, want to upgrade their stock or want to use fodder or hay and want to be more competitive; then services such as market linkages, market information and access to affordable inputs are a crucial ingredient. This research work therefore, sought to examine the effects of market access on farmer entrepreneurship growth in Uganda using Uganda Crane Creameries Cooperative Union as a selected case to be studied.

1.3 Purpose of the Study

The purpose of this study was to examine the effects of market access on farmer entrepreneurship growth in Uganda, a case study of Uganda Crane Creameries Cooperative Union.

1.4 Specific Objectives

1. To examine the contribution of Market Information on the growth of Farmer Entrepreneurship in Uganda Crane Creameries Cooperative Union.
2. To establish the contribution of Market linkages on the growth of Farmer Entrepreneurship in Uganda Crane Creameries Cooperative Union.
3. To establish contribution of Input and Output Markets on the growth of Farmer Entrepreneurship in Uganda Crane Creameries Cooperative Union

1.5 Research Questions

1. How does market information affect the growth of farmer entrepreneurship in Uganda?
2. How do market linkages affect the growth of farmer entrepreneurship in Uganda?
3. How does Input and Output Markets affect the growth of farmer entrepreneurship in Uganda?

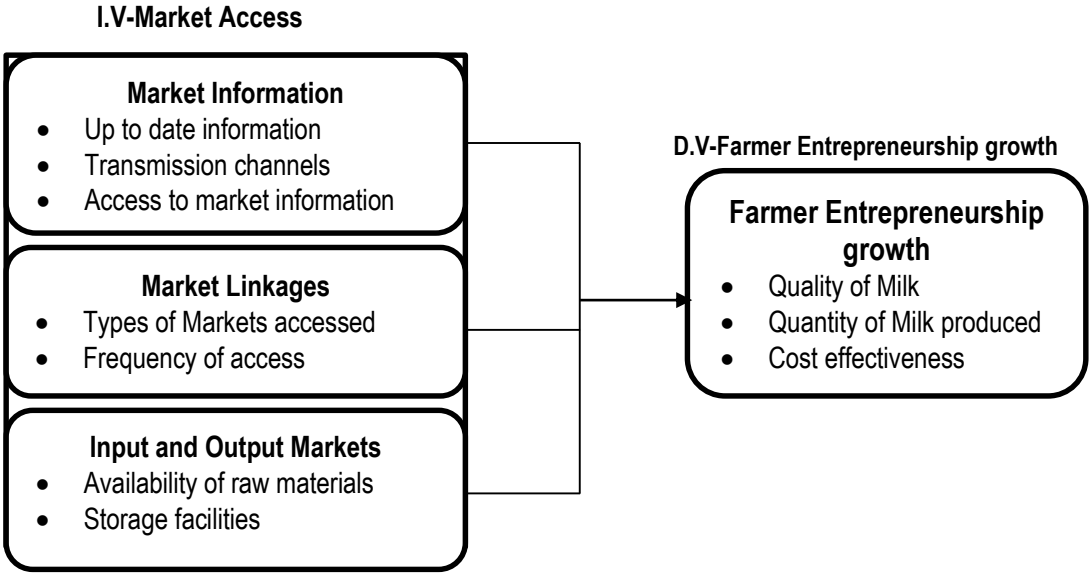
1.6 Research Hypotheses

H0: Market Information does not significantly the growth of farmer entrepreneurship in Uganda

H0: Market Linkage does not significantly affect the growth of farmer entrepreneurship in Uganda

H0: Input and Output Markets does not significantly affect the growth of farmer entrepreneurship in Uganda.

1.7 Conceptual Framework



Adapted from Literature: IFAD (2001) and IFPRI (2002) with modifications

Figure 1: Conceptual Model showing Relationship between Market Access and Farmer Entrepreneurship Growth

The model shows that market access (the independent variable) through the dimensions of market information, market linkages and Input and Output Markets leads to growth of farmer entrepreneurship (the dependent variable) in Uganda.

The study was based on the assumption that the growth of farmer entrepreneurship depends on effective access to markets for the dairy farmers who are members of Uganda Crane Creameries Cooperative Union, Mbarara district because according to this study, the farmer entrepreneurship will be able to realize growth potential if they able to access the markets for their products and hence the improvement in quality of their standards of living. The study therefore was limited to the Market Access dimensions of market information, market linkages and Input and Output Markets while growth of farmer entrepreneurship measured according to Quality of Milk, Quantity of Milk produced and Cost effectiveness.

1.8 Significance of the study

The study may help to identify weaknesses among the farmer entrepreneurship that limit them from accessing better markets for their Milk and other Milk products denying them a chance to grow their business.

The findings may help managers of Uganda Crane Creameries Cooperative Union to appreciate the importance of improving the business skills of their members for them to benefit from their production activities and to effectively manage the union by encouraging members to invest their profits in profitable ventures.

The study will contribute and add on knew knowledge through its findings in the area of Market access and growth of farmer entrepreneurship not only in the diary sector but to all farming activities in the developing countries.

The study findings can further contribute towards the development of policies aimed at enhancing farmer entrepreneurship efforts.

1.9 Justification of the study

Market access has conventionally been viewed from a limited angle of international trade (Hugo, Squalli and Wilson, 2006). In the context of international trade, market access refers to the tariffs and non-tariff measures that a country chooses to employ in order to restrict imports. Such measures include: tariffs on imported goods, and non-tariff barriers such as market standards, anti-dumping controls, import quotas, and import permits, among others. In addition, market access regulations and controls include standardization of imported services. One of the ways is for a country to allow a limited number of external suppliers or competitors in a given industry. Additionally, the country may restrict the number of service transactions to be undertaken by an external service provider. However, this study set the local precedent to examine the market access effect on the growth of farmer entrepreneurship in Uganda and specifically UCCCU, Mbarara district.

1.10 Scope of the study

The scope of the study included the content scope, Geographical scope and the time scope.

1.10.1 Content Scope

The study was limited to Market Access with emphasis on its dimensions: Market information, market linkages and Input and Output Markets as Independent Variables in this study. The

Dependent Variable: Farmer entrepreneurship growth was based on the Quality of Milk; Quantity of Milk produced and Cost effectiveness.

1.10.2 Geographical Scope

The study was carried out in Uganda Crane Creameries cooperative Union Plot 47/49, Akiiki Nyabongo Rd, MBADIFA building in Mbarara District, Uganda. Mbarara district is the head office of the union. The study geographically focused on the main stakeholders in the union such as the Managing Director, Heads of Procurement, Sales, Marketing and Farmers.

1.10.3 Time Scope

This study looked at the past four years of operation that is (2012-2015). This was because it was within these years that the government put much emphasis on having improving the standards of living of Uganda through job creation within Uganda and in the region with a view to attaining a middle income state by 2020, according to the Background to the Budget (MoFPED, 2015).

1.11 Operational definitions

Market access: In this study, Market access refers to the ability of a farmer or group of farmers to sell their goods and services across their local locations/areas.

Market information: In this study, Market information system refers to information mechanism employed to collect, evaluate, publish and distribute information about costs, prices and other information relevant to farmers.

Market linkage: In this study, market linkage refers to facilitation of trade relationships between the farmers, small producers, local firms and cooperatives, and the external market.

Input and Output Markets: In this study, Input and Output Markets is a numerical description

of how far apart farmers and the markets are.

Farmer entrepreneurship growth: In this study, Farmer entrepreneurship growth refers to a creative way of boosting targeted production for milk and milk products for a defined niche market propelled by a profit motive.

1.12 Conclusion

This chapter discussed the study background, problem statement, purpose of the study, research objectives, research questions, research hypothesis, significance of the study, scope of the study, justification of the study, operational definitions of the terms and concepts are presented. The next chapter reviews the literature related to the study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter lays out the theoretical review of literature. Literature on market access (independent variable) will include market information, market linkages and Input and Output Markets while growth of farmer entrepreneurship (dependent variable) will include quality of milk, quantity of milk and cost effectiveness and how they relate. The chapter ends with a summary of literature.

2.1 Theoretical Review

The study discusses several theories in order to provide an explanation with regard to the concept of marketing and market Access. This study examined the theories with the purpose of pointing out and grasping important marketing factors associated with farmer entrepreneur market access. The study relied on Kirzner (1967) "Alert' Theory of Entrepreneurship which argues that economies operate in a market environment which is full of uncertainties, where knowledge is imperfect and scattered and where most individuals are not aware of the various changes and processes taking place in markets. Entrepreneurs who are "alert" to these market changes are able to notice and pursue profitable opportunities such as: shortages or surpluses in the market or purchasing products at a reduced cost and selling them at a much higher price. In this way, alert entrepreneurs bring back the market into an equilibrium state. Kirzner further recognizes that one entrepreneur may be aware of something in the market which other market goers are not aware of, or he may discover an opportunity which other market participants have not yet noticed. With this knowledge and information, the entrepreneur takes advantage of this discovery to pursue profitable opportunities (Gunning, 1992).

According to Kirzner (1973) any advancement in production systems or changes in choices, behaviors and preferences may result into changes (or disequilibrium) in the market which was originally stable (equilibrium). In stable and well balanced markets (i.e. where there is perfect competition), there are no opportunities for making profits, and as such, entrepreneurs who look for profits in their businesses will do nothing in such scenario. However, when there are changes in the markets (due to market errors, shortage of products or surpluses), the alert entrepreneur uses this knowledge to exploit the profitable market opportunities. According to Kirzner (1982), entrepreneurial discovery and reactivity occurs market changes create profitable opportunities for entrepreneur.

Kirzner (1993) points out the functions of the entrepreneurs in explaining how market get corrected and demonstrates the "alert entrepreneur" identifies and discovers these market errors. He further explains, the disequilibrium in the market

Market orientation theory claims that the key to attaining organizational goals is to focus more on the customers and to continuously create products or services that have additional value for the customers. This continuous creation of superior value for the customers is important for the organization in order to respond well to customer expectations, attract and retain more customers, remain more competitive and ultimately generate higher profits. (Kotler, 1999). Market oriented firms which are committed to understanding their targeted customers, business competitors and operating environment achieve a competitive edge. Understanding customer needs and then translating those needs into higher quality products and services should be a continuous struggle

for competitive enterprises. This can be achieved when businesses access relevant market information necessary to market their goods and services. To remain competitive, firms and businesses need to conduct market research and consumer analysis in order to continuously create goods and services that satisfy customers' expectations and needs. Therefore, market orientation strives to deliver superior customer value, leading to customer satisfaction, increased sales and more profits.

The Evolutionary systems change theory argues that for any firm to withstand competition and continue in business is hinged upon its capacity to identify and respond to market needs (KIPPRA, 2006). It is worth noting that market systems are ever changing, and therefore firms need to continuously evolve in order to meet the market demands. It is imperative therefore that companies should continuously adapt to the changing environment through continuous improvement of their goods and services, identifying important market locations, targeting customers in particular niche markets and exploring other markets outside their locations.

Relationship (linkage) marketing theory claims that when customers (buyers) connect with their suppliers (sellers), there is a relationship/bonding that develops which goes beyond the commercial transactions. This bonding between the customer and supplier can result into increased understanding and appreciation of the demands, requirements, needs, and challenges faced by each party, leading to more cooperation and improved customer retention (KIPPRA, 2006). Relationship (linkage) marketing theory focuses on building and maintaining long-term customer loyalty to a brand. This is mainly through tracking the activities of the customers and ensuring that information relevant to the activities of the customers is made available especially through use of

social media. It is built on the pretext that once a supplier builds a relationship with a customer, then business transactions will emerge, and it will continue for a long time. Relationship marketing aims at building lasting customer attachment and emotional connection to the brand in addition to creating a durable, lifelong customer relationship that leads to more sales. Relationship marketing therefore brings together different market players including suppliers, customers, and other value chain actors in an interdependent manner in order to improve cooperation, enhance customer value, build transparency and reduce competition. This in turn helps to retain customers which translates into more sales for a long time

The transactional cost theory attempts to explain the importance of structuring complex business transactions operating in difficult and uncertain environments (Adegbidi, 2012). The theory highlights the significance of transaction costs involved in a complex exchange of goods and services with the aim of reducing costs (such as costs of seeking information, negotiation, costs of arbitration, and contract enforcement), minimizing wastes and avoiding delays. Understanding the importance of these transactional costs, the systems and the institutional environments in which they apply is essential in making right and appropriate business transactions.

The marketing theories that have been reviewed provide a deep understanding of how markets function in addition to other aspects necessary to increase market access. The aspects of market functions that have been explored include; conducting market research, gathering market information, building market connections, using information to reduce transaction costs and remain competitive. It is important to note that the reviewed theories do not clearly provide a linkage between market access and farmer entrepreneurship growth. However, after conducting a

literature review on the effect of market access on the farmer entrepreneurship growth, the study makes an attempt to provide this connection.

2.2 Market information and Farmer Entrepreneurship Growth

Limao and Venables (1999) point out that hard to reach (remote or landlocked) countries and poor infrastructure especially internal road network and communications are some of the key factors that increase transport costs, which ultimately increase the cost of doing business. When the cost of doing business is high for any given country, then its participation in global and international trade becomes limited. Some goods and services may require a special type of marketing called network marketing and this is mainly by use of networks such as social media networks, network banking services, broadcasting services, airlines etc. Where these networks exist and are well developed, they enhance accessibility to world markets (Shy, 2001).

Farmers face barriers of timely and relevant market information and this limits their participation in trade. In most cases, they are not informed on the better prices for their products. Available information indicates that farmers receive market information mainly from businessmen/middlemen who unfortunately tend to exploit farmers by offering lower prices. To address this challenge of timely market information, there are some organizations that have developed innovative mechanisms to make market information available to farmers especially those in rural areas. For example, Info trade provides farmers with weekly market information through an application for short Message Service (SMS) on their mobile phones. Through this application, farmers pay a fixed amount of money per message and are then able to receive weekly information on prices of different selected commodities, location of the commodities, and general extension knowledge.

Another example is Farm record management information system (FARMIS) which a web- and mobile-based farm record management that makes it easy for farmers to develop their farm records, update them and use them to access credit and agricultural extension services. Through this application, farmers are able to connect with potential buyers and sellers of different products, in addition to other relevant service providers such as extension workers (USAID, 2015).

2.3 Market Linkages and Farmer Entrepreneurship Growth

Agriculture stands out as one of the best pathways to overcome poverty especially for smallholder households in rural areas. Documented evidence shows that when compared to other sectors, agriculture is likely to generate four times more income for households (Growth Commission, 2008). Over the past century, there was remarkable progress in agricultural production mainly due to the Green Revolution technologies that have enhanced productivity. However, little attention was given to improving markets.

In the recent times, the trends show that agricultural trade is growing fast partly due to increasing population, more demand for processed foods, rapid urbanization, changing food habits and emerging middle class especially in developing countries. As such, more attention is now being given to the agricultural sector in order to meet the food demand. These changes create new markets for the farmers. Growing trends in international markets is pushing multinational companies especially in Asia, Africa and Latin America to consider farmers not only as suppliers of domestic markets but also as suppliers of global markets (ibid).

Much as these emerging markets potentially bring in high profits, they tend to be full of risks and challenges especially for smallholder farmer. For example, most small scale farmers depend on natural rainfall for their agricultural production, it may be difficult for them to sustain continuous

supply of products in the face of changing and volatile weather patterns (IPCC, 2007). In order for smallholder farmers to enjoy the benefits of these new market opportunities, business companies looking out for new partnerships with value chain actors are recommended to develop innovative business ways of integrating and linking smallholder farmers into their supply systems (ibid). The active participation of smallholder farmers in the commodity markets is regarded as an essential strategy for long-term development and poverty reduction (After the Harvest, 2008).

Apparently, there is a clear realization especially from research and development organizations that solutions aimed at increasing agricultural productivity only without linkages to markets are no longer adequate to achieve sustained economic growth and poverty reduction. This realization is increasingly stimulating development organizations and government policies/programs to shift from production based interventions to include market- oriented investment programs. Farmers are supported to first undertake market analysis/demand studies before engaging in production, they are facilitated to set up legal contracts with buyers, and are encouraged to comply with market standards in order to benefit from the available market opportunities. These interventions pave way for farmers to access markets.

When farmers are supported with market-oriented programs, the returns can be remarkable and substantial especially when they are connected to profitable and high value markets. This was observed in the case study of Nicaraguan farmers who were connected to competitive and profitable markets for horticulture and coffee enabling them to attain an increase of 117% in net incomes (Shriver and Abdalah, 2012).

While these market-oriented programs bring in remarkable economic and social benefits, development actors are aware that linkage to markets for farmers is not a magic bullet. For

example, it was revealed that about 50% of the farmers supplying coffee to Green Mountain Coffee Roasters, experienced seasonal food shortage for over three months (Fujisaka, 2007). Available evidence shows that due to several factors, however much effort one puts in to link smallholder farmers to the market, a considerable percentage of about 50% (mainly the marginalized and landless), will remain excluded to a profitable markets. It is therefore recommended that to increase the chances of market participation by smallholder farmers, the specific conditions under which they operate should be effectively assessed and appropriate marketing options be explored.

2.4 Input and Output Markets and Farmer Entrepreneurship Growth

For agricultural transformation to happen, smallholder farmers must embrace commercial farming instead of subsistence farming. Commercialized agriculture also implies that smallholder farmers have to gain access to expanded input and output markets. In addition, smallholder farmers are expected to not only undertake value addition of their products but also accept to face business competition if they are gain from existing market opportunities (Fan and Rosegrant,2008).

Unfortunately, smallholder farmers in the East African region are still confronted with input and output markets that are weak, ill-equipped and inadequate to respond to the needs of smallholder farmers. In Uganda for example, findings from the 2005/2006 household survey revealed that there was complete absence of passable roads for 30% of households that participated in the study. Worse still, the survey found out that about 67% of the surveyed households walked for more than five hours to the nearest market and did not have easy access to vehicles for passengers and their goods (UBOS, 2007).

With regard to the input adoption, most farmers in East Africa have not responded well to the use and application of fertilizers. The rate of fertilizer application is much below world average of

100kg/ha. For example, studies conducted in the East African region have found out that fertilizer consumption and utilization for selected arable crops stands at 30 kg/ha/year in Kenya, 14 kg/ha/year in Ethiopia, 5kg/ha/year in Tanzania and only 1 kg/ha/year in Uganda (Smaling et al, 2006 and Ariga et al, 2006). There several factors attributed to low usage of fertilizers which include: high prices for fertilizers, tariff and non-tariff barriers, poor quality control, limited knowledge by farmers, inadequate distribution systems, among others. As a result, the use and application of fertilizers at farmer level remains low. This is also true for other inputs such ass high quality seeds and pesticides. For example, in a study carried out by UNDP in 2006, pointed out that of the total Ugandan farmer population: only 6.3% uses high quality seeds, 1% applies fertilizers, 3.4% applies pesticides and about 6.8% use organic manure in their farming activities UNDP (2007). The situation is not different in Tanzania. Findings from a survey that was carried out by Tanzania's Poverty and Human Development Report in 2006 indicated that only 13% of the Tanzanian farmers were applying inorganic fertilizers. The survey further revealed that only 28% of the Tanzanian farmers had adopted and were using agro-chemicals to control pests and weeds. This low level adoption of farming input use was mainly attributed to the high costs (R &AWG, 2007).

Looking at the output markets in East Africa, we find that the institutions and systems for distribution and marketing of agricultural products are generally not functioning well. They are poorly developed, struggle with inadequate storage and processing facilities, lack post-harvest handling services, weak private sector, face constraints of poor road network and ineffective mechanisms of disseminating market information among buyers and sellers. As a result, the post-

harvest losses incurred by farmers are quite high especially for products that have a very short shelf life (Kamara, *et al*, 2002).

While the proliferation of supermarkets is seen as a huge marketing opportunity, smallholder farmers are still excluded from selling their products to these markets due to a host of barriers including the high quality standards to be complied with, the inability of farmers to supply adequate quantities regularly, and the high initial capital required to participate in supermarket channels (Neven at al., 2009).

The demand for agricultural products has grown over the years partly due to the increase in population, high food prices, increased demand for exports and imports and changes in food habits. For instance, between 1995 to 2006, it is reported that meat production in Uganda grew at a rate of 1.8% annually although the meat consumption per capita fell from 10.3 kg to 8.8kg per year in almost the same period (FAO Investment Centre, 2008).

Similarly, in the period between 1995 to 2006, milk production is said to have increased annually at the rate of 4.8%. This increase in milk production was stimulated by high investment in improved cattle breeds, better pasture management, and improved disease control. As a result, milk consumption per capita has not only increased (from 20.1kg to 25.4kg per year) but also the importation of milk and milk products has remarkably reduced in the same period (FAO, 2008).

2.5 Farmer Entrepreneurship

Entrepreneurship is regarded as an inner passion and catalyst that spurs innovation, value creation and identification of opportunities in order to efficiently and profitably manage an enterprise

(Kuckertz and Wagner, 2010). The drive to persistently and unceasingly innovate, create new ways of doing things and take risks turns out to be a key determinant for maintaining the competitive advantage of any business or enterprise (Kuratko, 2009). Smallholder farmers can also be regarded as entrepreneurs since they are always trying out and testing better ways of efficiently managing their farms. For example they adopt new varieties of crops and new breeds of livestock, they test new technologies for improved production, they create new products through value addition, producing for the market and not for subsistence etc. Entrepreneurial farmers who create more value through undertaking value addition activities such as agro-processing become more competitive in their farming business (World Bank Report, 2013). Entrepreneurship is not new. Individuals who exhibit entrepreneurial characteristics have been in existence for a very long time. There are many examples in the world about entrepreneurial individuals who have seized opportunities to create new businesses/companies, develop new products, identify new markets for their products, reduce risks in their businesses etc. (Venter *et al.*, 2008).

One an opportunity is spotted, entrepreneurs look out for resources in order to translate the opportunity into solution to solve problems or into creating a profitable venture. In other words, entrepreneurs are resource mobilisers. Schumpeter (1942) characterizes an entrepreneur as an individual who carefully takes risks, builds up a team of innovative people, and brings together resources, in order to profitably answer or unlock a certain problem. Successful entrepreneurs creatively build new business, and use efficient ways of adding more value to existing products (Kuratko, Morris & Covin, 2011). The concept of entrepreneurship seems to be understood and defined differently by different people, implying that there is no commonly agreed upon meaning for entrepreneurship (Kuratko *et al.*, 2011). However, there is a good number of scholars,

academicians and empirical researchers who have ventured into coining the definition and basic meaning of the entrepreneurship concept. According to Barreto (1989) entrepreneurship is defined from the point of functional roles played by entrepreneurs which include: problem solving, resource mobilization and allocation, taking and reducing risks, creating value, and profit oriented (Barreto, 1989).

Entrepreneurship is further described as the individual's mindset, capacity and readiness to spot and pursue an opportunity and grow it into profitable solutions. It encompasses the self-drive and initiatives of entrepreneurial individuals to single out economic opportunities, bring resources together and convert the identified opportunity into a profitable venture (Barreira *et al.*, 2011; Nwibo and Okarie 2013; Venter *et al.*, 2008).

As a process, entrepreneurship is viewed from two angle: a) noticing from the environment a profitable opportunity and b) pursuing the opportunity and creating a profitable enterprise out of it (Shane and Venkataraman, 2000). Understanding this process is important for individual entrepreneurs (Shockley and Frank, 2011). Additionally, two paradigms about entrepreneurship have been put forward and they consider "opportunity recognition" as a critical element. These paradigms are: (i) *Discovery theory points* out the significance of external factors involved in the identification and recognition of a profitable opportunity. Discovery theory argues that entrepreneurs play an important role in looking out for hidden economic opportunities from the prevailing surroundings. As they seek to do things differently, entrepreneurs find and recognize opportunities for creating new products/technologies, building new markets, reducing risks, setting up new systems and increasing profits (Alvarez and Barney, 2007; Shane 2000) and (ii) *Creation*

theory argues that opportunities are internally generated from the passion, attitude, capacity, skills and actions of entrepreneurs. Creation theory considers entrepreneurial behaviors, qualities, experiences and actions to play an important role in the process of identifying and recognizing an opportunity (Baker and Nelson, 2005).

2.6 Summary of literature

Baron (2006) points out aspects that are fundamental to noticing and recognizing opportunities; (i) Noticing an opportunity depends on how much effort and drive an entrepreneur puts in to look out for new opportunities, and this aspect is connected to the discovery theory. Availability and accessibility of relevant information is considered to be an important enabler for an entrepreneur to discover economic opportunities (Shane, 2000). (ii) Alertness of an entrepreneur to notice and recognize opportunities (Kirzner, 1973), which is again related to discovery theory. Alertness stresses that an entrepreneur must use his knowledge to notice and discover hidden opportunities and not to actively look out for them. Being alert to entrepreneurial opportunities is dependent upon knowledge and intellectual capacity of the entrepreneur (Shockley and Frank, 2011). Looking at Uganda, agricultural activities are undertaken in remote areas which lack efficient market infrastructure and this hinders market access. Efficient and well performing markets require good road network, transport and distribution logistics, post-harvest handling services, appropriate storage, good supply of electricity, information and internet services, etc. Unfortunately some of the infrastructure is of public good nature and a framework for private sector financing of such infrastructure is not defined. Even in the case of private good nature, farmer entrepreneurs indicate that the current high cost of finance is a hindrance to the acquisition of such infrastructure (Ofwono, 2009). This chapter discussed the literature related to the study. The next chapter presents the methodology of the study.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

The chapter here presents the research design, population of study, sample size and selection, sampling technique and procedure, data collection methods and instruments, reliability and validity, data collection procedures, measurement of variables and data analysis.

3.1 Research Design

This research adopted a cross-sectional study design combining both quantitative and qualitative approaches. A cross-sectional survey was used because it considers opinions, attitudes and views of the target sample in the entire population (Sekaran, 2002). Triangulation allows the use of qualitative and quantitative methods to collect data from different sources. It further makes it easier to identify and minimize data errors, strengthens the validity of results, and enables the researcher to confidently draw conclusions from the data collected/analyzed.

3.2 Area and Study Population

The study was conducted in Uganda Crane Creameries Cooperative Union (UCCCU), Mbarara Branch Uganda located on Plot 47/49, Akiiki Nyabongo Rd, Mbarara. The study targeted 3218 farmers/ members of UCCCU, Mbarara Branch/ district for the survey.

3.3 Sample Size and Selection Techniques

3.3.1 Sample Size

Mugenda and Mugenda (1999) states that collecting data from the entire population is not possible due to cost and time constraints, therefore, sampling becomes the available and accurate option,

the study draws conclusion that the sample can be generalized on the population of interest. The sample size was selected from the population size using a table by Krejcie and Morgan (1970) table as follows

Table 1: Sample size determination table

Category	**Population**	**Sample size**	**Sampling technique**
Managing Director	1	1	Purposive
Head, Marketing	1	1	Purposive
Head, Procurement	1	1	Purposive
Head, Sales	1	1	Purposive
Farmers/Members	3214	341	Simple Random Sampling
Total	**3218**	**345**	

Source: UCCCU Human Resource Division database (2016) sampled using Krejcie and Morgan (1970) Table

3.3.2 Sampling Selection Techniques

The study used both purposive and simple random sampling. Purposive sampling involved selection of respondents who were most knowledgeable and experienced in the organization on the area of study namely; the Managing Director, Heads of Marketing, Sales, and procurement (referred to us key informants). In using simple random sampling, the study used the lottery approach where all samples had equal chances of being selected as suggested by Amin (2005) and so all names were written on a tag and placed in a container of which each tag was picked without replacement until the required number was reached.

3.4 Data Collection Methods

The study employed a combination of quantitative and qualitative methods to collect the data. For quantitative data, questionnaire and documentary review analysis approaches were used while for qualitative data, key informant interviews were used.

3.4.1 Quantitative method

According to Amin (2005), a questionnaire contains a list of written questions employed to gather information about the study objectives or hypothesis from a study population. It is one of the quantitative methods for data collection. This approach was used to collect data from farmer population because it is the most suitable method for data collection from a large sampled population as suggested by Mugenda and Mugenda (1999). The researcher trained data collection assistants to help carry out the interviews to the farmers/ respondents in Mbarara district.

3.4.2 Qualitative method

An interview is a dialogue between an interviewer and an interviewee (Mugenda and Mugenda, 1999), aimed at gathering data about a particular topic hence a learning exercise on both parties involved under qualitative method to data collection. In this method, the researcher interviewed key informants who included; Managing Director, Heads of Marketing, Procurement and Sales and were more knowledgeable on the operation of UCCCU. This face to face helped the researcher to obtain in-depth information on market access and how it affects farmer entrepreneurship growth to help triangulate the information obtained through the quantitative survey as suggested by Mugenda and Mugenda (1999). The interview were structured and comprised of a set of pre-determined questions with standardized recording.

3.4.3 Documentary Review

Document analysis involved reviewing existing published and un published information relating to market access and how it affects farmer entrepreneurship growth, reports, journals, magazines, minutes of meetings, newspapers, the internet abstracts relating to the study were reviewed.

3.5 Data Collection Instruments

The researcher collected data from primary and secondary sources. The primary data was gathered from key informants using questionnaires and interviews while secondary data was collected using the documentary checklists.

3.5.1 Questionnaire

The researcher developed a combination of open and closed ended questionnaires for the farmer population which were administered by trained research assistants. This questionnaire is the most suitable tool to collect data from a large sample of respondents and help to quantify the responses and also enable the researcher to cheaply and quickly gather a large amount of data from a large sample as proposed by Amin (2005).

3.5.2 Key Informant Interviewed Guide

To supplement the data from the questionnaire survey, an interview guide was used through face-to-face interviews with UCCCU officials such as; Managing Director, Heads of Marketing, Procurement and Sales who were more knowledgeable to give an in-depth understanding of information on market access and how it affects farmer entrepreneurship growth and were done by the researcher recording all the responses from the respondents by himself and it is a flexible

tool that encourages the research to probe for deeper meanings as the interview progresses as suggested by Mugenda and Mugenda (1999).

3.5.3 Documentary Checklist

Document analysis involved deriving information by carefully studying the written documents and reviewing the existing published and unpublished information relating to information on market access and how it affects farmer entrepreneurship growth including management reports, minutes, magazines, journals, related internet articles among others.

3.6 Pre-testing data collection instruments

Pre-testing the questionnaire was done on a sample of five staff members of Uganda Crane Creameries Cooperative Union, from Isingiro Branch. This was done because it is not recommended to test questionnaires from the sample population of study as suggested by Amin (2005). Pretesting was conducted to establish validity and reliability of the instrument.

3.6.1 Validity

Amin (2005), describes Validity as the degree to which an instrument truthfully measures what it is expected to measure. Therefore, to test the validity of the instrument, the researcher used the content validity index (CVI) which ensured that the instrument included adequate and representative items that capture key concepts of the study and that it was done using judgment of experienced individuals as suggested by Sekaran (2003). The formula for content validity index is shown below:

$$CVI = \frac{\text{Total Number of items declared valid}}{\text{Total Number of items}}$$

Score from Supervisor 1: R = 72%, N = 5%, IR = 5% giving the result = 87%. Score from Supervisor 2: R = 60%, N = 5%, IR= 10% giving the result= 75%. From the two experts the average score was 78.5% which made the questionnaire content valid which was way above the score of 70% to make the instrument valid as suggested by Sekaran (2003).

3.6.2 Reliability

Reliability is described as the degree to which the data collection methods and instruments employed to collect and analyze data can produce consistent results which can be confidently relied upon. In this research, reliability was ensured by conducting a pretest on the participants who were not expected to participate in the final study. To estimate the reliability of the questionnaire, a Cronbach's alpha reliability coefficient (Kuder Richardson as cited in Amin 2005) was computed using the statistical package for social scientists (SPSS) computer program. The closer the answer to 1 the higher the reliability e.g. an alpha above 0.7 is acceptable (Sekaran, 2003) and formula is as below;

$$\alpha = \frac{k}{k-1}\left(1-\frac{\sum\sigma_i^2}{\sigma_y^2}\right)$$

Where k is the number of items in the questionnaire $\sum\delta_i^2$ is the sum of the item variances (i.e., the diagonal elements of the covariance matrix) and; δ_y^2 is the variance of the total test score (which equals the sum of all elements in the covariance matrix).

Plugging in the numbers

$$\alpha = \frac{29}{29-1}\left(1-\frac{3.894}{15.161}\right) = 0.77$$

So the Cronbach Alpha reliability coefficient for this scale was 0.77 or 77%, which is far better and "acceptable" reliability of the Research Instruments of 0.70 or 70% according to Sekaran, (2003)

3.7 Data Collection Procedure

An introductory letter was received from Uganda Management Institute, to the Managing Director, UCCCU, Mbarara Head office seeking permission to be allowed to conduct the study. In order to observe anonymity and confidentiality of the respondents, were not asked to put their names on the questionnaires.

3.8 Measurement of Variables

According to Martyn (2000) a nominal scale was used where numbers are assigned to the different variables to serve as its name and to create sameness or difference. This was done to establish the effect of market access on farmer entrepreneurship growth using Uganda Crane Creameries Cooperative Union (UCCCU), Mbarara Branch.

3.9 Data Analysis

3.9.1 Qualitative Analysis

Qualitative data analysis is subjective and rich. The information is usually presented in form of words directly obtained from respondents, using open ended questions and interviews. Qualitative data was analyzed for content and review of scripts for similarities and differences, identifying themes and develop categories according to the study objectives as suggested by Mugenda and Mugenda (1999). This helped to draw findings solicited by both qualitative and quantitative conclusions and recommendations.

3.9.2 Quantitative Analysis

Quantitative data analysis involved descriptive analysis, correlation analysis to show the relationship existing among the variables. To establish the influence of the independent variable

on the dependent variable, a regression analysis was used. The analysis of the objectives was carried out by running factor test, a statistical approach which transforms data with correlated variables into linear uncorrelated variables referred to as principal components. It is the most suitable analysis for qualitative data as suggested by Kothari (2005) and thereafter Pearson correlations and a regression were run to show how strongly the variables are correlated.

3.10 Ethical Considerations

Ethics is part of moral philosophy that looks at an individual's ability to know and differentiate between right and wrong things. Ethics in research deals with values, standards, and norms to be adhered to when carrying out research and helps to guide one's behavior (Mugenda & Mugenda, 2003). Researchers are not expected to conducted studies that generate personal benefits while creating negative consequences on other parties. They must be people of integrity by respecting the views of others and seeking consent before any interview is held.

This study took into account the following ethical issues; plagiarism and fraud. To avoid this, the researcher acknowledged all other people's work reviewed in relation to this study as advised by Mugenda & Mugenda (2003).

The researcher made sure not to ask inappropriate questions or conducts that could physically or psychologically harm the research respondents as suggested by Mugenda & Mugenda (2003). Sensitive questions were paraphrased soon after pretesting so as not to raise alarming questions to the respondents.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

4.1 Introduction

This study examined the effects of market access on farmer entrepreneurship growth in Uganda using Uganda Crane Creameries Cooperative Union as a case study. Market access (with variables such as market information, market linkages and input and output markets) was considered as independent variable while farmer entrepreneurship growth was the dependent variable.

In this Chapter, the data collected is presented, analyzed and interpreted to derive meaning from it. The chapter is structured in five sections. Section 4.2 focuses on the respondents' background, section 4.3 Empirical Statistics, 4.4 Correlation results and 4.5 gives the regression analysis of the survey results. The analysis of the objectives was done by using factor test to examine the relationship between the independent and dependent variables.

4.2 Characteristics of respondents

4.2.1 Response Rate

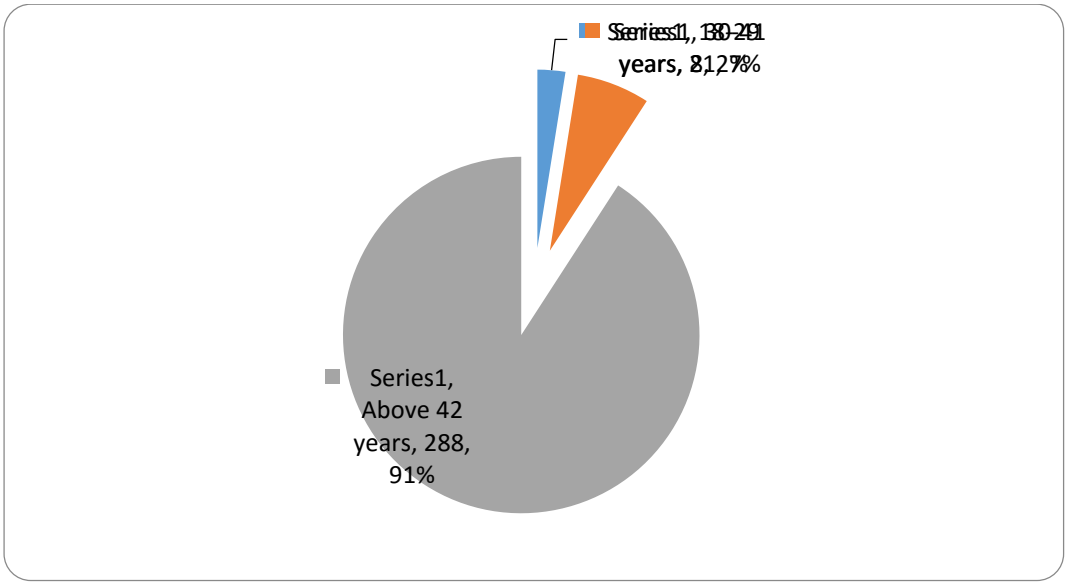
Table 1 Response rate

Data collection method	Targeted respondents	Actual responses	Percentage
Questionnaire survey	**341**	**317**	**93**
Interview	**4**	**4**	**100**
Total	**345**	**321**	**93**

Source: Primary Data (2016)

From Table 1 above a total of 341 respondents were targeted for the survey while 4 respondents were targeted for Key informant Interviews. Of the 341 respondents targeted for the survey, 317 actually responded and participated in the questionnaire survey retuning 93% response rate and all the 4 key informants targeted, all participated in the interviews returning 100% response rate. Overall, the study achieved 93% response rate which makes the study findings reliable and valid which was way above 70% as suggested by Amin (2005).

4.2.2 Age of the respondents



Source: Primary Data (2016)

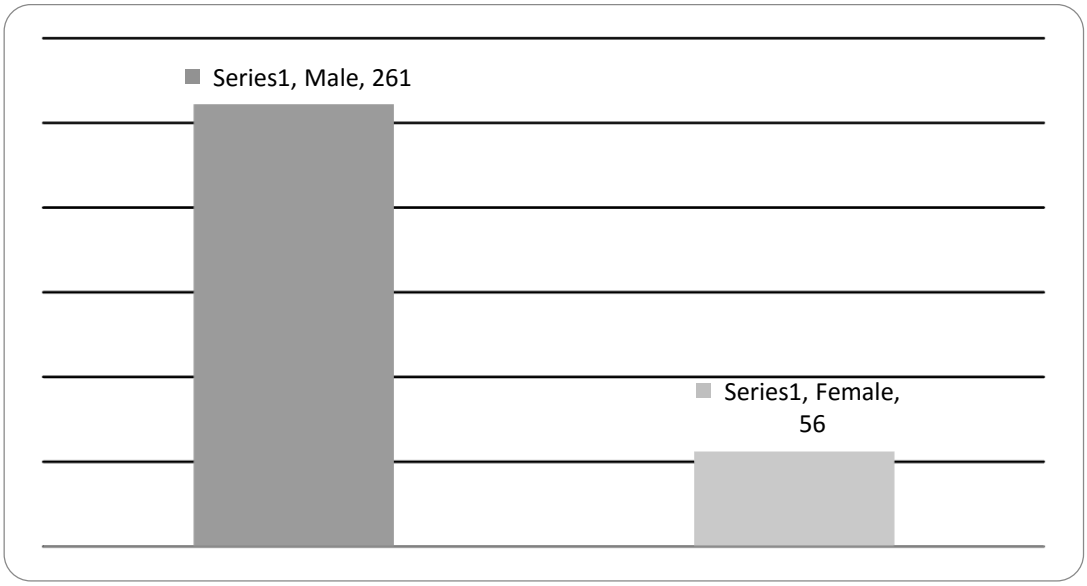
Figure 2: Age of the respondents

Figure 3 indicates the age of the respondents. Majority 91% (288) of the respondents were aged over 42 years, 7% (21) of the respondents were aged 30 – 41 years while 2% (8) of the respondents were aged between 18-29 years. This finding from the study shows that the participation of youths in agriculture is still low. As already mentioned above, the majority of the respondents were above 40 years which is a true reflection of the age of most pastoralists in the Ankole region as per the

UBOS statistical abstract (2015). Young people are increasingly abandoning farming and leaving farms to the old parents.

4.2.3 Gender of the respondents

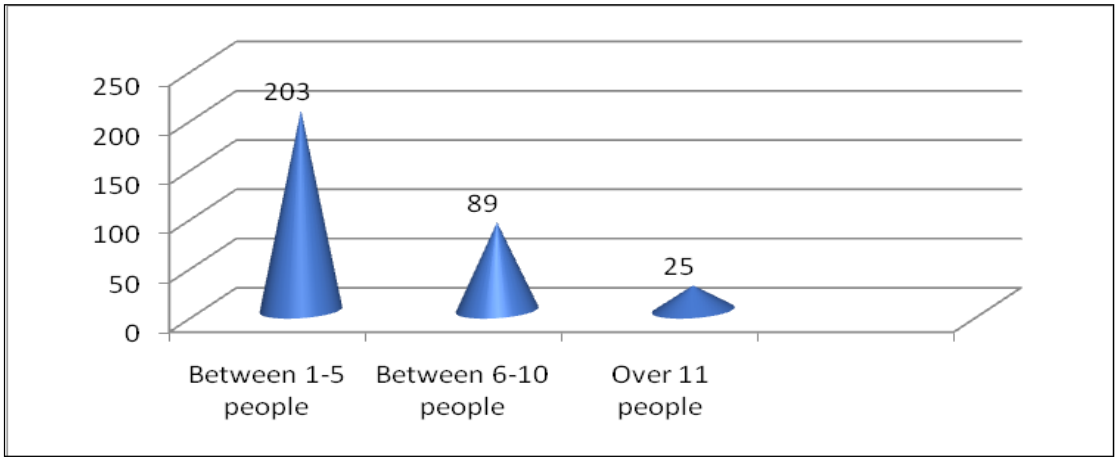
Results from Figure 3 show gender of the respondents. Majority 82% (261) of the respondents were males while 18% (56) of the respondents were females. The higher representation of males shows that they are majorly engaged in taking care of the cattle unlike their spouses.



Source: Primary Data (2016)

Figure 3: Gender of the respondents

4.2.4 Size of household at time of interview



Source: Primary Data (2016)

Figure 4: Size of household at time of interview

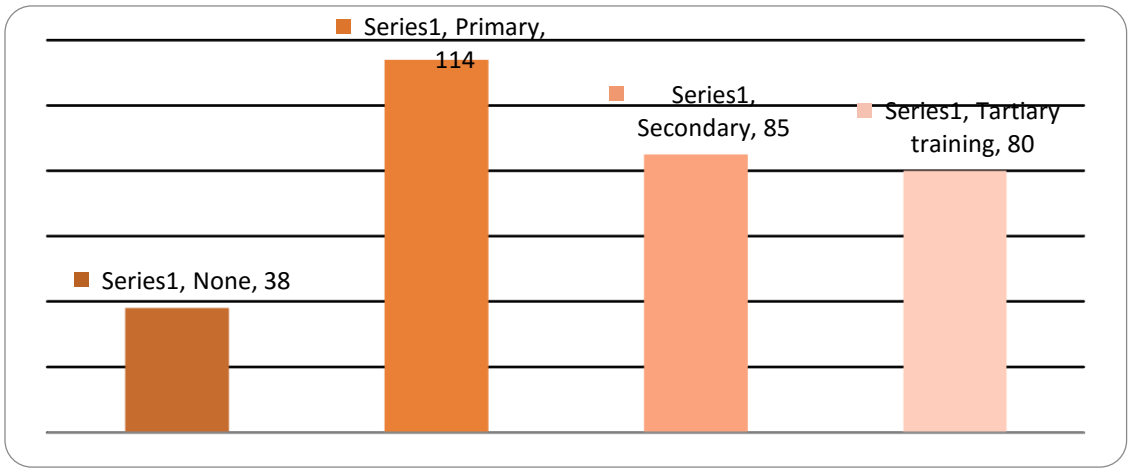
Results from Figure 4 show the respondent's household size at the time of interview. Majority 64% (203) of the respondents indicated that their household size had between 1-5 people, 28% (89) of the respondents indicated their household size as between 6-10 people while 8% (25) of the respondents indicated that their household had over 11 people.

Household size has a direct impact on the quantity of milk/milk products consumed and marketed at household level. There is a likelihood that households with a large number of dependents are not likely to participate in commercialization activities. This is in agreement with Lapar et al, (2003) who argues that the more the household members the lesser capacity to undertake agricultural commercialization. This is probably due to the fact that most of the farm output is likely to be for home consumption with little remaining for the market. This limited participation in the market due large households could be one of the hindrance factors in growth of entrepreneurship.

4.2.5 Education Level of the respondents

Results from Figure 5 show the education level of the respondents. 36% (114) of the respondents had attained primary level education, 27% (85) of the respondents had reached secondary level education, 25% (80) of the respondents had tertiary level training while 12% (38) of the respondents had no education at all. The implication of the results is that literacy levels among cattle keepers in Mbarara district are still low, a true reflection of the district performance in National Examinations (UNEB, 2015).

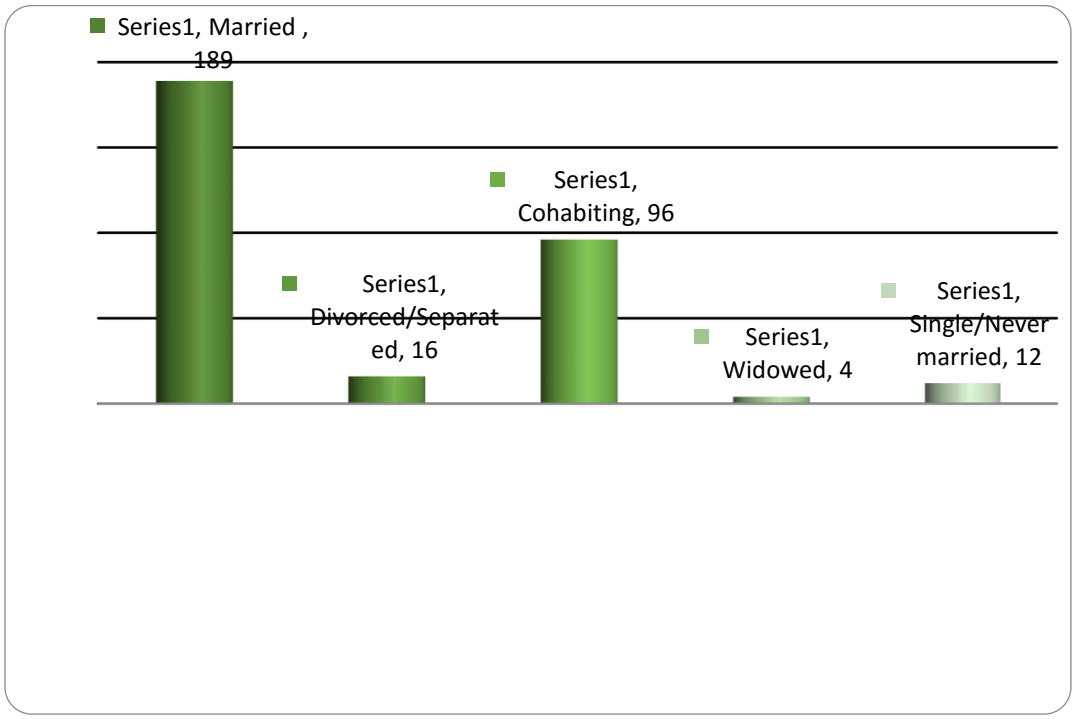
70% of the respondents had attained minimum education levels required to enable farmers become market oriented.



Source: Primary Data (2016)

Figure 5: Education level of the respondents

4.2.6 Marital status of the respondents



Source: Primary Data (2016)

Figure 6: Marital status of the respondents

Figure 6 shows the marital status of the respondents. Majority 60% (189) of the respondents were married, 30% (96) of the respondents were cohabiting, 5% (16) of the respondents were divorced or separated, 4% (12) of the respondents were single/ never married at all while 1% (4) of the respondents were widowed. The implication from the above results is that Mbarara district has all forms of marital status that exist in an African setting.

4.3 Empirical Statistics

4.3.1 Market information access by Farmers

Table 2: Access to market information and Source of information

Do you get market information about prices and demand conditions of diary outputs? ***** If yes, indicate the main source of information **Cross tabulation**

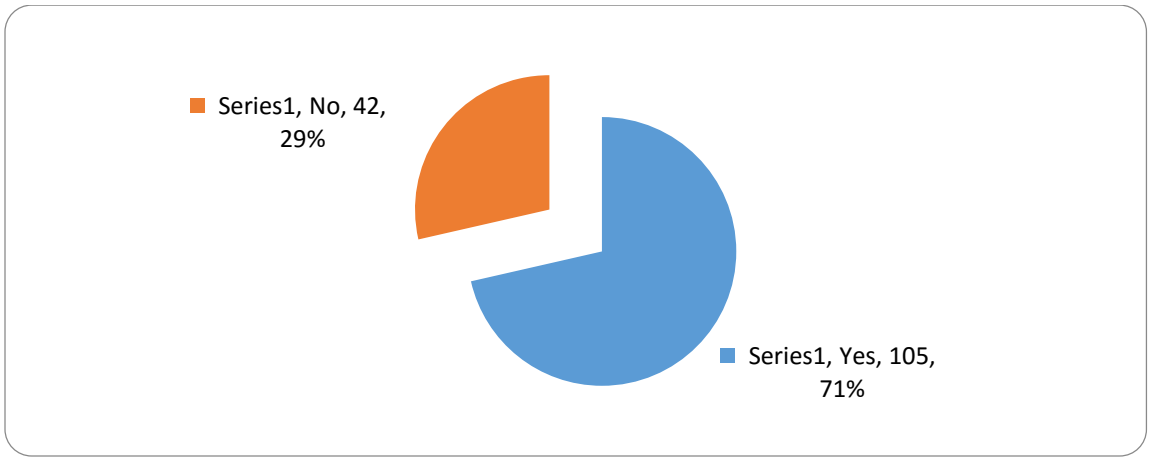
		*If yes, indicate the main source of information					Total
		Newspapers	Fellow farmers	Processors	Cooperatives/ Union	Radios	
Do you get market information about prices and demand conditions of diary outputs?	Yes	8 (3%)	98 (31%)	50 (16%)	147 (46%)	14 (4%)	317
Total		8	98	50	147	14	317

Source: Primary Data (2016)

Results from Table 2 indicate that all 100% (317) respondents get some kind of market information about prices and demand conditions of diary outputs. The results further indicate the main sources of market information. 46% (147) of the respondents indicated that their main source of market information was through the union, 31% (98) of the respondents indicated fellow farmers as their main source of market information. 16% (50) of the respondents indicated processors, 4% (14) of the respondents indicated Radios as their main source of market information while 3% (8) of the respondents Newspapers as their main source of market information. The implication from the results is that majority 54% (170) of the respondents' access market information from other various sources outside the UCCCU. This further indicates that UCCCU does not reach the reach majority of the farmers in Mbarara district with timely and appropriate market information. This finding

could be true given the fact that the cooperatives are currently in the phase of re-building themselves since they had been banned for close to three decades.

On whether, after the Union market information provision to the farmers improved their price of the dairy products, majority 71% (105) of the respondents agreed that the union market information provided improved the price of the dairy products while 29% (42) of the respondents disagreed that the price improved as seen if figure 7 below.



Source: Primary Data (2016)

Figure 7: Whether union market information provision improved prices

Results from Figure 7 show how the union market information help reduce transportation costs of the farmers. Majority 52% (165) of the respondents indicated that the union provides milk trucks that collect milk from collection centres, 31% (97) of the respondents indicated that the union set up milk collection centres while 17% (55) of the respondents indicated collective marketing. The implication from the results is that farmers have been able to reduce on transport costs by providing centres for milk collection instead of farmers riding long distances to town to sell their milk products.

4.3.2 Market Information

Table 3: How union market information help reduce transportation costs

Does the Union market information help you in reducing transportation costs in relation to output markets? ***** If yes, how? **Cross tabulation**

		*If yes, how?			Total
		Set up milk collection centres	Provision of milk coolers and trucks	Collective marketing	
Does the Union market information help you in reducing transportation costs in relation to output markets?	Yes	97 (31%)	165 (52%)	55 (17%)	317
Total		97	165	55	317

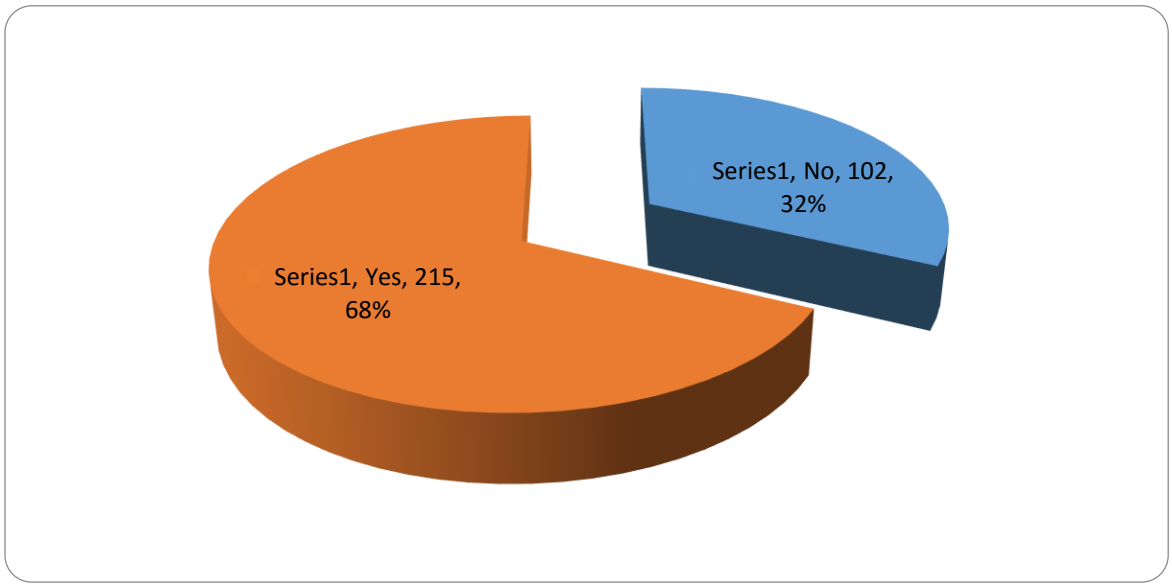
Source: Primary Data (2016)

Results from Table 3 show the responses on whether the union provision of market information help farmers reduce transportation and other market costs. Majority 52% (165) of the respondents agreed that the union has helped them to reduce market costs through provision of milk collection coolers and trucks where farmers and milk vendors deliver the milk, 31% (97) of the respondents agreed that the information is vital in that they have now set up milk collection centres while 17% (55) of the respondents agreed that they information has been useful in helping farmers to market collectively. Collective marketing has enabled farmers to play a more pro-active role in marketing their milk products, increased their bargaining power, promoted quality standards, lower transaction costs and transitioned them towards a more entrepreneurial mindset. The implication is that the union has tried its level best in improving the livelihoods of the milk famers by providing

coolers and trucks that has reduced the spoilage and the long distances trekked by farmers before the revamping of the union.

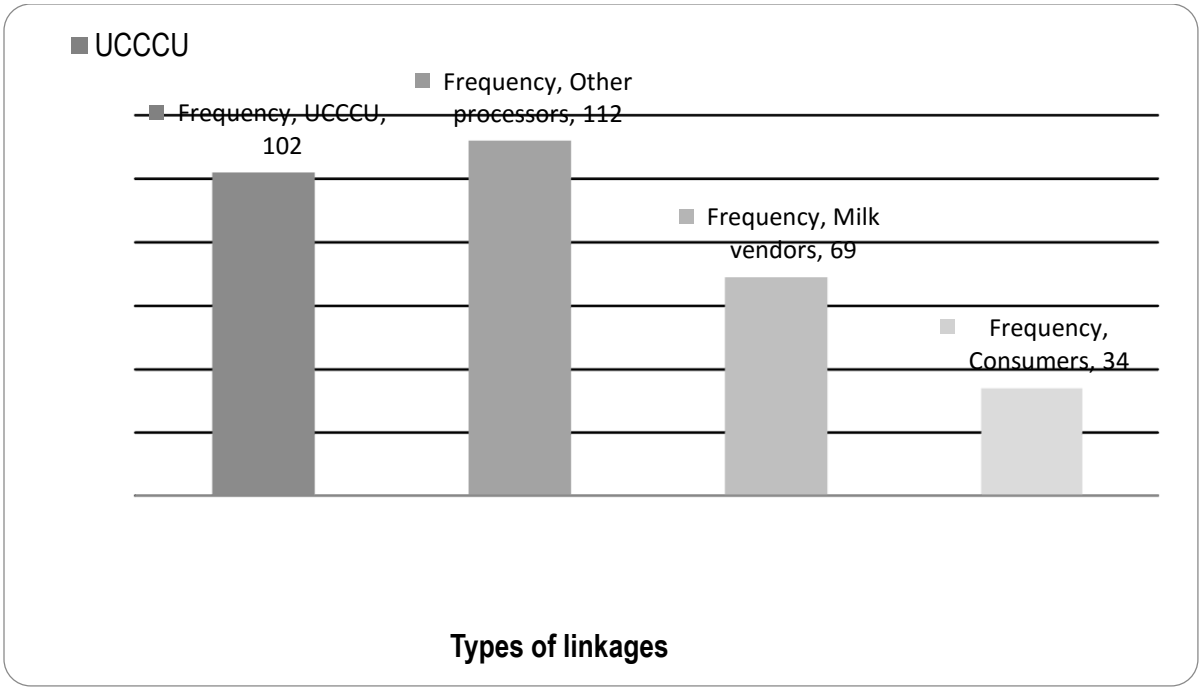
4.3.3 Market Linkages by Farmers

Results in Figure 8 show the linkages of milk farmers in Mbarara district outside UCCCU. Majority 68% (215) of the respondents indicated that they had other linkages outside the union while 32% (102) of the respondents disagreed, indicating that the union buys all their milk and as a result could not have other processors they deal with.



Source: Primary Data (2016)

Figure 8: Linkages of Milk farmers



Source: Primary Data (2016)

Figure 9: Types of Linkages of Milk farmers

Results from Figure 9 show the types of linkages some of the respondents have with market. The farmers sell their milk to the cooperatives, others directly to processors, milk vendors while other farmers sell directly to consumers. Although 35% (112) of the respondents indicated that they had market linkages with other milk processors outside UCCCU, there was a significant percentage 32% (102) of the respondents who indicated that they had market linkages and continue to sell their milk mainly through UCCCU. This high percentage of farmers that links to market through the cooperatives indicates that cooperatives are still an effective tool in helping farmers to market their milk collectively. This implies that cooperatives can continue to play a crucial role in facilitating commercialization of the dairy sector and increasing farmers' access to markets. 22% (69) of the respondents indicated that they had market linkages with local milk vendors while 11% (34) of the respondents indicated that they had linkages with local consumers. The results further

imply that majority of dairy farmers do not market their milk through UCCCU and instead sell directly to processors, vendors and consumers in Mbarara and Kampala. At the moment, UCCCU's processing plant is still under construction implying that UCCU is seen as another milk vendor by farmers thus is unable to attract all farmers. The preference by farmers to sell their milk outside UCCCU is driven by higher prices (offered by other buyers/vendors), on spot cash payments, the need for cash to cover daily expenses and the lack of a required minimum quality. It was mentioned that UCCCU pays farmers who supply milk through the milk collection centres after every two weeks.

4.3.4 Input and Output Market

Results from Table 4 show respondents knowledge about the availability of input markets within their locations. Majority 52% (164) of the respondents indicated that they had Livestock drug shops around their locations, 21% (67) of the respondents indicated seed dealers shops, 16% (52) of the respondents indicated livestock feed dealers shops, 7% (21) of the respondents indicated farm tools dealers shops while 4% (13) of the respondents indicated fertilizers shops. Respondents' further argued that because of the quality issues of the inputs supplied, as the local shops stock few products, they send or travel to Kampala to get durable and high quality products.

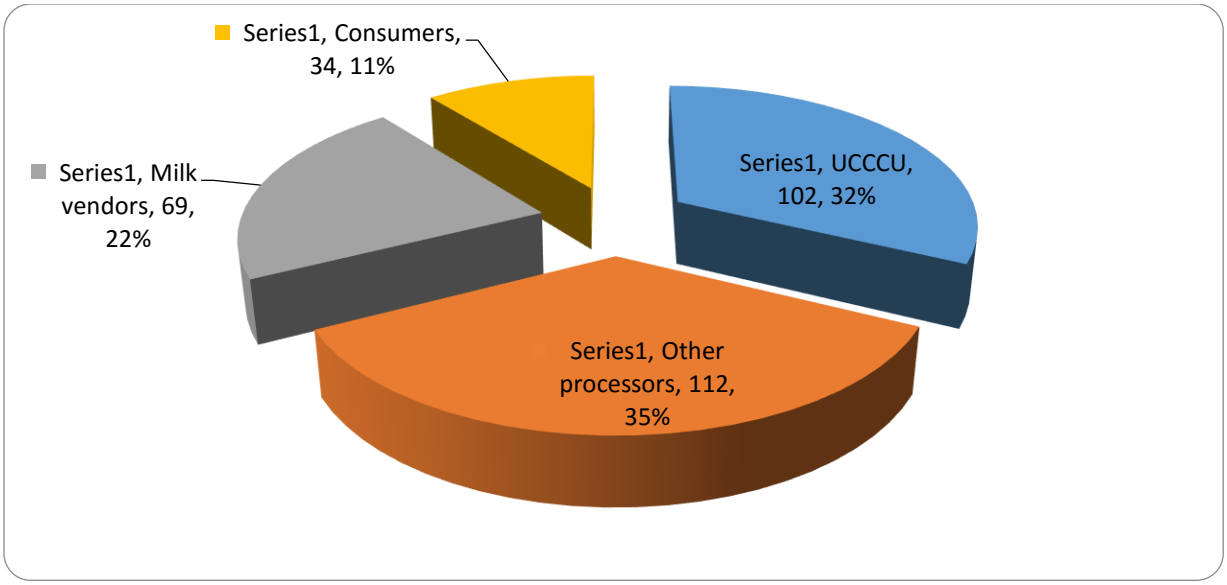
Table 4: Input markets for farmers

Do you know any input supply shop around you? * If yes, which shops? **Cross tabulation**

		*If yes, which shops?						Total
			Seed dealers	Farm tools dealers	Livestock feed dealers	Livestock drug shops	Fertilizers	
Do you know any input supply shop around you?	Yes	317	67 (21%)	21 (7%)	52 (16%)	164 (52%)	13 (4%)	317
Total		317	67	21	52	164	13	317

Source: Primary Data (2016)

Results from Figure 10 show the output market for the milk. 35% (112) of the respondents indicated that they market their milk through other milk processors, 32% (102) of the respondents indicated they market their milk through UCCCU, 22% (69) of the respondents indicated that they market milk to local milk vendors while 11% (34) of the respondents indicated that they market the milk to local consumers. The implication from the results is that because UCCCU is not yet fully established as milk processor, it is taken as a vendor of any sort as it buys milk an then resales it to other high end processors making profits on the farmers. Farmers feel that they can market their milk to anyone willing to pay the prevailing prices.



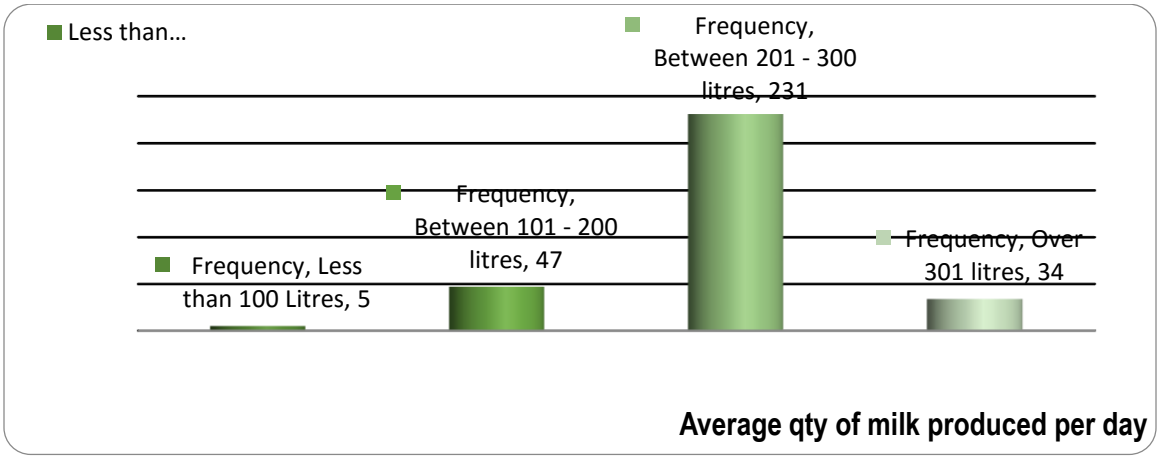
Source: Primary Data (2016)

Figure 10: Output markets for farmers

4.3.4 Quantity of Milk produced per day

Results from Figure 11 indicate the average quantity of milk produced per day. Majority 73% (231) of the respondents indicated that they produce between 201 – 300 litres a day during peak rainy seasons, 15% (47) of the respondents indicated that they produce between 101-200 liters of milk a day, 11% (34) of the respondents indicated that they produce over 301 liters on daily basis while 2% (5) of the respondents indicated that they produce less than 100 litres daily. However, the milk production declines by over 40% during the dry seasons implying fluctuations in milk supply. The increased volume in milk production indicates that there are opportunities for dairy sector commercialization. It further implies that the farmers are increasingly taking up intensive dairy production mainly through cross breeding, shifting from communal grazing to individual paddocked grazing and better feed management practices. The result further implies that majority

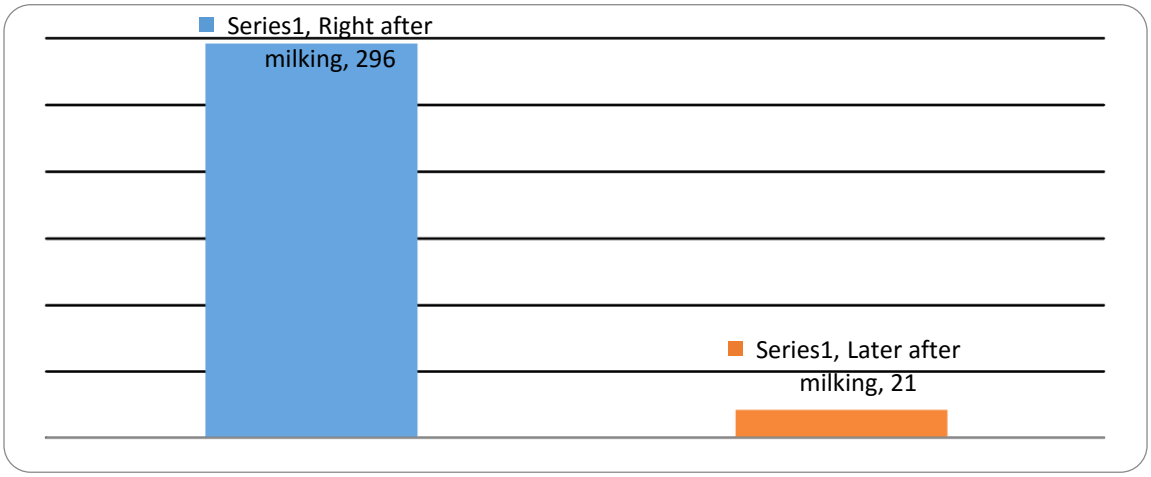
of the respondents were big commercial farmers with viable market quantities enough to generate them revenues for improved livelihoods and business expansion and diversification.



Source: Primary Data (2016)

Figure 11: Average quantity of milk produced per day

4.3.6 Frequency of Sale of Dairy Products

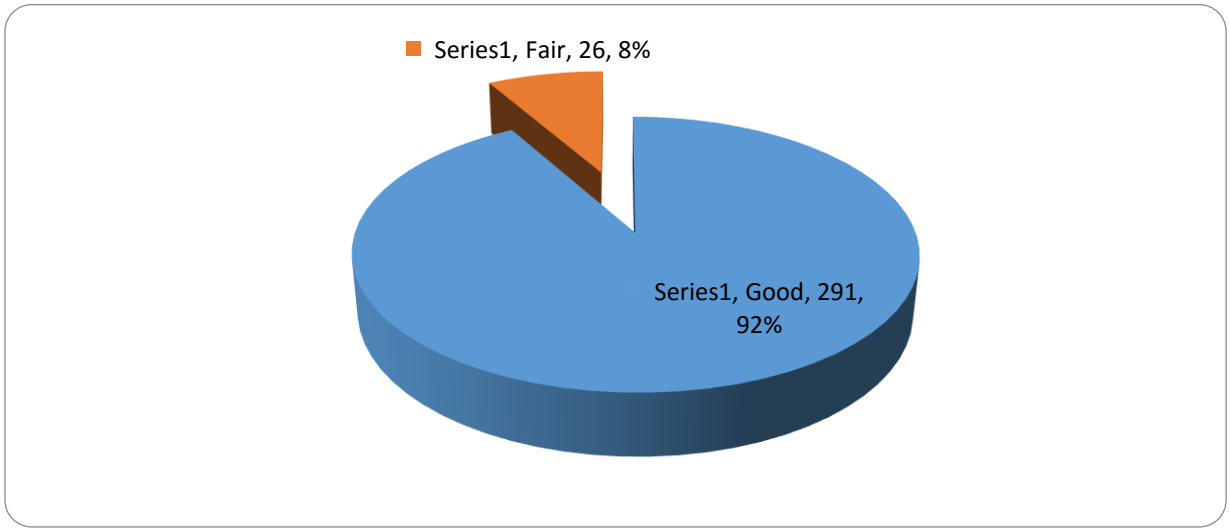


Source: Primary Data (2016)

Figure 12: Frequency of sale of dairy products

Results from Figure 12 show the frequency of sale of dairy products. Majority 93% (296) of the respondents indicated that they sale their dairy products immediately after milking while 7% (21) of the respondents indicated that they don't sale immediately after milking without giving reasons for this scenario.

4.3.6 Quality of milk produced



Source: Primary Data (2016)

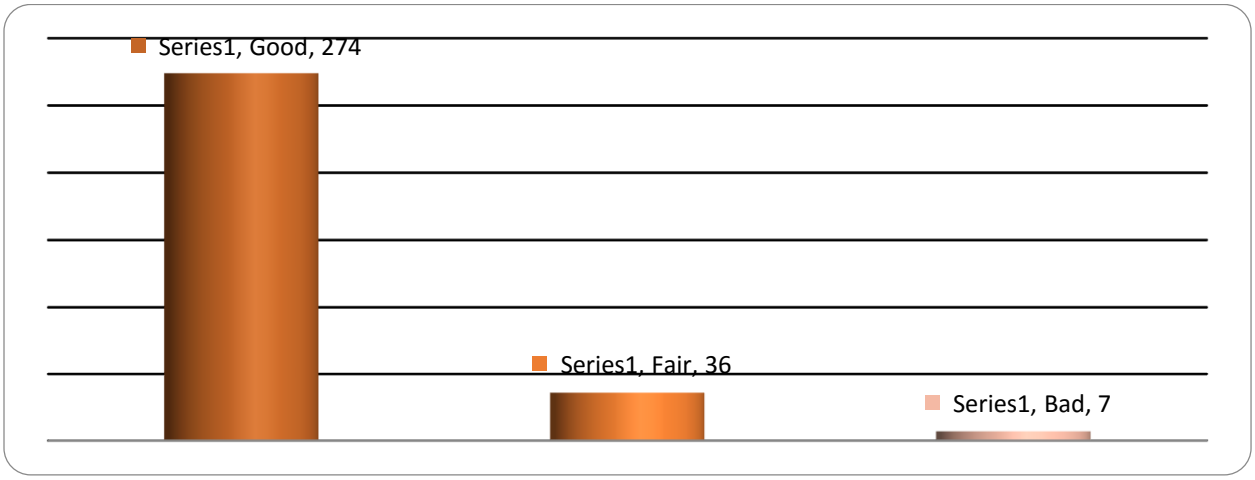
Figure 13: Quality of milk produced

Results from Figure 13 show the quality of milk produced as perceived by the respondents. Majority 92% (191) of the respondents indicated that their quality of milk produced was good while 8% (26) of the respondents indicated fair. The Union and other milk processors supplied some of the farmers with lactometers which detect the quality of the milk. It was also revealed that quality issues of the milk is taken as a last resort, as only less than 30% percent of the milk is formally marketed with the remaining joining the market informally, implying that market has

does not differentiate quality of milk like in other value chains say coffee and also milk production being not constant in supply, milk processors are looking for milk hence keeping quality issues silent.

4.3.7 Opinion on diary prices

Results from Figure 14 show responses on the opinion with regard to the foregoing milk prices. Majority 86% (274) of the respondents indicated that the foregoing prices of their dairy products was good, 11% (36) of the respondents indicated fair while 3% (7) of the respondents indicated poor prices.



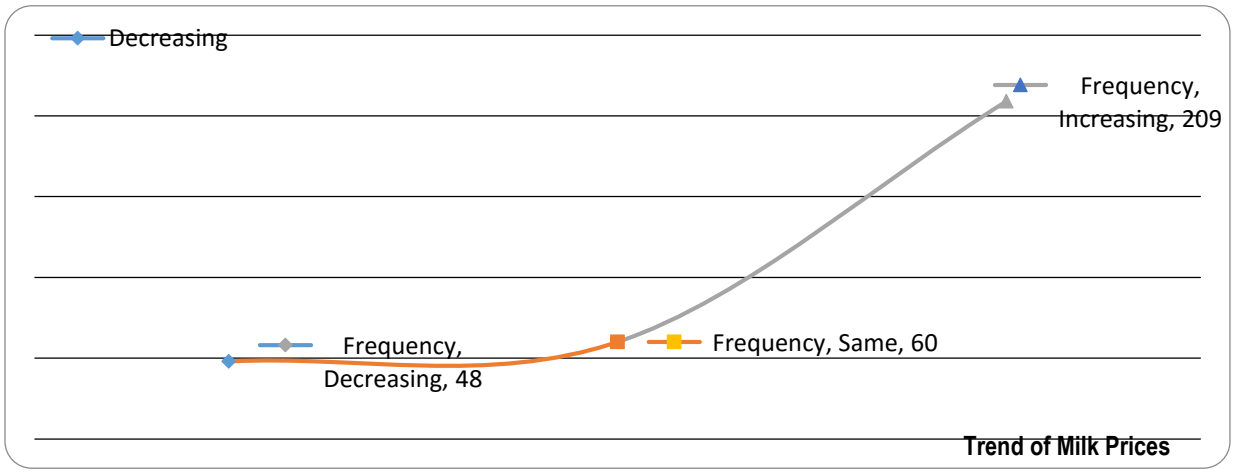
Source: Primary Data (2016)

Figure 14: Opinion on dairy prices

4.3.8 Trend of Milk Prices

Results from Figure 15 show the responses on the trend of milk prices. Majority 66% (209) of the respondents indicated that the milk price was increasing, 19% (60) of the respondents indicated that price has remained the same up to date while 5% (40) of the respondents indicated that the price was declining. A close observation of the figure show that the prices have been steadily rising

with the intervention of the Union and other milk processors which broke the monopoly of Sameer (U) Ltd which had capped the prices to cheat farmers, one time leading farmers to pour their milk in protest.



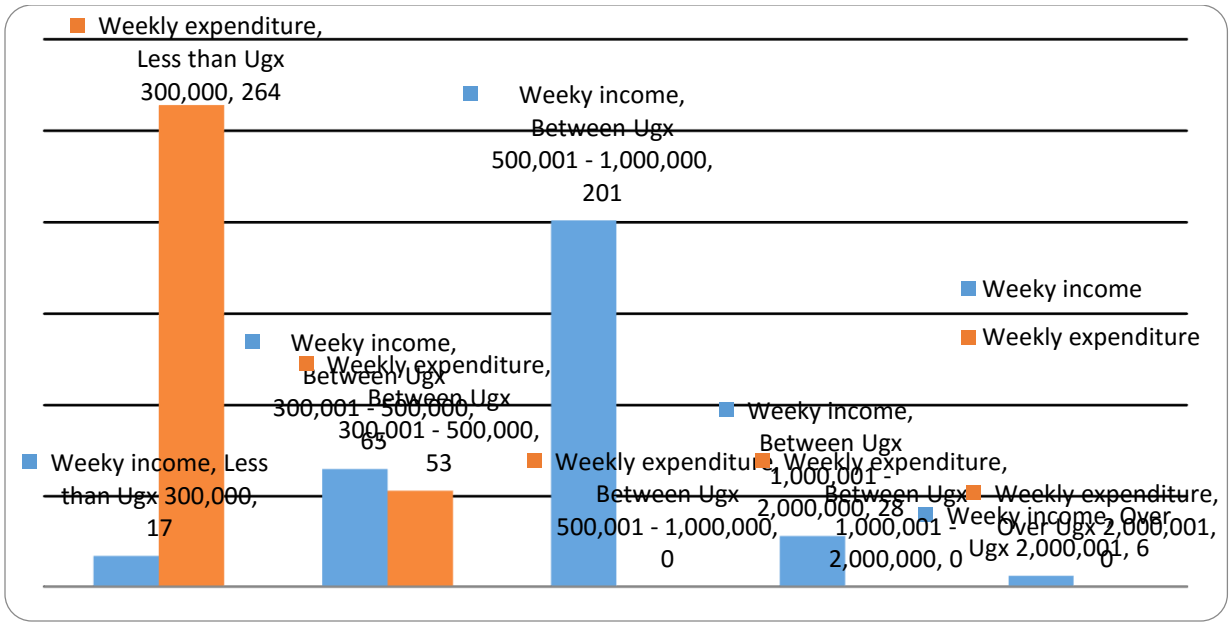
Source: Primary Data (2016)

Figure 15: Trend of Milk Prices

4.3.8 Total weekly income and expenditures

Results from Figure 16 show the weekly income and expenditures of the dairy farmers, who are members of UCCCU, Mbarara branch. Majority 63% (201) of the respondents indicated that their income range is between 500,000/= to 1,000,000/= per week, 21% (65) of the respondents indicated their income range as between 300,000/= to 500,000/= per week, 9% (28) of the respondents indicated their income range of between 1,000,000/= to 2,000,000/= per week, 5% (17) of the respondents indicated their income range of less than 300,000/= while 2% (6) of the respondents indicated an income of over 2,000,001/= per week.

On weekly expenditure, majority 83% (264) of the respondents indicated they spend less than 300,000/= while 17% (53) of the respondents indicated that they spend between 300,000/= and 500,000/= per week on their enterprise



Source: Primary Data (2016)

Figure 16: Weekly income and expenditure

4.4 Correlation Results

4.4.1 The effect of Market Information on Farmer Entrepreneurship Growth

Results from the Table 5 indicate the correlation results between Growth of Farmer Entrepreneurship and Market Information. Growth of Farmer Entrepreneurship and Market Information has a positive Pearson Correlation 0.605 and is statistically significant at 1% (0.01) with the p-value of 0.002 meaning we reject the null hypothesis that states that Market Information has no significant effect on the Growth of Farmer Entrepreneurship and accept the alternative hypothesis that states that Market Information has significant effect on the Growth of Farmer Entrepreneurship. The positive Pearson correlation 0.605 shows that a unit increase in the levels of market information provision leads to 60.5% increase in Growth of Farmer Entrepreneurship. The implication of the above results is that when the levels/forms market information such as being

receiving up to date information, having various channels to transmit information like TVs, Radios, mobile Phones etc. in Mbarara district improves Growth of Farmer Entrepreneurship.

Table 5 Correlation between Market Information and Growth of Farmer Entrepreneurship

Correlations			
		Growth of Farmer Entrepreneurship	Market Information
Growth of Farmer Entrepreneurship	Pearson Correlation	1	.605**
	Sig. (2-tailed)		.002
	N	317	317
Market Information	Pearson Correlation	.605	1
	Sig. (2-tailed)	.002	
	N	317	317
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Primary data (2016)

The study also carried out focus group discussion and interviewed key informants from Uganda Crane Creameries Cooperative Union (UCCCU) Mbarara Branch who included; the Managing Director, Heads of Marketing, Procurement and Sales on how Market Information affects Growth of Farmer Entrepreneurship within Mbarara district, they had this to say;

> *"As a union we are in just getting back to terms, you are aware that the unions in Uganda were outlawed and as a result we could not do much but right now we are reorganizing the dairy farmers in the sub region to be able to benefit them with our services that include purchasing their products, offering them loans, advisory services that include drugs, feeding and treatment of the animals,"* Revealed one of the key informants.

"We have begun producing leaflets and brochures with information on dairy management and marketing of the products with various prices based on milk grades. We also continue to advice our farmers against marketing milk or milk products individually as this come with low prices which don't benefit them," Echoed another key informant

"As a union, we continue to devise a number of channels upon which we transmit information to our clients. Any farmer who comes at the head office is given brochures and leaflets to go and share with fellow farmers, we even a have a dedicated team of sales, veterinary officers whom we send out to meet and advice farmers on the best milk handling practices," Urged another key informant.

"There is need to link to training of farmers to help them interpret and act upon that information, and to organize collectively, it can also help them to understand marketing processes more fully and to develop strategies to achieve better and more stable prices for their dairy produce. However, such information must be location-specific, timely and accurate, dynamic, and locally available and in a language understood by all of the rural population. Few government-run market information systems have adequately met the challenge of all of these requirements, however, improved communications through radios and, more recently, mobile telephones play an important part in reducing informational asymmetries," Advised another key informant

The implication from the key informant observation statements point to the fact that the union leadership has an enormous task of ensuring that information access to farmers is achieved. The

provision of information on the leaflets and brochures though good channels of information flow can only be beneficial if the farmers know how to read and right, which situation does not arise when one carefully considers their education levels generally as discussed in the results section earlier and also that the distance to the union head office presents challenges of communication as transaction costs increase with frequency and all this limits the farmers entrepreneurship growth potential, unless improved.

4.4.2 Effect of Market Linkages on Growth of Farmer Entrepreneurship

Table 6 Correlation between Market Linkages and Farmer Entrepreneurship growth

Correlations			
		Growth of Farmer Entrepreneurship	Market Linkages
Growth of Farmer Entrepreneurship	Pearson Correlation	1	.710**
	Sig. (2-tailed)		.001
	N	317	317
Market Linkages	Pearson Correlation	.710*	1
	Sig. (2-tailed)	.001	
	N	317	317
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Primary Data (2016)

Results from the Table 6 indicate the correlation results between Growth of Farmer Entrepreneurship and Market Linkages. Growth of Farmer Entrepreneurship and Market Linkages has a positive Pearson Correlation 0.710 and is statistically significant at 1% (0.01) with the p-value of 0.001 meaning we reject the null hypothesis that states that Market Linkages has no significant effect on the Growth of Farmer Entrepreneurship and accept the alternative hypothesis that states that Market Linkages has significant effect on the Growth of Farmer Entrepreneurship. The positive Pearson correlation 0.710 shows a unit increase in the levels of Market Linkages leads

to 71% increase in Growth of Farmer Entrepreneurship. The implication from the above results is that if farmers in Mbarara district creates more linkages with other milk processors, the prices and quality of milk and milk products will improve hence growing the business in terms of incomes received.

The study also carried out focus group discussion and interviewed key informants from Uganda Crane Creameries Cooperative Union (UCCCU) Mbarara Branch who included; the Managing Director, Heads of Marketing, Procurement and Sales on how market linkages affects Growth of Farmer Entrepreneurship within Mbarara district, they had this to say;

> *"Marketing is important success function for entrepreneurial business that is facilitated by market access. Information plays a key role in market access and is the main core of any marketing system. Market access is a major challenge to small dairy businesses due to market imperfections that can be attributed to lack of market information, lack of linkages between the actors in the supply chain, distortions or absence of input and output market, high transaction cost and high presence of milk processors intermediaries,"* Revealed one of the key informants

> *"We are also looking for bigger markets that can pay higher prices so that we link with them. You know market linkages are tricky and as an individual, you may be offered less unlike with a group or a union which have a better bargaining power. As a union we are on the lookout for bigger investors that can pay higher prices for our products,"* Observed another key informant.

"Long distances to markets in addition to poor roads which become impassable during rainy periods, make it difficult to bring dairy products to the available markets. These are major constraints for the dairy farmers in this region especially those in hard to reach and remote areas. It further reduces the capacity of processors to collect milk from remote areas; it results in high transportation costs and high transaction costs, both to buyers and sellers; and it leads to uncompetitive, monopoly markets. As you are aware, the closure of the former cooperative union market chain exacerbated this problem, leaving large numbers of farmers far from any markets. Transport costs, combined with storage constraints are particularly important for dairy farmers, who tend to trade locally in fresh and highly perishables dairy products," Advised one of the key informants

The implications from the key informant interviews point to the fact that linking farmers to bigger processors is still a big huddle. As rightly observed, marketing at an individual level is difficult but even more challenging are the group formed for purposes of collection action. Collective action means that the group looks for better markets or processors who pay higher prices for the products which then translates into increased incomes to the farmers. But this aspect is mainly not being explored, as farmers observed that the transaction costs increase with distance, unless the milk or the products are directly sourced from the farmers but again access to the farmer households remains a challenge.

4.4.3 Effect of Input and output markets on Farmer Entrepreneurship Growth

Results from the Table 7 indicate the correlation results between Growth of Farmer Entrepreneurship and Input and output markets. Growth of Farmer Entrepreneurship and Input and output markets has a positive Pearson Correlation 0.501 and is statistically significant at 1% (0.01)

with the p-value of 0.009 meaning we reject the null hypothesis that states that Input and output markets has no significant effect on the Growth of Farmer Entrepreneurship and accept the alternative hypothesis that states that Input and output markets has significant effect on the Growth of Farmer Entrepreneurship. The positive Pearson correlation 0.501 shows that a unit increase in the levels of Input and output markets leads to 50.1% increase in Growth of Farmer Entrepreneurship.

Table 7 Correlation between Input and output markets and Farmer Entrepreneurship growth

Correlations			
		Growth of Farmer Entrepreneurship	Input and output markets
Growth of Farmer Entrepreneurship	Pearson Correlation	1	.501**
	Sig. (2-tailed)		.009
	N	317	317
Input and output markets	Pearson Correlation	.501**	1
	Sig. (2-tailed)	.009	
	N	317	317
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Primary Data (2016)

The study also interviewed key informants from Uganda Crane Creameries Cooperative Union (UCCCU) Mbarara Branch who included; the Managing Director, Heads of Marketing, Procurement and Sales on how input and output markets affects Growth of Farmer Entrepreneurship within Mbarara district, they had this to say;

"The input traders are all over the district; almost all parishes have traders providing inputs for dairy farmers. Our only concern, as a union is the counterfeit products on the

market. We have continued to advice the concerned authorities on surveillance of some of the input dealers and if necessary certify them to ensure that the products they sell are of high quality for our animals," Urged another key informant

"As a union, we provide the market for their milk and other milk products at competitive prices. We may be seen offering the prices which to some farmers might look low but we follow the market price trend and pay a "fair" price but as we expand our processing plants and acquire more advanced technology and equipment, we hope to stabilize the price of the dairy products and farmers will "smile" dealing with this union," revealed another key informant.

"We are expanding our processing facility, when completed, we expect the demand of the dairy products to increase and this might increase farmers' incomes which may lead them to expand their activities, if this cycle, continues, then farmers entrepreneurship spirit is bound to improve. One of our objective as a union to ensure improved livelihoods amongst dairy households in the sub region," Observed another key informant.

"In this region, the commercial firms that have replaced the government input distribution cooperatives have only a limited retail network and are only starting to develop their networks of agents. To the extent that the inputs get to the rural communities and the range of coverage is often still limited and the costs are considerably higher than before. This is the result of the removal of the subsidies on agri-inputs, high transport costs, lack of

competition among distributors, and farmers' lack of ability to negotiate favourable terms," Revealed another key informant.

The implication from the above information key informant interview is that farming communities in Mbarara district need to be on the lookout on the type of products they purchase from the input dealers/markets. If they procure counterfeit drugs or feeds, they may end up losing their enterprises. To this end, a call for surveillance from the agencies concerned with ensuring quality products are sold on the market can't be overemphasized which means all stakeholders should be involved in ensuring that quality products are supplied to farmers to enhance their chances of breaking the poverty cycle and graduate to worthwhile business entrepreneurships.

4.5 Regression analysis

Table 8 show the Model summary of the regression

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.701[a]	.652	.548	2.02476
a. Predictors: (Constant), mktinfo, mktlink, inputmrkt				

Source: Primary Data (2016)

Model summary table interpretation

The above summary table on regression results offers the information about the regression line's ability to explain the total variation in the dependent variable. In this study, the independent variables were Market Information, Market Linkages and input and output market while the dependent variable was Growth of Farmer Entrepreneurship. The regression model provides an

explanation for the proportion of variation attributed to the dependent variable in comparison to the total observed variation. The variation attributed to the dependent variable can be computed by its variance which proportion varies between 0 and 1 and is symbolized by R^2 (R Square). Results from Table 10 show the value of R^2 as 0.548, implying that 54.8% of the total variance in Growth of Farmer Entrepreneurship has been 'accounted for', meaning that Market Information, Market Linkages and input and output Market are some of the variables that strongly contribute to Growth of Farmer Entrepreneurship in Mbarara District.

Table 11 show the ANOVA and Regression Coefficients

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	61.012	3	21.886	5.462	.001[a]
	Residual	535.667	317	2.554		
	Total	599.001	317			
a. Predictors: (Constant), mktinfo, mktlink, inputmrkt						
b. Dependent Variable: farmentrepgrowth						

Source: Primary Data (2016)

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.055E-16	.119		.000	1.001
	mrkinfo	.301	.045	.345	1.990	.008
	mktlink	.298	.055	.333	2.818	.012
	inputmrkt	.210	.061	.289	1.808	.017
a. Dependent Variable: farmentrepgrowth						

Source: Primary Data (2016)

Results from the regression analysis confirm the results in the correlation in that Market Information has a positive coefficient (0.301) and is statistically significant at 5% levels of Confidence as it has the p-value of 0.008 which is less than the 0.05 meaning that Market Information is one of the variables that contribute to Growth of Farmer Entrepreneurship in Mbarara District.

Results further show Market Linkages has a positive coefficient (0.298) and is statistically significant at 5% levels of Confidence as it has the p-value of 0.012 which is less than the 0.05 meaning that Market Linkages are contributing variables to Growth of Farmer Entrepreneurship in Mbarara district.

Results also show input and output market has a positive coefficient (0.210) and is statistically significant at 5% levels of Confidence as it has the p-value of 0.017 which is less than the 0.05 meaning that input and output market are contributing variables to Growth of Farmer Entrepreneurship in Mbarara district.

CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The last chapter looked at the presentation, analysis and interpretation of data. In this chapter, the findings of the study that were presented in the previous chapter four are discussed. Furthermore, the chapter provides the summary, conclusions from the study and recommendations, which could enhance the growth of farmer Entrepreneurship in Mbarara district.

5.2 Summary of Findings

5.2.1 Market Information and Farmer Entrepreneurship Growth

The results indicate a positive correlation (0.605) between Market information and Farmer Entrepreneurship growth. Market information and Farmer Entrepreneurship growth is significant with the p-value of 0.002 meaning that the null hypothesis is rejected and we accept the alternative hypothesis at 1% (0.01) levels of confidence. The positive Pearson correlation (0.605) shows that when access to and use of market information are effectively managed, there is bound to be growth in Farmer Entrepreneurship in Mbarara district.

5.2.2 Market Linkages and Farmer Entrepreneurship growth.

The results indicate a positive correlation (0.710) between Market Linkages and Farmer Entrepreneurship growth. Market Linkages and Farmer Entrepreneurship growth is significant with the p-value of 0.001 meaning that the null hypothesis is rejected and we accept the alternative hypothesis at 1% (0.01) levels of confidence. The positive Pearson correlation (0.710) shows that

when the levels of Market Linkages are effectively improved, there is bound to be growth in Farmer Entrepreneurship in Mbarara district.

5.2.3 Input and output markets and Farmer Entrepreneurship growth

The results indicate a positive correlation (0.501) between input and output markets and Farmer Entrepreneurship growth. Input and output markets and Farmer Entrepreneurship growth is significant with the p-value of 0.009 meaning we reject the null hypothesis and accept the alternative hypothesis at 1% (0.01) levels of confidence. The positive Pearson correlation (0.501) shows that when the levels of input and output markets are effectively improved and managed, there is bound to be growth in Farmer Entrepreneurship in Mbarara District.

5.3 Discussion of Findings

5.3.1 Market Information and Farmer Entrepreneurship growth

The study findings agrees with Limao and Venables (1999) study that observed that communities located in remote areas with poor transport and communications networks are cut off and do not benefit from existing local or national production networks. Transport, logistics and communications infrastructure are examples of network industries, which should help farmers to realize network effects.

The study is in agreement with Shy (2001) study, which emphasized that a network such as information, communication and technology network, transportation network, socio-cultural networks etc. offer opportunities of connecting industries to expanded markets. For example, these networks, if they are well established and efficient, help to enhance the country's accessibility to

world markets. Some of these networks may be physical, concrete and tangible while others may be abstract or intangible.

The study findings also agree with USAID (2015) study which pointed out that often times farmers have limited access to reliable and timely market information. As a result, they are often exploited and cheated by traders who offer them low farm gate prices. To address this challenge, Info trade makes available two applications relevant for farmers: (i) Short Message Service (SMS) information to farmers, (ii) Farm Record Management Information System (FARMIS) application for farmers, which is a computer based solution that enables farmers to keep, manage and update their farming records. When a farmer is registered to FARMIS application, he/she is able to get information on currents markets, gain access to credit services and connect with buyers and sellers of different products/inputs.

5.3.2 Market Linkages and Farmer Entrepreneurship Growth

The study findings concur with Growth Commission (2008) study which argues that the agricultural sector offers the best pathway for reducing household especially smallholder farmers. The study further observed that when farmers are connected to profitable markets, their incomes arising from agriculture are four times more effective in addressing poverty compared to other sectors.

The study findings are further supported by Growth Commission (2008) study which concluded that of recent, there has been a renewed attention to the agricultural sector resulting from improved commodity prices and new emerging markets. This growth in agricultural markets is encouraging the public and private sector to explore ways of supporting smallholder farmers to access these

markets. As global markets expand, multi-national companies are exploring opportunities of integrating farmers in Asia, Africa and Latin America in the international supply chains to meet the market demands.

On the other hand, the study findings disagree with IPCC (2007) study which argues that irrespective of the potentially high profits that can be gained from these new emerging markets, the risks associated with accessing these markets them are substantial and prohibitive. Majority of smallholder farmers are engaged in rain fed agriculture, which vulnerable to changing weather conditions and this makes it difficult for farmers to supply adequate quantities of products on a continuous basis. Companies are increasingly establishing multi-stakeholder partnerships aimed at enabling smallholder farmers to be integrated in supply chains. Through these partnerships, farmers are able to access opportunities for extensions services, agricultural credit, training services, new production technologies and market information services.

The study findings are further supported by After the Harvest (2008) study which pointed out that connecting farmers to profitable markets is critical for poverty reduction and long-term development. The study further revealed that investments by development and research institutions to increase agricultural production only without market linkages is no longer adequate. The study calls for more investments in market-oriented programs such as: value chain analysis, market trend analysis, contract farming, market standards, and quality assurance aimed at building the capacity of smallholder farmers to profitably participate in supply chains.

The study findings agree with Shriver and Abdalah (2012) study which concluded that when smallholders are linked to high value markets especially for high income enterprises such as

horticulture and coffee, the returns can be remarkable. This was confirmed by the case study of Nicaraguan farmers who were linked to high value horticulture and coffee and markets.

The study findings concur with Fujisaka (2007) study which revealed that despite the huge economic benefits generated by market based approaches and investments, access to markets may not answer all challenges faced by farmers. For example it was found out that 50% of the farmers linked to Green Mountain Coffee Roasters, experienced seasonal food shortages for a period of up to three months. This implies that linking farmers to commercial markets is not a panacea. There is need to assess farmer situations and develop options that optimize the performance of farmers for both market production food security needs.

5.3.3 Input and Output Markets and Farmer Entrepreneurship Growth

The study findings are confirmed by UBOS (2007) study which discovered that in Uganda, access to motor able roads and bus connections remain a major hindrance that isolates most communities to input and output markets. The study found out that there was a total absence of passable roads for 30% of the communities that participated in the surveyed. The study further revealed that 67% of the population survey did not have any connectivity with a bus or a taxi for passengers. Inadequate transportation facilities especially in the rural areas is a key factor that blocks the smallholder farmers from accessing profitable input and output markets, yet access to input and output markets is a prerequisite for agricultural transformation. To make it easy for the farmers to commercialize their agriculture and also enjoy the benefits of efficient and profitable input/output markets, the road networks need to be improved. This exposes them to improved services, better prices and higher incomes thus making them more competitive in the production activities.

Findings from the study findings are further in agreement with Smaling et al (2006) and Ariga et al (2006) studies which observed that revealed that fertilizer application rates in East Africa are still very low compared to the world average of 100kg/ha. For example, the average fertilizer application rate for Kenya is 30kg/ha (though highest in east Africa, the rate is still low compared to the world average of 100kg/ha. Among the East African countries, Uganda had the lowest fertilizer application rates at 1kg/ha followed by Tanzania at 5kg/ha. The low application rates were mainly attributed to the limited availability, high fertilizer prices, poor transportation services and adulteration, which lowers the quality (fake fertilizers) among others.

The study findings further find support in the UNDP (2007) study which noted that the adoption of improved inputs such as seed, fertilizer, and pesticides by farmers was on the decline and much lower than the world average. For example, the study reported that in 2006, for a given parcel of land, the use of improved seeds, fertilizers, agro-chemicals and manure was standing at only 6.3 per cent, 1.0 per cent, 3.4 per cent and 6.8 per cent respectively, implying that access to input markets is still a key bottleneck.

With regard to output markets, the study agrees with Kamara, et al (2002) findings which emphasized that inadequate and inefficient storage facilities, underdeveloped agro-processing infrastructure and poor post-harvest handling services result into huge amounts of agricultural products rotting away unmarketed.

The study findings further concur with Neven at al. (2009) work which argued that much as there were many upcoming supermarket chains spread all over in the East Africa region, still very few

farmers were able to connect and supply their agricultural products to these supermarkets. The inability of farmers to supply supermarkets was mainly attributed to: inadequate agricultural products, high quality standards demanded, failure by farmers to comply with the biosafety requirements, and failure to meet delivery schedules among others.

5.4 Conclusions

5.4.1 Market information and Farmer Entrepreneurship growth

The study concludes that Market information variables are vital components in explaining the variations in Farmer Entrepreneurship growth in Mbarara district such as expanding the channels through which information is availed to farmers, providing up to date and relevant information and ensuring that farmers put to use the information accessed through the union.

5.4.2 Market Linkages and Farmer Entrepreneurship growth

The study concludes that market linkage variables are vital components in explaining the variations in Farmer Entrepreneurship growth in Mbarara district such as access to different types of market and how frequent the farmers access these different markets. Once farmers link to various markets for their dairy products, it should help them access fair prices which in turn will greatly improve their farmer enterprises.

5.4.3 Input and output markets and Farmer Entrepreneurship growth

The study concludes that Input and output markets variables are vital components in explaining the variations in Farmer Entrepreneurship growth in Mbarara district such as availability and access to raw materials such as drugs, feeds and advice from the agro-input dealers/markets and

provision of storage facilities for the milk and milk products. Once access and use the available input and output markets, it should help them reduce on spoilage and improve the quality of the milk hence stabilizes the prices, greatly leading to an improvement in the farmer enterprises.

5.5 Recommendations

5.5.1 Market information and Farmer Entrepreneurship growth

The findings of the study clearly point out the gaps and inefficiencies existing in provision of Market information; therefore it is recommended that; the Uganda Crane Creameries Cooperative Union, Mbarara Branch should put extra efforts in research and provides market information beneficial to the improvement of the farmer enterprise. There is need to link with existing market information service providers, train cooperative members in record keeping, translate the information available to groups into their local languages and disseminate content that can be easily read and interpreted, as this will enhance uptake and use of the information to reorganize the farmer enterprises to void spoilage and improve the quality of the milk and its handling thereby attracting good prices which prices translate into income to farmers to enable them expand their enterprises.

5.5.2 Market Linkages and Farmer Entrepreneurship growth

The study recommends that there is need for UCCCU to undertake serious steps in creating and linking to bigger markets which offer higher prices for the dairy and other dairy products. This could be done through enabling research to ascertain the market availability, the prices and quality aspects issues which do greatly affect the enterprise. With the expansion of the milk processing plant almost complete in Mbarara district, there is hope that some of the challenges to market

linkages and farmers total believe in the operations of the UCCCU will be enhanced so that they dominate the market and serve the members better.

5.5.3 Input and Output Market and Farmer Entrepreneurship growth

The study established a number of challenges regarding input and output markets in Mbarara district such as availability of counterfeit goods/drugs and feed and poor storage facilities; it is recommended that, the UCCCU urgently completes the under construction processing and cooling plants to ensure that there is reduction in the spoilage tonnage of the milk and milk products and also spearhead other stakeholders in ensuring that surveillance mechanisms are in place (i) to license the input dealers in the district and (ii) stop the importation and circulation of counterfeit feed and drugs in the country.

5.6 Areas for future research

- Further research is required to "Examine the Effect of Market Linkages on Farmer Entrepreneurship growth in Southwestern Uganda."
- It is further recommended that more research to "Examine the Effect of input and output on Farmer Entrepreneurship growth in Southwestern Uganda" be carried out.

REFERENCES

After the Harvest. 2008: Motion Picture. Green Mountain Coffee. Available at: www.youtube.com/watch?v=BRodCpXdvYU

Agriterra H. (2012): Identification of livestock investment opportunities in Uganda.

Alvarez, S.A., & Barney, J.B. (2007). Discovery and creation: Alternative theories for entrepreneurial action. *Strategic Entrepreneurship Journal, 1 (1-2):11-26*

Amin, M. E (2005). Social Science research: conception, methodology and analysis. Kampala: Makerere University Press.

Ariga J, Jayne T. S, Kibaara B, Nyoro J. K (2006): Trends and Patterns in Fertilizer Use By Smallholder Farmers in Kenya, 1997-2005. Working Paper Series No. 28. Nairobi, Kenya: Tegemeo Institute.

Ashby, J., Heinrich, G., Burpee, G., Remington, T., Wilson, K., Quiros, C.A., Aldana, M., & Ferris, S. (2009): What farmers want: collective capacity for sustainable entrepreneurship. *International Journal of Agricultural Sustainability*, 7(2) 130-146

Baker, T., & Nelson, R. (2005): Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative Science Quarterly Review (50) 3:329-366*

Baron, R.A. (2006): Opportunity recognition as pattern recognition. How entrepreneurs "connects the dots" to identify new business opportunities. *Academy of Management Perspectives 20(1)104-119*

Barreira, J., Botha, H., Oosthuizen, C., & Urban, B. (2011): The entrepreneurial mindset (Book 2). Cape Town, Pearson Education South Africa (Pty) Ltd.

Barreto, H. (1989): The Entrepreneur in Microeconomic Theory. London, Routledge.

Becx, G.A., Slingerland, M.A., & Rabbinge, R. (2011): Pro poor sourcing models that enable smallholder entrepreneurship. Centre for sustainable development and food security – Wageningen University and Research Centre (WUR), The Netherlands. *Working document presented 14-6-2011 at 2nd International Conference on Sustainability Transitions in Lund, Sweden*

Diao, X and Hazell, P. (2004): Exploring market opportunities for African smallholders. Paper prepared for the 2020 Africa Conference "Assuring food security in Africa by 2020: Prioritizing actions, strengthening actors, and facilitating partnerships. Kampala, Uganda. April 1-3, 2004.

Dorward, A, Kydd, J, Morrison, J, Poulton, C, (2005): Development and Change 36(1): 1–25

EPRC (2009): A Market Research Study of the Dairy Industry in Western Uganda: Economic Policy Research Centre. May 2009.

Fujisaka, S. (2007): Coffee farmer welfare in Nicaragua, Mexico and Guatemala. Final report to Green Mountain Coffee Roasters. CIAT, Cali, Colombia

GEM Report (2011). Global Entrepreneurship Monitor (GEM) Extended Report compiled by Bosma, N., Wennekers, S., & Amoros, J.E. Entrepreneurs and Entrepreneurial Employees Across the Globe. *Babson College, Babson Park-MA, United States*

Government of Uganda (GoU), (2000). National Agricultural Advisory Development Services (NAADS), "Master Document of the NAADS Task force and Joint Donor Groups". Ministry of Agriculture Animal Industry and Fisheries (MAAIF).

Growth Commission. 2008. The Growth Report: Strategies for Sustained Growth and Inclusive Development. World Bank. Washington, DC.

Gunning J W (1992): "Anatomy of a Temporary Trade Shock: The Kenyan Coffee Boom of 1976-79," Journal of African Economies 1(2), August: 271-305

Haggblade, S. (2004): Building on success in African Agriculture. International Food Policy Research Institute. 2020 Focus 12

Hellin, J. and Higmann, S. (2002): Smallholders and niche markets. Lessons from the Andes. Agricultural research and extension network paper no 118.

Hugo S, Squalli J and Wilson K, (2006): What Explains Market Access? Economic Policy Research Unit, Working Paper Series, Zayed University

International Fund for Agricultural Development(IFAD) (2001): Rural poverty report 2001: The challenge of ending rural poverty. Rome, Italy: (IFAD). www.ifad.org/poverty/index.htm.

International Food Policy Research Institute (IFPRI) (2002): Cutting hunger in Africa through smallholder-led growth. http://www.ifpri.org/themes/aicha.htm

Industrial Policy Action Plan (IPAP) (2013): Implementation Framework for New Growth Path (NGP). Accessed on the 08 October, 2016, *URL: www.thedti.gov.za*

Intergovernmental Panel on Climate Change (IPCC) (2007): Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, Pachauri, R.K and Reisinger, A. (eds.)]. IPCC, Geneva, Switzerland, 104 pp

Johnson, A., (2005). Making Market Systems Work Better for the Poor (M4P). ADB Discussion paper No. 09. Discussion paper prepared for the ADB-DFID Learning Event ADB Headquarters, Manila. www.markets4poor.org

Jones, R., Freeman, H. A. and Le Monaco, G. (2002): “Improving the access of small farmers in Eastern and Southern Africa to global pigeon pea markets.” AgrenNetwork paper 120, ODI.

Kamara, A.B., van Koppen, B. and Magingxa, L**., (**2002): Economic Viability of Small Scale Irrigation Systems in the Context of State Withdrawal: The Arabie Scheme in the Northern Province of South Africa. Physics and Chemistry of the Earth 27, pp815-823

Kaplinsky, R. (2000): A handbook for value chain analysis. Ottawa, Canada. International Development Research Centre

Kirzner, I. (1967): Methodological Individualism, Market Equilibrium, and Market Process. Il Politico. 32: 787-799.

Kirzner, I. (1973): Competition and Entrepreneurship. Chicago: University of Chicago Press.

Kirzner, I. (1982): "Uncertainty, Discovery, and Human Action: A Study of the Entrepreneurial Profile in the Misesian System." Chapter 12 in Kirzner 's (ed.). Method, Process, and Austrian Economics. Lexington, Mass: D. C. Heath and Company.

Kirzner, I. (1993): The Meaning of the Market Process: Essays in the Development of Modern Austrian Economics, London and New York: Routledge.

Kothari C.R, (2003): Research Methodology. Wishwa Prakashari, 2nd Edition.

Kuckertz, A & Wagner, M. (2010): The influence of sustainable orientation on entrepreneurial intentions – Investigating the role of business experience. *Journal of Business Venturing, 25: 524-539*

Kuratko, D.F. (2009): The entrepreneurial imperative of the 21st century. *Business Horizons, 52: 421-428*

Kuratko, D.F., Morris, M.H., & Covin, J.G.C. (2011): Corporate innovation and entrepreneurship: Entrepreneurial development within organization, Third Edition, South-Western, Cengage Learning.

Limao, N. and Venables, A.J. (1999): Infrastructure, Geographical Disadvantage, and Transport Costs. Policy Research Working Paper 2257, the World Bank Development Research Group, Washington.

Louw A., Jordaan, D., Ndanga, L., & Kirsten, J.F. (2008): Alternative marketing options for small-scale farmers in the wake of changing agri-food supply chains in South Africa, *Agrekon: Agricultural Economics Research, Policy and Practice in Southern Africa, 47(3): 287-308*

Martyn W (2000): Trade Preference Erosion Measurement and Policy Response. Palgrave MacMillan.

Ministry of Finance, Planning and Economic Development (MoFPED) (2015): Background to the Budget, Uganda

Mugenda, O. M. & Mugenda, A. G. (2003): Research methods: Quantitative and qualitative Approaches. Nairobi: African Centre for Technology Studies.

Mugenda, A. and Mugenda, O (1999): Research Methods: Qualitative and Quantitative Approaches. Nairobi: Acts Press.

Neven, D., Odera, M. M., Reardon, T., and Wang, H. (2009): Kenyan supermarkets, emerging middle-class horticultural farmers, and employment impacts on the rural poor. World Development, 37 (11): 1802-1811.

Njuki J, Kaaria S, Sanginga P, Kaganzi E and Magombo T., (2005): Empowering Communities through Market led Development: Community Agro-enterprise Experiences from Uganda and Malawi

Nwibo, S., & Okarie, A. (2013): Determinants of Entrepreneurship Among Agribusiness Investors In South-East, Nigeria. *European Journal of Business and Management,* 5(10): 2013

Ofwono N. F. O (2009): Farmer Entrepreneurship In Uganda. Agri-Profocus Synthesis Paper,

R&AWG (2007): "Poverty and Human Development Report 2007", Mkuki and Nyota Publishers, Dar es Salaam

Schumpeter, J.A. (1949): Capitalism, Socialism and Democracy. Harper & Row, New York

Sekaran U (2002): Research Methods for Business, Skills Development. 4th Edition

Shane, S. (2000): Prior knowledge and the discovery of entrepreneurial opportunities. *Organization Science*, 11: 448-469.

Shane, S., & Venkataraman, S. (2000): The promise of entrepreneurship as a field of research. *Academy of Management Journal* 25(1): 217-226.

Schockley, E.S., & Frank, P.M. (2011): Schmpeter, Kirzner and the filed of social entrepreneurship. *Journal of social entrepreneurship*, 2(1): 6–26

Shriver, J and Abdalah, B. J. M (2012): Leveraging municipal government support for agricultural value chains in Nicaragua: Cracking the nut – attracting private sector investment to rural and agricultural markets. Baltimore, Md.: Catholic Relief Services.

Shy O Z (2001): The Economics of Industrial Networks, University of Haifa

Smaling EMA, Toure M, de Ridder N, Sanginga N, Breman H (2006) Fertilizer use and the environment in Africa: friends or foes? Background Paper prepared for the African Fertilizer Summit, Abuja, Nigeria

Uganda Bureau of Statistics (UBOS) and (2013): Demographic and Health Surveys

USAID (2015): Strengthening Market Linkages for Smallholder Rural Farmers in Uganda. A Landscape Analysis of Maize, Groundnut & Soybean Value Chains across 21 Districts

Vietor, R.H.K., & Comin, D. (2012): South Africa Stuck in the middle? *Harvard Business School Case Study*.

Venter, R., Urban, B., Rwigema, H., & Marks, J. (2008): *Entrepreneurship: Theory in practice (2nd edition).* Cape Town: Oxford University Press, Southern Africa.

Whitefield, L. (2010): Developing Technological Capabilities in Agro-Industry: Ghana's experience with fresh pineapple exports in comparative perspective. DIIS working paper. Accessed at URL: *http://legacy.intracen.org/dbms/country/CA_TitleTIS_EK.Asp?ID=41822&DS=OP&CT=288&CTNAME=Ghana&CTISO3=GHA*

World Bank, (2007). Agriculture for Development. World Bank Development Report 2008. Accessed at. *URL: http://siteresources.worldbank.org/INTWDR2008/Resources/WDR_00_book.pdf*

World Bank Report (2013). Growing Africa: Unlocking the Potential of Agribusiness. Accessed at. *URL: http://siteresources.worldbank.org*

APPENDICES

Appendix I: Questionnaire

FARMER QUESTIONNAIRE

Topic: The Effect of Market Access on the Growth of Farmer Entrepreneurship in Uganda: Case study of Uganda Crane Creameries Cooperative Union.

I am **Byaruhanga,** a student of Uganda Management Institute (UMI) pursuing a Masters in Business Administration degree. The purpose of the study is to examine "**The Effect of Market Access on the Growth of Farmer Entrepreneurship in Uganda: Case study of Uganda Crane Creameries Cooperative Union"**. I kindly request you to spare some time and complete this questionnaire. The research is purely academic, your views are of great importance and the information provided will be treated with utmost confidentiality.

Thank you

Byaruhanga (Candidate)

Name of the Interviewer: ……
Questionnaire number: …….
Survey date: …….

SECTION A. BACKGROUND INFORMATION OF THE HEAD OF HOUSEHOLD OR FARMER

1. District…….
2. Sub County…….
3. Village/Cell/Zone……
4. Farmers' age in years ……..
5. Gender of the respondent a) Male b) Female
6. Size of household at time of interview (excluding visitors)……(Numbers)
7. Highest level of education completed at school ……
8. Marital status: a) Single b) Married c) Divorced d) Widowed

SECTION B: MARKET INFORMATION

9. Do you get up to date market information about prices and demand conditions of diary outputs? Yes=1 No=0
10. If yes, indicate the main source of information……
11. After the Union information provision did you get better return/ price? Yes=1 No=0

12. Does the Union market information help you in reducing transportation costs in relation to output markets? Yes=1 No=0
13. If yes, how?
    ……

SECTION C: MARKET LINKAGES

14. Do you have any links with other milk processors or buyers outside UCCCU? Yes=1 No=0
15. If yes, with who?
16. Why do have other linkages outside UCCCU?

SECTION D: INPUT – OUTPUT MARKET

17. Do you know any input supply shop around you? Yes=1 No=0
18. If yes, which ones by category of commodities sold?
19. Do you easily get any commodity you want from the input supply shop around you?
20. Do you know any output shop around you? Yes=1 No=0
21. If yes, which ones?

SECTION E: FARMER ENTREPRENEURSHIP GROWTH

22. How much milk do you averagely produce on a daily basis?
23. When do you sale most of your dairy products? 1=Right after Milking 2=Later after Milking 3=Others……
24. Comment on the quality of your milk a) Good, b) Fair c) Bad
25. What is your opinion on the prices of Milk offered by the Union? Good = 1 Fair =2 Bad =3
26. How is the trend of your dairy income since you joined the Union? Increased=1 Decreased=2 Remained unchanged=3
27. What was your total weekly income from sale of dairy products?……UGX
28. What was your total weekly expenditure on your Livestock?.....UGX
29. Can your access to market lead to your enterprise growth?
30. If yes, how?.....
31. If no, then what can be done?
    ……

Thank you for your time and Effort

Appendix II: Key Informant Guide to Union Staff

Topic: The Effect of Market Access on the Growth of Farmer Entrepreneurship in Uganda: Case study of Uganda Crane Creameries Cooperative Union.

I am **Byaruhanga,** a student of Uganda Management Institute (UMI) pursuing a Masters in Business Administration degree. The purpose of the study is to examine "**The Effect of Market Access on the Growth of Farmer Entrepreneurship in Uganda: Case study of Uganda Crane Creameries Cooperative Union"**. I kindly request you to spare some time and complete this questionnaire. The research is purely academic, your views are of great importance and the information provided will be treated with utmost confidentiality.

Thank you

Byaruhanga (Candidate)

1. Age of the respondent in years ……..
2. Gender of the respondent a) Male b) Female
3. Highest level of education completed at school ……
4. Marital status: a) Single b) Married c) Divorced d) Widowed
5. Position of the respondent……..
6. How many households do you collect milk from?
7. What services does the Union provide to the members?
8. What are the benefits to the cooperative from these investments and services?
9. What requirements does the Union ask of her members?
10. Explain the procedure of handling milk before storage
11. How much do you pay the farmers for the raw milk per litre? And How much do you resell the milk for?
12. Does the cooperative process the milk, or do you resell to processors?
13. Explain the marketing information given to Farmers/members
14. What linkages are there for farmers to benefit from?
15. Describe the input and output markets available to farmers in Mbarara. Do you think these markets have benefited the members?
16. Comment on the quality, prices and frequency of milk purchased
17. Access to markets can help farmer entrepreneurs grow their business. Discuss this view

Thank you for your Time and Effort

Appendix III: Table for determining sample size from a given population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Source: Krejcie, Robert V., Morgan, Daryle W., (1970): "Determining Sample Size for Research Activities", Educational and Psychological Measurement, 1970.

Note: "N" is population size

"S" is sample size.