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Assessment of coffee production and trade in Uganda

DIPLOMA THESIS

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Declaration

I declare that this dissertation "Assessment of coffee production and trade in Uganda" is my original work and has not been submitted for any other award of a degree or published at any university.

Dastan Bamwesigye, Hon

SIGNATURE: -------------------------------
Date   -------------------------------

Dedication

I dedicate this wonderful piece of work to my parents, my son Veron James, my sisters and colleagues for their priceless moral support accorded to me.

Acknowledgements

Abstract

The study assesses some effects on factors on coffee production and export in Uganda, examines the economic effect of trade liberalization of the coffee subsector in Uganda, and nonetheless establishes the different types of ties used for coffee development in East African region as well. The study employed both Regression and Correlation methods to analyse the data collected from the coffee value chain, Regulators, and the farmer families. Analysis of a time series data on production, export, world prices and domestic consumption data from the Food and Agriculture Organization of the United Nations (FAO), and Uganda Coffee Development Authority (UCDA) was done using ordinary least squares (OLS). The results illustrated that coffee production and the world price index have a positive relationship with coffee exports in Uganda. Nonetheless, indicated an inverse relationship between domestic coffee consumption and exports.

The study further shows that coffee exports, domestic consumption and world price have a positive relationship with production. The research findings show that there are statistically significant relationships between Family Ties and Coffee development in Uganda (r= -0.038, p-value< 0.025 (=0.822)), Farm to Farm ties (β=-0.304, t=-2.253p<0.025 (=0.014)), and Friendship Ties and Coffee development (r= -0.222, p-value< 0.025 (=0.048)) respectively. The study recommends that the government of Uganda as a matter of urgency implement the existing coffee policies and if necessary, make some modifications to improve production and promote the product on the international markets for more competitiveness and maximum earnings.

Key words: Production, Export, world Price, Ties and value chain, Trade Liberalization

Abstrakt

Studie hodnotí účinky některých faktorů na produkci kávy a její export v Ugandě, zjišťuje ekonomické dopady liberalizace obchodu na odvětví produkce kávy v Ugandě. Zabývá se také rozdílnými vazbami v rozvoji obchodu kávou v regionu východní Afriky. Studie využívá regresní a korelační metody analýzy dat shromážděných z hodnotových řetězců, od regulačních orgánů a místních farmářů. Byla provedena analýza časových řad dat o produkci, exportu, světových cenách a domácí spotřeby získaných od Organizace OSN pro výživu a zemědělství (FAO) a Uganda Coffee Development Authority pomocí standardní metody nejmenších čtverců (OLS). Výsledky studie ukázaly, že produkce kávy a světové ceny mají kladný vliv na export kávy v Ugandě, nicméně byl zjištěn inverzní vztah mezi domácí spotřebou kávy a vývozem.

Studie dále ukazuje, že export kávy, její domácí spotřeba a světové ceny mají pozitivní efekt na produkci kávy. Výsledky výzkumu ukazují, že existuje statisticky významný vztah mezi aktivitou lokálních producentů (farmářů) a vývojem produkce kávy v Ugandě (r= -0.038, p-value< 0.025 (=0.822)), vazby mezi producenty (β=-0.304, t=-2.253 p<0.025 (=0.014)) a rozvoj produkce kávy (r= -0.222, p-value< 0.025 (=0.048)). Ze studie vyplývají praktická doporučení. Vláda Ugandy by měla naléhavě implementovat existující politiky související s produkcí a exportem kávy a zavést změny směřující ke zvýšení a zkvalitnění produkce a podporovat konkurenceschopnost na mezinárodních trzích s cílem maximalizace zisku.

Klíčová slova: výroba, export, světové ceny, vazby a hodnotový řetězec, liberalizace obchodu

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LIST OF ACRONYMS

GDP	Growth Domestic Product
ICO	International Coffee Organization
DRC	Democratic Republic of Congo
UCDA	Uganda Coffee Development Authority
UGX	Uganda Shillings
MFPED	Ministry of Finance planning and Economic Development
CAADP	Comprehensive Africa Agriculture Development Programme
DSIP	Sector Development Strategy and Investment Plan
UBOS	Uganda Bureau of Statistics
EU	European Union
LDCs	Low Developing Countries
FAO	Food and Agriculture Organization of the United Nations
UNCTAD	United Nations Conference on Trade and Development
SPSS	Statistical Package for Social Scientists
OLS	Ordinarily Least Squares
UCMB	Uganda Coffee Marketing Board

CHAPTER ONE

1.1 Introduction

The motive behind this investigation was to examine some effects on factors on coffee production and export in Uganda, assess the economic effect of trade liberalization of the coffee subsector in Uganda, but also establish the different types of ties used for coffee development in East African region. This is to say that establishing how ties like weak and strong ties such as family, and farm to firm ties like farmer and trader ties respectively impact or relate to coffee development in the east African region. The introduction equally give a brief history and location of Uganda in the East African Region as well as Africa.

This chapter gives a detailed background of the study but also the purpose, objectives, hypothesis, Conceptual Framework justification and significance of the entire study.

1.2 Background of the Study

The Republic of Uganda is a landlocked country in East Africa often referred to as the pear of Africa. It borders Kenya to the East, to the North is South Sudan, to the west the Democratic Republic of Congo (DRC), to the southwest by Rwanda, and to the south by Tanzania (Figure 1) bellow. It is the world's second most populated landlocked country after Ethiopia. The southern part of the country includes a substantial share of Lake Victoria, shared with Kenya and Tanzania referred to as the African Great Lakes region. Uganda also located within the Nile basin, and has a varied but generally a modified equatorial climate.

Uganda takes its name from the Buganda kingdom, which covers a large portion of the south of the country, plus the capital Kampala. The people of Uganda were hunter-gatherers as the main activities until 2,300 years ago, when Bantu-speaking populations migrated to the southern parts of the country with changes in the economic activity from hunting to Agriculture and Iron smelting.

Commencement in 1894, the zone was ruled as a protectorate by the British, who established administrative law across the territory. Uganda gained her independence from Britain on 9 October 1962. The period since then has been marked with sporadic conflicts, including a lengthy civil war against the Lord's Resistance Army, which has caused tens of thousands of casualties and displaced more than a million people (Baffes 2006, Hill 2007)

The official languages are Swahili and English. Luganda, a central language, is extensively spoken across the country, and numerous other languages are also spoken including Runyoro, Runyankole Rukiga, and Langi.

Figure 1: Location of Uganda in Africa and the East African Region.

Source: Google maps

The economic structure of Uganda is largely dominated by the agricultural sector like other East African economies. It is the main foreign exchange earner and the largest employers, that is, with over 60% of the entire population (Baffes 2006, Gollin, Rogerson 2010, Asiimwe 2013, Gollin, Rogerson 2014, Daniel Ali et al. 2015, Bamwesigye, Pomazalova, Tamas 2015, Bamwesigye, Pomazalova 2015, Nahanga, Bamwesigye, Darkwah 2015). However, other sectors have in the recent past come up at a high gear. The Economy has over time grown as; services sector includes the public sector has been one of the fastest growing; the services sector contributes substantially to the country's Growth Domestic Product (GDP). Between 1995 and 2010, the services sector grew on average by 8 percent in Uganda (World Bank, 2008), the highest growth rate in the region. The manufacturing sector accounts for a low percentage of GDP compared to the service sector and agriculture sector. The manufacturing sector has registered modest growth during the last decade, for instance, the sector grew on average by 6.8 percent between 1997 and 2007 (Baffes 2006, World Bank 2008, MAAIF

2011, Haloysio 2012, Asiimwe 2013, Gollin, Rogerson 2014, Bamwesigye, Pomazalova 2015, Nahanga, Bamwesigye, Darkwah 2015).

Uganda has been producing on average over 2.4% of total world production from the period 2006 to to-date. For example, during 2009, marketed production totaled 195,871 m/tones, an equivalent of 3.3 million 60-Kilogramme bags of coffee beans which consists of 153,822 tons of Robusta coffee and 42,050 tons of Arabica respectively. Inclusive, there was a decline of 14.3 percent in the quantity of coffee procured in 2010 as compared to 2009 due to a big decline (20.5%) in the production of Robusta Coffee which is more grown than in the country (Baffes 2006, International Coffee Organization, 2009, MAAIF 2010)

Uganda is ranked among the East Africa's, Africa's and worlds' main coffee producers. The crop is majorly grown in highland parts and a case in point being the slopes of mountains or mountainous areas. The main producing areas are the slopes of Mt. Elgon boarding Kenya to the East and the slopes of Mt. Rwenzori bordering Democratic Republic of Congo (DRC) to the west. The other parts of the country also grown some coffee including the North Western and West Nile parts of the country (Baffes 2006, Hill 2010, MAAIF 2010, Asiimwe 2013, Haloysio, et al. 2012, Bamwesigye, Pomazalova 2015)

Coffee farming and production employs over five million people and therefore remains one of the main sources of income and livelihood for the people especially those in rural areas. As argued by Haloysio, (2012), improved prices for coffee means that households may gain a lot in terms of a boast in their incomes, which later transforms in economic and regional development.

In terms of species, Uganda produces a variety of them but the main species are Arabica otherwise known as (Coffea Arabica) and Robusta also known as (Coffea canephora). Uganda produces wet-processed Arabica and this is mostly grown in many villages but specific on small land. Arabica coffee is grown on the slopes of Mount Rwenzori to the west bordering Democratic Republic of Congo (DRC). Furthermore, Arabica is grown on the slopes of Mt. Elgon to the east bordering Kenya and is flourishes in high altitude areas and that is why it prefers mountainous areas (Sayer, 2002, Baffes 2006, Bamwesigye, Pomazalova 2015).

Figure 2: Below: Uganda's coffee production and Export position in the East African region.

Production, and Export Quantity and value

Legend:
- Ethiopia Export Quantity (tonnes)
- Ethiopia Export Value (1000 US$)
- Kenya Export Quantity (tonnes)
- Kenya Export Value (1000 US$)
- Rwanda Export Quantity (tonnes)
- Rwanda Export Value (1000 US$)
- Uganda Export Quantity (tonnes)
- Uganda Export Value (1000 US$)
- Ethiopia Production (tonnes)
- Kenya Production (tonnes)
- Rwanda Production (tonnes)
- Uganda Production (tonnes)

Source: FOASTAT

According to Baffes 2006, Uganda Coffee Development Authority 2009, MAAIF 2010, MAAIF 2011, Asiimwe 2013, coffee production has continuously played a vital contribution in Uganda's economy as it contributes over 25 percent of foreign exchange income. Currently, many large scale farmers have come up and the sector is still improving with over 4 million household members engaged in coffee farming and production related activities. These are the very people who form the value chain that is facilitated by both weak and strong ties which bridge the gap between the farmers, buyers, Producer Organizations, Exporters, and Regulators.

In Uganda, coffee is the main cash crop and plays a leading role in the economy of Uganda, (contributing between 20 - 30% of the foreign exchange earnings). Coffee is mainly cultivated in the central and southern districts (57%), Eastern Uganda (24%) and Western Kassese (9%) and to a lesser extent, in non-traditional areas like Mpigi, Wakiso, and Rakai (10%). The major coffee growing areas are the districts of greater Masaka, Kassese, Mbale, Kamuli, and so many others (Baffes 2006, UCMB

2007, MAAIF 2010, Asiimwe 2013, Bamwesigye, Pomazalova 2015). Figure 1, shows Uganda's position in regional production, and export by quantity and value respectively giving a lead in numerous years.

Coffee continues to play a leading role in the economy of Uganda, contributing 18% of the export earnings between 2000 and 2010, despite the vigorous efforts by Government to diversify the economy. Though large scale coffee producers are gradually emerging, the coffee sub-sector is almost entirely dependent on about 500 000 smallholder farmers that have over 3million people employed in the sector. The livelihood of over 3million Ugandans is dependent on coffee production.

Over 95 % of Uganda's total annual coffee production is exported as green beans. Secondary processing, also known as export grading, transforms the clean coffee into the various coffee grades that meet the international standards. Since 1994, producer prices of coffee in Uganda follow export price trends very closely. Producers received 49-71 percent of the export price for green beans. Uganda liberalized its domestic Robusta coffee market in 1992 and since then farmers have been permitted to decide how and to whom to sell their coffee (Baffes 2006, MAAIF 2010, Asiimwe 2013)

The latest report for the year 2014/15 showed a promising results, 224,803 60-kilo bags of coffee worth US $29.78 million were exported in December 2014 only at an average weighted price of US $ 2.21 /kilo. Prices for Robusta Kiboko averaged Shs. 2,100/= per kilo at the coffee garden, green beans which is referred to as "clean" in the market at Shs.4,200 per kilo and Arabica parchment Shs.6,250 per kilo.(Uganda Coffee Development Authority 2014) which is of highest quality (Nahanga, Bamwesigye, Darkwah 2015).

1.3 Problem Statement

Coffee is a main cash crop in Uganda, and Uganda is the leading producer of coffee in Africa and second on the world market after Brazil. Coffee employs about 5 million people in Uganda on household level and this constitutes over 500,000 households, however, this number has grown over time. Despite the fact that coffee is cultivated by many people in the country, many coffee farmers still earn very low due to poor quality of output and lack of information in the market on prices and new technologies on quality improvement.

Although coffee contributes an average of more than 60% of Uganda's foreign exchange earnings for the last two decades now, and remains the biggest foreign cash earner in terms of value, although there is fluctuation in production and quality that threaten not only foreign exchange, the sector has numerous people employed in the coffee value chain that forms a network from a farmer to the exporting businessmen and companies. The network needs to be clearly identified and as well as other factors that affect production and trade in the sub sector to be supported to fill the missing gaps of quality and quantity produced hence competitiveness and development.

Therefore, it is the concern of this research study to find out whether this network of the farmers, middle men, trading companies, export companies, and the regulatory authority Uganda Coffee Development Authority (UCDA) contributes to the Development of coffee business in Uganda but also propose recommendations to policy makers for future implementation since coffee productions plays a very important role since a long network of women and men survive by coffee production and trade.

1.4 Goal /Purpose

The main goal of this study was to examine some effects on factors on coffee production and export in Uganda.

1.4.1 Objectives

1. To investigate the some effects on factors on coffee production and export in Uganda.
2. To assess the economic effect of trade liberalization of the coffee sub-sector in Uganda
3. The other objective of the study, is to investigate the different types of ties that exist in the coffee sub sector in Uganda and provide positive correlation with coffee development value chain of Uganda. The determinants will be production, price and consumption. This is because the ties directly and indirectly translate to how the above variables affect coffee development and or are affected.

1.5 Justification of the study

The success of the coffee development in Uganda is largely due to the liberalization of the sector in the 1990s which permitted many players in the business hence emanation of connections of the value chain which is mainly composed of farmers, middle men, producer organizations, large buyer companies and exporting companies, and lastly the regulators on behalf of government of Uganda, the Uganda coffee Development Authority.

The study is necessary to identify these networks, their strength, weakness and challenges that have consistently denied the farmers an opportunity to earn as high as their input or like else one in the network.

1.6 Significance of the Study

This research may benefit all the parties in entire value chain, the government of Uganda and the Uganda Coffee Development Authority to have perfect information. The research may also help the UCDA who implement regulation of the coffee sector in Uganda to advise, guide but also make decisive decisions that will improve the network especially in Knowledge sharing that will lead to improved quality and quantity produced.

1.7 Hypothesis

The main hypothesis is that the success of coffee value chain in Uganda coffee production and trade is strongly linked to the connections between different individuals / companies involved in, which we refer to as social ties.

These ties/networks play an important role in the coffee value-chain i.e. strongly linking the role played both family members and also different families in the coffee value chain from acquisition of land, seeds and seedlings, information, planting, harvesting and security of both coffee at home and the neighbor. This is because of the families feel socially owe each other an obligation i.e. social capital. Bearing in mind knowledge environment and organizational concepts, the role of human, social, and cultural capital as emphasized (Bourdieu, 1986; Coleman, 1988). Mobilization in the current organizations such families required exchange of information and cooperation. Social capital with its optimistic effects increases coordination of activities in an organization, it is also reflected in leadership, and it strengthens teamwork and learning between families and within the families themselves. Social capital being the main tenet of networking, may instinctively lead to a confusion of positive and negative effects. Individuals make up families/ organizational structures, their social capital is significant which also relates to Bourdieu´s (1986) and Coleman´s (1988) concepts.

Human interactions and social capital are further explained that they basic shape and character, their influence on social cooperation of actors in a social network (Petrusek, 2000). Gereffi & Korzeniewicz, 1994) found out that networks are so important in the success of production and other processes up to the utilization of a finished good hence worth studying further.

Families trust their members and their neighbouring families in most times as put forward by Grootaert et al (2004) and that is why they entrust them with care of their coffee especially at the drying stage. They find it comfortable to let their neighbours know that they are away and ask them to take care of their coffee in their compound and the garden hence the concept of solidarity in the community as assented by Berger-Schmitt (2000) and Berger-Schmitt and Noll (2000).

Lay et al, 2009 found out that increase in coffee production was majorly due to the cooperation at the family level/household, although they noted with concern that this development is faced with gender disparities on whom to make decisions on the incomes thus bring men to domination at the level of decision making whereas the women spouses do a lot of farm work at various levels of the garden to

harvesting and drying. Therefore the study will also find out the challenges facing the networks at the various levels as well.

1.8 Research Questions

    i.   What are the different types of ties in the coffee business?

   ii.   What roles are performed in these ties in coffee value chain?

  iii.   Who plays the biggest role in what?

  iv.   What is the role of families in the coffee and development of what?

   v.   What role is played by friends of whom in coffee value chain?

1.9 Conceptual Framework

Independent variable   **Dependent variable**

| Ties/Network/Value chain i.e. Farmers, Producer Organizations, Regulator, and Exporters |

Family members

Friends, colleagues,

Official Regulators

| Coffee Development/success.ie

Quality

Quantity

Price

Incomes |

| Information and Awareness i.e.

Financial services on the Market,

Prices on the Market,

Inputs,

Recommended farm practices |
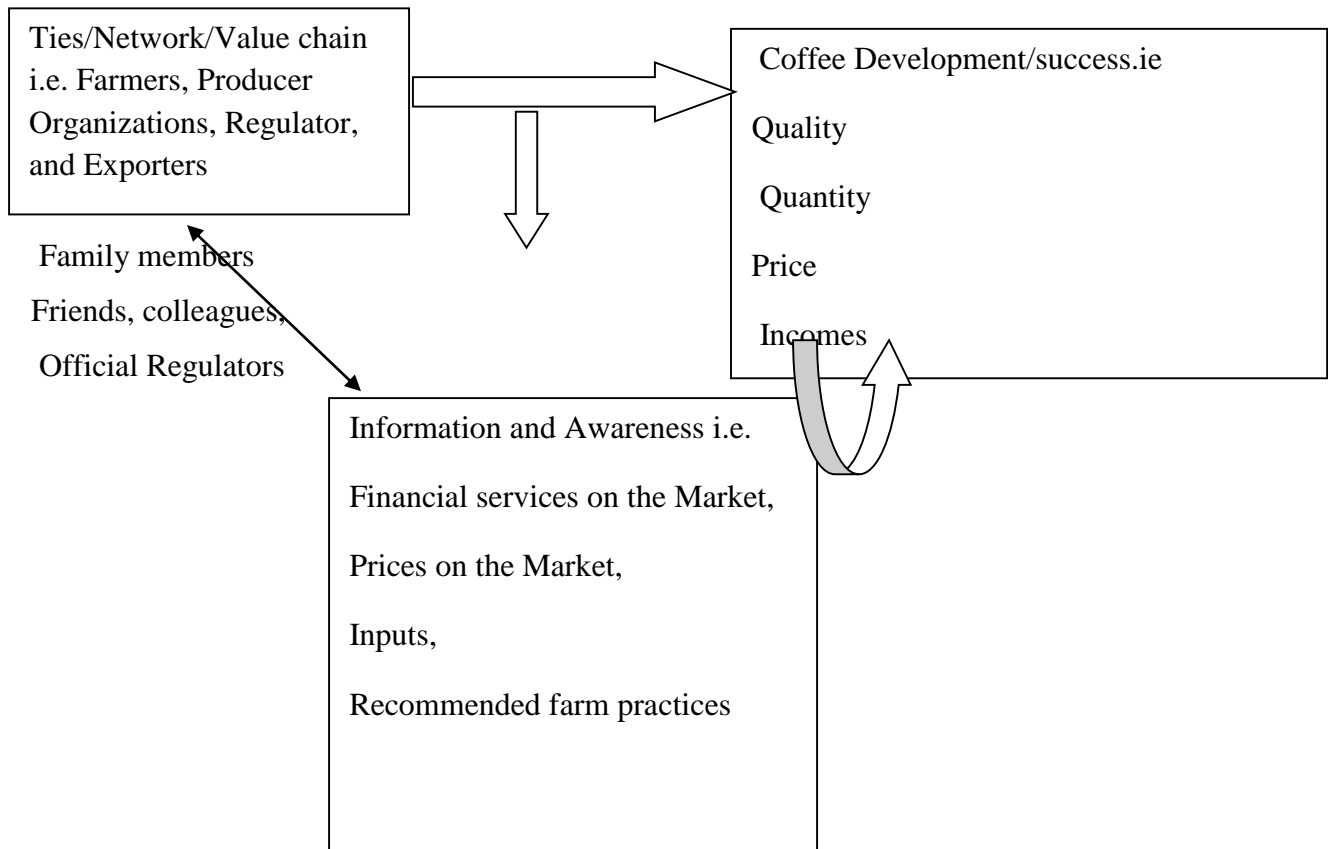
CHAPTER TWO

2.0 SURVEY OF LITERATURE

The section defines the theoretical background of the study with the focus on main tenets as; Agriculture sector performance in Uganda, coffee production and export, International trade, ties and social capital used in coffee development in Uganda and the East African region. The chapter explains the different terminologies and explores the related literature which help the study to understand the subject matter in-depth.

2.1 Agriculture production in the Economy of Uganda

The country's gross domestic product (GDP) has projected to grow at 6.2 percent within the last two years. Notwithstanding this forecast, Uganda faces three major hindrances that raise inflation, which in turn causes a depreciation of the shilling as well as increasing interest rates. In detail, by 2015, inflation had been projected to grow to 5.4 percent from 4.5 percent. The financial bodies suggested that inflation was likely to continue rising the Ugandan central bank's lending rate to 13 percent at the end of 2015 from 11 percent in 2014 which as well affects the sector. The anticipated interest rate escalation is explained by an expected swell in government borrowing and spending in 2015. The Government of Uganda net domestic borrowing has increased from 441.7 billion Ugandan shillings by July 2014, to 1,819.3 billion Ugandan shillings in September 2014 and other negative characteristic (table 1, bellow).

Such actions in any sector may compel the money flow to the private sector in 2015 and beyond. This trend is still news: A high interest rate in 2015 may reduce bank customers' ability to repay loans and scaring away others. The shortage of credit is likely to reduce the productivity of the private sector which is by and large dominated by the Agriculture and its value chain, and primary production industries, devastate/hurt the survival of small business, deny the growth of GDP and destruct/damage the competitiveness of Uganda globally. As such, numerous industry players are thoughtful of the continued use of treasury bills for government borrowing to fund non-priority sectors such as the military among others.

Table 1: The major Characteristics of the Ugandan Economy:

	1990	2000	2014
Population, total (millions)	17.38	23.76	37.78
Population growth (annual %)	3.4	3.1	3.3
Surface area (sq. km) (thousands)	241.6	241.6	241.6
Population density (people per sq. km of land area)	87	118.9	188.4
Poverty headcount ratio at national poverty lines	56.4	33.8	19.5
Poverty headcount ratio at $1.90 a day	88	52.1	33.2
GDP at market prices (current US$) (billions)	4.3	6.19	27
GDP growth (annual %)	6.5	3.1	4.8
Inflation, GDP deflator (annual %)	44.4	11.1	2.3
Agriculture, value added (% of GDP)	57	29	27
Industry, value added (% of GDP)	11	23	22
Exports of goods and services (% of GDP)	7	11	18
Imports of goods and services (% of GDP)	19	22	28
Cash surplus/deficit (% of GDP)	..	-1.9	-2.1
Tax revenue (% of GDP)	..	10.4	11
External debt stocks, total (DOD, current US$) (millions)	2,606	3,535	5,135
Total debt service (% of exports of goods, services and primary income)	82.9	10.6	2.1

Foreign direct investment, net inflows (BoP, current US$) (millions)	-6	161	1,147

Source: Data from database of the World Development Indicators

In 2014, the special effects of inflation were apparent in the speedy (12 %) depreciation of the Ugandan shilling against major currencies such as the dollar, which incited some speculation in the market as traders demanded and hoarded dollars in expectation of further depreciation. The shilling is expected to fall even further in 2015, perhaps to 2011 levels which were disastrous. There are numerous probable reasons for the depreciation of the shilling: It could be related to gains made by the U.S. dollar in the global market due to largely to the rise in U.S. employment. Actually, other international currencies have also not been spared and important to note is the Kenyan shilling which weakened since 2011 to end of 2015. The reduction of the Uganda shilling could also be associated to reduced remittances from Ugandans working abroad, increased imports and reduced commodity export on the foreign market (Hill 2010, MAAIF 2010, Asiimwe 2013, Haloysio, et al. 2012, MFPED Report 2012, Bamwesigye, Pomazalova 2015).

At the dawn of 1990s, Uganda joined other countries in Sub-Saharan Africa to initiate liberalizing the economy and leading market reforms. The same effort has deteriorated in recent years, nevertheless, and notwithstanding more than a decade of comparatively strong economic growth, the number of impoverished Ugandans has changed little as the population has doubled since 1990. The Ugandan agricultural sector is a remarkable investment opportunity for both local but also the international market, due to the stability of the country, increased investment opportunities and improved infrastructure. Furthermore, Uganda's market is considered as highly competitive and lively. It encompasses of both large and small scale agricultural and processing individuals and companies (Ministry of Finance, Planning and Economic Development (MFPED) Report 2012)

The Ugandan market entails of food crops such as plantains, cassava, sweet potatoes, millet, sorghum, maize, beans, groundnuts and sesame, yam, Bananas, and livestock and export crops coffee, cotton, tea and tobacco. Other high value crops include cut flowers and certain vegetables and fresh fruits also being exported to the international Market. The agricultural products are affected by the weather and products come from most of the regions of the country. There is high competition in the supply

market between the large scale suppliers who require warehouses, machines and the capital to finance their activities and the small scale individuals that lack machines and have to acquire loans to run their business. Occasionally, the general supply many not meet demands when the rain patterns change and this causes a scarcity both at the household level and at the market level. Business opportunities arise in the following sectors: cold-chain, warehousing, import, export and organic production (MAAIF 2010, Asiimwe 2013, and FAOSTAT 2015)

The agricultural sector alone presently employs over 60% of Uganda's working population and accounts for over 25% of its GDP (Baffes 2006, Hill 2010, MAAIF 2010, Haloysio et al. 2012, and World Bank Development Indicators 2013). Irrespective of the sector's clear significance to poverty reduction, comprehensive economic growth and food security, agricultural productivity rises have slowed down in recent years below the population growth rate (3.2%), below the Comprehensive Africa Agriculture Development Programme (CAADP) target (6%). To address weakness in the sector, the government launched the 5 year Agricultural Sector Development Strategy and Investment Plan (DSIP) in 2010, which targeted advances in rural household incomes, malnutrition, food security and its components of access, and availability (MAAIF 2010, Asiimwe 2013, Gollin, Rogerson 2014, Daniel Ali et al. 2015).

Figure 3: Sector contribution to the GDP of Uganda
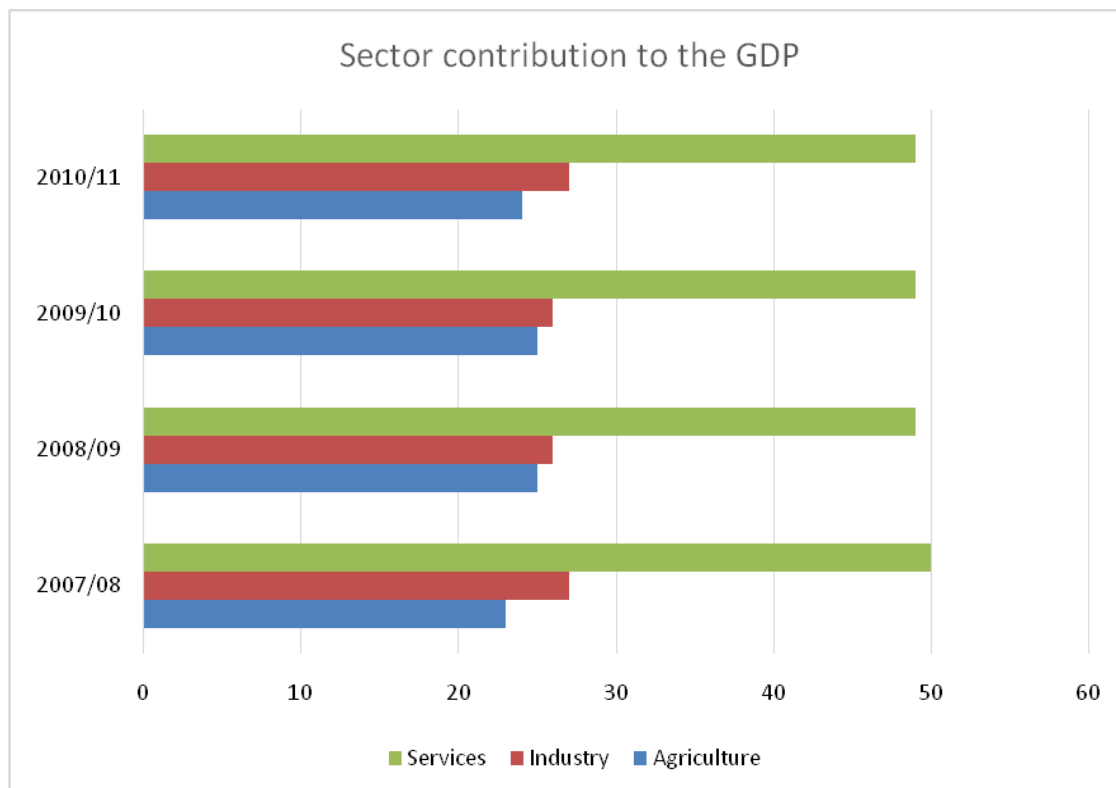
Source: Ministry of Finance, Planning and Economic Development (MFPED) 2012

The fact that majority people of Uganda obtain their livelihood from agriculture and as well as the country's foreign exchange earnings are predominantly agriculture-based as reflected the importance of the sector as Information from various sources of the national data banks such as the Ministry of Agriculture Animal Industry and Fisheries, Ministry of Finance, Planning and Economic Development (MFPED) indicate that agriculture is arguably the most important sector of the Ugandan economy. It contributes up to over 25 % of GDP, accounted for 48 per cent of exports (UBOS, 2008) and offers a large proportion of the raw materials for industry. Food processing alone accounts for over 40 percent of total manufacturing sector. The sector also employs 73 % of the population (UBOS, 2008). Research shows that agriculture will be the key determinant in Uganda's efforts to reduce poverty in the years ahead, given that agriculture is the largest employer in Uganda. Subsequently many years in which agriculture has been sidelined in the development debate, there is a new recognition across the world of the vital role agriculture plays in economic growth and poverty

reduction. According to the World Development Report on agriculture (World Bank, 2008). The agriculture sector in Uganda has performed well, growing at an average 3.8 %. Uganda's long-term agricultural growth trend has been remarkable. This long and sustained period of growth earned Uganda the distinction of being one of the most successful countries in terms of achieving high rates of poverty reduction. It has also demonstrated the success of the policy framework adopted and maintained by Uganda and conducive macro-economic policy environment with a clearly progress with stabilization and market liberalization (Bamwesigye, Pomazalova 2015, Nahanga, Bamwesigye, Darkwah 2015).

There has been remarkably re-planting of coffee, which has enabled mitigation of effects of coffee wilt and increased the country's coffee production exports and earnings. Regarding tea, five new factories were established, increasing the number of tea factories in the country to 28. Today, Uganda is a net exporter of sugar and six new factories have been set up. Milk production now stands at 2 billion litres annually up from 1.5b in 2010. (Baffes 2006, Nahanga, Bamwesigye, Darkwah 2015). The food crops sector, which accounts for over 50 per cent of agriculture, forestry and fishing sub-sector, grew by 1 % due to inadequate productivity improvements in the sector nonetheless, it was an improvement over the previous year. The fishing sub-sector grew by 2 per cent due to efforts towards illegal fishing, which was a slight improvement over the previous year though far lower than the growth rates realized in earlier years. Overall, the better performance of the agriculture sector was due to increased production in cash crops, food crops and fisheries sub-sectors from many small-holder farmers in response to high farm gate prices and favorable rainfalls (MAAIF 2010, Asiimwe 2013).

2.1.1 Gender Distribution in Agriculture

Women create the mainstream of Uganda's agricultural labor force (53%) i.e. in the gardens, post-harvest activates, and a higher percentage of female workers are engaged in agriculture (76%) than are male workers (62%). Thus the gap in productivity between male and female managed plots is of meaningful concern both to GDP growth and to the distribution of income between men and women (MAAIF 2010, Daniel Ali et al. 2015). Generally agriculture is done by the women at the different levels.

According to 2003 cross section study in 8 of Uganda's 111 districts, (Peterman et al. 2011, Daniel Ali et al. 2015) estimate the size of the raw gender gap/the difference in mean value of crop production per acre amongst female and male farmers for these areas to be 50% and above.

Figure 4: Ratio of female to male labor force participation rate (%)
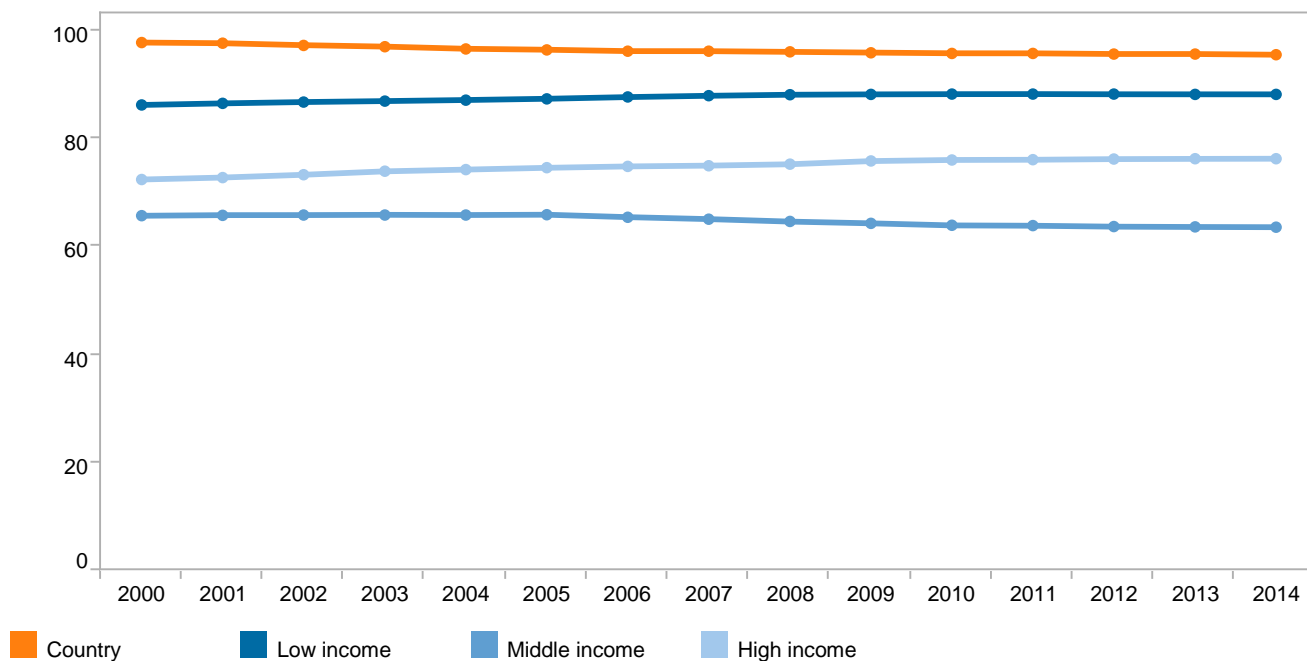
Source: World Bank

2.12 General Agricultural Production of Uganda.

2.13 Coffee production and International trade/Trade liberalization in Uganda.

Liberalization of coffee trade in Uganda – Global perspective of trade liberalization

Trade liberalization refers to opening markets to rational cooperation, i.e. less market misrepresentation and cheating so as to benefit consumers, workers and firms. It also leads to growth through opening of national markets to international trade i.e. investment and trade as defined by the OECD. Trade liberalization in Agriculture is a subject of multilateral and global trade negotiations since the Uruguay Trade Round (1986 to 1994). Trade liberalization is a subset of international trade that reflects on how the global market should operate without alterations i.e. Mutual benefit from both trading countries (Ricardo 1817). Agriculture remains one of the most critical/significant issues of the compromise due the distorted sector at international trade (Cornish, Fernandez 2005). Their study showed that the main aim of trade liberalization was to develop trade policies on rural development, investment in Agriculture and development, and policies on price and market access which would help ease trade globally (WTO 2013, Bamwesigye, Pomazalova 2015).

The Uruguay Trade Round (UTR) is a continuous advance of the General Agreement on Tariffs and Trade (GATT) which were established in office in the 1947 in Geneva and whose main objective was arrangement of global trade negotiations and agreements, and trade rules of the international market as suggested by Smith (1776) in his book causes of the wealth of nations. This is because international/global trade requires a structure of regulations/requirements that direct the trading nations to meet their mutual benefit/obligations and also to be effective in global market.

The UTR led to the creation of the WTO in 1995, which led to prominent decrease in tariffs (close to 40%), agricultural subsidies, and an agreement to allow full access to agriculture products from Low Developing Countries (LDCs). This is because the Most Developed countries (MDCs) such as the European Union (EU) states had taken advantage of the market leading to distortions which worsen the economies of Low Developing Countries (LDCs). Oxfam 2005, Bamwesigye, pomazalova 2015, suggested that the EU end export subsidy which appears to be the leading cause of market distortion for the LDCs by causing disastrous effects on small scale farmers. Therefore, trade liberalization most

benefits from comparative and absolute advantages, which are greatly facilitated by these dialogues, which are still struggling to iron out exploitations to meet mutual benefit for the participating countries.

Coffee Sub sector Liberalisation in Uganda

After spans of complete state control of the sector, the coffee industry was fully liberalized in 1991/1992, and is currently entirely in private hands and run by market forces. However, export quality control remains the obligation of the Uganda Coffee Development Authority (UCDA) that grades, and classifies all export shipments (Uganda Coffee Development Authority 2011).

Both internal and export selling are regulated through the Coffee Regulations 1994, a statutory instrument (Uganda Gazette 1994), stipulates/states the requirements/necessities which have to be met including slightest standards of coffee traded at all post-harvest levels within the coffee supply chain (Uganda Gazette 1994). The laws provide for registration of players dealing in internal and export marketing and trade of the coffee, inspection and quality control including issuing of quality certificates, grade analysis, mode of coffee export transactions, and publication of suggestive prices of numerous grades of coffee to all stakeholders in coffee trade among others (Bamwesigye, pomazalova 2015).

The government of Uganda under the UCDA and the local governments in 1998 entered into arrangement to allow local councils to collect registration fees from coffee buying stores, which would be exploited to improve coffee at the farmer and grass root levels. This is because originally, it was the coffee co-operatives that licenced by the government to do both control and trade of the whole sector, thus determined favourable prices for themselves than the market forces hence limiting farmer and individual participation in decision making in the market and competition respectively (Baffes 2006, Musumba, Rajorshi 2013). Uganda eliminated all tariffs on coffee trade, except 1% as a fee on all coffee exports to be paid to UCDA. Given this reflection, it is vital to argue that exporters of Uganda's coffee trade are largely regulated by the importing countries for instance.

Coffee production, Consumption and Marketing in Uganda since Liberalisation in 1991

Uganda is led by the agricultural sector and the major employer and also earns foreign exchange. However, other sectors have grown-up rapidly. Among other sectors are services sector includes the

public sector is fastest growing; it contributes considerably to the country's GDP. Coffee has continued to play a primary role in the agriculture sector and economy of Uganda, contributing over 18% of the export payments over decades. The coffee subsector has grown through its value chain and employs over 5 million people accounting for over 500,000 households. Over 95% of the total annual coffee produced per year is exported as green beans (Bamwesigye, pomazalova 2015).

Agriculture remains the greatest sector at centre of the Ugandan economy (MAAIF 2010). It contributes up to nearly 26 percent of GDP (UBOS 2008) and is the stronghold of the downstream industries. Agro-processing industries alone accounts for 40 percent of total manufacturing. Agriculture plays a leading role in determining in the country's road map to reducing poverty in the previous years. However, low productivity persists due to limited inputs, un-organised value chains, and low public and poorly financed sector (Bamwesigye, pomazalova 2015). The sector is not fully financed especially at the upstream where production and the quality would really need support such that farmers can be able to purchase inputs such as improved seeds, labour among others to boost production.

Uganda is among the largest producer of coffee ranking fourth after Brazil, Ethiopia and Honduras in terms of contribution of coffee exports in total export earnings for the last two decades with an average share of over 18%. The post 1997 coffee world price decline has had a negative effect on production and exports (Baffes 2006). Nevertheless, production kept declining even when prices recovered until 2006 and has recently been deteriorating. Although there is a significant decline in quantity exported, coffee export earnings in 2010 went up by 13.1 percent as a result of higher global prices, there was an overall 14 percent decrease in the quantity of coffee produced in 2010 (Figure 2, Figure 5, & *Appendix III)*.

Figure 5: Time series production, Export and Consumption of coffee in Uganda in tonnes *(Appendix III).*
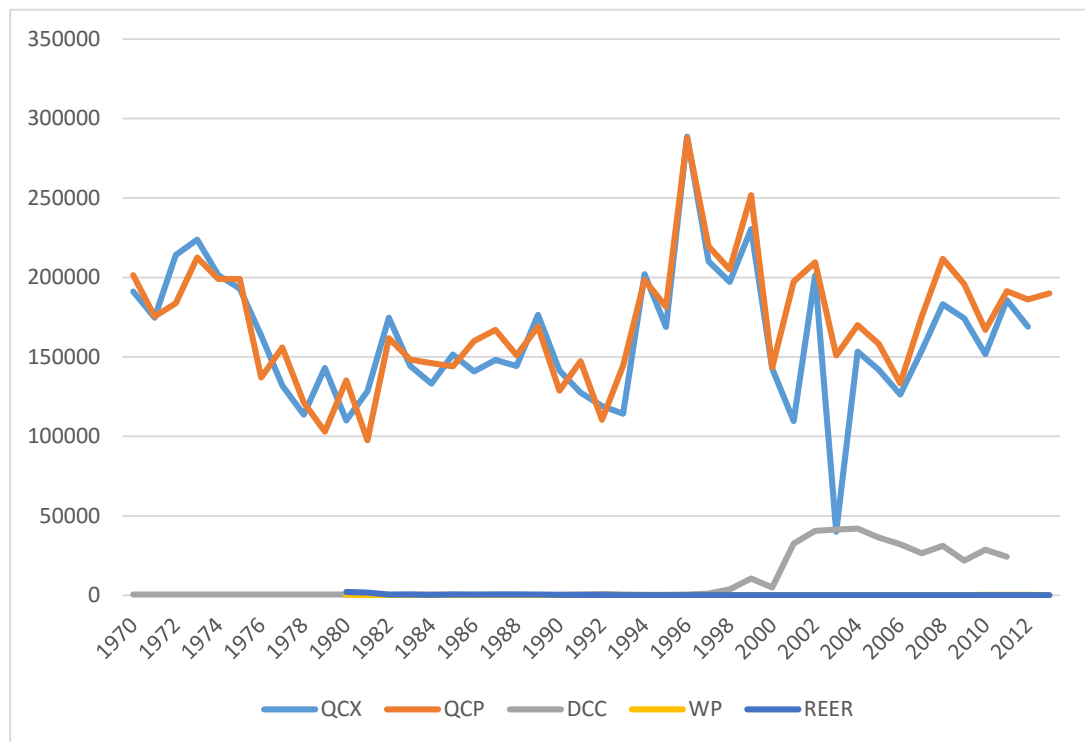
Source: FAOSTAT

QCX– Coffee Export, QCP–Coffee Production, DCC–Domestic Coffee Consumption, World Price (WP) and Real Effective Exchange Rate (REER), Axis Y– Amount of coffee in tones .

Figures 1-43 represent years 1960 to 2013

Over the years, there has been a an escalation in consumption of coffee since the change of Regime and is reflected in the 1970s when dictatorial governments distorted the market as noted by Baffess (2006), Asiimwe (2013) which impacted on the whole coffee market but also the entire economy.

Uganda's coffee industry went through the typical ups and downs like many African commodity subsectors suffering price fluctuation, limited access to market and market information (Baffes 2006), but the situation worsened in the 1970's. The first coffee-regulatory institution, the Uganda Coffee

Development Authority (UCDA), was started in 1991 to address quality control issues, sector development, price control, and market access. Kline (2014), asserts that policies play an important role in stabilising any economy, this has been reproduced in Production, Exportation, Consumption (Figure 2, *Appendix III*), and Real Effective Exchange Rate (REER) which by 2010 was growing at low rate.

"The Real Effective Exchange Rate (REER) is the measure/degree of the weighted average of a country's currency against an inflation-adjusted and trade-weighted index of other currencies. The trade weighting is completed by comparing a country's trade deficits relative to its main trading partners. This comparison is made between each currency included in the index. The inflation adjustment is made by comparing the purchasing power of each currency relative to one another. The currencies in the REER index are those most commonly traded today i.e. the Yen, U.S. Dollar, Euro among others."

Asiimwe (2013), assert that the recklessness and extractive policies of the then Amin's regime in 1970s, intensified the let-downs of the state coffee monopoly marketing structure whose results on the coffee market challenged farmers and traders throughout the period. This produced an economic war which deteriorated coffee trade in Uganda and the resource base got constricted. The regime was progressively more extractive of the coffee resource at the same time. The regime was subjected to tightening international embargoes that had adverse repercussions on the state marketing networks. Therefore, coffee marketing became a disputed arena between the state versus the differently positioned actors and producers. The period also experienced fluctuating global price trends and producer's response through deteriorating coffee production. With the dividend coffee booms, the differently positioned actors strove to sell the coffee through the illegal means, i.e. coffee smuggling termed as "magendo" to Rwanda, Kenya and Tazania, which became dominant for a stretch of time.

Nevertheless, with the liberalisation of the sector, the UCDA played a task to put coffee production and marketing back to the global market with the highest share in European Union (Fafchamps, Hill 2005, Baffes 2006, Hill 2007, Hill 2010). The study found out that Coffee plays a an important role in the economy of Uganda, contributing over 18% of the export earnings since 1990's up to date. The coffee industry employs over 5 million people through coffee related activities and this has created a

competitive environment for the coffee business and is basically attributed to the Liberalisation of the sector (Hill, 2010).

Coffee is in utmost case grown in various stand where it is intercropped beside food crops mostly bananas and beans which has kept a number of households' income and food security safe. It is also grown among shade trees that result into sustainable coffee production. Coffee farmers in Uganda use a low input system and producer households significantly rely on family labor for gardening and post-harvest activities.

Nonetheless, coffee remains great worth crop and commodity in Uganda and the region at a large, although with price and production un-certainty, do not seem to be extreme in most years. The levels of coffee production changes over the years are connected to policy and or regulatory constraints. This sector went through major reforms in the early 1990s; it has concentrated on price, and quality control at the expense of Quantity of produce. Although both quality and quantity are necessary.

The livelihood and Commercial activity upgraded enormously as the number of active growers, exporters and traders increased in the region considerably since the liberalization of the sector in the 1990s hence competitiveness as put forward by Hill (2010). Thousands of small traders have come in the industry and contributed to competition in the market, most importantly, the poverty reduction impact on Small hold farmers in the coffee-growing regions since 1990 (Baffes 2006, Hill 2010, Haloysio et al. 2012).

Bussolo et al. (2006), contend that coffee market liberalization followed by a price boom was associated with considerable reductions in poverty of most farmers and people in the coffee value chain in the Uganda but also the East African Region. Overall, the case of coffee in Uganda thus lends support to the view that agricultural trade liberalization is advantageous for the poor. Although, Lay et al. (2007), note that agriculture is similarly a rejoinder for poverty increase since most of the population that rely on it, yet the production quantity ratio is far smaller compared to the severe increase in population over the years especially for the Low Developing countries.

There remain numerous apprehensions that need to be addressed to further improve the market efficiency and reduce the disincentives such as limited funding and research.

2.2 Theoretical review of network theory

Social Network Theory is the study of how individuals, organizations or groups interact with others inside their network (Borgatti, 2002). Understanding the theory is easier when you examine the individual pieces starting with the largest component, which is networks, and working down to the smallest component, which is the actors. In some ways, networks can be thought of as neighborhoods, since networks are composed of the actors and the relationships between those actors. These actors, referred to as nodes, can be individuals, organizations or companies. Regardless of what they are, they are always the smallest single unit inside a network. For example the United Nations as a social network, and the United States or the European Union or African Union would be a node or actor inside the bigger network.

Table 2: *.Types of social networks as explored social scientists: ego-centric networks, socio-centric networks, and open-system networks.*

Ego-centric	Networks are connected with a single node or individual. For example, you, the node, connected to all your close friends.
Socio-centric	Networks that are closed by default. Two commonly-used examples of this type of network i.e. children in a classroom, and workers inside an organization.
In open-system networks	The boundary lines are not clearly defined. A few examples in this type of network are America's elite class, connections between corporations, or the chain of influencers of a particular decision. Due to the lack of clearly-defined boundaries, this type of network is considered the most difficult to study.

Facts about networks

1. Network forms of associations, with mutual patterns of communication and exchange, are alternatives to hierarchically or market built governance constructions.

2. Network establishments: More social than markets and hierarchies, they are reliant on relationships, mutual interests, and status. They are less guided by a formal construction of authority.

3. Successful networks involve dimensions of complementarity and accommodation. Reputation, attachment, interdependence, and self-sacrifice are integral. The most useful information arises from people you have dealt with in the past rather than from the formal chain of command. Taking a long term perspective enhances reciprocity.

4. Reduction of uncertainty, fast access to information, reliability, and responsiveness are paramount concerns that motivate participants in network organizations.

5. Know-how, the demand for speed, and trust are critical components of successful network organizations

While employing the network theory, it was further important to state how this theory would be paramount in evaluating the types of ties especially the weak and strong ties in farming.

A network theory has been revised by Wiley (1983) builds a kind of consensus that he referred to as an individual and named him ego. He noted that ego has friends and a collection of acquaintances and few of his friends know one another however much they may belong to the same social structure which also implies they have different egos. He therefore argued that given the different egos, there exists a weaker link (tie) between ego and his friends (acquaintance) and this in long run not merely becomes a trivial acquaintance link or tie but reflects an important bridge between a closely identical cluster and close friends. Surprisingly to note is in most cases that in most cases, this cluster may in most instances fail to be connected to one another that so ever in absence of weak ties.

The theory stipulates that individuals with less weak ties will not access information from over the parts of social cluster and will only rely on the information provided or available by close friends which not only locks them out of latest trend of events but also makes them disadvantaged in all

aspects they trying to achieve. This further implies that such individuals will less weak ties will always face much difficulty in trying to join integrated into any form of development or movement since such arrangements always have a bearing of being enabled by close friends.

The theory further holds that in the complete absence of weak ties, social systems become vulnerably fragmented and incoherent. This is explained by the fact that new developments spread slowly and there are higher cases of divisionism which is characterized by race and ethnicity among others. In farming on the other hand, weak ties may seem to have a percent usage than strong ties but a study needs to be carried out to confirm these assertions.

2.3 Types of ties used in among farmers

Weak ties have a tremendous impact on individuals (Simmel, 1950). In most instances, one can say that weak ties are among the factors that alienate the existence of social clusters or friendship bout on the other hand, weak links are also very instrumental in cementing individuals' integration in society. There are less life opportunities where people employ strong ties.

Goodman and Redclift, (1991) noted that there are direct agricultural ties which are based on face-to-face links between producers and consumers but buyers tend to utilize more of weak ties to access produce than strong ties. These are always in contact with each other for largely production and distribution channels. The direct tie only exists if the parties concerned are in agreement on what each of them wants from the other. Communication is however vital to make this tie viable and successful. This tie relies on human connection at a place where production and consumption of the agricultural product converge.

Borgatti (2002) argued that there are many positive and negative relations but positive relations have more significance in a company. He referred to the challenges related to negative relations (ties) which are a source of conflict or misunderstanding in any relation in an organisation or company. Many companies in employ positive ties in their dealings have higher chances of reducing conflict and can develop in the different perspectives of the company.

Ties that are themselves negative rather than positive have along them negative results. Positive ties are in most cases responsible for the effective flow of important information or ideas but it is not very

much exclusive as it may also consist of poorly gathered truths or information. Therefore emphasis should be specifically on how strong a tie is (Borgatti, 2002).

Borgatti (2002) further argues that however much negative ties tend to be transcend over the positive ties given their nature of the different structures formed which are much higher than the positive ties. It should be noted however that positive ties are more advantageous because of their degree of transitivity, referring to an example of such a positive and strong tie as friend to friends are always friends. With negative tie networks, there are always low levels of transitivity and results into much uncoordinated ties which makes most relationships fail or impossible.

He however was quick to note that in machinery and production, relationships that exist in this matter is that stronger ties otherwise known as positive ties mat not necessarily happen in negative oriented tie networks. This meant that stronger positive ties make production easier, faster and reliable as all the partners have higher transitivity running at the back of their minds unlike the weak tie networks which makes activities and assignments lag behind schedule at the time. Hence, preference is given to stronger and positive ties always.

In a related context, bigger degree in a positive-tie network represents an asset in a company's ledger vying for greatness but a high degree in a negative-tie network represents a liability (Labianca 2006). This depicts the extent to which stronger ties are important in farming and coffee production and development in particular.

On a study on networks on employment, Montgomery (1994) argued that weak ties have a strong relationship to increased or high wages which automatically means that higher rates of employment. He noted that given that weak ties are a source of new information since it removes individuals from their available and immediate networks. This would also have an implication on this study that a weak tie can play better in coffee development a gap this study intends to fill.

 More so, a study by McDonald, Elder, 2006) on employment search found out that strong ties are not useful for most job searches, but claim that categories of strong and weak networks are sometimes too simplistic to measure or determine. This study was in the sector of employment but a study on coffee development has yet to experience a related relationship. Therefore this study will play a significant part in ascertaining whether such exist.

In agriculture and most especially perennial farming, there is a general tendency whereby most buyers are connected by fellow buyers who have tried buying from the farm before, implying the usefulness of the farmer to buyer ties. This becomes very easy for the buyers to know the available agricultural produce for purchase. Benedict, 2014, noted that such buyer to buyer ties are not very sustainable as at a certain point in time like in times of produce scarcity, buyer to buyer ties tend to break down given that each buyer fronts his or her interests in times of no or less availability.

Baffes, (2006) argued that farmer to buyer ties are more flexible and reliable than any other ties in agriculture. Farmer to buyer ties are interlinked on the basis of how the buyer communicates to the farmer in times when the produce is readily available. Such ties can also breakdown especially in cases when the farmer has better offers from the new buyers hence this tie is also very vulnerable in terms of continuity.

Bussolo (2006) also noted that for continuity purposes, farmer to buyer ties are not the best if the production process is to benefit the buyer. This is because the farmer always has an upper hand when it comes to negotiating a better deal for his or her agricultural produce. This however has a bad impact on the development of the crop in question as buyers also in times of plenty tend to prefer negotiating better deals than the farmers.

In a study done by Gary Mcmahon, (1990) in coffee farming and production in Kenya, it was evident that farmer to buyer ties were very prevalent in enabling the development of coffee and cotton production respectively. This was good enough for the farmers given the limited market that was available and the buyers took it upon themselves to become the necessary link for the farmers which greatly improved production and farming of cotton in the East African country.

A study done by Mukiibi.J. K., (2001) in western Uganda revealed the existence of both farmer to buyer ties as well as the buyer to buyer ties in farming and production and processing of coffee. Buyers initiated the link as they would contact the farmers but farmers are very canning as they would only utilize the weaknesses of the farmers in many dimensions for their own benefit implying that they used weak links to access whatever they needed from the farmers without any struggle.

2.4 Role played by the different types of ties in the Development of agriculture

With the existence of some weak ties, they are in most cases shadowed within each individuals existing strong ties which limit their ideas to themselves or their social cluster of individuals rather than spreading to other groups of individuals. The inability to create bridges later may create mistrust, unfaithfulness and fragmentation of the overall group (Hill, 2010). However later noted that bridging individuals with weak ties since weak ties tend to link groups of different background implies that the attempt to bring them all together further enhances bringing together groups which are significantly un-identical to one another.

Historical ties also determine the economic development. For example, historical ties that exist among the former Soviet republics and Russia are vital in moderating and affecting the share of resources from these countries given that they share a lot in common like the institutional arrangements as well as other business culture (Lundan & Jones, 2001). The same happens with coffee development because there are certain players with strong ties who have been in the coffee sub sector for long and can effectively use this history of attachment to influence coffee development in the East African region.

A study by Geletkanycz and Boyd, 2011) found out that external ties play a vital role in influencing business environment. This is because there is need to scan the organizations activities and look at procedures through which results can be achieved. The external ties therefore provide channels to acquire information through which alternatives are sought to improve business performance.

A study by Labianca (2003) to examine the link between types of social ties perception towards transmission of organizational justice through social networks revealed that social ties held by the perceptions of workmates, co-workers, office mates among others affect the way how justice is delivered. In the same way, coffee development trends and development has gone of social media and social ties also affect the development of the sector.

A study done by Mugerwa (2000) in western Uganda revealed that the existence of both farmer to buyer ties as well as buyer to buyer ties in farming and production of coffee. Buyers initiated the link as the would even book the coffee beans still in the farms and could be at the farm during the time of harvesting such that ripe coffee beans would be harvested. This led to the development of coffee

production as good quality coffee was collected from the garden which later fetched better prices than that which is harvested unripe.

Furthermore, Bolwig et al,.(2009) noted that the existence of farmer to buyer connections ensured effective planning for the needed harvests by the buyers as the buyer would tell the farmer to wait a bit longer before harvesting as the buyer also targets better coffee prices at the respective coffee factories in the region. This gave the farmer more information about his or her farm produce and this later gave them better prices that helped them fight poverty in their households.

In terms of seeking for employment, Yancey (1985) noted that those individuals who are less educated or those with lower education qualification tend to utilize strong ties while seeking for jobs. He also argued that the rate of utilization of strong ties however declines with the increase in level education which also means that individuals with college level education and above start adopting weak ties as education levels increases. This can be however related to coffee development as those individuals who are more skilled and experienced in coffee production will tend to utilize weak links in doing business, but the study needs to be done in East Africa region to ascertain this agreement.

Family ties tend to be more reliable in farming and production of agricultural products. Families tend to produce and contact each other regarding market information regarding the prices, available market as well as better placed buyers. This enables family's access better buyers who offer higher prices and this leads to development through poverty alleviation in such households.

More so, family to family ties are very evident in most rural areas in African countries especially central and east Africa (Asiimwe, G., (2013). Families gather their produce and manage to have a very big produce where they contact the buyer to come and buy the produce as if they are buying from one farmer but in actual sense each family knows its total contribution to the production from their respective farms. This makes them access easy market or buyers for their farm produce because buyers prefer purchasing in large quantities since they transport the produce themselves (Asiimwe, 2013).

Sometimes, strong ties contribute greatly t individuals complex set of roles which in a long run necessitates the need for cognitive flexibility. This can also be referred to as having homogenous contacts for both lower and higher socio-economic groups of individuals because either of them can

suffer lack or lower levels of cognitive flexibility (Halberstam, 1990). Strong ties are common in farming as most farmers prefer having strong relationships with people who buy their produce but it should be noted that majority of these farmers utilize weak ties or links that exist between them and farmers to reach buying deals to their own benefit. For the sake of this study, this will be effectively explained once this study is carried out in the East African region.

There are some links which are like a chain for the farmers produce. These provide a selling chain of families who produce for the main buyers in the area. These come together in a form of a group of farmers who are rest assured that their produce is large enough to attract buyers. They also become price makers for their agricultural produce and this later gives rise to a viable avenue for the farmers to bargain for better prices hence fighting poverty and alleviating low income is their respective families, communities and regions at large.

Bacon C, (2002) argued that weak ties have a vital role in individuals' chances for moving from one level to another in life. This means that those individuals who have weak ties tend to possess higher chances of opportunities than their counterparts with other types of ties. This further implies that if at all weak ties are characterized by low infrequent contacts they have around them given an opportunity, the professionals, technical and managerial people are most likely to grab the available chances or opportunities in life.

Erksen (1990) also found out that weak ties were indeed often the ones that gave birth to better life opportunities but it should be noted that his study was basically on job opportunities by people with weak ties and strong ties but the pattern of ties varied by occupation undertaken or to be undertaken by an individual. This is paramount because 35.5 percent of the employees who managed to get new jobs utilized the existence of weak ties whereas 15.8 percent utilized strong ties whereas 48.7 percent utilized were not certain about the kind of ties they untiled to access the jobs they had.

Granovetter 1978, asserts the fact that ties/netwoks play an important role society, and its structures as supported by Granovetter 1992. The involved persons, he refers to them as actors/participants who benefit from one another in various ways. He however, equally noted that there is always conflict at decision making level among so many other un wanted behaviors that may crop up. This is because society cannot be separated from norms and values in are embed in there. Granovetter 1978, Granovetter, 1992, he concludes that participations benefits each actor or member of the society

mutually. This is confirmed by Baffess 2006, Hills 2010 due to the fact that the coffee value chain does not have formal contracts but over 5,000,000 people are employed in the sub-sector.

Granovetter 1895, Granovetter 1992, suggests that embeddedness has universal applicability in the study of economics of life and can modify theoretical and observed approaches to the study of economic behaviors. He argues that in modern work societies, most economic action is embedded in structures of social relations which are based on trust. He further challenges the old economic theories that have both under- and over socialized opinions of the conception of economic action and decisions that merge in their conception of economic performers separated from their social setting.

Social relations also play on frictional and troublesome, not central, roles in market processes. There is, henceforth, need for understanding these relations, ties and networks of economic life. Economic actors/participants are neither fragments outside a social setting nor unoriginal adherents to social characters. The answers to the problematic of how economic life is not screened with mistrust are linked to over- and under socialized commencements of human nature.

The embeddedness argument, on the differing, stresses the role of concrete personal relations, and networks and or structures in generating trust and depressing malfeasance in economic life. Family networks, and social networks among other categories of interactions benefit the members involved (Granovetter 2000).Such networks rgeisterd success of so many businesses and show envidance of how the value chain works (Gereffi, Korzeniewicz, 1994). This is characterized by the development of buyer-driven and producer-driven commodity chains. In the early 2000s, a more differentiated typology of governance structures was introduced, which focused on new types of coordination in global value chains in the global market (Gereffi et al. 2001; Gereffi 2005, Gereffi, Joonkoo, 2012, Gereffi2014). Furthermore, Gereffi, Joonkoo, 2012 explains how goods and services exchange hands which equally proves the work of Granovetter 1992, Granovetter 2000. The subsystems governed by given norms and values, principles, and rules but important of all based on mutual benefit and trust.

3.0 METHODOLOGY

3.1 Introduction

The aim of this research was to investigate the effects of the given factors on coffee production and exports in Uganda. Time series data covering the period 1960 to 2013 was analysed, although Data from 1995-2012 was used for the statistical analysis. The sources are as follows: Food and Agriculture Organization of the United Nations (FAO), and Uganda Coffee Development Authority (UCDA). The econometric model employed for the analysis specified coffee exports (tonnes), coffee output (tonnes), domestic consumption (tonnes), and the world price (US$).

The multiple regression models I and II are mathematically specified as follows:

$$\ln QCX = \beta_0 + \beta_1 \ln QCP + \beta_2 + \beta_2 \ln WP + \beta_3 DCC_G + \varepsilon \qquad \text{(I)}$$

$$\ln QCp = \beta_0 + \beta_1 \ln QCx + \beta_2 + \beta_2 \ln WP + \beta_3 \ln DCC + \varepsilon \qquad \text{(II)}$$

Given;

lnQCX is the natural log of the quantity of coffee exports (tonnes)

lnQCP is the natural log of the amount of coffee production (tonnes)

lnWP is the natural log of the world price of coffee (US$); DCC is the domestic consumption of coffee products (tonnes)

DDC_G is the growth rate of domestic coffee consumption (%) and ε is the error term.

The study also carried out Qualitative inquiry to establish the relationships existing between the different types of ties used in in the coffee processes of production and coffee trade development in Uganda. A descriptive as well as correlation analysis was carried out and helped to establish and explain the relationships. Correlations depict either a positive or a negative relationship. Therefore, the study determined whether weaker or stronger family ties positively or negatively relate with coffee development in Uganda or farm to farm and farm to trader ties respectively positively or negatively relate to coffee development in Uganda.

Correlational research design are advantageous because a lot of data is collected by the researcher before determining the relationship and the analysis further gives an insight into day to day scenarios than just mere experiments (Feijoo, 2003). The analysis was complemented by a multiple regression to determine the level of effect of the different types of ties have on coffee development in Uganda. The study employed a combination of qualitative and quantitative methods as methodological foundation for empirical research (Punch, 2009).

3.2 Research methods

The study used both qualitative and quantitative research methods (Maxwell, 2005, Creswell, 2009). According to Creswell (2013) Qualitative research methods include key main elements of: narrative research, phenomenology, grounded theory, ethnography, and case study. He further points out theoretical frameworks, standards and ethics that help qualitative research i.e. the study used interviews but employed interview guides as data collection tools, focus group discussions which also employed focus group discussion guide as data collection tools as well as document reviewing which also employed a document checklist as a data collection tool. Qualitative methods like interviews are advantageous because they offer the researcher more ample space for further questions which would otherwise need more explanations and this is done through probing. Documents from Uganda Coffee Development Authority (UCDA) as well as the Ministry of Agriculture were reviewed Creswell (2013).

The study views qualitative and quantitative research as a way of shaping and giving the methodological foundation for empirical research. It is significant for the research today to have a thoughtful of both, and the common logic that determines the dual approaches. Similarities in the underlying logic, the study will deal with qualitative and quantitative research under the same main captions of design, data collection and data analysis. Researcher today understands the mounting popularity of combining the two approaches, either in a single study or a number of studies. Therefore this focused application of mixed methods. Mixed methods research study is practical research that comprises of the collection and analysis of both qualitative and quantitative data (Maxwell, 2005, Creswell, 2009, Yin 2009, Creswell, 2011). In diversified methods research, qualitative and quantitative approaches and data are assorted, or mixed in some way. This study combined qualitative and quantitative data, nonetheless this means that numerous studies that conglomerate both types of

data. This description is forthright, and it is useful in streamlining and clarifying expressions on this matter, which has occasionally been puzzling in the research methodology works. In the advance of diverse methods research, the language used to describe this design has not always been detailed and constant.

According to (Maxwell, 2005, Punch, 2009, Creswell, 2009), Mixed Methods in Social and Behavioral increase greatly the precision, visibility and recognition of the multidimensional procedures of combining, assimilating and linking the different types of methods and data. The study also identified mixed methods of research as distinct.

The term data is a very broad one, the study subdivides data for empirical research into two main types: quantitative data i.e. which are data in the form of figures or quantities or measurements, and qualitative data, are data which are not in the form of numbers i.e. means words. According to Punch, 1998, this leads to the major streamlining definitions used at the start of introduction to social research:

Quantitative research is empirical research where the data are in the form of numbers whereas; Qualitative research is an empirical research where the data are not in the form of numbers i.e. are sentences and phrases. These basic definitions are useful for one to get started in research, nevertheless they do not provide the full depiction of the quantitative–qualitative discrepancy. The term "quantitative research" means more than just investigation which uses quantitative or mathematical data. It denotes to a whole way of thinking, or a method, which includes a collection or bunch of methods, as well as data in numerical form. Likewise, qualitative investigation is much more than just research which uses non-numerical data. It besides is a way of thoughtful, or a method, which similarly involves a collection or cluster of approaches, as well as data in non-numerical or qualitative form.

Accordingly, full definitions of the terms 'quantitative research' and 'qualitative research' would include: the way of thoughtful about the social reality being studied, the way of approaching it and intellectualizing it; the designs and approaches used to characterize that way of thinking, and to collect data; the data themselves i.e. numbers for quantitative research, not-numbers and or mostly words for qualitative research.

Irrespective of the either or thinking about the different distinctions of the mixed methods, or tired opinions about the dominance of one approach over the other, the standpoint here is that the methods and data used are quantitative, qualitative or both, and should follow from, and appropriate in with the questions being asked. Specifically, quantitative questions require quantitative methods and data to answer them, and qualitative questions necessitate qualitative methods and data to answer them.

These declarations are examples of the beliefs that questions and approaches need to be matched with each other in a piece of investigation. On the whole, the study believes that the best way to do that is to emphasize first on what the study is trying to find out or the questions before it focuses on how to do the research or the approaches.

On the other hand, quantitative methods included survey questionnaires. Questionnaires were both online survey questions especially for the Producer Organizations, who are farmers, ministry staff and UCDA officials (Creswell, 2013). These were emailed to them after informing them about the importance of the study to coffee development within the region and upon their acceptance to take part in the survey, the tool was emailed to be filled as appropriately as possible. Some questionnaires were however self-administered especially those belonging to the farmers and other coffee development stakeholders in Uganda.

3.3. Justification for Mixed Methods

The essential rationale overdue of mixed methods research is that it helped the study to learn more the research topic (Creswell, 2009). The collective strengths of qualitative research with the strengths of quantitative research methods while pay off at the same time for the weaknesses of each method.

The combined methods in a way achieve complementary strengths and no coinciding weaknesses. Once it is known that both quantitative and qualitative methods have their strengths and their weaknesses, it come to be easy to see the logic of this principle. The different strengths and weaknesses have been specified in numerous research studies (Maxwell, 2005, punch, 2009, Creswell, 2009, Yin, R. K. 2009, Creswell, 2011). Therefore, for instance, quantitative research fetches the strengths of hypothesizing variables, profiling measurements, tracing trends and relations, formalizing assessments and using large and perhaps demonstrative samples. Alternatively, qualitative research conveys the strengths of understanding to meaning and to context, local

understanding, the detailed study of minor samples, and great methodological flexibility which improves the aptitude to study process and modification. Contemplations such as these indicate that qualitative methods can be strong in those extents where quantitative methods are weak, and likewise that quantitative methods can be strong in those extents where qualitative methods are weak. Therefore, combining the two methods suggests the likelihood of joining these two sets of strengths, and recompensing for the weaknesses. Furthermore, the acknowledgement and appreciation of the individual strengths and weaknesses of the two methods, this progress and evolution are also required.

3.4 Population and sample size

The population of the study included the staff from Uganda Coffee Marketing Board (UCMB), producer organizations, farmers, Uganda Coffee Development Authority (UCDA) as well as officials from the Ministry of Agriculture. These were deemed to have relevant information regarding linkages in coffee marketing and production in relation to coffee development in Uganda as well as the East African region. Among this population, a sample of 150 respondents were to be utilized in this study and only those who had relevant information were interviewed. A total of 65 respondents participated in the study.

3.5 Sampling methods
3.5.1 Purposive sampling

Purposive sampling technique was used in this study. With purposive sampling, the respondents who were knowledgeable about coffee farming were specifically involved in this investigation. The method was advantageous since only knowledgeable people participated, hence increasing higher chances of achieving reliable information about the study.

3.6 Data analysis

Field data was entered in data analysis software known as Statistical Package for Social Scientists (SPSS) for primary data, and Ordinarily Least Squares (OLS) for the time series on coffee production, domestic consumption, and export respectively. This helped the study come up with a generalized correlation between the types of ties and coffee development in the region where a positive value showed a positive contribution towards coffee development and vice versa. Descriptive data was also used in interpreting the findings. The regression model was also used which helped determine the level of effect the different types of ties have on coffee development in the region. A regression is very advantageous because it further gives a detailed level of effect an independent factor has on the dependent variable.

Using ordinary least squares (OLS), showed the relationships among coffee production and the world price index, coffee exports in the country and relationship between domestic coffee consumption and exports.

3.7 Ethical considerations

The study having fully met the institutional requirements to proceed, therefore went on to observe ethics of research as much as possible so as to meet the required results of the study. The researcher first sought consent of the participants whose names have not appeared anywhere in the final compilation of this report.

CHAPTER FOUR

PRESENTATION AND INTERPRETATION OF FINDINGS

4.1 Introduction

This chapter presents the findings as well as the interpretations of frequency tables, graphs, figures and text. The chapter is arranged according to the study objectives but starts with the demographic information to depict which kind of respondents actually provided the required information about the study.

4.2 Background Information

The study endeavored to capture background information of the respondents in order to determine the demographics and identify the people who engage in coffee production ranging from nursery beds, transplanting, care, harvesting, processing and selling.

4.2.1 Age of respondent

The study asked respondents to reveal their ages in order to establish the number of years respondents were practicing coffee production as well as the experience in this farming activity as shown in table 3 below.

Table 3: Age

		Frequency	Percent	Valid Percent	Cumulative Percent
	18-30	10	15.4	15.4	15.4
	31-40	14	21.5	21.5	36.9
Valid	41-50	12	18.5	18.5	55.4
	51 +	29	44.6	44.6	100.0
	Total	65	100.0	100.0	

Regarding the age of respondents, 44.6% were aged above 50 years, followed by 21.5% who were aged between 30-40 years whereas 15.8% were aged between 41-50 years and 15.4% were aged between 18-30 years. The findings above show that most coffee farmers and processors are in their advanced ages.

4.2.2 Period of service of coffee related job

The period of service was also very vital to this study as it helped the researcher to know how many years the respondents had been in this farming business which helped the study to select respondents with vast knowledge regarding the required information during data collection as depicted in Table 4 below.

Table 4: Period of service

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 year	2	3.1	3.1	3.1
	1-5 year	8	12.3	12.3	15.4
	6-10 years	20	30.8	30.8	46.2
	10 years+	35	53.8	53.8	100.0
	Total	65	100.0	100.0	

Respondents were also asked about the period they have spent in coffee farming activity and 53.8% revealed that they had been the activity for more than 10 years, followed by 30.8% who had spent between 6-10 years doing the farming whereas 12.3% and 3.1% of the respondents had spent between 1-5 years and less than 1 year respectively. The above findings show that majority of the respondents had spent considerably longer period in coffee farming activity, and thus are the right respondents for this particular study on coffee development in the East African region.

4.2.3 Gender of respondents

The study was also interested in the gender of respondents to establish the level of participation between men and women in coffee production as shown in Table 5 below.

Table 5: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	40	61.5	61.5	61.5
	Female	25	38.5	38.5	100.0
	Total	65	100.0	100.0	

On gender, the findings show that 61.5% were males whereas 38.5% were females. The findings above depict a higher percentage of men being involved in coffee production than women but the fact still stands that both men and women participate in the activity, divergence in numbers notwithstanding. The findings also show the level of development in coffee farming because it was previously an activity dominated by men but this percentage involvement shows an improvement in development in terms of gender as far as the East African region is concerned.

4.3 Rating coffee development in East African region

Respondents were asked to rate the level of coffee development in the East African region given that it was the dependent variable of the study as shown in table below.

Table 6: Rating coffee development

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High	2	3.1	3.1	3.1
	High	26	40.0	40.0	43.1
	Neutral	16	24.6	24.6	67.7
	Low	9	13.8	13.8	81.5
	Very Low	12	18.5	18.5	100.0
	Total	65	100.0	100.0	

The findings above show that 43.1% of the respondents regarded coffee development in East African region as highly developed whereas 32.3% still doubted coffee development levels in the region and 24.6% were neutral about the idea. The findings show that coffee development in the East African

region seems considerably developed however much there are still many loopholes still hampering its success story within the region.

In an interview with one of the famous farmers (AJ) was quoted saying;

> *"What I can say is that coffee production and development is currently on the right path but a lot is still desired to have potential to the likes of Brazil who despite their level of development have higher levels of coffee growth and production competition with the best producers in the whole world. Uganda in particular still has issues with better quality seedlings, pesticides, better farming practices much to do with proper harvesting, drying and processing. All these have derailed the progress of coffee farming development in the East African region"*

4.3.1 Rating the existence/availability of ties/ connections in coffee processes

Respondents were also asked to establish whether there exist ties in coffee farming and processes to ascertain whether actually these ties affect coffee development in the region as given in the table below.

Table 7: Rating the existence of ties

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Highly available	8	12.3	12.3	12.3
	Available	35	53.8	53.8	66.2
	Neutral	17	26.2	26.2	92.3
	Not available	5	7.7	7.7	100.0
	Total	65	100.0	100.0	

Given that the study aimed at establishing how coffee farming ties aid coffee development in the East African region, respondents were asked about the availability and 66.3% agreed to the idea that ties

existed and were available though 26.2% were neutral about their existence and 7.7% said that ties in coffee farming and production were not available in the East African region. Given that the majority supported their availability, the findings confirm that ties do exist but their level of importance towards coffee development needed to be ascertained as discussed in the preceding sections.

4.3.2 Belonging to farming ties

After establishing the existence of ties, the study also went ahead to establish whether the respondents belonged to any of the coffee process ties as shown in Table 8 below.

Table 8: Belonging to farming ties

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Family	6	9.2	9.2	9.2
	Friends	27	41.5	41.5	50.8
	Business partners	32	49.2	49.2	100.0
	Total	65	100.0	100.0	

Respondents were asked which forms of ties they belonged to and 49.2% revealed that they belonged to business or farm ties, followed by 41.5% who said they belonged to friendship ties and only 9.2% sided with family ties. The findings are a confirmation family ties are not popular in the East Africa region in as far as coffee farming and production is concerned but farm ties otherwise referred to business ties are more functional in coffee farming than the other ties. It should however be noted that despite the increased adoption of business ties, farmers have some level of reservation when it comes to trusting them as explained by an interview with one famer (BA);

> "*Partnership with farmers is most existent in this business because it's*
> *better for us to deal with fellow farmers than households, its better still*
> *to deal with friends who are in the same production. The challenge is*
> *that our fellow farmers have less trust in themselves especially when it*
> *comes to price changes. Some normally refuse to inform the rest of us*
> *about the price changes specifically when there is an increase; hence,*
> *they buy from the rest of us at a prevailing known price and later sell*
> *to sources where prices are favorably above the known prices. This is*

very common with some of the greedy farmers. This makes us fail to bargain for our coffee products even with some government intervention".

4.3.3 Types of Ties in coffee farming in EA Region

Having established whether the respondents belonged to any ties, Table 9 below gives details of types of ties into which coffee farmers and producers were categorized.

Table 9: Types of ties

Ties	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Sure
Family ties/ Strong ties	4(6.2%)	18(27.7%)	41(63.1%)	2(3.1%)	-
Friendship tie/ Strong ties	8(12.3%)	18(27.7%)	30(46.2%)	9(13.8%)	-
Firm to forties/ farm to farm ties	8(12.3%)	28(43.1%)	6(9.2%)	8(12.3%)	15(23.1%)

Regarding the types of ties existing in coffee farming and production, majority of the respondents (66.2%) noted that family ties otherwise known as strong ties are nonexistent with 33.9% indicating that family ties were in place. More so, 60% of the respondents disagreed with the idea that friendship ties are existent in coffee farming however much 40% supported their role in the farming activity. Majority of the respondents (55.4%) agreed that farm to farm ties were evident in coffee farming in the East Africa region with only 21.5% and 23.1% disagreeing and not sure about their existence. The findings above show that the weak ties, that is, farm to farm are more evident in coffee farming in the region than the strong ties, namely family and friendship ties. This also confirms that weak ties have a far higher contribution to coffee development in the East African region.

The findings are supported by the interview with TKD who was quoted saying;

"In this region, business ties are more prevalent than other forms of ties. Farmers are more in farm to farm connections than just concentrating on families and friends. Friends are even more prominent than family ties however much of them have own shortcomings. The farm to farm or business ties are more paramount because they outshine other forms in terms of gathering information regarding market prices as well as better farming techniques but family ties in most cases front their own interests rather than for the whole farming activity".

4.3.4 Different ties and their role in coffee the development in Uganda

After establish that there existed weak and strong ties among coffee farmers in Uganda, it was vital to determine whether these ties contribute to coffee development as the responses are shown in Table 10 below.

Table 10: Ties and their role in coffee the development in Uganda

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Sure
Firm to farm ties and firm to firm ties / Weak ties create a bridge between the different stakeholders in coffee processing which is later used to improve on coffee development	13(20%)	35(53.8%)	7(1.8%)	6(9.2%)	4(6.2%)
Weak ties create egoism which makes coffee processes continuously need each other because of the different acquaintances, hence, they innovate ideas that lead to coffee development.	18(27.7%)	16(24.6%)	17(26.2%)	8(12.3%)	6(9.2%)
Coffee processors need weak ties such that they are not deprived of information regarding coffee development processes and the rest of the social system	9(13.8%)	22(33.8%)	23(35.4%)	7(10.8%)	4(6.2%)

Coffee processors with strong ties such as family ties have less ability to innovate ideas to improve coffee development because they isolate themselves from latest coffee development ideas	4(6.2%)	42(64.6%)	15(23.1%)	2(3.1%)	2(3.1%)
Coffee processors with strong ties are very hard to organize into clusters which could help improve coffee development in East Africa	19(29.2%)	23(35.4%)	15(23.1%)	7(10.8%)	1(1.5%)
Weak ties create a momentum needed for the coffee processors to unite in order to make coffee development in the region very possible	10(15.2%)	34(52.3%)	11(16.9%)	8(12.3%)	2(3.1%)
In weak ties however, ideas of innovations intended to improve coffee development are hampered	5(7.7%)	7(10.8%)	32(49.2%)	19(29.2%)	2(3.1%)
Weak ties help coffee processors to integrate and find solution to coffee development in the region	28(43.1%)	13(20%)	16(24.6%)	4(6.2%)	4(6.2%)
If supported, family ties can improve the current production levels which have been constant for the last two decades	2(3.1%)	39(60%)	22(33.8%)	1(1.5%)	1(1.5%)
Ties/connections have played a role in information sharing on prices especially from firm to farm?	4(6.2%)	31(47.7%)	27(41.5%)	2(3.1%)	1(1.5%)
Family/ Strong ties play an important role in coffee value chain development in East Africa	8(12.3%)	21(32.3%)	24(36.9%)	12(18.55)	-

Regarding the role played by the different types of ties in the development of coffee in Uganda, majority of the respondents (73.8%) agreed to the idea that firm to farm ties and firm to firm ties / weak ties create a bridge between the different stakeholders in coffee processing which is later used

to improve on coffee development but 11% disagreed and 6.2% were neutral about the idea. More so, 52.3% noted that weak ties create egoism which makes coffee processes continuously need each other because of the different acquaintances, hence, they innovate ideas that lead to coffee development but 38.5% disagreed. The above findings are supported by an interview from GR who was quoted saying;

> *"In a rural setting, coffee production is entirely done in a rural environment which means that even the manpower than does farming, harvesting and processing is purely rural and this environment comprises of weak ties to a big extent, say, business ties and farm to farm ties and these have reservations for their secrets in coffee processes, which leads to egoism. Egoism may be seen as negative in this sense but pushes each of the farmers to do their best practices to produce better than his fellow farmers, hence, they innovate better farming ideas that lead to coffee development".*

In addition to the above, 47.6% agreed that coffee processors need weak ties such that they are not deprived of information regarding coffee development processes and the rest of the social system but 46.6% disagreed and 6.2% were not sure. Majority (70.8%) of the respondents noted that coffee processors with strong ties such as family ties have less ability to innovate ideas to improve coffee development because they isolate themselves from latest coffee development ideas with only 26.2% not in support of the statement. The findings show that 64.6% of the respondents revealed that coffee processors with strong ties are very hard to organize into clusters which could help improve coffee development in East Africa and 33.9% disagreed to this idea. An interview with PL supports the findings as quoted;

> *"In this farming business, what we see as strong ties are actually proving to be a disadvantage to the development of coffee production given that strong ties front only their interests because they are contented with ideas and innovations they already possess which is not the case of the weak ties who always view every chance to learn new things especially technology as an opportunity for them to boost their*

> *farming and take it to another level. This is what develops coffee farming in the region, not strong but useless ties".*

Related to the above, 67.5% of the respondents noted that Weak ties create a momentum needed for the coffee processors to unite in order to make coffee development in the region very possible but 29.2% disagreed to the idea. It should be noted that 78.4% disagreed with the view that in weak ties, ideas of innovations intended to improve coffee development are hampered as against 18.5% who agreed. These findings still indicate that weak ties are much stronger in coffee development than the strong ties since the respondents confirm that it's the weak ties which have the desire to innovate and improve coffee processes.

In addition to the above, 63.1% of the respondents agreed that weak ties help coffee processors to integrate and find solution to coffee development in the region but 30.8% disagreed with this view. The findings are a confirmation that weak ties are more functional towards the development coffee farming and production than the strong ties in Uganda and the East African region as a whole given the zeal and urge the weak ties possess towards the fulfillment of the production goals.

4.3.4.1 Correlation Analysis between Ties and coffee development
Table 11: Analysis between Ties and coffee development

Correlations		
		Coffee development in East African region
Coffee development in East African region	Pearson Correlation	1
	Sig. (2-tailed)	
	N	65
Family ties/ Strong ties	Pearson Correlation	-.038
	Sig. (2-tailed)	.763
	N	65
Friendship tie/ Strong ties	Pearson Correlation	-.222
	Sig. (2-tailed)	.076
	N	65
Firm to forties/ farm to firm ties	Pearson Correlation	-.295[*]
	Sig. (2-tailed)	.017

	N	65

*. Correlation is significant at the 0.05 level (2-tailed).

The Table 11 further shows that there is a negative relationship between Family Ties (Strong Ties) and coffee development given by Pearson's correlation coefficient of -0.038. The relationship is however not statistically significant at 95% confidence level (2-tailed) as the p-value is greater than 0.025 (=0.763). The analysis also shows that there is a negative relationship between Friendship Ties (Strong Ties) and coffee development given by Pearson's correlation coefficient of -0.222. The relationship is however not statistically significant at 95% confidence level (2-tailed) as the p-value is greater than 0.025 (=0.076). The table further shows that there is a negative relationship between Farm to Farm ties (Business ties-Weak ties) and coffee development given by Pearson's correlation coefficient of -0.295*. The relationship is however statistically significant at 95% confidence level (2-tailed) as the p-value 0.025 is greater than (=0.017).

4.3.4.2 Regression Analysis between Ties and Coffee development in Uganda

The hypotheses were tested using multiple linear regression analysis. The justifications for using multiple linear regression analysis were that this was a prediction study with many variables and multiple linear regression analysis provides net effects and explanatory power in form of Adjusted R square. Level of significance was set at less than or equal to 0.05. The model summary is presented in Table 12.

Table 12: Model summary

Model Summary			
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.380ᵃ	.144	.102	1.12901

a. Predictors: (Constant), Firm to farm/ farm to firm ties, Friendship tie/ weak ties, Family ties/ Strong ties

The model summary in table 12 above shows that the coefficient of determination (Adjusted R Square) is 0.102. This implies that this model accounts for 10.6% of the variance in coffee development in Uganda. This could be attributed to the fact that coffee development in Uganda has far more factors that influence it than what the study has undertaken.

Table 13: Analysis of Variance (ANOVA)

ANOVA[a]					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	13.108	3	4.369	3.428	.023[b]
Residual	77.754	61	1.275		
Total	90.862	64			
a. Dependent Variable: Coffee development in East African region					
b. Predictors: (Constant), Firm to farm/ farm to firm ties, Friendship tie/ Strong ties, Family ties/ Strong ties					

In determining whether a model is significant, the decision rule is that the calculated p-value (level of significance) must be less than or equal to 0.05. Since the calculated p-value of 0.023 is less than 0.05, the model was found to statistically significant (F=3.482, df= 3, $p<0.05$ (=0.023). A statistically significant model means that at least one of the predictor variables (Family ties, Friendship ties and Farm to farm ties) has a significant influence or effect on the dependent variable (Coffee development).

To determine which of the predictor variables were significant; the researcher examined the standardized beta coefficients (which measure the contribution of each variable to the model), the t values and significance values which give rough indication of the impact of each predictor variable. These are presented in table 14 below.

Table 14: Regression coefficients

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.782	.808		5.921	.000
	Family ties/ Strong ties	-.050	.221	-.027	-.226	.822
	Friendship tie/ Strong ties	-.328	.162	-.242	-2.021	.048
	Firm to farm/ farm to firm ties	-.257	.101	-.304	-2.535	.014
a. Dependent Variable: Coffee development in East African region						

The decision rule for multi linear regression is that the t value must not be close to 0 and the *p*-value must be less than or equal to 0.05.

The table above shows that the p-values for the Constant, Family ties, Friendship ties and Farm to farm ties are each less than 0.05 and there t values not close to zero (0). This shows that the Constant, Family ties, Friendship ties, and Farm to farm ties have no significant effect on Coffee development in Uganda.

4.3.3 Interpreting the findings and making a decision of the hypothesis

Basing on the research findings the researcher made the following interpretations and decision on each of the hypotheses.

Hypothesis number 1: Although Family Ties (Strong Ties) exist, have a negative influence on Coffee development in Uganda.

The research findings show that there is a statistically significant relationship between Family Ties and Coffee development in Uganda (r= -0.038, p-value< 0.025 (=0.822).

Findings from regression analysis further indicate that Family Ties (β=-0.027, t=-226p<0.05 (=0.822). This means that there is a causation implied negative relationship between Family Ties and Coffee development which is not fairly significant.

Hypothesis number 2: Friendship Ties (Strong Ties) have a negative influence on Coffee development in Uganda

The research findings show that there is a statistically significant relationship between Friendship Ties and Coffee development (r= -0.222, p-value< 0.025 (=0.048). Findings from regression analysis further indicate that Friendship Ties have a significant negative effect on Coffee development in Uganda (β= -0.242, t=-2.021p<0.05 (=0.048). This means that there is a causation negative implied negative relationship between Friendship Ties and Coffee development.

Hypothesis number 3: Farm to Farm ties (Weak Ties) have a negative influence on Coffee development in Uganda

The research findings show that there is a statistically significant relationship between farmers (r= -0.295, p-value< 0.025 (=0.014). Findings from regression analysis further indicate that Farm to Farm ties have a significant effect on Coffee development. (β=-0.304, t=-2.253p<0.025 (=0.014). This means that there is a causation implied negative relationship between Farm to farm ties and Coffee development.

4.3.5 How Coffee processing ties affect coffee development in East African region

Table 15: Coffee processing ties and coffee development

Statement	Yes	No	Not sure
The Regulators UCDA have any negative impacts on these tie	35(53.8%)	24(36.9%)	6(9.2%)
The current networks in coffee value chain need to be changed	19(29.2%)	30(46.2%)	16(24.6%)
Women's role at production level is recognized and rewarded so as to strengthen family ties	17(26.2%)	37(56.9%)	11(16.9%)
There is a connection between the different types of ties in the coffee value chain ie strong and weak ties	19(29.2%)	32(49.2%)	14(21.5%)
There is trust among the different types of ties in the coffee value	18(27.7%)	37(56.9%)	10(15.4%)
There is trust among the strong/family ties in production and post-harvesting activities like drying	27(41.5%)	30(46.2%)	8(12.3%)

Regarding how coffee processing ties affect coffee development in East African region, 53.8% of the respondents agreed that the Regulators UCDA have any negative impacts on these tie with 36.9% disagreeing and 9.2% were not sure. Majority (46.2%) noted with disagreement that the current networks in coffee value chain need to be changed but 29.2% agreed and 24.6% were not sure. This is supported by an interview with one AS who was quoted saying;

> *"Sometimes the harsh intervention by coffee authorities in the region have hindered the performance of coffee processing ties given that they have put stringent measures for these farmers and processors to continuously be in touch hence prompting most of them to partner with their own families and not business connections for the enhancement*

and development of coffee farming but it's better to maintain the already existing ties".

In addition to the above, 56.9% disagreed to the idea that women's role at production level is recognized and rewarded so as to strengthen family ties with only 26.2% agreed to their involvement in the production process. This means that in East African region, women involvement in most farming activities is still at a minimal level however much efforts to boast their involvement is always emphasized. Majority of the respondents (49.2%) disagreed with the statement that there is a connection between the different types of ties in the coffee value chain, that is, strong and weak ties which means that family ties, friendship ties and business ties are still having a connection gap.

Important to note is that majority of the respondents (56.9%) disagreed to the idea that there is trust among the different types of ties in the coffee value with only 27.7% agreeing and 15.4% not decided about the idea. A good number of respondents (41.5%) agreed to the statement that there is trust among the strong/family ties in production and post-harvesting activities like drying but still 46.2% disagreed with the idea and only 12.3% were not decided. The findings still confirm that most farmers and coffee processors in East African region still confine themselves to family ties which are regarded as strong but have a bigger boundary towards coffee development than business ties.

4.3.6 Coffee Development in Uganda

Having determined how different ties affect coffee development in Uganda, it was also eminent that the study established the level of coffee development in Uganda and East African region as a whole as shown in Table 16 below.

Table 16: Coffee Development

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Sure
There is consistency in price increases of coffee and coffee products over the last 10 years	22(33.8%)	29(44.6%)	9(13.8%)	5(7.7%)	-
The quality of coffee from the region is rated above 60 percent market worth	9(13.8%)	35(53.8%)	11(16.9%)	7(10.8%)	3(4.6%)
There are now many rural coffee processors and factories spread all the countries in the region which eases rural coffee processing	16(24.6%)	44(67.7%)	5(7.7%)	-	-
Coffee authorities have very much taken over strict overseeing of the coffee farming, harvesting, processing and exporting	-	23(35.4%)	26(40%)	16(24.6%)	-
Production of coffee is at a considerable large scale	10(15.4%)	33(50.8%)	9(13.8%)	13(20%)	-
Incomes at household level(fees, house construction, buying food etc has been boasted	9(13.8%)	27(41.5%)	24(36.9%)	4(6.2%)	1(1.5%)
Coffee production employs majority of the family members	6(9.2%)	13(20%)	24(36.9%)	19(29.2%)	3(4.6%)

Regarding coffee development in Uganda, 78.4% agreed to the idea that there is consistency in price increases of coffee and coffee products over the last 10 years with only 21.6% disagreeing. More so, 67.6% revealed that the quality of coffee from the region is rated above 60 percent market worth with

27.7% not in support and 4.6% neutral of the idea. The findings above show that coffee production has had a consistent trend and the quality is worth international market. This is supported by an official from UCDA who was quoted saying;

> *"There is steady and consistent progress in coffee production in Uganda a trend which was positive ever since the reduction in insecurity in the country in the 1970's and 1980's where people had deserted coffee farming to other cash crops but the Liberalization of the coffee sub-sector in 1990s has encouraged more coffee farmers to undertake the farming and this is evidenced by the increase in export earnings from coffee as it is one of Uganda's top earning cash crop and a very big competitor on the international market within the East African region and global market".*

More so, it is evident that there are now many rural coffee processors and factories spread all the countries in the region which eases rural coffee processing as shown by 92.3% of the respondents with only 7.7% not in support of the idea. This is supported by an interview with one of the UCDA official as quoted;

> *"From 2010, on average almost every sub county has coffee processing factory but majority of these are spread in the western, central and eastern part of the country. These have helped farmers to readily process their coffee and there is always ready market at the factory as buyers station themselves at these factories to buy whichever coffee that is processed at a considerably good price which has boasted incomes for rural households in the country".*

In addition to the above, the quality of the coffee has greatly improved as coffee authorities have very much taken over strict overseeing of the coffee farming, harvesting, processing and exporting as shown by 35.4% despite the disagreement of 40% of the respondents. The above findings are supported by an interview with one of the farmers as quoted;

"We have witnessed several raids made by officials from UCDA both from the head offices and district level who visit factories as well as villages where many farmers are concentrated such that they can comprehend all farmers who fail to comply with the set minimum standards to be followed in coffee handling right from harvesting to packing and processing. This has created some fear among some farmers who had bad practices of harvesting row coffee to be dried and have eventually stopped this bad habit, a factor that has improved in the quality of coffee from the villages to the centre for exporting and making final products for consumption".

The findings also showed that the production of coffee is at a considerable large scale as shown by 66.2% response with 33.8% disagreeing. Incomes at household level (fees, house construction, buying food has been boasted however much most of the income does not specifically come from coffee production. It should be noted however that coffee farming employs majority of the family members as shown by some respondents 29.2% but worth noting is that this true in villages where the activity is highly done. The findings above confirm that the trend of coffee production in the region is promising as most of the dimensions related to coffee farming in Uganda show light at the end of the tunnel.

4.3.7 Other Factors on coffee production and export in Uganda

The study also investigated the factors influencing coffee production and export in Uganda and ordinary least of squares was used to this effect. Because time series data are subject to spurious regression findings; a stationary test was carried out prior to estimating the ordinary least squares (OLS) regression approach. Augmented Dickey-Fuller (ADF) unit root test was run, and the result is presented in Appendix *IV*. Prior to the confirmation of the OLS regression results, some checklist tests were carried as presented in the appendices *IV*, *V, VI* and *VII*.

As shown in Table 17, the OLS estimation result indicates a robust positive relationship between coffee production (QCP) and coffee exports (QCX) in Uganda, statistically significant at the 1% level. This signifies that ceteris paribus, a 1% increase in the coffee output in Uganda, the coffee export increased by 1.4%. This result has further confirmed the level of production and the exports as presented in Tables 17 and 18 below. Given that coffee production is liberalized, the more it is

produced in the country, the more it will be exported and vice versa. Presently, the country exports about 90% of coffee output, leaving only about 10% for domestic consumption.

Correspondingly, the OLS approximation outcome reveals an ample positive relationship between the lag world price of coffee (WP) and coffee exports in Uganda, statistically significant at the 1% level. This signifies that all things being equal, a 1% increase in the price of coffee products may stimulate its exports from Uganda by 1%. On the contrary, the outcomes show an inverse relationship between domestic coffee consumption and exports in Uganda, statistically significant at 0.01 level. This implies that that more the domestic consumption the less the quantity coffee products available for exports (Tables 17 and 18) respectively.

Table 17: Model 1: OLS, determinants of coffee exports in Uganda

Dependent variable: d_lnQCX			
Variable	*Coefficient*	*t-ratio*	*p-value*
const	-0.0228	-0.3243	0.7505
d_lnQCP	1.4175	3.5178	0.0034***
d_lnWP(-1)	0.9004	4.1785	0.0009***
d_DCC$_G$	0.0016	-7.5068	0.0000***
R-squared	0.5857	Adjusted R^2	0.496870
F(3, 14)	25.2344	P-value(F)	6.58e-06

Note: The asterisks *** denote statistical significance at the 0.01 level

 As presented in Table 18, the OLS estimation result indicates a robust positive relationship between coffee exports (QCX) and coffee production (QCP) in Uganda, statistically significant at the 1% level. This signifies that ceteris paribus, a 1% increase in the coffee export may spur producers to increase production by 18% in Uganda. Coffee plays a major role in foreign earnings in the country. It has contributed about 20% of the export earnings between 2000 and 2012. Similarly, Over 90% of the total annual coffee production is exported as green beans. Secondary processing, also known as grading and transforming it into the various coffee categories that meet the international standards.

Similarly, the result further show the lag of world price has a robust positive relationship with coffee production in Uganda, statistically significant at the 1% level. This signifies that all things being

equal, a 1% increase in the price of coffee products may stimulate its production from Uganda by 0.39%. In the same vein, the results indicate a robust positive relationship between domestic coffee consumption and production in Uganda, statistically significant at 0.01 level (see Table 2). This implies that that more the domestic consumption the more farmers will be motivated to produce coffee in the country, holding other factors constant.

Table 18: Model 2: OLS, determinants of coffee production in Uganda

Dependent variable: d_lnQCP			
Variable	*Coefficient*	*t-ratio*	*p-value*
const	-0.0753	-2.5549	0.0240**
d_lnQCX	0.1826	5.9076	0.0000***
d_lnWP(-2)	0.3859	3.8454	0.0020***
d_lnDCC	0.1923	2.3026	0.0385**
R-squared	0.621995	Adjusted R	0.53476
F(3, 13)	63.2899	P-value(F)	5.18E-08

Note: The asterisks ** and *** denote statistical significance at 0.05, and 0.01 levels respectively

The above findings implied that variables such as the world price and domestic coffee consumption signify to have an influence on coffee production and export in Uganda.

4.3.6 Improving or Support for the Ties in Coffee Processing

Having determined the level of coffee development in Uganda, there were gaps identified which needed addressing such that coffee farming may benefit Uganda and the East African region as a whole as shown in Table 19 below.

Table 19: Supporting Ties in Coffee Processing

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Sure
Supporting farmer groups with soft loans	19(29.2%)	38(58.5%)	8(12.3%)	-	-
Supporting producer organizations with soft loans	8(12.3%)	29(44.6%)	20(30.8%)	8(12.3%)	-
Supporting farmer's innovative farming methods to enhance production	44(67.7%)	19(29.2%)	2(3.1%)	-	-
Training on disease and pest control	13(20%)	45(69.2%)	7(10.8%)	-	-
Price control by the government	54(83.1%)	6(9.2%)	5(7.7%)	-	-

The study also endeavored to find a lasting solution on how to support the ties in coffee processing in the East African region. Majority of the respondents (87.7%) agreed with the idea of supporting farmer groups with soft loans with only 12.3% disagreeing with this idea. More so, 56.9% revealed with agreement that supporting producer organizations with soft loans can help in supporting farmers' ties but 43.1% disagreed with the idea.

In addition to the above, 96.9% agreed to the idea that supporting farmer's innovative farming methods to enhance production with only 3.1% disagreeing. Majority (89.2%) agreed to the view that training on disease and pest control can help farming ties achieve what they desire but 10.8% disagreed with the idea. Worth noting is that 92.3% of the respondents agreed to the idea that price control by the government may help the farming to enhance their levels of operations and performance towards coffee development in the East African region. The findings above show that most coffee farmers long to have functional ties which may in a long run become s stepping stone for the development of the activity in the region.

CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings according to the objectives, the discussion of study findings as well as conclusions and recommendations based on the study findings.

5.2 Summary of findings

5.2.1 Types of ties and their role in coffee development in Uganda

Regarding the types of ties existing in coffee farming and production, majority of the respondents (66.2%) noted that family ties otherwise known as strong ties are nonexistent. More so, 60% of the respondents disagreed with the idea that friendship ties are existent in coffee farming however much 40% supported their role in the farming activity. Majority of the respondents (55.4%) agreed that farm to farm ties were evident in coffee farming in the East Africa region. The findings above show that the weak ties, that is, farm to farm are more evident in coffee farming in the region than the strong ties, namely family and friendship ties. This also confirms that weak ties have a far higher contribution to coffee development in the East African region. The findings equally prove the work of Granovetter 1992, Granovetter 2000 who noted that subsystems governed by given norms and values, principles, and rules but important of all based on mutual benefit and trust.

Regarding the role played by the different types of ties in the development of coffee in Uganda, majority of the respondents (73.8%) agreed to the idea that firm to farm ties and firm to firm ties / weak ties create a bridge between the different stakeholders in coffee processing which is later used to improve on coffee development. More so, 52.3% noted that weak ties create egoism which makes coffee processes continuously need each other because of the different acquaintances, hence, they innovate ideas that lead to coffee development. The findings are supported by Bolwig et al,.(2009) who argued that that the existence of farmer to buyer connections ensured effective planning for the needed harvests by the buyers as the buyer would tell the farmer to wait a bit longer before harvesting as the buyer also targets better coffee prices at the respective coffee factories in the region.

In addition to the above, 47.6% agreed that coffee processors need weak ties such that they are not deprived of information regarding coffee development processes and the rest of the social system. Majority (70.8%) of the respondents noted that coffee processors with strong ties such as family ties

have less ability to innovate ideas to improve coffee development because they isolate themselves from latest coffee development ideas. Granovetter argued that this is social friction where social relations also play on frictional and troublesome, not central, roles in market processes. However the role played by family members should be noted to be of great contribution since they are in most cases their own effort that coffee gardens are cared, do all harvest work, drying and the men also in particular participate in selling or finding the buyers.

Figure 6: The picture bellow shows a family harvesting ripe-red coffee cherries

Source: own photo

The findings show that 64.6% of the respondents revealed that coffee processors with strong ties are very hard to organize into clusters which could help improve coffee development in East Africa. This was according to Bolwig et al,.(2009) who said that the farmer under weak ties gathers more information about his or her farm produce and this later gave them better prices that helped them fight poverty in their households. This is supported by Granovetter who argued that family networks, and social networks among other categories of interactions benefit the members involved (Granovetter 2000). Since the coffee grows in mixed stands, there is guaranteed food security, finances from sales

directly or indirectly go to the needs of the family such as buying extra food, school fees, and cases from western Uganda indicate that most coffee farmers have good homesteads than other farmers of other crops as observed by the researcher.

Related to the above, 67.5% of the respondents noted that Weak ties create a momentum needed for the coffee processors to unite in order to make coffee development in the region very possible. It should be noted that 78.4% disagreed with the view that in weak ties, ideas of innovations intended to improve coffee development are hampered. These findings still indicate that weak ties are much stronger in coffee development than the strong ties since the respondents confirm that it's the weak ties which have the desire to innovate and improve coffee processes. This can be attributed to the different social norms exhibited by the coffee farmers as argued by Baffess (2006) and Hills (2010) due to the fact that the coffee value chain does not have formal contracts but over 5,000,000 people are employed in the sub-sector, so mistrust is bound to surface anytime, hence negatively impacting coffee development in the region.

In addition to the above, 63.1% of the respondents agreed that weak ties help coffee processors to integrate and find solution to coffee development in the region but 30.8% disagreed with this view. The findings are a confirmation that weak ties are more functional towards the development coffee farming and production than the strong ties in Uganda and the East African region as a whole given the zeal and urge the weak ties possess towards the fulfillment of the production goals. These findings are in agreement with Goodman Redclift, (1991) who noted that there are direct agricultural ties which are based on face-to-face links between producers and consumers but buyers tend to utilize more of weak ties to access produce than strong ties. This agrees with Gereffi, Korzeniewicz, (1994) who said that networks registered success of so many businesses and show evidence of how the value chain works but it basically characterized by the development of buyer-driven and producer-driven commodity chains.

Overall, the findings are in line with arguments made by Granovetter (1992) who said that however much actors in this group benefit from one another in various ways, he noted that there is always conflict at decision making level among so many other un wanted behaviors that may crop up. This is why all the coffee ties probably have a negative effect on coffee development because of the various

conflicts which crop up during the coffee processing activities, hence the findings confirm Granovetter's arguments.

5.2.2 Coffee development in Uganda

Regarding coffee development in Uganda, 78.4% agreed to the idea that there is consistency in price increases of coffee and coffee products over the last 10 years. More so, 67.6% revealed that the quality of coffee from the region is rated above 60 percent market worth. The findings above show that coffee production has had a consistent trend and the quality is worth international market.

More so, it is evident that there are now many rural coffee processors and factories spread all the countries in the region which eases rural coffee processing as shown by 92.3% of the respondents. This is in agreement with Asiimwe, (2013) who revealed that coffee factories are now all over the place with atleast each sub-county with over 5 factories. This helps farmers to easily process their coffee.

In addition to the above, the quality of the coffee has greatly improved as coffee authorities have very much taken over strict overseeing of the coffee farming, harvesting, processing and exporting as shown by 35.4% despite the disagreement of 40% of the respondents. This is agreement with Chuhan-Pole and Angwafo (2011) who stressed that agrarian sector in many countries are still characterized by low productivity, partly as a result of inadequate modern farm inputs, low public and private investment, undeveloped value chains among others but the participation of relevant authorities, such sectors have the potential to perform excellently.

The findings also showed that the production of coffee is at a considerable large scale as shown by 66.2% response with 33.8% disagreeing. Incomes at household level (fees, house construction, buying food has been boasted however much most of the income does not specifically come from coffee production. The findings above confirm that the trend of coffee production in the region is promising as most of the dimensions related to coffee farming in Uganda show light at the end of the tunnel.

The study findings revealed that there exists an inverse relationship between domestic coffee consumption and exports. The results further indicate that coffee exports, domestic consumption and world price have a positive relationship with coffee production in the country. The findings are in

agreement with Were et al. (2002) who argued that several factors impact coffee development in Kenya's coffee export products but issues like investment had a positive and significant impact on the export volumes of coffee products. This was found to trickle through the East African region in as far as coffee production and exportation is concerned. Studies in the East African region supports the study findings as they revealed that Their results further reveal that factors such as the cost of inputs, labour costs, and access to credit play a vital role in coffee production and export supply response in the country.

The findings are further supported by Verter, Bamwesigye and Dakwah (2015) who revealed that that coffee production and the world price index have a positive relationship with coffee exports in Uganda as well as an inverse relationship between domestic coffee consumption and exports. The outcomes also showed that coffee exports, domestic consumption and world price have a positive relationship with production in Uganda which is comparable to the findings in this study.

Bamwesigye, Pomazalova, 2015, argue that livelihood and Marketable activity improved massively as the number of growers, buyers and sellers, exporters and traders increased in the region considerably since the liberalization of the sector hence competitiveness. The number of small traders entering the industry and contributed to competition in the market has since 1990s increased, most importantly, the poverty reduction impact on Small hold farmers in the coffee-growing regions since 1990 (Baffes 2006, Hill 2010). Coffee sub-sector liberalization was followed by a price boom was associated with substantial reductions in poverty of most farmers and people in the coffee value chain in the Uganda but also the East African Region. Overall, the case of coffee in Uganda thus lends support to the view that agricultural trade liberalization is beneficial for the poor. Although, Lay et al. (2007), note that agriculture is equally response for poverty increase since most of the population that rely on it, yet the production quantity ratio is far smaller compared to the sharp increase in population over the years especially for the Developing countries.

5.2.3 How Coffee processing ties affect coffee development in East African region

Regarding how coffee processing ties affect coffee development in East African region, 53.8% of the respondents agreed that the Regulators UCDA have any negative impacts on these tie. Majority (46.2%) noted with disagreement that the current networks in coffee value chain need to be changed.

In addition to the above, 56.9% disagreed to the idea that women's role at production level is recognized and rewarded so as to strengthen family ties. This means that in East African region, women involvement in most farming activities is still at a minimal level however much efforts to boast their involvement is always emphasized. Majority of the respondents (49.2%) disagreed with the statement that there is a connection between the different types of ties in the coffee value chain, that is, strong and weak ties which means that family ties, friendship ties and business ties are still having a connection gap.

Important to note is that majority of the respondents (56.9%) disagreed to the idea that there is trust among the different types of ties in the coffee value. A good number of respondents (41.5%) agreed to the statement that there is trust among the strong/family ties in production and post-harvesting activities like drying but still 46.2% disagreed with the idea. The findings still confirm that most farmers and coffee processors in East African region still confine themselves to family ties which are regarded as strong but have a bigger boundary towards coffee development than business ties.

5.2.4 Improving or Support for the Ties in Coffee Processing

The study also endeavored to find a lasting solution on how to get support for the ties in coffee processing in the East African region. Majority of the respondents (87.7%) agreed with the idea of supporting farmer groups with soft loans. More so, 56.9% revealed with agreement that supporting producer organizations with soft loans can help in supporting farmers' ties.

In addition to the above, 96.9% agreed to the idea that supporting farmer's innovative farming methods to enhance production with only 3.1% disagreeing. Majority (89.2%) agreed to the view that training on disease and pest control can help farming ties achieve what they desire but 10.8% disagreed with the idea. Worth noting is that 92.3% of the respondents agreed to the idea that price control by the government may help the farming to enhance their levels of operations and performance towards coffee development in the East African region. The findings above show that most coffee farmers long to have functional ties which may in a long run become s stepping stone for the development of the activity in the region.

5.3 Conclusions

The success of the coffee Development in Uganda is strongly linked to the connections between different Individuals/companies, which we refer to as social ties hence the main hypothesis confirmed.

On coffee production and export, the study concludes that, other factors constant, all variables in the models may well determine the level of coffee production and exports in Uganda. The study also concluded that Family ties and Friendship ties (both strong ties) as well as farm to farm (weak ties) negatively affect coffee development in the East African region. This therefore implies that the existing types of ties in coffee farming, harvesting and processing are not doing enough to promote the development of coffee farming in Uganda and the East African region at large.

Uganda is one of the largest producing and exporting nations of coffee in Africa and the world. This verifies some determinants of coffee production and exports in the country. Using the OLS regression, the results show that coffee production, and the world price have a positive relationship with coffee exports in the country. Nonetheless, the results suggest an inverse relationship between domestic coffee consumption and export. Furthermore, the results indicate that coffee exports, domestic consumption and world price have a positive relationship with coffee production in Uganda.

5.4 Recommendations

There is need for massive sensitization by the coffee development authority among the coffee farmers on the importance of the different types of ties especially those ties that are beneficial to the enhancement of the sub sector.

The Government of Uganda needs to decisively prioritize the Agriculture sector and put a side distinctive steadfast funds which can be utilized by both small holder and household producers, and large scale farmers as loans or donations, which will help in the increase of acreage of coffee production as has been the case behind the success of liberalization of agriculture in the European Union and the US.

The Ministry of Agriculture needs to come in and help some of the existing ties with inputs in all forms like farming tools and technology, information and knowledge sharing, financial support among others such that these ties can pioneer the drive towards effectiveness in coffee farming and processing for higher quality coffee products in the country that even compete on the international market.

The study further suggests that a comprehensive research be conducted on the value chain/network in the coffee sub-sector to concretely understand it and propose more appropriate solutions for its development. The research also recommends future researchers to incorporate other determinants of coffee production such as cultivated area, labour force engaged in coffee farming, annual rainfall and domestic producer price.

References

ASIIMWE, GODFREY B, (2013). From monopoly marketing to coffee magendo: Responses to policy recklessness and extraction in Uganda, 197179. *Journal of eastern African studies. Oxfordshire: Routledge Journals, Taylor & Francis LTD,* vol. 7, is. 1, pp. 104-124. ISSN 1753-1055, Accessed 13/3/3015.

AUERBACH, N.N., (2012). Delicious Peace Coffee: Marketing Community in Uganda. Review of Radical Political Economics. *Thousand Oaks: Sage Publications Inc,* 2012, vol. 44, is. 3, pp. 337-357. ISSN 0486-6134. Accessed 13/3/3015.

BACON C, (2002). Confronting the Coffee Crisis: Can Fair Trade, Organic, and Specialty Coffees Reduce Small-Scale Farmer Vulnerability in Northern Nicaragua.University of California, Santa Cruz, USA. *World Development* Vol. 33, No. 3, pp. 497–511, 2005. www.elsevier.com/locate/worlddev, Accessed 13/3/3015.

BAFFES, J. (2006). Restructuring Uganda's coffee industry: Why going back to basic matters. *Development policy review*, 24(4), 413-436. doi: 10.1111/j.1467-7679.2006.00332.x, Accessed 13/3/3016

BAMWESIGYE D., POMAZALOVÁ, N., 2015. Assessment of the Economic Effects of liberalization of coffee sector in Uganda. *In MendelNet 2015-Proceedings of International PhD Students Conference.* 1. vyd. 2015, s. 289--294. ISBN 978-80-7509-363-9.

BAMWESIGYE, D., POMAZALOVÁ, N., TAMÁŠ, V., 2015. Socioeconomic Development in Context of Economic Changes in Commodity Chain of Cofeee in Uganda, East African Region. *ICABR 2015: X. International Conference on Applied Business Research*. 1. vyd. Madrid: Mendel University in Brno, 2015, ISBN 978-80-7509-379-0. URL: http://www.icabr.com

BARHAM ET AL. (2011). Fair trade/organic coffee, rural livelihoods, and the "agrarian question": Southern Mexican coffee families in transition. *World Development*, 39(1), 134-145.

BENEDICT Y.I., (2014). Struggling or in transition: Small household growers and the coffee industry in Papua New Guinea. *Asia pacific viewpoint* Volume: 55   Issue: 1   Pages: 24-37. http://apps.webofknowledge.com, Accessed 27/3/2015.

BOLWIG, S., GIBBON, P., & JONES, S., (2009). The Economics of Smallholder Organic Contract Farming in Tropical Africa. *World Development. Oxford:* Pergamon-Elsevier Science LTD, 2009, vol. 37, is. 6, pp. 1094-1104. ISSN 0305-750X. Accessed 13/3/3015.

BORGATTI S.P. (2002); Networth Theorizing; Teachers College. *Columbia University*.

BOURDIEU P. (1986). The forms of capital. In Richardson J. G. (ed.) Handbook of theory and research for the sociology and education. *New York: Greenwood*, pp. 241–258.

BUSSALO, T., (2006) Transformation in Agricultural sector worldwide. *Journal of Political Economy, Northern College, Ireland,* Accessed 13/3/3015.

CHUHAN-POLE, P., & ANGWAFO, M. (EDS.). (2011). Yes, Africa Can: Success Stories from a Dynamic Continent. World Bank Publications.

CIURIAK ET AL. (2015). Firms in international trade: Trade policy implications of the new new *Trade Theory. Global Policy*, 6(2), 130–140. Doi: 10.1111/1758-5899.12183

COLEMAN, J. S. (1988) Social capital in the creation of human capital. American Journal of Sociology, 94, pp. 95-120.

CRENTSIL, C., & BOANSI, D. (2013). Competitiveness and determinants of coffee exports, producer price and production for Ethiopia. *Journal of Advanced Research in Economics and International Business*, 1(1), 31-56.

CRESWELL, J. W. (2009). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (3rd ed.). *Thousand Oaks, CA: Sage*

CRESWELL, J. W. (2011). Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research (4th ed.). *Upper Saddle River, NJ: Pearson Education*

CRESWELL, J. W. (2013). Qualitative Inquiry in Research Design: Choosing Among Five Approaches. (3rd ed.). *Thousand Oaks, CA: Sage*

DAILY MONITOR (2013). Inflation projected to rise ahead of country's 2016 elections. Tuesday February 16, 2016. http://www.monitor.co.ug/Business/Inflation-projected-to-rise-ahead-of-country-s-2016-elections/-/688322/2103966/-/15cg8pl/-/index.html.

DANIEL ALI, ET AL., (2015). Investigating the Gender Gap in Agricultural Productivity: Evidence from Uganda. World Bank Policy, Research Working Paper No. 7262. Available at SSRN: http://ssrn.com/abstract=2606837, Accessed 13/3/3015.

DICUM, G., & LUTTINGER, N. (1999). The coffee book: Anatomy of an industry from crop to the last drop. New York: The New Press.

ERIKSEN, M.P (1990). Networked Urbanism; Social Capital in towns and Cities, Social Science Journal, Unversity of Califonia, Berkeley.

FAO (2015). FOSTAT database [Online]. Available: http://bit.ly/NmQzZf, Accessed: 12 June 2015.

GALETKANYCZ, M.A., & Boyd, B.K., (2011) Integrating Personality and Social ties, Journal of Organisational behaviour, Instutute of Strategic and Business Economics, University of Zurich.

GARY MCMAHON, (1990). The income distribution effects of the Kenyan coffee marketing system**.**Journal of Development Economics, Volume 31, Issue 2, Pages 297-326. http://www.sciencedirect.com/science?_ob=ArticleListURL, 27/3/2015.

GEBREYESUS, T. (2015). Determinants of coffee export performance in Ethiopia. *Journal of Economics and Sustainable Development*, 6(5), 147-157.

GEREFFI, G. (2005). The Global Economy: Organization, Governance, and Development. *The Handbook of Economic Sociology, Princeton University Press, Princeton, NJ,* 2005, pp. 160-182.

GEREFFI, G., KORZENIEWICZ, M. (Eds.). (1994). Commodity chains and global capitalism. *London, Praeger.*

GEREFFI, G., JOONKOO L. (2012). Why the World Suddenly Cares About Global Supply Chains. *Journal of Supply Chain Management, Volume 48*, Issue 3, pages 24–32

GEREFFI, G., (2014). Global value chains in a post-Washington Consensus world. *Review of International Political Economy, Volume 21*, Issue 1, 2014.

GOLLIN, D., ROGERSON, R., (2010). Agriculture, roads, and economic development in Uganda. *NBER Working Paper No. 15863, National Bureau of Economic Research, Cambridge*.

GOLLIN, D., ROGERSON, R., (2014). Productivity, transport costs and subsistence agriculture. *Journal of Development Economics, Volume 107, Pages 38–48.*

GOODMAN, D., REDCLIFT, M., 1991. Refashioning Nature: Food, Ecology and Culture. Routledge, London.

GRANOVETTER, M. (1973). The strenght of weak ties. *American Journal of Sociology, Vol 7.*

GRANOVETTER, M., (1985). Economic Action and Social Structure: The Problem of Embeddedness (1985). *American Journal of Sociology, Vol. 91, Issue 3, p. 481-510.* Available at SSRN: http://ssrn.com/abstract=1504514

GRANOVETTER, M., (1992). Economic Institutions as Social Constructions: A Framework for Analysis. *Acta Sociologica January 1992, vol. 35 no. 1 3-11*. doi: 10.1177/000169939203500101

GRANOVETTER, M., (2000). The Economic Sociology of Firms and Entrepreneurs. *The Social Science View, Vol. p. 244-275 2000.* Available at SSRN: http://ssrn.com/abstract=1512272

GRANOVETTER, M., (1978). Threshold Models of Collective Behavior. *American Journal of Sociology, Vol. 83, No. 6 (May, 1978), pp. 1420-1443*

GROOTAERT, C., NARAYAN, D., JONES, V.,WOOLCOCK, M. (2004) Measuring Social Capital: An Integrated Questionnaire. *Washington, D.C., USA,.* ISBN 0-8213-5661-5.

HALBAERSTAM, M., (1990) Social Network effect on innovation in Japan. *American Joournal of Sociology, Viking PENGUIN BOOKS, Ontario, Canada.*

HALOYSIO, M., (2012) O sistema orgânico e a cafeicultura familiar do Caparaó-ES: alternativa para a sustentabilidade socioeconômica? *Doutor em Produção Vegetal pela UENF Instituição: Universidade Federal do Espírito Santo Endereço.*

Hill, R. V. (2010). Liberalization and producer price risk: examining subjective expectations in the Ugandan coffee market. *Journal of African Economics, 19(4), 433-458.*

Hill, R.V., (2010). Liberalization and Producer Price Risk: Examining Subjective Expectations in the Ugandan Coffee Market. *Journal of African Economics. Oxford University Press, vol. 19, is. 4, pp. 433-458.* ISSN 0963-8024.

INTERNATIONAL COFFEE ORGANIZATION (2014). Annual review 2012/13. International Coffee Organization. *London: ICO.*

JONES, C., & LUNDAN, P.B., (2000) Networked Learning, A relation approach to weak and strong ties. *Sage Publications.*

KEE, H. L, NICITA, A., & OLARREAGA, M. (2009). Estimating trade restrictiveness indices. *The Economic Journal, 119(534), 172-199.*

KEITH F PUNCH., (2009). Introduction to Research Methods in Education. *Sage Publications Ltd* ISBN-13: 978-1847870186.

KEITH F. PUNCH (2005). Introduction to Social Research Quantitative and Qualitative Approaches. *London: Sage.* ISBN 07619 4416 8 / ISBN 07619 4417 6.

KLINE P., MORETTI E. (2014). People, Places, and Public Policy: Some Simple Welfare Economics of Local Economic Development Programs. *Annual Review of Economics, 6: 629–662. [2015-08-19].* Available from: http://apps.webofknowledge.com

LABIANCA, G., (2003) Exploring the social ledger: Negative relationships and negative asymmetry in social networks in organizations. *Acad. Management Rev.*

LAY, JANN; GOLAN, JENNIFER (2009): The Impact of Agricultural Market Liberalisation from a Gender Perspective: Evidence from Uganda. *Proceedings of the German. Development Economics Conference, Frankfurt, No. 20*, available at: http://hdl.handle.net/10419/39944.

LIN, N., COOK, K., BURT, R. (2008) Social Capital Theory and Research. *New Jersey, USA: Transation Publishers, I*SBN: 978-0-202-30644-5.

LINCOLN, J. R., J. MILLER. (1979). Work and friendship ties in organizations: A comparative analysis of relational networks. *Admin. Sci. Quart. 24 181-199.*

MAAIF: MINISTRY OF AGRICULTURE, ANIMAL INDUSTRY AND FISHERIES (2010). MAAIF STATISTICAL ABSTRACT 2010: *Agricultural Planning Department Ministry of Agriculture. Animal Industry and Fisheries, Entebbe*

MAAIF: MINISTRY OF AGRICULTURE, ANIMAL INDUSTRY AND FISHERIES (2011), MAAIF STATISTICAL ABSTRACT 2011.   *Agricultural Planning Department Ministry of Agriculture, Animal Industry and Fisheries, Entebbe*

MAXWELL, J. (2005). Qualitative Research Design: An interactive Approach (2nd ed). Thousand Oaks, CA: Sage

MCDONALD S., & ELDER, G.H., (2006). Strong ties, Weak ties or No ties. *Departmment of Sociology and Anthropology, North Calorina State University.*

MCMAHON, G., (1990). The Strength of Weak ties. *America Journal of Sociology, UIUC College of Education.*

MEINI, Z. (2013). Development process and review of the international trade theory. *Conference on Education Technology and Management Science (ICETMS), Nanjing,* doi:10.2991/icetms.2013.276

MINISTRY OF FINANCE POLICY AND ECONOMIC DEVELOPMENT, (2011). Background to the Budget 2010/11 Fiscal Year: Strategic priorities to Accelerate Growth, Employment and Scio-economic Transport for Prosperity. *Republic of Uganda.*

MINISTRY OF FINANCE POLICY AND ECONOMIC DEVELOPMENT, (2012). Poverty Status Report. Economic Development Policy and Research Department. Ministry of Finance, Planning and Economic Development. Kampala. Uganda

MUGERWA, S., (2000) Productivity and Profitability of Coffee and other farming Systems in Uganda. *Journal of Agricultural Sciences, Kampala, Uganda.*

MUKIIBI J.K., (2001) Crops and Farming Systems. *Food and Agriculture Organisation, Kampala, Uganda.*

MUKIIBI. J.K., (2001). Agriculture in Uganda. *Fountain Publishers ltd: Kampala*.

MUSUMBA M., RAJORSHI S. G. 2013. Transmission of World Prices to Ugandan Coffee Growers in a Liberalized Economy. *Development Policy Review, 31(2) 219–234.*

NAHANGA V., BAMWESIGYE D., DARKWAH D. S., 2015. Analysis of Coffee Production and Exports in Uganda. *In ICABR 2015: X. International Conference on Applied Business Research. 1. vyd. Madrid: Mendel University in Brno, 2015, s. 640--647.* ISBN 978-80-7509-379-0. http://www.icabr.com

ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (OECD). [2015-08-15]. Available from: www.oecd.org/tad/tradeliberalisation.htm.

OXFAM (2005). Milking the Cap: How Europe's Diary Regime is Devastating livelihood in developing World. *Oxfam Briefing Paper, 34*. Accessed 13/9/3015

PUTNAM, R.., (2000). Bowling Alone: The Collapse and Revival of American Community. *USA: Library of Congress.* ISBN-13: 978-0-684-83283-8

RICARDO, D. (1817*). On the principles of political economy and taxation. *Variorum Edition, in P.Sraffa (Ed.), Works & Correspondence of David Ricardo, Vol. I. Cambridge: Cambridge University Press.*

SAYER, G., (2002). Coffee Futures; The Impact of Falling World Prices on Farmers, Millers and Exporters in Uganda. *Oxford.*

SEN, S. (2005). International trade theory and policy: What is left of the free trade paradigm? *Development and Change*, 36(6), 1011–1029. doi: 10.1111/j.0012-155X.2005.00447.x

SIMMEL, G., (1950) Permitting Mediating roles of weak ties across groups. *Business and Economics, Carnegie Mellon University.*

SMITH, A. (1776). An inquiry into the nature and causes of the wealth of nations. *R. H. Campbell & A. S. Skinner (Ed.). Oxford: Oxford University Press.*

UGANDA BUREAU OF STATISTICS 2008. Statistical Abstracts 2009. *Uganda Bureau of Statistics, Kampala, Uganda.*

UGANDA BUREAU OF STATISTICS 2012. Statistical Abstract 2012. Uganda Bureau of Statistics, Kampala, Uganda.

UGANDA COFFEE DEVELOPMENT AUTHORITY (2011). Annual Reports, Kampala, Uganda. Available at http://www.ugandacoffee.org/

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT (2015). World statistical database [Online]. Available at http://bit.ly/1CK9hmK [Accessed: 17/05 2015].

USLANER, E., STOLLE, D., HOOGLE, M. (2003) Generating Social Capital. New York: Palgrave Macmillian.

VERTER N., & BEČVÁŘOVÁ V. (2014). Analysis of some drivers of cocoa export in Nigeria in the era of trade liberalization. *Agris On-Line Papers in Economics and Informatics*, 6(4), 208-218.

WERE ET AL. (2002). Analysis of Kenya's export performance: An empirical evaluation (No. 22). *Kenya Institute for Public Policy Research and Analysis.*

WILEY, J., (1983). The strength of weak ties; A network theory revisited. *Wiley and sons publishers, Newyork, USA.*

WOOLCOCK, M. (2001) The place of social capital in understanding social and economic outcomes. ISUMA Canadian Journal of Policy Research. 2001

WORLD BANK REPORT 2008; Agriculture for Development. Washington, DC.

YANCEY, A., (1985) Understanding community, A review of netwqorks, ties and social connections, *University of Toronto.*

YIN, R. K. (2009). Case Study Research: Design and Methods (4th ed.). *Thousand Oaks, CA: Sage*

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FACULTY OF REGIONAL DEVELOPMENT AND INTERNATIONAL STUDIES

APPENDIX I:

**QUESTIONNAIRE FOR BOTH FARMERS, BUYERS, UCDA OFFICIALS AND OTHER
COFFEEE PROCESSORS**

Investigation of relationships between types of ties used for coffee development in East African Region.

Dear respondent,

I am Bamwesigye Dastan, a Master student at Mendel University in Brno, Czech Republic, pursuing Master in Regional Development. The main goal of this research is to establish the relationships between types of social ties/networks used for coffee development in coffee value chain in Uganda. Your information will be treated with confidentiality.

 Please tick where applicable.

SECTION A: BACKGROUND INFORMATION

l.Age   of respondent

2. Period of service of coffee related job

3. Sex of respondent   Male   Female

4. How do you rate coffee development in East African region?

Very high	High	Neutral	Low	Very low

5. How do you rate the existence/availability of ties/ connections in coffee processes?

Highly available	Available	Neutral	Not available	Extremely unavailable

SECTION B: TYPES OF TIES

Which forms of ties do you belong?

1. Family   ☐
2. Friends   ☐
3. Business partners ☐

Please indicate your level of agreement or disagreement on the following statements regarding the types of ties by ticking in the box provided or providing the appropriate number for the selected stamen (Strongly Agree-5, Agree-4, Neutral-3, Disgaree-4 and Strongly Disagree-1)

Ties	Strongly Agree	Agree	Disa gree	Strongly Disagree	Not Sure
Family ties/ Strong ties					
Friendship tie/ Strong ties					
Firm to forties/ farm to firm ties					

SECTION C: HOW TIES IMPACT COFFEEE DEVELOPMENT

ROLE PLAYED BY THE DIFFERENT TYPES OF TIES IN THE DEVELOPMENT OF COFFEE IN UGANDA.

Please indicate your level of agreement or disagreement on the following statements regarding views on how ties impact coffee development by ticking in the box provided or providing the appropriate number for the selected stamen (Strongly Agree-5, Agree-4, Neutral-3, Disgaree-4 and Strongly Disagree-1)

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Sure
Firm to farm tiesand firm to firm ties / Weak ties create a bridge between the different stakeholders in coffee processing which is later used to improve on coffee development					
Weak ties create egoism which makes coffee processes continuously need each other because of the different acquaintances, hence, they innovate ideas that lead to coffee development.					
Coffee processors need weak ties such that they are not deprived of information regarding coffee development processes and the rest of the social system					
Coffee processors with strong ties such as family ties have less ability to innovate ideas to improve coffee development because they isolate themselves from latest coffee development ideas					
Coffee processors with strong ties are very hard to organize into clusters which could help improve coffee development in East Africa					
Weak ties create a momentum needed for the coffee processors to unite in order to make coffee development in the region very possible					
In weak ties however, ideas of innovations intended to improve coffee development are hampered					
Weak ties help coffee processors to integrate and find solution to coffee development in the region					

If supported, family ties can improve the current production levels which have been constant for the last two decades?					
Ties/connections have played a role in information sharing on prices especially from firm to farm?					
Family/ Strong ties play an important role in coffee value chain development in East Africa?					

Do you think the Regulators UCDA have any negative impacts on these tie?	If Yes, Explain…………………….
Do you think the current networks in coffee value chain need to be changed?	If Yes, Explain…………………….
Do you think women's role at production level is recognized and rewarded so as to strengthen family ties?	If Yes, Explain…………………….
Do you think there is a connection between the different types of ties in the coffee value chain ie strong and weak ties?	If Yes, Explain…………………….
Do you think there is trust among the different types of ties in the coffee value?	If Yes, Explain…………………….
Do you think there is trust among the strong/family ties in production and post-harvesting activities like drying?	If Yes, Explain…………………….

In what other ways / dimensions do coffee processing ties affect coffee development in East African region?

………………………………………………………………………………………………

SECTION D: COFFEE DEVELOPMENT IN UGANDA

Statement	Strongly Agree	Agree	Disa gree	Strongly Disagree	Not Sure
There is consistency in price increases of coffee and coffee products over the last 10 years					
The quality of coffee from the region is rated above 60 percent market worth					
There are now many rural coffee processors and factories spread all the countries in the region which eases rural coffee processing					
Coffee authorities have very much taken over strict overseeing of the coffee farming, harvesting, processing and exporting					
Production of coffee is at a considerable large scale					
Incomes at household level(fees, house construction, buying food etc has been boasted					
Coffee production employs majority of the family members					

How do you know that there is an improvement in the region regarding coffee development especially in Uganda?

……

SECTION E: IMPROVING OR SUPPORT FOR THE TIES IN COFFEE PROCESSING

a) In your view, what be done to support the different types of ties in coffee processing in Uganda.

Indicate your level of agreement regarding how ties can be supported to develop coffee farming in Uganda.

Statement	Strongly Agree	Agree	Disa gree	Strongly Disagree	Not Sure
Supporting farmer groups with soft loans					
Supporting producer organizations with soft loans					
Supporting farmer's innovative farming methods to enhance production					
Training on disease and pest control					
Price control by the government					

In what other ways can ties in coffee farming be aided to development the sector?

……………………………………………………………………………………………………

APPENDIX II: INTERVIEW GUIDE FOR KEY INFORMANTS

1. How would you rate the level of coffee development in Uganda?

   ………………………………………………………………………………………

2. In your view, briefly describe the different types of ties employed in coffee farming and processes in Uganda

   …………………………………………………………………………………

3. How are the different types of ties used in coffee processing and farming management impact overall coffee development in Uganda?

   …………………………………………………………………………………

4. What can be done to improve coffee development in Uganda

   .…………………………………………………………………………………

   Thank you

Appendix lll: coffee Production (QCP), export (QCX), Domestic consumption (DCC), World Price (WP) and Real Effective Exchange Rate (REER)

	QCX	QCP	DCC	WP	REER
1976	163416	137100	497		
1977	132000	155900	400		
1978	113700	121300	400		
1979	143100	103000	400		
1980	110100	135200	400	166.81	2173.289
1981	128332	97500	668	131.437	1625.186
1982	174723	161866	143	128.41	541.67
1983	144274	148224	450	142.531	436.4225
1984	133200	145971	271	165.304	295.9683
1985	151500	143995	495	145.955	385.0033
1986	140800	159881	81	162.117	405.8317
1987	148153	167067	414	122.978	516.2817
1988	144254	151157	403	117.18	470.7692
1989	176453	169042	89	96.98	384.0708
1990	141489	128747	258	86.388	242.4767
1991	127438	147366	428	80.438	178.1225
1992	119006	110334	828	71.777	119.4033
1993	114169	144551	382	75.872	117.9883
1994	202140	198371	275	124.507	147.4667
1995	168860	181465	215	126.5	143.9308
1996	288566	287925	416	106.114	144.4858
1997	210123	219624	1152	130.523	151.2883
1998	197143	205056	3643	119.422	134.05
1999	230466	251881	10443	92.701	122.0883

2000	142559	143475	4937	75.683	115.4467
2001	109568	197410	32406	65.626	112.5792
2002	201289	209547	40460	81.584	107.7633
2003	39886	150871	41371	85.486	94.41
2004	153275	170081	41879	84.698	97.81583
2005	141930	158100	36407	100	102.23
2006	126290	133310	32021	108.378	102.2733
2007	153987	175346	26343	123.308	105.5158
2008	183128	211726	30981	152.001	109.1208
2009	174227	195871	21890	154.422	107.3317
2010	151715	166968	28734	176.23	100
2011	185775	191371	24267	205.544	95.48583
2012	169038	186126		167.371	108.8975
2013		190000		142.715	110.8883

Appendix IV: ADF unit root test

Variable	Levels	ADF test Statistics
lnQCX	Level	-1.8522
	First difference	-4.7579***
lnQCP	Level	-1.64875
	First difference	-3.8880***
lnWP	Level	-1.6512
	First difference	-4.4499***
lnDCC	Level	-1.5572
	First difference	-4.0960***

| DCC$_G$	Level	-4.11763***

<div align="center">Note: Note: The asterisks *** denote stationary at the 0.01 level</div>

Appendix V: Diagnostic test (model 1 and 2)

Indicator	Model 1	Model 2
Test	**P. value**	**P. value**
Non-linearity test (squares)	0.3813	0.1759
Ramsey's RESET (squares and cubes)	0.848	0.649
White's test for heteroskedasticity	0.9663	0.4263
Breusch-Pagan test for heteroskedasticity	0.9949	0.1849
Test for normality of residual	0.1031	0.6882
Breusch-Godfrey test for first-order autocorrelation	0.1259	0.9195
Test for ARCH of order 1	0.7098	0.5057

Appendix VI: Plot of CUSUMSQ parameter stability test for model 1 (coffee exports)

CUSUMSQ plot with 95% confidence band
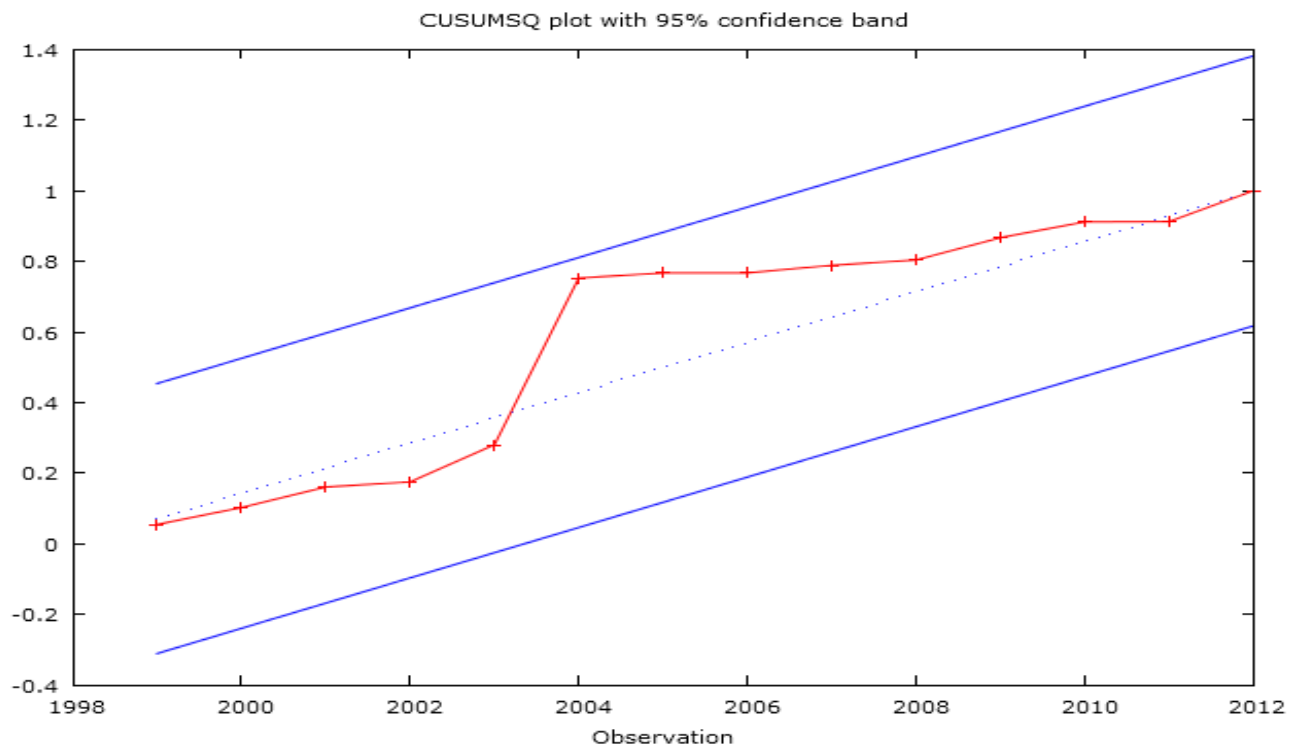
Appendix VII: Plot of CUSUMSQ parameter stability test for model 2 (coffee output)

CUSUMSQ plot with 95% confidence band