Addis Ababa University
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Value Chain Analysis of Coffee The Case of Yirgacheffe Coffee Farmers Cooperatives Union (YCFCU)

BY: BEYENECH YILMA

ADVISOR: MATIWOS ENSERMU (PhD)

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Approved by Board of Examiners

Matiwos Ensermu (PhD)___	_____	_____
Advisor	Signature	Date
Birhanu Denu(PhD)	_____	_____
Internal Examiner	Signature	Date
Delessa Daba (PhD)	_____	_____
External Examiner	Signature	Date

Declaration

I, the undersigned, declare that this thesis entitled as *"Value Chain Analysis of Coffee in Yirgacheffe Coffee Farmers Cooperatives Union (YCFCU)"* is my original work and has not been presented for the award of any degree or diploma in this or any other university. All sources of materials used in the thesis have been duly acknowledged.

Declared By: Name: Beyenech Yilma

Signature: _____

Date: _____

Place of Submission: School of Commerce, AAU

Addis Ababa, Ethiopia

Statement of Certification

This is to certify that this thesis entitled as *"Value Chain Analysis of Coffee in Yirgacheffe Coffee Farmers Cooperatives Union (YCFCU)"*, submitted in partial fulfillment of the requirements for the degree of Master of Arts in Logistics and Supply Chain Management to the School of Commerce of Addis Ababa University, done by Beyenech Yilma is an authentic work carried by her under our guidance. The theme embedded in this thesis has not been submitted earlier for the award of any degree or diploma in any other university to the best of our knowledge.

Matiwos Ensermu (PhD)	_____	_____	Addis Ababa, Ethiopia
Advisor	Signature	Date	Place

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ABSTRACT

The study was conducted to analyze coffee value chain in Gedio Zone Yirgacheffe Coffee Farmers Cooperatives Union (YCFCU). Yirgacheffe coffee is definitely among the most distinguished coffee varieties grown in Southern Ethiopia, a region known for its fine coffees. The specific objectives of the study were to identify the coffee value chain in YCFCU, to examine the relationship between actors and assess their linkage, to indicate each actor role in the value creation activities and to explain the key factors that hamper the coffee value chain in the study area. The study was based on data gathered from one hundred twenty one coffee producers. Descriptive statistics and correlation analysis methods were employed to analyze the data. Result from correlation analysis using indicates that five variables are significantly affecting performance of value chain of coffee. These are actors' roles, marketing relation, competition issues, government issue and market issue. The relative importance of marketing relation is high than other independent variables. Therefore, the implication is that actors should take an active role in managing all aspects of their performance of value chain analysis of coffee in the study area.

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Acronyms and abbreviations

CMC	Coffee Marketing Cooperative
CSA	Central Statistical Authority
CQIC	Coffee Quality Inspection Center
CIF	'Cost, Insurance and Freight'
ECX	Ethiopia Commodity Exchange
EIGS	Ethiopia Institute of geological surveys
FCA	Federal Cooperative Agency
FOB	Free On Board
GDP	Growth Domestic Product
GIZ	German Agency for Technical Cooperation
ICC	International Coffee Council
ICO	International Coffee Organization
SNNPR	South Nations, Nationalities & Peoples' Region
SPSS	Statistical Package for Social Sciences
USD	United State Dollar
UNIDO	United Nations Industrial Development Organization
YCFCU	Yirgacheffee Coffee Farmers Cooperative Union

Chapter one

1 Introduction

1.1 Background of the study

In the current competitive environment different commodities are provided to international market among them coffee is one of the most important commodities. It is produced and exported by different nations, ranks as one of the top cash crops in developing countries, and is critical to the economies of several of them (Giovannucci *et al*., (2008). This is also true for Ethiopia. Since the country is endowed with suitable climatic condition, it has the potential to produce and export different agricultural products to the global market. The coffee subsector has been and continues to be one of the most important agricultural and economic activities. The importance of the subsector in the country and the world market cannot be overemphasized (Crentsil and Boansi, 2013).

Since Ethiopia is the origin of coffee Arabica, and it grows wide variety of exemplary coffee, highly differentiated, most of which are shade-grown by small farmers without chemical inputs (Dempsey, 2006). Ethiopia is the largest producer of coffee and ranks fifth in the world and first in Africa by annual coffee production. Coffee has maintained its position as Ethiopia‟s top export for many years. While it accounts for about one-third of the country‟s export earnings, this percentage is gradually declining with increased export sales of gold, cut flowers, textiles, leather products and Khat (GAIN Report, 2016). According to Ethiopia‟s official export statistics for 2014/15 (Oct-Sep), coffee exports reached nearly 207,000 metric tons, valued at nearly 812 million USD.

For every cup of coffee we drink, there is a story from crop to cup. In a value chain, coffee beans go through different process before they reach the hands of a consumer (Kodigehalli, 2011). As a product moves from the producer to the consumer, a number of transformations and transactions take place along a chain of interrelated activities, and value is added successively at each stage of the chain. The term value chain is used to characterize the set of interconnected and coordinated links and linkages that take place as a product moves from the primary production unit to the

final consumer. Kaplinsky and Morris (2001) define the chain as the full range of activities that are required to bring a product from conception, through the intermediary stages of transformation, delivery to final consumers, and final disposal after use.

Different researches conducted around the world have identified the key advantage of value chain analysis. According to Fitter and Kaplinksy (2001) the study of coffee value chain is described as being key to analytical insights. In addition, Issa1 & Chrysostome (2015) conducted a study in determinants of farmer participation in the vertical integration of the Rwandan coffee value chain: results from Huye District. The results of the study generally show that gender, education level, farm size, off-farm income, non-access to credits and non-record keeping are all important factors explaining decision to participate. A review on the potential of value chain for rural economic development in Ethiopia by Gashaw (2016) concluded the benefit obtained from value chain development interventions, carefully implemented, weigh up by far than the unintended negative consequences to generalize that no doubt is value chain relevant for rural economic development in Ethiopia. Due to uncertainty of demand for the commodity which is traded in the global market there is a possibility for fluctuation of price for the product for various reasons. This also greatly hurts the economy of participated countries in general especially the developing country in particular. In order to overcome market failures and to cope with changes in the market environment many developing countries, including Ethiopia, are returning to agricultural cooperatives (Anteneh, Muradian, and Ruben, 2011 as cited in Nicola, 2009). Agricultural cooperatives are important rural organizations supporting livelihood development and poverty reduction. For instance, co-operative firms play a set of roles in market economies, based on the co-operative values and principles that are rarely noted in economic literature (Novkovic, 2008; Markelova *et.,al*, 2009). As Develtere *et.,a l* (2008) indicated the modest contributions are slowly eroding the previous mistrust that people had in African co-operatives to pave way for their acceptance as potential mechanisms for mediating access to productive resources that can be utilized to participate in livelihood activities. Moreover a study by (Bernard and Spielman, 2009; and Getnet and Anullo, 2012) indicates the role of cooperative in Ethiopia. In reality, cooperatives are subject to the same economic forces, legal restrictions and international relations that other businesses face (Krishinaswami and Kulandaiswamy, 1992).

Furthermore different authors conducted a study on coffee in Ethiopia(Schmitt, 2006 ; Musebe *et.,al* ,2007; Gemech *et.,al* ,2007; Leung , 2013; Shumeta *et.,al* ,2012; Boansi and Crentsil, 2013; Megressal *et al*., 2013; Getachew *et.,al* ,2014 and Ayalew, 2014. Also Schmitt and Grote, 2017 studied wild coffee production in Ethiopia: the role of coffee certification for forest conservation.

According to (Gemech and Struthers, 2007) the coffee value chain in Ethiopia is composed of a large number of actors. As well our coffee is traded at both domestic and world market. In the local market large amount of coffee is bought and sold between the consumers and traders in the traditional way. Due to this the country took the higher number of domestic consumption than the international market. In addition the newly established commodity exchange market created the way coffee is traded in the world market to international buyers through specialty market channels by coffee cooperative unions. Since 2001, however, cooperatives have been granted permission to by-pass coffee auction opening the way for direct export sales (Dempsey, 2006).

According to Karthikeyan (2015) value chain analysis extends traditional supply chain analysis by adding values to each stage of chain. This can result in which value at one stage seen as being at the expense of value at another. Over the past decades, the coffee industry has witnessed dramatic falls in the producer (farmer) share of retail price.

Coffee cooperatives with washing stations were inefficient, with some even running at a loss, the washed coffee was often of poor quality (Karthikeyan, 2015). The processing problems primarily flowed from poor technical and management operations. In many cases, cooperative farmer members received better prices and payments in cash for their cherries from nearby private washing stations. The cooperatives were selling to traders and in a few cases directly in to the auction for below-premium prices.

The government recognized the serious problems that the coffee cooperatives faced, especially in terms of delayed payments from the private traders, and permitted them to sell directly to buyers without going through the auction (Karthikeyan, 2015). This change is approved in 2001, but the cooperatives were not in a position to take advantage of this reform.

This research, therefore, attempted to assess value chain analysis of coffee in Yirgacheffe Coffee Farmers Cooperatives Union (YCFCU). The aim of the union is to assist the primary cooperatives in penetrating the international coffee market by providing an equitable and stable

trading system, as well as building their capacities. The union involves in growing coffee through the member farmers .The processing also done at two stages. The primary processing is done for both wet and dry processing is done at the member cooperatives before the coffee is transported to Addis Ababa, the warehouse and processing plant of YCFCU. Now it is clear that the union involves in the value chain in Ethiopia to provide the customers directly from its origin. Therefore, this study assess the value added activities of the union from farming up to the coffee is transported to the port of Djibouti after the final processing by YCFCU, sample will be drawn independently by coffee quality inspection center (CQIC) to assess whether the coffee is fit for export by undertaking raw analysis and cup tasting.

1.2 Background Information of YCFCU

YCFCU is one of the coffee marketing cooperatives established in 2002 currently representing over 43,794 farmers organized in 27 primary cooperatives located in Gedeo, southern Ethiopia, one of the most famous coffee growing region in the country and the only source of Yirgacheffe coffee. The 62,004 hectare dedicated to garden coffee produce on average around 20,000 tons of Yirgacheffe washed and sun dried coffee per year.

1.3 Statement of the Problem

Although the establishment of different agricultural cooperatives has great importance to the wellbeing of the farmers they are challenged by different problems. The same is true for coffee cooperatives. Since primary coffee cooperatives lack required human resources and logistical capacity. The Ethiopian government took the initiative to establish Coffee Farmers Cooperative Unions to manage coffee export business on behalf of primary coffee marketing cooperatives (Anteneh, *et al*., 2011). Presently there are more than fourteen farmers‟ coffees marketing cooperatives unions in the country (CTA, 2017). Yirgacheffe union is one of the fourteen coffee marketing cooperatives established in the country comprising 27 primary cooperatives.

The union involves in the value chain in Ethiopia to provide the customers directly from its origin (YCFCU, 2017). It has brought benefits to coffee farmers by providing a new marketing channel, the dividends are appreciated by farmers and have encouraged farmers to improve the quality of their coffee and the existence of cooperatives in the coffee market has improved the

purchasing price offered by private traders because of competition with the cooperatives (Kodama, 2007).

The union presents the world high quality coffee which is absolutely traceable (YCFCU, 2017). However, the country is not advantaged from this coffee type as it is expected because the value adding activity is insignificant (YCFCU, 2017). Since, the union is struggling to become the best Ethiopian highland Arabica Yirgacheffee coffee grower, processor and exporter, but its capacity is limited due shortage of funds with which to purchase coffee. So, this impacts the smooth flow of coffee in the chain. The difficulty of market acquisition in the limited size of fair-trade market is another constraint to the expansion of cooperative activities in the coffee value chain. Also, the union received various types of support from the government and international aid agencies such as USAID. However, the support they got from those funders is limited and not satisfactory to do their job in a better and standard manner for the value added activity. This also greatly impacts the value adding process of the cooperatives. In addition the management capabilities and accounting skills of cooperatives is critical for the development and sustainability of cooperative activities in the coffee chain (Kodama, 2007). Therefore, assessment of value chain is an essential requirement to find out the likely reasons that limit the overall performance of value chain and marketing of coffee and come up with specific workable solutions. It is for this very critical reason, the study is designed and to be conducted in the value chain analysis of coffee in Yirgacheffe Coffee Farmers Cooperatives Union (YCFCU).

1.4. Research Question

This study is design to answer the following research questions:

1. How each actor is coordinated along the chain?
2. Who are the actors in the map of coffee value chain and what roles these main actors are playing in the value adding process of coffee?
3. What are the factors that hinder the effectiveness of coffee value chain in the study area?

1.5. Objectives of the Study

1.5.1. General objective

The general objective of this study is to undertake a value chain analysis of coffee in Gedio Zone Yirgacheffe Coffee Farmers Cooperatives Union (YCFCU).

1.5.2. Specific objectives

The specific objectives of the study were:

A. To examine the relationship between actors and assess their linkage.
B. To identify the coffee value chain and to indicate each actor role in the value creation activities.
C. To explain the key factors that hinders the coffee value chain in the study area.

1.6. Significance of the study

In agriculture, value chain has the capacity to increase efficiencies, business integration, responsiveness and ultimately market competitiveness. This study used for the management bodies of the primary coffee farmers‟ marketing cooperatives under consideration and YCFCU as well as other cooperatives operating under similar conditions in improving their performance through appropriate and relevant measures. Also the information provided a good lesson for the new coffee cooperatives to be set up and allowing them to achieve greater effectiveness in their value adding activities. In addition the study assisted in identifying policy interventions and/or institutional innovations to improve coffee production. This study could be a good stepping-ground for other studies on marketing cooperatives.

1.7. Scope of the study

This study is confined to assessing the value chain analysis of coffee the case of Yirgacheffee Coffee Farmers Cooperatives Union in Gedio Zone SNNPR. The target populations of the study are farmers who are members of the cooperatives. In addition, due to the financial and time limitation, the study was limited to four kebeles of primary cooperatives.

1.8. Limitation of the study

The study concerned only assessing the coffee value chain the case of Yirgacheffee Coffee Farmers Cooperatives Union .As a result the impact of the value chain activities on the cooperatives productivity and profitability is not covered. As the study is done on sample basis in Yirgacheffee district, some percentage of farmers may not be addressed methodologically.

1.9. Definition of terms

Value Chain: the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use(Kaplinsky and Morris, 2001**).**

Value chain analysis: - The activities within and around an organization, and relates them to an analysis of the competitive strength of the organization (Porter, 1985).

Coffee value chain:-are actors that are directly involved from cultivation, harvesting, acquisition roasting, grading to selling to business users/final consumers.

A Cooperative: is a private business organization that is owned and controlled by the people who use its products, supplies or services (Centre for Cooperatives, 2004)

1.10. Organization of the Study

The study organized in five chapters. Chapter one deals about background of the study, statement of the problem, objective, significance of the study , scope and limitation and. Chapter two, deals about literature review which emphasizes on correlation between the existing studies, researches, reports, etc. that act as a basis for the propose study. It is specific and up to the requirement of the propose study. Chapter three deals about research methodology which elaborates and identifies all possible analysis bases on the available data gathered. Besides, formal procedures of different analytical tools was used to give a thorough analysis. Chapter four deals about data analysis and interpretation of the study and finally chapter five emphasized on conclusion and recommendations of the study.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURES

The literature review explains concept of value chain, mapping a value chain, coffee value chain, global coffee value chain, coffee production and export in East Africa, coffee production in Ethiopia, importance of cooperatives sector, cooperatives in Ethiopia and discusses the result of previous studies related to coffee value chain in Ethiopia specific focus on coffee marketing cooperatives. The source considered in the review includes books, websites, past article journals and previous thesis.

2.1Theoretical Review

2.1.1 Value Chain Definition and Concept

The term value chain is defined by different authors for instance according to (Schmitz, 2005) a value chain consists of all value-generating activities, sequential or otherwise, required to produce, deliver and dispose of a commodity. More specifically (Kaplinsky and Morris, 2000) defined the term as, it "describes the full range of activities which are required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformations and the input of various producer services), to delivery to the final consumer and final disposal after use ". In addition according to (McCormick and Schmitz, 2002) a typical chain includes all of a product‟s stages of development, from its design to its sourced raw materials and intermediate inputs, its distribution, and its support to the final consumer.

The history of the value chain concept goes back to the 1960‟s, when French scholars developed the filiere concept based on the analyses of value added process in US agricultural research. The early filiere analysis emphasized local economic multiplier effects of input output relations between firms and focused on efficiency gains. The later work gave the modern version of filiere analysis an additional political economy dimension. However, a filiere tended to be viewed as having a static character, reflecting relations at a certain point in time. It does not indicate growing or shrinking flows either of commodity or knowledge, nor the rise and fall of actors. Although there is no conceptual reason why this should have been the case, in general, filiere

analysis has been applied to the domestic value chain, thus stopping at national boundaries (Schmitz, 2005).

Even though the term was defined by many authors (Porter, 1985) was the first to use the term value chain. He defined the value chain as the various activities which are performed in particular links in the chain. In the mid-1990s, Gereffi introduced the concept of Global Commodity Chains (GCC). Gereffi"s contribution has enabled important advances to analytical and normative usage of the value chain concept, particularly because of its focus on the power relations (Gereffi *et al.*, 2004). According to (Gibbon, 2003; Gibbon and Ponte, 2005) in recent years, the GCC literature has abandoned the term „commodity chain" and has taken up that of „value chain" in its place because the latter is thought to better capture a wider variety of products, some of which lack „commodity" features .

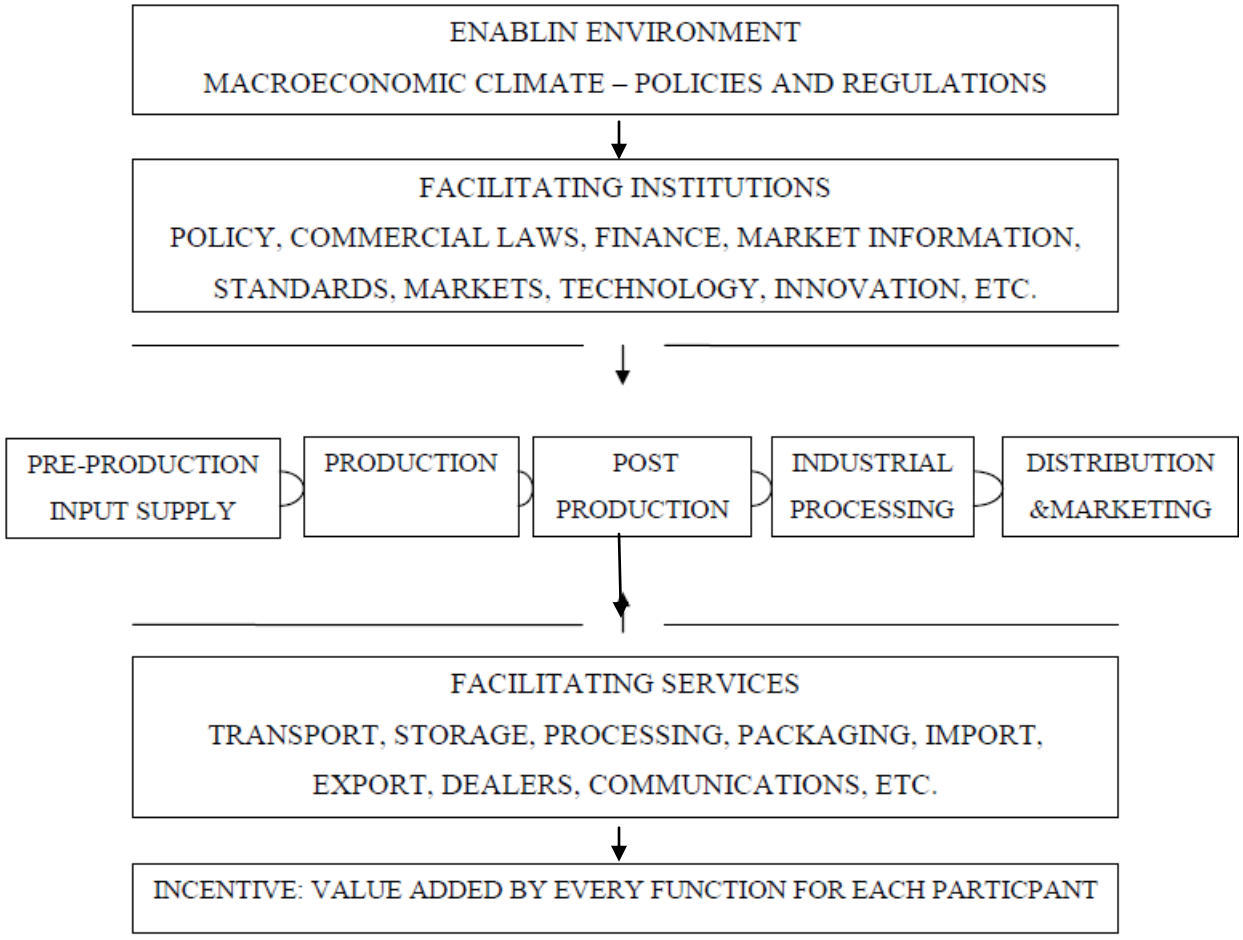


Figure 1. A generic value chain Source: UNIDO, 2009.

2.1.2. Mapping a value chain

Value adding process is a challenge, complex and contains a big number of actors. Each actor can also be connected to more than one value chain. Consequently it‟s important to know the aim of the study and the point of interest. According to (Kaplinsky & Morris, 2000, p.50) therefore decision can be made on where in the chain to start and what to include in the chain analysis .The first step in a value chain study is to identify the actors and the connections between them to get the chain mapped out. This can be done with a qualitative study, followed by a quantitative study when the map of the chain is completed. As (Hellin & Meijer, 2006) the quantitative study gives more information about activities and relations in the chain and makes the study more certain. When the value chain is mapped out it is time to investigate the chain in numbers; costs and the outgoing values in each step, from which the net output value can be calculated. Other interesting points to study in the chain are: flow of material in the chain, employments, services and consultants used in the chain where the products end up after sales and how much to each customer.

To get a good picture of the value adding throughout the chain it is important to collect the data over time to see changes and trends in the chain. According to (Kaplinsky & Morris , 2000, p.53 a five year period is recommended.

Since different activities along the chain is performed and influenced by one another. For instance relations between actors in a chain can be affected by the governance within each step. The conditions might be set up by the most powerful actor in the value chain and the others have to adapt to the rules. The largest firm usually has the largest influence on the other actors in the chain. By doing a value chain analysis different indicators can be calculated to get a hint about which actor is the most powerful. One indicator is how big share each actor has from the total value added in the chain. As (Kaplinsky & Morris, 2000, p.66) another indicator is how big share of the total profit in the chain each actor gets.

2.1.3. Why Value Chain Analysis?

Traditionally, little attention has been paid to the value chains by which agricultural products reach final consumers and to the intrinsic potential of such chains to generate value added and employment opportunities. Though high-income countries add nearly US$185 of value by processing one tone of agricultural products, developing countries add approximately US$40. Besides, while 98 percent of agricultural production in high-income countries undergoes industrial processing, barely 38 percent is processed in developing countries. According to (UNIDO, 2009) these indicate that well developed agro-value chains can utilize the full potential of the agricultural sector.

The value chains analysis highlights the need for enterprise development, enhancement of product quality and safety, quantitative measurement of value addition along the chain, promotion of coordinated linkages among producers, processors and retailers, and improvement of the competitive position of individual enterprises in the marketplace. This approach goes beyond looking at agro-industrial production in isolation to scrutinize interactions and synergies with other actors and the business and policy environment. By revealing strengths and weaknesses, value chain analysis helps identify possible corrective measures. Also, this approach brings together the various levels and components of potentially upgrading chain interventions.

Value chain analysis also reveals the dynamic flow of economic, organizational and coercive activities involving actors within different sectors. As (UNIDO, 2009) it shows that power relations are crucial to understanding how entry barriers are created, and how gain and risks are distributed. It analyses competitiveness in a global perspective. Regardless of a variety of different value chain analysis methods as experience has shown that all analyses have similar elements. These elements include: end markets and competitiveness, relations among participants (shown in a value chain map), governance structures, and constraints.

2.1.4 The Coffee Value Chain

The first stage in the coffee value chain includes process from growing to production of coffee beans involving the construction of nurseries, planting, maintenance and harvesting of mature beans (primary phase in the value chain).The second stage encompasses primary post-harvest processing of mature beans (International coffee Council, 2015) .This stage can create important added value depending on whether the red cherries undergo wet or dry processing. The third stage involves marketing and packaging. The last phase encompasses all activities included in roasting and distribution for final consumption. This last stage of value chain existence only in a limited number of coffee exporting countries and seldom occurs in Africa (ibid).

2.1. 5 Global Coffee Value Chain

Coffee is one of top cash crop produced in both developed and developing countries. Coffee production is believed a global value chain, which indicates that by the time a coffee bean has been picked, roasted and sold it has pass through to more than one country although coffee production can be regional and sub national value chain. According to (Bart, 2006) these, regional and sub national value chains obtain the left over coffee which is not of high quality (i.e. producing countries receive the lowest grade coffee and export the best).

Due to uncertainty in the business environment different commodities faced fluctuation of price both at national and world market. The world coffee market has experienced spectacular change over the past couple of decades because of transforms in global policies and new obligations on the supply and demand sides. As (Petit, 2007) these issues, jointly through technological innovations, have intensified the power irregularities among the different actors in the global value chain and created it more hard for the poor growing countries to split the advantage of coffee trade.

Coffee production and coffee use are obviously divided. More than 60 developing and less developed countries produced coffee. The developed countries Europe with the US and Japan drink most of the coffee produced. Coffee is one of the key export determined product for majority of coffee producing countries over 60% of total production is exported. It is estimated that 25 million farmers worldwide produce coffee, most of them smallholders with plots of 1-5

hectares. As (ICO, 2007) they work in a global market where there is presently an oversupply of low quality coffee, which is driving down prices.

Coffee is one of the traded commodities in both national and international market. It is considered with the organization of economic activity among market and actors. According to (Gibbon and Ponte, 2005) value chain analysis not combines the international arrangement of production, trade and consumption of products and permits for identification of actors and geographical division. The value chain approach has been expanded by the world systems theorists and has been employed as key logical tool in studies of the coffee market. The coffee value chain can be improved through product development and positional consumption. According to (Kaplinsky, 2006) producers have centered mainly on productivity improvement, while roasters and retailers have stressed product innovation.

Universal value chain for the coffee industry can be explained as: first, farmers pick and dry or wet process the coffee cherries. They receive a farm-gate price for the coffee beans; the coffee cherries are continuously processed, with a factory gate price paid for both the dry and wet processed coffee cherries; they are passed to an intermediary for exportation, at the FOB price. The beans are sent to the importing countries, where they arrive at the „Cost, Insurance and Freight" (CIF) price; They are then sold at wholesale prices; The beans are then roasted and sold at factory gate prices; Finally, retailers sell the s at retail prices to the public for domestic consumption, or for out of home consumption by restaurants, caterers and coffee bars (GIZ, 2011).

2.1.6 Coffee Production and Export in East Africa

Coffee plant is native to Africa country and it was in Ethiopia that the custom of drinking coffee primary expanded. Robusta and Arabica are the two botanical varieties, originate from Africa. Robusta coffee is grown at lower altitudes whilst Arabica coffee is grown at higher altitudes and often on volcanic soils. Robusta coffee is easy and less costly to cultivate than Arabica. Coffee is one of cash crop for the economy of developed and developing country. It is the main source of income for more than10 million 8 households in 25 African coffee-growing countries. A number of these countries based coffee as chief source of foreign exchange revenue.

According to (Moleketi, 2016) coffee is a fundamental source of export earning of the country besides to contributing a major share of tax income and Gross Domestic Product. Africa is the region with the largest number of coffee producing countries: 25 as opposed to 11 in Asia & Oceania, 12 in Mexico & Central America and 8 in South America (International Coffee Organization, 2015). In Africa production of coffee showed negative increase over the last 49 years. During the period between 1965/66 and 1988/89 average production was 19.4 million bags per crop year when the coffee market was regulated under the export quota system. In the period between 1989/90 and 2014/15 under the free market economy system, average production per crop year was 16 million bags. Throughout those two periods, Africa share of coffee production in the world market has therefore reduced from 24.9% to an average of 14%. Production during crop year 2014/15 was around 16.9 million bags, or 12% of the estimated world production of 141.7 million bags. Of this, an estimated 10.4 million bags were produced by just two countries (Ethiopia and Uganda) (ibid).Through the period from 1965/66 to 1988/89, 8 African countries were among the top 20 coffee producing countries that accounted for 91% of world production. Moreover, the average volume produced by those 8 countries accounted for 21.5% of world production. The countries are Côte d'Ivoire (5.1% of world production), Ethiopia (3.7%), Uganda (3.6%), Angola (2.2%), Cameroon (2%), Democratic Republic of Congo (1.8%), Kenya (1.8%) and Madagascar (1.4%).However, during the period between 1989/90 and 2014/15, only 4 African countries ranked among the top 20 producing countries that account on average for 93.7% of world production. As International Coffee Organization, (2015) the four African countries in question, which account for only 9.9% of world production, are Ethiopia (3.9%), Uganda (2.6%), Côte d'Ivoire (2.5%) and Kenya (0.9%) .

It is clear that all African countries except Ethiopia and Uganda experienced declining coffee production after the period from 1965/66 to 1988/89 (International Coffee Organization, (2015).The cause would be the introduction of free market, mainly as a consequence of decreased government involvement. The major countries influenced involve Angola, which accounted for on average 5% of annual world production until the mid 1970s, and has lost its place among the region's leading producers, with an estimated production of just 35,000 bags in the crop year 2014/15 compared to 3.5 million bags in1970/71. The Democratic Republic of Congo and Madagascar have also lost significant market share, with 335,000 and 621,000 bags respectively. But, coffee rehabilitation programs were practiced in these countries, mainly in

Angola, may help to reverse the downward trend (ibid). The most dynamic growth in African production was viewed in Ethiopia, which has recorded an average annual growth rate of 2.2% over the past 50 years, increasing to 2.7% since crop year 1989/90(ICO, (2013). The country‟s production tendency is usually upward regardless of some downward disruptions, attaining about 6.6 million bags in 2014/15.Our country is sole in Africa in so far as it has a strong domestic coffee consumption culture, which frequently accounts for over half of production. Other African producing countries proofed low production levels that were aggravated by the introduction of the free market, predominantly as effect of decreased government participation. Nevertheless, coffee is still very important source of foreign revenue and as well accounts for a major share of tax revenue and gross domestic product for many countries in Africa (ibid).

2.1. 7 Coffee Production in Ethiopia

In Ethiopia there are numerous ways in which coffee is cultivated. First, there is forest coffee, which grows freely in the forest. Semi-forest coffee is harvested from wild coffee plants that grow on private land and receive little or no cultivation. Garden coffee is cultivated by smallholders on small plots. Finally, plantation coffee is grown on large plantations, almost all of which were formerly state-owned farms.

Traditionally, coffee is grown in the shade of trees, and coffee grown in this manner is referred to as “shade grown “coffee. An increasing number of farmers are choosing to use sun cultivation, a method in which coffee is grown in rows, fully exposed to the sun with little or no protection from forest canopy. This causes berries to ripen more rapidly, which produces higher yields. However, this method necessitates the clearing of trees and use of fertilizer and pesticides, thereby forfeiting the eligibility of the crop for organic or eco-friendly specialty status. Deforestation, pesticide pollution, habitat destruction, and soil and water degradation are cited as undesirable side effects of sun-cultivated coffee. Sun cultivated coffee is also widely regarded to be of inferior quality compared to shade-grown coffee.

Cultivation of coffee in Ethiopia is primarily performed by smallholders, either running garden farms or picking wild and semi-wild coffee. Approximately two thirds of the land cropped with coffee is under smallholder cultivation, whereas just under a third produces wild or semi-wild coffee. Large plantations account for a very small proportion of coffee producing land. As most

of Ethiopia‟s coffee is either cultivated by smallholders or grows wild, it is a labor-intensive industry and therefore does not require large quantities of capital.

Land is provided to farmers by the government, so this does not constitute a financial hurdle for most producers. One significant cost that should be highlighted, however, is the opportunity cost of cultivating coffee. Once planted, coffee plants take four years to mature to the point where they start producing a harvestable crop. The loss in revenue that could be earned by using the land to grow alternative crops during the maturing period is therefore the most significant fixed costs for most coffee farmers. That said, garden coffee can be successfully intercropped to diversify income streams.

Smallholders require very little working capital, as the input supplies are limited to small quantities of fertilizer and perhaps the occasional replacement of tools. Farmers are generally not obliged to remedy environmental degradation arising from their production and so do not incur costs of environmental renovation. Owners of larger farms and plantations do require working capital, mostly to hire labor, as coffee production is labor intensive. In terms of input supply, the private sector is weak. Opportunities lie in promoting nurseries that develop and distribute newer disease resistant strains cost-effectively.

2.1.8 Importance of cooperatives sector

A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise (International Cooperatives Alliance, 2017).The contribution of the sector was immense for the past economic development of different countries in the world. According to data collected by the International Cooperative Alliance (ICA) indicate that the cooperatives movement brings together over one billion people around the world. In 1994 the United Nations estimated that the living of nearly three billion people, or half of the world‟s population, was made secure by cooperatives enterprise. These enterprises keep contributing in social and economic activities of the communities. Here is a brief summary illustrating the significance of the cooperatives for the economies of several countries. The relevance and contribution of the cooperatives movement to economic and social development can be seen from the evidences given below.

Cooperatives create and maintain employment

- In France, 21,000 cooperatives provide over 1 million jobs representing 3.5% of the active working population in 2010.
- In Kenya, 63% of the population derives their livelihoods from cooperatives. Approximately 250,000 Kenyans are employed or gain most of their income from cooperatives in 2009.
- In Colombia, the cooperative movement provides137, 888 jobs through direct employment and an additional 559,118 jobs as worker-owners in workers cooperatives- providing 3.65% of all jobs in the country.
- In Indonesia, cooperatives provide jobs to 288,589 individuals in 2004
- In the United States, 30,000 cooperatives provide more than 2 million jobs.
- In Ethiopia, 50% of the population directly benefited from the service of cooperatives. Exactly 805 thousand Ethiopian are employed or gain most of their income from cooperatives in 2014. That means a member on average may have 5 family, cooperatives serving for 45million of the population.

Cooperatives are significant economic factors in national economies

- In Denmark, consumer cooperatives in 2007 held 36.4% of consumer retail market.
- In Japan, the agricultural cooperative report states outputs of USD 90 billion with 91% of all Japanese farmers are in membership. In 2007 consumer cooperatives reported a total turnover of USD 34.048 billion with 5.9% the food market share.
- In Mauritius, in the agricultural sector, cooperatives play an important role in the production of sugar, vegetable, fruit and flower, milk, meat and fish. Nearly 50% of sugar-cane planters are grouped in cooperatives.
- In C**ô**te d`Ivoire, cooperatives invested USD 26 million in to setting up schools, building rural roads and establishing clinics in 2002.
- In New Zealand, 3% of the gross domestic product (GDP) is generated by cooperative enterprise in 2007.

- In Uruguay, cooperatives are responsible for 3% of the GDP. They produce 90% of the total milk production, 34% of honey and 30% of wheat. 60% of the production is exported to over 40 countries in the world.

Large segments of the population are members of cooperatives

- In Canada, four out of every ten Canadians are members of at least one cooperative. In Quebec, approximately 70% of the populations are members of cooperatives. While in Saskatchewan 56% are members.
- In Malaysia, 6.78 million people or 27% of the total population are members of cooperatives in 2009.
- In Norway out of the population of 4.8 million people, 2 million are members of cooperatives.
- In Paraguay, 783,000 people or 18% of the population are members of 1,047 cooperatives. These coops have a direct impact on the livelihoods of over 6 million people.
- In Spain, 15 % of the population or 6.7 million people are members of cooperatives in 2008.
- In Ethiopia, 9.2 million people or 10% of the population are members of cooperatives in 2014.Assume the total population of Ethiopia is 90 million (FCA, 2014).

The International Cooperative Alliance (ICA) represents close to one billion individual members. This statistics have been calculated from 94 ICA`s member countries (as of October, 2013). Therefore, the country with the largest number of individual members indirectly represented by the ICA is the United States with 256 million members. There are nearly 30,000 cooperatives in the US. The next countries are in Asia, with India following next behind the US with 93.7 million individual members. And then Japan with 77 million individual members. The fourth largest number of members is in Iran with 36.9 million individual members. All in all, five of the top ten countries, by membership, that the ICA represents- are in Asia. Italy is the first European country with 22.5 million individual members, represented through their organizations by ICA.

2.1.9 Cooperatives in Ethiopia

Cooperatives, as economic enterprises and self-help organizations, play a meaningful role in uplifting the socio-economic conditions of their members and their local communities. The people of Ethiopia have a very long social history of working together to fulfill their socio-economic needs. Many social events are still taking place in rural Ethiopia through collective effort. The Government of Ethiopia has identified the cooperatives form of business organizations as instrumental to socio-economic development and has paved the way for better cooperatives development in the country by creating the legal basis and expansion of human resource development at higher institutions. In countries where a cooperatives activity is developing strong cooperatives are backbone for the economy of the country. In our country the establishment of modern cooperatives took more than fife decade. According to Federal Cooperative Agency complied report up to December 30/2009 E.C totally there are 15,482,168 (Male 11,041,619 and Female 4,440,549) members and 79,038 primary cooperatives within capital of 13,874,369,638.00. In addition currently 370 cooperatives union are performing their activities and earns 3,808,433,565.00 capital. In general the cooperatives sector earns 17.68 billion capitals. Furthermore the saving culture of the cooperatives is growing from time to time and it become 7.9 billion birr and credit distribution riches 6 billion birr. Cooperatives have played a considerable role in improving smallholders‟ access to inputs; services, information and markets, yet the cooperative movement in Ethiopia faced a number of problems in the past. The current free market economy of the country is conductive to cooperatives development, but their limited capacity has inhibited them from making full use of the existing opportunities.

2.1.10. Empirical Review of Related Literatures

This section presents the assessment of research papers written in coffee value chain in general specific focus on coffee marketing cooperatives. The following research papers which were conducted in Ethiopia are selected because of their similarity in the current study.

Dereje (2007) used value chain approach to study the competitiveness of Ethiopian coffee in the international market. The study indicates that Ethiopian farmers have low level of education, large family size with small farmland and get only 3% of the retail price in the German market. Thus, policy intervention was suggested to improve farmers‟ performance.

Yuka Kodam (2007) conducted research on new roles of cooperatives in Ethiopia in the case of Ethiopian Coffee Farmers Cooperatives in general and with special focus to Yirgacheffe Farmers Cooperative Union (YCFCU) and its primary cooperatives in particular. The study specify that it is too early to evaluate the activities of coffee cooperatives because they began only in 1999, but at this point, the effects of the cooperatives appear positive for farmers, especially in terms of price. Finally the study recommended improving the management capabilities and accounting skills of cooperatives is critical for the development and sustainability of cooperative activities.

As well a research conducted by Till Stellmacher (2007) prospects and challenges of forest coffee certification in Ethiopia: the need to effectively link economic benefits and biodiversity conservation**.** The study argued that current activities to certify forest coffee in Ethiopia face practical performance problems and structural dilemmas. The development of a consistent and distinctive standard for forest coffee from Ethiopia is recommended. Beyond, functional and product upgrading through institutional restructuring and quality enhancement are required.

A study conducted by Policy Analysis and Economic Research Team (2008) : on analysis of coffee supply, production, utilization and marketing issues and challenges in Ethiopia explain the coffee supply, quality and standard patterns; demand side and marketing issues and the actual and potential problems encountered in supply and marketing of Ethiopia‟s coffee. The study assessed the bottlenecks and/or the challenges of the Ethiopia‟s coffee export activities and examine alternative solutions to maximize earnings from the “green gold”, coffee. Since it is a macro level analysis, it was not possible to see coffee supply and marketing issues at regional, zonal and grass root levels. Thus, for more understanding and deeper investigation of the

problems and potential solutions, the team recommended analysis has to continue till Wereda levels including the institutions involved in coffee marketing and inspecting.

Besides Aslihan Arslan and Christopher P. Reicher (2011) studied the effects of the coffee trade marking initiative and Starbucks Publicity on export prices of Ethiopian Coffee. They find that the prices of the trademarked coffees increased by about 10% relative to the non-trademarked coffees following these interventions. The magnitude of this change is comparable with the farm gate prices reported in the literature; however, the study cannot establish direct causation or observe the pass through into farm gate prices.

As well Susan Ruth Holmberg (2011) conducted a research on solving the "coffee paradox": understanding Ethiopia's coffee cooperatives through Elinor Ostrom's Theory of the Commons. The study concluded that both the design principles that Ostrom identifies for governance rules and list of predictors for successful common property resource management institutions suggest that Ethiopia‟s coffee cooperatives could be in peril. The research suggested that by expanding Ostrom‟s governance framework to incorporate a broader enabling role for governments as well as supportive roles for civic organizations, NGOs, and social movements, greater potential for the success of the Oromia Coffee Farmers Cooperative Union.

Furthermore Murphy and Dowding (2014) assessed coffee bean: a value chain and sustainability initiatives analysis. The paper examines Starbucks‟ corporate strategy of sustainable efforts in Ethiopia, particularly in the sustainable sourcing Arabica coffee, discusses the value chain of coffee, issues surrounding the coffee supply chain and the need for sustainable coffee production and Starbucks‟ position and influence on the coffee trade, and the measures that Starbucks is taking to ensure sustainability efforts throughout the coffee supply chain. The review points out that large coffee producer have also adopted sustainability standards across each stage of the value chain.

Also a research on effectiveness of cooperatives in coffee value chain: an analysis in Sasiga District of Oromia Region, Ethiopia by M. Karthikeyan (2015) indicated that variables such as trust, technology, market information, training, timely delivery of products, finical supports were found to be critical factors influencing the effectiveness of cooperatives in coffee value chain. The study revealed that greater attention should be given by all stakeholders to design strategies on how to smooth their relationship and avoid any bottlenecks such as lack of trust, bribery

practice and designing efficient customer service. Also training should be the major component of the service provided to members, sufficient credit facilities should be available in a timely manner to cooperative members, efforts have to be made to link farmers to the market and appropriate infrastructure should be in place, regarding the prices paid by cooperatives to their members, the prices should be fair enough to compensate farmers, greater care must be taken in the recruitment and selection of these committee especially focusing on their character and ethical standards to reduce abusive and corrupt practice and government (Woreda level agriculture and development Offices) needs to work hard in supplying inputs such as fertilizer, seed and chemicals needs.

A study on marketing information operation in Ethiopia with special reference to the Ethiopia Commodity Exchange (ECX) Coffee Trading by Girma Nigussie Kinato (2011) revealed that inadequate information centers and information on coffee supply, qualities, prices, roasters. Due to the relatively low price of coffee paid to farmers, many coffee producers have shifted to high value cash crops such as" khat" which is a narcotic plant widely consumed in east Africa but banned throughout the united states and much of Europe. Thus, given the government controls the smallholders coffee producers that they can not to produce "khat" which encourages the expansion of an illegal business trend.

In addition analysis of market chains of forest coffee for the case of Belete-Gera forest in south western Ethiopia by Zekarias *et al*., (2012) indicated that producers, assemblers and wholesalers are the major actors involved in the market chain of coffee. The study recommended the following interventions are necessary to improve the efficiency and performance of the existing marketing system: establishment of an improved transportation system, establishment of producers‟ cooperative, establishing of price premium system for quality product, a strong and participatory forest management strategy.

Hailemichael Mulie (2014) conducted research on the determinants of profit efficiency of coffee producing and marketing cooperatives in the case study of Sidama Coffee Farmers‟ Union point out that: area or land under coffee and cost of hired labor had positive impact on profit levels while cost of family labor and capital were found to have negative influence on profitability. The analysis reveals that firms were not operating at profit frontier and scored a mean profit efficiency of 57 and it implies there a 43% profit loss due to firm specific and institutional

variables. Further analysis showed coffee farmers are losing income due to a locative and technical inefficiency. The established source of inefficiency variables were found limited access to credit extension worker lack of storage after harvest, education level of the farmers and the major determinants were access to extension service, lack of formal education and storage facilities. The research has come up with recommendation: government need to train farmers about basic skills of farming and technology diffusion, establishing and strengthening existing cooperative banks to enable farmers to have access to credit facilities so as to uplift and scale up the lively hood of farmers.

Alemayehu Asfaw Amamo (2014) conducted research on coffee production and marketing in Ethiopia. The research indicated that developing strong link between the value chain actors in chain is very important, increase coffee production, productivity, sales value and marketing by international level it needs standard quality level improvement is very important for the Ethiopian smallholder farmers, privet and public coffee producers output by using coffee production and marketing value chain governance and participatory methods identification and application is very important to selective commodities and interventions for market-oriented value chain development problem. This review recommends that value chain tools from production to final consumption in domestic and international market must analyze coffee production and marketing efficiency in Ethiopia.

A study on export marketing practices, problems and prospects of Oromia Coffee Farmers‟ Cooperative Union in Ethiopia by Tamiru kumsa Deresa (2015) shows that the factors which influence union‟s export performances are competition, long duration of export document process, coffee quality, export barrier from country destinations, delay in transportation, communication barrier, lack of international market knowledge, export administrative procedures, unofficial fee in export documents processing, incapable to supply coffee in time by members, private traders intervention and delay of shipping. The study recommended that all the problems indicated above, in one way or another related with or could be addressed through collaborative and deliberate action of both the members and government. So, from the members‟ side, high commitment as a principal stakeholder and sense of ownership is needed. From the government side, creation of conductive environment through formulation of sound cooperative policy that creates competitive cooperatives which is enough to satisfy their members and customers is necessary.

Also Muhabie Mekonnen Mengistu (2015) performs a study on assessing the performance of coffee marketing cooperatives in Ethiopia with a special focus on Yirgacheffe Woreda. The result revealed that coffee cooperatives in the study area are moderately progressing so far as strengthening their financial positions and serving their members is concerned. However, they are still challenged by different impinging factors. Finally the study recommended cooperatives should find solutions that can get out them from their current financial predicaments. To do the same, the financial institutions which are the main stays of cooperatives source of finance should be cooperative enough in delivering credits at the right time and place. Moreover, the cooperative societies themselves should device ways which would have taken them away from the financial dependence on the lending institutions. In the long run, establishing cooperative banks could be one of the pertinent solutions for this problem. The role of the promotion office in facilitating access to credit, manpower training and conducting researches should not also be undermined.

In addition an assessment on agricultural co-operatives in Ethiopia: evolution, functions and impacts by Delelegne *et al*., (2016) shows that the impact of commercialization on farmer welfare is still inconclusive. Both the institutional environment and the internal governance structure have a hard time adjusting to changing economic conditions.

Further an assessment of factors influencing the market performance of coffee farmers‟ cooperatives in Melka Balo Woreda in the Case of Kurtu Cooperatives Society, Ethiopia by Fethi Omer *et al*., (2016) specify that sample cooperatives were characterized by lack of marketing facilities, shortage of land, poor road infrastructural problems , prevalence of diseases that influence farmer‟s market performances and also traders business were lack of road, lack of transportation, and also the constraints indicated by wholesalers and retailers with respect to coffee marketing include delay in unloading coffee at ECX which creates additional cost and the most important marketing problems reported by the traders include too much competition with unlicensed traders and the overall storage of coffee supply**.** Based on the findings the researcher is going to recommend the following points: improve land and livestock productivity by introduction of feasible innovations and other means and to create off-farm and non-farm employment opportunities for the farmers in order to reduce their dependence on land, the government should have to focus on improving for decentralization of the highly centralized

coffee inspection and grading centers together with modern storage and processing facilities, the provision of licensing for integrated activities, the government should abandon the restriction on the areas of operations being imposed on traders and improvement of the marketing infrastructure is another area of intervention to improve the performance of coffee market in the study area.

Generally, a value chain approach is particularly effective at diagnosing challenges and indicating solutions. However, value chain analysis on some important crops, in Ethiopia, is not adequate (Kaleb, 2008). Moreover the value chain analysis in the coffee sector that took the lions share of foreign income of the country need to get great emphasis. Especially areas with high producing potential of coffee require greater concern. Due to this the researcher conducts research on the value chain analysis of coffee in Gedio Zone in general with special focus on Yirgacheffe Coffee Farmers Cooperatives Union (YCFCU) in particular.

2.1.11 Literature gaps identified

In general, the above reviewed articles and research papers have the following major gaps; failure to make specific conclusion regarding the coffee marketing cooperatives in the coffee value chain, unable to conduct the relationship, roles and factors that challenge the coffee value chain of the coffee cooperatives, failure to study coffee marketing cooperatives as a single actor in the value adding activities, poor sampling method, failure to justify sample size selection and lacking focus.

2.1.12 Conceptual framework

Relationship: the fundamental success of the value chain would depend on the form of relationship between the members. The mode of relationship is fundamental to the design of the value chain. Cooperation among firms through vertical or horizontal relationships is critical for transferring skills and reducing transaction costs. Vertical relationship reflects the quality of relationships among vertically linked coffee value chain actors up and down of the value chain. Due to efficient transaction along the chain the actors that are vertically related in the coffee value chain increase competitiveness of the entire industry .Furthermore, vertical linkages make easy the delivery of benefits and embedded services and the transference of skills and information between firms up and down are vertically linked to a varied range of market actors

including wholesalers, retailers, exporters, traders, middlemen, input dealers, suppliers, service providers and others. The nature of vertical linkages including the volume and quality of information and services disseminated along the coffee value chain. On the other hand, in a value chain, horizontal relationship are longer-term cooperative arrangements among firms that involve interdependence, trust and resource pooling in order to jointly accomplish common goals. It can be both formal and informal among actors in value chain. Also it reduces transaction costs, create economies of scale, and contribute to the increased efficiency and competitiveness of an industry. In coffee value chain the interrelationship of actors is essential for the effectiveness of value adding activities. Horizontal linkage is advantageous to share skills and resources and enhance product quality through common production standards. The value adding activities of each actor along the coffee value chain upgrade the performance of the service provided to the customers. In general the whole chain activities became efficient and effective than the competitors market.

Market: Play great role for the traded of different commodities. End markets are the starting point of the value chain analysis. In the coffee sector end market are both local and export market. End markets determine the characteristics including price, quality, quantity and timing of product or service delivery of the other actors. In addition, end markets are the source of power for the performance of actors of the downstream chain. In the coffee value chain both local and export market influenced the chain activities. For instance, if the demand for coffee in international market is increased the export amount of coffee will be increased this also impact the amount of coffee provided for local market. Moreover, if the union had no market place in its nearer, costs related to transportation and storage will be increased.

Government policy: On agriculture in general and specifically in the cooperatives sector in particular affect the coffee value chain activities. For instance, with the aim of securing better price in coffee market and entering into export marketing, Ethiopian government promulgated proclamation no 147/1998. The proclamation outlines the layered organizational structure of the cooperatives, which was not permitted by the previous regimes. As Dorsey & Tesfaye (2005) the organization can have four layers, i.e., primary cooperatives, unions, federations, and cooperative leagues, although only primary and union levels have been formed to date in the country. Since primary coffee cooperatives lack required human resources and logistical capacity the Ethiopian

government took the initiative to establish Coffee Farmers Cooperative Unions to manage coffee export business on behalf of primary coffee marketing cooperatives. Since agriculture is the backbone of the Ethiopian economy government design different policy and strategies to support agricultural activities. Policy related to the coffee marketing cooperatives is one of them that affect the value adding activities of each actor along the chain.

Finance: The biggest problem of the unions and cooperatives is the shortage of funds with which to purchase coffee. They finance their transactions using credit from banks. In cases in which they are unable to repay the credit, they are not granted new credit. Some past purchase records of cooperatives show some years without any purchases because of their failure to repay the banks. Financial constraints limit the amount of coffee purchased. The coffee cooperatives overall require sufficient funds to correctly do their activities. The assets of the cooperatives might come from their members in the form of saving from financial institutions through credit. If the financial position of the coffee cooperatives is weak their business activities will be affected negatively.

Competition: Among the private traders, suppliers, exporters and other coffee marketing cooperatives union affect coffee value chain of the union. The competitions affect the development and expansion of the union negatively and positively. For instance, if the union scan the competitive environment of the coffee market in good manner than competitors it can gain the competitive advantage than others. On the other hand, if it cannot achieve it lose the competitive position in the coffee market.

Human and Physical resource: coffee production is labor intensive with minimal use of purchased inputs. This makes labor the most important input. Human resource is the most essential factor for the achievements of activities. The availability of skilled man power in the day to day operation of the union would strength the internal as well as the external work motive of the staffs. In today‟s competitive environment if organizations need to survive in the business they have to focus on their human power. Moreover the physical resources like infrastructural facilities also influence the purpose of the union. If the study area has no infrastructural facilities, the achievement of the union will be influenced.

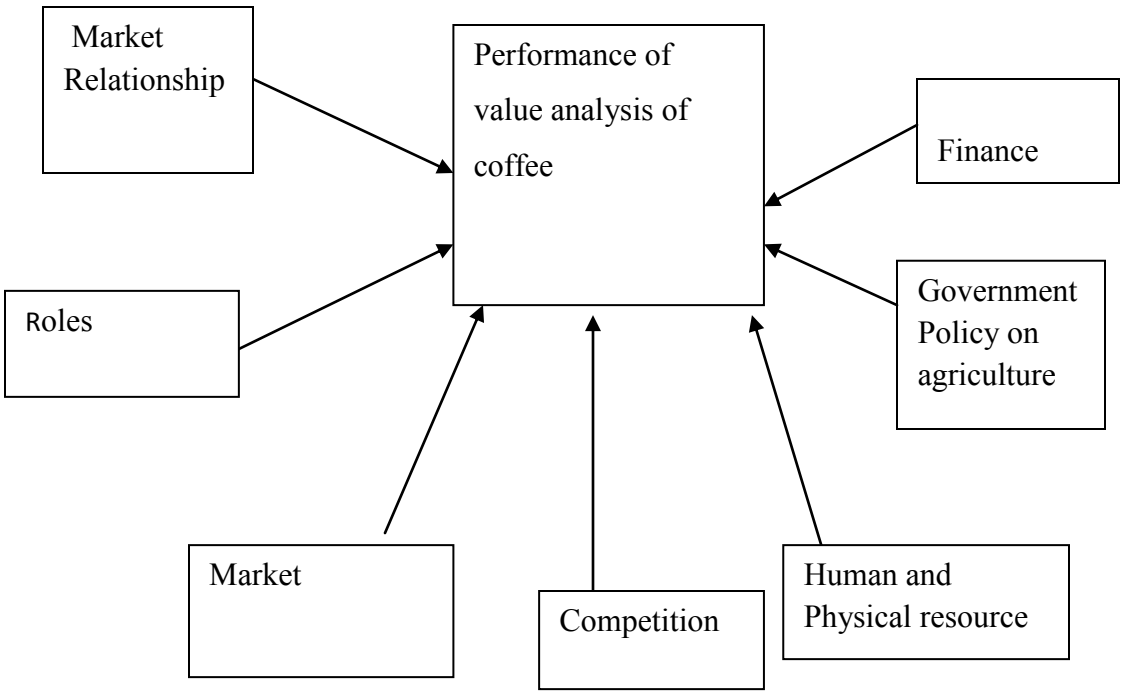


Figure 2: Conceptual framework

Source: Modified and adopted conceptual framework of coffee value chain developed by Yuka Kodama (2007) and Porter (1985)

Chapter Three

3.1. Research Methods

This chapter describes research methodology in general and the methodology that used in this research. Description of study area, research approach and design, methods of data collection, population and sample, data source and types, data collection procedure, ethical consideration and data analysis are also included in this chapter.

Since research is the means to study the problem existed in the real world situation considering the difficult scenario for accomplishment of the investigation is important. According to Kothari (1990) research design is needed because it facilitates the smooth sailing of the various research operations, thereby making research as efficient as possible yielding maximal information with minimal expenditure of effort, time and money. Also research methodology is a way to systematically solve the research problem. It is necessary for the researcher to design his methodology for his problem as the same may differ from problem to problem. A proper design and methodology may support a researcher to position a matter in question in the big picture. It helps him/her to constitute a framework detail for narrowing down and unveiling the main problems underneath with the hope to find out an optimized solution as an answer. Therefore, there is a true demand on requirement for selecting a suitable and well-fit design and pedagogy approach to the subject.

3.2. Description of study area

Gedeo is a Zone in the Southern Nations Nationalities and People Regional State (SNNPR) of Ethiopia. This Zone is named after the Gedeo people, whose homelands lies in this zone. The zone is well known for producing and supplying high quality coffee (Yirgacheffe-Coffee) to internationalmarket.

Gedeo is bordered on the east, south and west by the Oromia region, and on the north by sidama. Dilla is the administrative center; other towns include Yirgachefe (which is provider of internationally high quality of organic coffee), Wonago, Fisahagenet Chelelekitu Gedeb and Bulle.

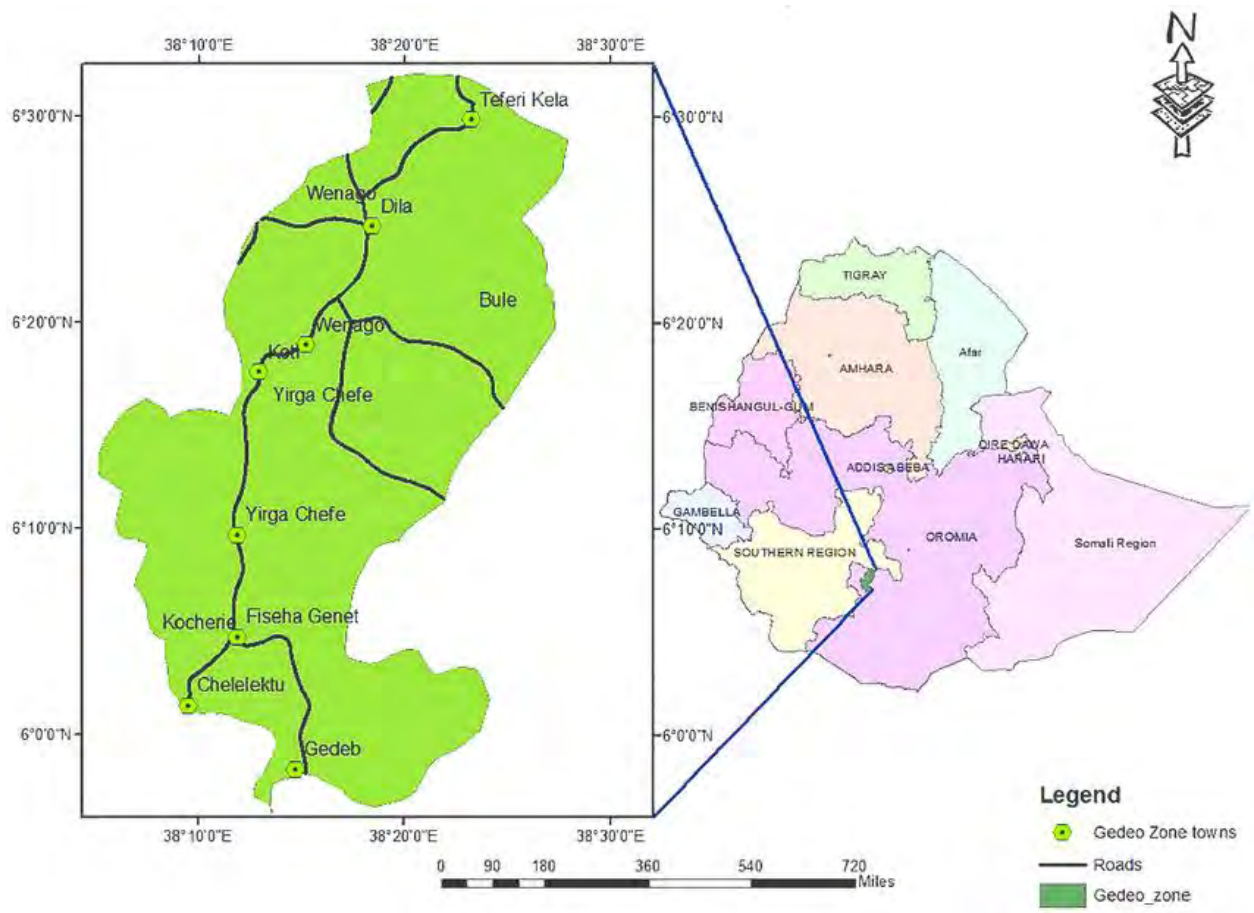


Figure 3 Gedio Zone location map

Source: GIS map, 2013

3.3 Research Design

The research design of the study was cross-sectional research design. The approach of the study was mixed research approach. In this study**,** a mixed method was employed to get detail and diverse information on the same issue. It also helps to triangulate the reliability of the information which was gathered. According to Sarantakos (1998) it is usual for researchers to employ mixed method designs to investigate different aspects of the same phenomenon. In this study both quantitative and qualitative methods were employed.

3.4. Data Types and Sources

The study conducted using both primary and secondary data sources. The primary data collected from farmers. The information collected was on the overall socioeconomic characteristics, relationship, roles and problems farmers faced in the coffee value chain of the cooperatives using

questionnaire. In addition Key informant interview were conducted with the officials of primary cooperatives and executes of union. On the other hand the study also employed information from secondary sources such as district coffee marketing cooperatives, Federal Cooperatives Agency, Ethiopia Coffee and Tea Authority and Yirgacheffee Coffee Farmers Cooperatives Union.

3.5. Method of Data Collection and Sampling Technique

Questionnaires were designed for farmers. Through the course of field visits, the questionnaires were modified. The structured formal interview guidelines were arranged and piloted before data collection in order to include all the necessary information. The formal surveys were made with randomly selected farmers using the pre-tested structured questionnaires. In addition Key informant interview conducted with officials of the cooperatives and executives the union. Enumerators, who know the local language and have acquaintance with the culture of the local people were selected, trained and employed for the data collection.

Sampling technique is one of the most important issues in conducting research. Sample size determination also needs an important decision in sampling technique. According to Rangaswamy (1995) appropriate sample size depends on various factors relating to the subject under investigation like the time aspect, the cost aspect, the degree of accuracy desire, etc. As sample size increases, the sampling distribution of the mean decreases in variability (the standard error decreases) and become more like the normal distribution in shape, even where the population distribution is not normal.

A sampling procedure applied to draw the required number of sample units for the study. According to YCFCU (2016), the union is currently operating in six districts (Bule, Gedeb, Kochore, Dilla Zuria, Yirgacheffe and Wonago) in the Zone. However, to undertake this research paper, first the researcher was purposively select Yirgacheffe district due to its high potential of coffee production in the Zone: it is major supplier of Yirgacheffee coffee (Union report, 2016)**.** Secondly, out of seven primary coffee farmers‟ marketing cooperatives (Aramo, Domarso, Edido, Hafursa, Haru, Koke and Koga) in the district, four Primary coffee farmers‟ marketing cooperatives (Konga, Koke,Hafursa and Domarso) were selected randomly for the purpose of the study by taking into account the time and financial shortages and the wide geographical disparity of the cooperatives. Since a population from which a sample is to be

drawn constitutes a homogeneous group, simple random sampling technique was generally applied.

Coffee producers in the selected primary coffee farmers" marketing cooperatives were used as the sampling frame and the sampling units were the household heads. The determination of sample size is resolved by means of Yamane (1967) sample size determination formula with 95 percent confidence level. Moreover, 10% margin of errors was used due to the homogeneity of the population either the researcher took a single households heads or entire families in the household, it reached in the same conclusions. Therefore, to cope up this situation and with the minimum cost to reach in a better conclusion the researcher chooses to enlarge margin of error, 10%.

$$n = \frac{N}{1 + N(e^2)}$$

Where: n = sample size for the research use

N = total number of households in four coffee producing primary cooperatives
e = margin of errors at 10%

Table 1. Coffee grower households and actors sampling technique

Name of sample Primary coffee farmers" marketing cooperatives.	Total members	Sample Size	% Share
Konga	2744	49	40
Koke	1654	29	24
Hafursa	1264	23	19
Demarso	1127	20	17
Total	6789	121	1.8

Lastly, a total of 121 respondents were selected randomly from coffee producers of primary cooperatives. List of farmers was identified in each primary cooperatives using Probability Proportional to Size (PPS) sampling technique against the total number of coffee producers in the Kebeles, which constituted the sampling frame. Furthermore, officials of primary coffee farmers marketing cooperatives and Yirgacheffee Coffee Farmers Cooperatives Union were interviewed.

3.6 Method of Data Analysis

During the tasks of monitoring for those responses undergoing from errors, incompleteness and missing; and finalizing the preparation of data; we have identified responses that qualify for data analysis. It is at this stage that the overall levels of responses were examined from various angles. lastly, the received responses were analyzed using SPSS (Statistical Package for Social Sciences) version 20 to understand and summarize the data collected on value chain analysis of coffee in terms of relationship, actors roles, market issues, competition issues, government issues, financial issues and human and physical resources issues; and further compute their descriptive statistics like frequencies, percentage, mean and standard deviation. Therefore, the summary statistics was either represented by tabular form or graphically. In addition, correlation analysis conducted to measure the strength of the association between independent and dependent variables. Also, content analysis has been conducted on information collected through structured interview with officials of district primary cooperatives and executes of YCFCU.

3.7. Reliability and Validity Test

As stated by "Hair et al., (2007) reliability indicates the extents to which a variables or set of variables is consistent in what it is intended to measure" (Cited by Siddiqi; 2011:20). Reliability analysis used to measure the consistency of a questionnaire. There are different methods of reliability test, for this study Cronbach‟s alpha is considered to be suitable. Cronbach‟s alpha is the most common measure of reliability. For this study the Alpha coefficient for the overall scale calculated as a reliability indicator is 0.824. All the alpha coefficients for the scales were presented on the following table. As described by Andy (2006) the values of Cronbach‟s alpha more than 0.7 is good. The alpha values in this study are far from 0.7 and which are; therefore it had very good reliability for the questioners.

Table 2: Reliability Statistics

Cronbach's Alpha	N of Items
.824	46

3.8. Ethical consideration

In undertaking any research, there is an ethical responsibility to do the work honestly and with integrity (Adams et al, 2007:35). In light of this view, the researcher treats any information from any individual confidentially without disclosing the respondent‟s identity. Also the researcher is going to be as open mind as possible and express opinions as they are given. The literatures consult in this study are acknowledged appropriately. Further, data collectors have been given due attention for requesting the will of each actors to be treated as respondents of the study.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

Introduction

This chapter deals with data presentation, analysis and interpretation. These data are presented and analyzed based on data collected through structured questionnaires, interview, and secondary data or documents from District coffee marketing cooperatives, Federal Cooperatives Agency, Ethiopia Coffee and Tea Authority and Yirgacheffee Coffee Farmers Cooperatives Union. For this purpose, questionnaires have been distributed to 121 coffee producers in selected primary coffee farmers‟ marketing cooperatives and 114 of the distributed questionnaires were returned. So the analysis was made based on 114 responded questionnaires. These questionnaires are related to relationship, roles and problems farmers faced in the coffee value chain of the cooperatives using questionnaire. In addition to the questionnaires, secondary data or documents that are related to coffee value chain activities of the union were used in the presentation and analysis.

4.1. The General Background of the Respondents

In the following table, the demographic information of respondents is presented. These include sex of household head, age, marital status and educational level of respondents. To get information on these issues the respondents were asked structured question and their responses are presented and analyzed as follows. The results of this survey processed using the SPSS software.

Table 3 Characteristic of Respondents

Sex of household head			
	Frequency	Percent	Valid Percent
Male	82	71.9	71.9
Female	32	28.1	28.1
Total	114	100.0	100.0
Age			
20-29	4	3.5	3.5
30-39	37	32.5	32.5
40-49	41	36.0	36.0
50 and above	32	28.1	28.1
Total	114	100.0	100.0
Marital status of household head			
Single	2	1.8	1.8
Married	87	76.3	76.3
Divorce	20	17.5	17.5
Widowed	5	4.4	4.4
Total	114	100.0	100.0
Education level of household head			
Illiterate	32	28.1	28.1
(1-4) grade	27	23.7	23.7
(5-8) grade	34	29.8	29.8
(9-12) grade	17	14.9	14.9
Above grade 12	4	3.5	3.5
Total	114	100.0	100.0

Source: Survey result, 2017

As indicated in the above table, the sex characteristics of sampled households opined as, 71.9% of the sampled households were male headed and 28.1% of them were female headed. This indicates that the majority of cooperative member households were male headed. However, one of the current and critical issues related to cooperatives movement in the country is enhancing female‟s participation in the cooperative to minimize gender inequality in terms of socio economic participation.

Regarding the age group of the respondents, the larger portion of the respondents that is 41 (36.0%) falls within the age group of 40-49. Age group from 30 to 39 and 50 and above hold 37 (32.5%) and 32 (28.1%) number of respondents respectively. Respondents of age group 20 to 29 contain the least number of respondents, which are 4 (3.5%). From this we can say that 82(72.0%) coffee marketing cooperatives is filled with most actively working age group that can be able to transform the mission and vision of the coffee marketing cooperatives into reality.

As depicted from the above table concerning marital status, 76.3% were married. While, 17.5%, 4.4%and 1.8% of the respondents were, divorce, widowed and single, respectively. Therefore majority of members were married. From this one can conclude that they carry out different activities responsibly.

As showed from the above table, out of 114 of household head, 29.8% attended 5 to 8 grade. The rest 28.1% were illiterate or had not received any type of education, 23.7% ,14.9% and 3.5% of the sampled households had attended 1 to 4, 9 to 12 and above grade 12 respectively. Thus 71.9% farmers‟‟ respondents were literate. Consequently, they can easily understand and communicate with the principles and values of the cooperatives.

4.2 Analysis and Discussion of Value Chain of Coffee

Table 4: Actors relationship in the coffee value chain as perceived by the respondent

No	Item	Level of agreement	Freq	%	Mean	Std. Deviation
1	The relationship between actors in the coffee value chain is good	SD	7	6.1	4.18	1.110
		D	5	4.4		
		N	4	3.5		
		A	42	36.8		
		SA	56	49.1		
	Total		114	100.0		
2	Each actors exchange information and knowledge regularly	SD	6	5.3	4.03	1.093
		D	9	7.9		
		N	3	2.6		
		A	54	47.4		
		SA	42	36.8		
	Total		114	100.0		
3	Information about market requirements and developments, equipment and input factors of production, loans and technical assistance and training are kind of information do you get from each other	SD	-	-	4.25	.815
		D	2	1.8		
		N	21	18.4		
		A	38	33.3		
		SA	53	46.5		
	Total		114	100.0		
4	Relationship is one of the problem in the coffee value chain	SD	1	.9	3.71	.957
		D	12	10.5		
		N	31	27.2		
		A	45	39.5		
		SA	25	21.9		
	Total		114	100.0		

Source: Survey result, 2017

N.B. Mean value >3 high, mean=3 moderate and mean <3 low. Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A) and Strongly Agree (SA).

As indicated in the above table 4 items 1, 85.9% of the farmers agree that the relationship between actors in the coffee value chain is good while, 10.5% of the farmers disagree on this issue. The mean value of 4.18 showed that there is an agreement on the stated issue. The data collected from the Key Informant also confirmed the results from the respondents. This result also agreed with finding of Porter (1985) that indicated the fundamental success of the value chain would depend on the form of relationship between the members. The mode of relationship is fundamental to the design of the value chain. Hence the relationship between actors in the chain positively affects the coffee value chain of the union.

Moreover, 84.2% of the farmers agreed that each actors exchange information and knowledge regularly. Besides the mean response were greater than the moderate mean value(x=3) which is 4.03. Therefore it is possible to conclude that each actors exchange information and knowledge regularly. The results from KII are also agreed with such views of the respondents. Therefore each actors need to continue the smooth flow of information and knowledge along the chain.

In addition coffee producer were requested about their opinion whether information about market requirements and developments, equipment and input factors of production, loans and technical assistance and training are kind of information they get each other. Consequently, 79.8% of coffee producer explained that each actor along the chain exchange the above kind of information in order to effectively achieve their activities. Thus one can conclude that the level of information exchange among members is high on the above main issues.

Regarding item 4. 61.4% of farmers agreed that relationship is one of the problem in the coffee value chain with a mean value of 3.71 which is greater than the neutral value(x=3).However 19.5% of the farmers disagree to this issue. Moreover, the calculated mean value 3.71 revealing that farmer agrees that the relationship is one of the problems in the coffee value chain. The data gathered by interview from District coffee marketing cooperatives officials agreed with such sights of the respondents. However the interview results with the executive official of the union disagree to this issue. A study by Alemayehu Asfaw Amamo (2014) suggested that developing strong link between the value chain actors in chain is very important, increase coffee production,

productivity, sales value and marketing by international level. As a result the unions have to create conductive environment to minimize the risk which it may faced

Table 5: Perception of farmers on the issue of nature of participation

Nature of participation			
Attending the meetings of coffee marketing cooperatives		Frequency	Percent
	Regularly	31	27.2
	Occasionally	39	34.2
	Rarely	44	38.6
	Total	114	100.0
Attending the planning activities of the coop	Regularly	28	24.6
	Occasionally	36	31.6
	Rarely	50	43.9
	Total	114	100.0
Attending in the implementation of activities of the coop	Regularly	23	20.2
	Occasionally	53	46.5
	Rarely	38	33.3
	Total	114	100.0
Attending fund raising activities of the coop	Regularly	27	23.7
	Occasionally	37	32.5
	Rarely	50	43.9
	Total	114	100.0
Attending decision making of the coffee coop	Regularly	34	29.8
	Occasionally	63	55.3
	Rarely	17	14.9
	Total	114	100.0

Source: Survey result, 2017

The respondents were requested to check the nature of their participation. Accordingly, respondents reflected their view; they didn‟t frequently attend the meetings of coffee marketing cooperatives. Based on the fact gained from the respondents the majority of them that is

44(38.6%) said that members attend the meeting of the coffee marketing cooperatives rarely. Those respondents who were replied occasionally and regularly 39 (34.2%) and 31(27.2%) respectively. Based on this fact gained 72.8% of the respondents replied occasionally and below it. This indicates that the meeting of the coffee marketing cooperatives is not as such attractive to be attended by its members. Hence the coffee marketing cooperatives is expected to change its meeting practice to be conductive for the members.

Furthermore, the respondents were asked to ensure their participation in the planning activities of the coop. As a result the majority of them that is 50(43.9%) and 36(31.6%) said that members attend the planning activities of the coop rarely and occasionally respectively. On the Contrary, the rest of the respondents 28(24.6%) replied the members regularly attend the planning activities of the coop. Based on this fact gained 75 .5% of the respondents replied occasionally and below. Therefore the coffee marketing cooperatives is expected to initiate members to actively attend the meeting of the coop.

Moreover, 46.5% of respondents occasionally attend the implementation activities of the coop. In contrast, the rest of the respondents 38(33.3%) and 23(20.2%) replied rarely and regularly members attend the implementation activities of the coop respectively. Consequently, the coffee marketing cooperatives need to empower their members to play active role in the implementation practice of the coop.

The last but not the least response related to nature of participation with the fund raising activities of the coop indicated that majority of the members 50(43.9%) rarely attend fund raising activities of the coop. Also the rest of the respondents 37(33.5%) and 27(23.7%) replied occasionally and regularly respectively. Thus, the coffee marketing cooperatives have to motivate members to actively attend the fund raising activities of the coop.

The last request for the members related to the nature of participation is decision making. Based on the fact gained from the respondents the majority of them that is 63(55.3%) said that members attend the decision making of the coffee coop occasionally. Those respondents who were replied regularly and rarely 34(29.8%) and 17(14.9%) respectively. Therefore, the coffee marketing cooperatives need to insist the members to actively participate in the decision making of the coop.

In general the above findings are in concurrent with finding by Krishnaswami and Kulandaiswamy(2000): which stated cooperative leaders, most importantly management committee required to be competent in identifying main members‟ demand and needs, the key markets and marketing agents and planning accordingly, to use the limited cooperative resources effectively for producing goods or providing services in order to accomplishing the organizational goals and objectives of the cooperative for satisfying members‟ need for which the cooperatives are established.

Table 6: Actor's roles in the coffee value chain as perceived by the respondent

No	Item	Level of agreement	Freq	%	Mean	Std. Deviation
1	Each actors plays roles in the coffee value chain of the union	SD	2	1.8	4.04	.977
		D	3	2.6		
		N	31	27.2		
		A	31	27.2		
		SA	47	41.2		
	Total		114	100.0		
2	Members joined cooperatives because cooperatives provide better price	SD	-	-	4.40	.859
		D	1	.9		
		N	25	21.9		
		A	15	13.2		
		SA	73	64.0		
	Total		114	100.0		
3	Members sell coffee to the cooperatives	SD	12	10.5	4.34	1.240
		D	-	-		
		N	2	1.8		
		A	23	20.2		
		SA	77	67.5		
	Total		114	100.0		
4	Members buy inputs from the cooperatives	SD	55	48.2	2.57	1.765
		D	14	12.3		
		N	2	1.8		
		A	11	9.6		
		SA	32	28.1		
	Total		114	100.0		

5	Members add value to the cooperatives	SD	28	24.6	3.53	1.694
		D	10	8.8		
		N	4	3.5		
		A	18	15.8		
		SA	54	47.4		
	Total		114	100.0		
6	Members face problem related to roles	SD	2	1.8	4.37	.915
		D	-	-		
		N	22	19.3		
		A	20	17.5		
		SA	70	61.4		
	Total		114	100.0		

Source: Survey result, 2017

The role played by each actor along the chain is important to facilitate effective achievement of activities. In this aspect, respondents were requested whether each actors play roles in the coffee value chain of the union item 1of the above table, majority (68.4%) of the farmer respondents confirmed that each actors play role in the chain. However, 4.4% of the farmers‟ respondents did not agree respectively. The rest of the farmers‟ respondents 27.2% were neutral to this issue. Moreover, the mean value of the farmers‟ respondents is 4.04. In addition all these values, was found from the document that there had always been different important activities which played by each actors along the chain. Data obtained from the Key Informant Interview indicated that there is still negligence with some actor in achieving the stated roles. From this finding one can be conclude that actors play roles in the coffee value chain of the union.

In connection to item 2 of the same table 6, 77.2% of the farmers agree that the members joined the cooperatives due to the reason that cooperatives provide better price, while 0.9% and 21.9% of the farmers disagree and neutral on the same issue respectively. According to the calculated value is 4.40 for farmers showed that respondents agreed to this issue. Additionally this response was supported from documents of the cooperatives. Since the union is farmers owned organization it offer better price for the members. The data collected from the Key Informant also confirmed the results from the respondents. This is in agreement with the result of the study by Bezabih, (2012) that indicated cooperatives play vital roles such as economic role (enhance production by providing inputs, fertilizer, improved seeds, pesticides, machinery ,etc),creates

employment and capacity building for members(social protection(price stabilization, protect members from exploitative pricing) and voicing). Therefore, price is one of the benefits cooperatives afford for their members. Hence from this finding one can be conclude that members joined the cooperatives due to the cooperatives provide better price.

Concerning members sell coffee to the cooperatives, 87.7% of the farmers respondents agreed that members sell coffee to the cooperatives as indicated in item 3 of table 6. Besides, the calculated mean value is found to be greater than the moderate agreement level(x=3). In supporting the survey, interview conducted with officials of district coffee marketing cooperatives pointed out that members of the coop sell coffee to the cooperatives through district market in each Kebeles. Moreover the documented data in each cooperative in the district contain the list of member who sold the coffee for the cooperatives. From these views one can be argued that members sell coffee to the cooperatives.

Regarding whether members buy inputs from the cooperatives, majority farmers (60.5%) disagree on the statement indicated item 4 of table 6.However 38.0% farmers agreed on the same issue. Moreover, the mean value of 2.57 for farmers‟ respondents shows that there is low level of agreement upon the focus of members buy inputs from the cooperatives. The data collected from the Key Informant also confirmed the results from the respondents. Since the cooperatives have inadequate resources that limit it from affording important equipments. Hence from this finding one can be conclude that members did not buy inputs from the cooperatives.

Concerning table 6, item 5, and farmers‟ respondents confirmed members add value to the cooperatives. About 63.2% of farmers agreed that members add value to the cooperatives. The calculated mean value of respondents greater than the moderate agreement level(x=3). In supporting the survey, interview conducted with officials of district coffee marketing cooperatives pointed out that members add value to the cooperatives through washing, sorting cherries and drying of coffee before sell coffee to the cooperatives through district market in each Kebeles. From these views one can be argued that members add value to the cooperatives.

Regarding the members face problem related to roles, in the above table 6, item 6 78.9% of farmers respondents has shown their agreement that members face problem related to roles. The

calculated mean value of farmers respondents is greater than the moderate agreement level(x=3). Data obtained from the Key Informant Interview showed that each actor should improve their level of awareness regarding to their roles. A study by Dagnachew and Adissie (2009) point out that cooperative in the earlier regimes did not play their roles for different causes. Similarly, the cooperatives in the study area faced problems in order to achieve their activities properly. From this finding one can be conclude that members face problem related to roles.

Table 7: Respondent View on the problems of market issue

No	Item	Level of agreement	Freq	%	Mean	Std. Deviation
1	Members have place to sell coffee product	SD	38	33.3	3.36	1.830
		D	7	6.1		
		N	-	-		
		A	14	12.3		
		SA	55	48.2		
	Total		114	100.0		
2	Moisture content, uniformity and color are requirements necessary for coffee marketing	SD	-	-	4.21	.602
		D	-	-		
		N	11	9.6		
		A	68	59.6		
		SA	35	30.7		
	Total		114	100.0		
3	Members have access to market information for coffee marketing	SD	5	4.4	4.17	1.072
		D	3	2.6		
		N	18	15.8		
		A	30	26.3		
		SA	58	50.9		
	Total		114	100.0		
4	Cooperatives are source of information on demand, supply and price of other markets	SD	25	21.9	2.94	1.501
		D	28	24.6		
		N	18	15.8		
		A	15	13.2		
		SA	28	24.6		
	Total		114	100.0		

5	Members know the nearby market price before sold coffee	SD	23	20.2	3.68	1.501
		D	3	2.6		
		N	4	3.5		
		A	41	36.0		
		SA	43	37.7		
			114	100.0		
6	Coffee price difference across different market in your area	SD	8	7.0	4.03	1.237
		D	10	8.8		
		N	7	6.1		
		A	35	30.7		
		SA	54	47.4		
	Total		114	100.0	3.82	1.307
7	Relative advantage of price is one requirement to sell coffee	SD	8	7.0		
		D	13	11.4		
		N	22	19.3		
		A	20	17.5		
		SA	51	44.7		
	Total		114	100.0		
8	Members sell coffee at any time without any problem	SD	32	28.1	3.00	1.546
		D	17	14.9		
		N	6	5.3		
		A	37	32.5		
		SA	22	19.3		
	Total		114	100.0		
9	Members face problem with access to market	SD	13	11.4	4.11	1.322
		D	1	.9		
		N	12	10.5		
		A	22	19.3		
		SA	66	57.9		
	Total		114	100.0		

Source: Survey result, 2017

N.B. Mean value >3 high, mean=3 moderate and mean <3 low. Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A) and Strongly Agree (SA).

There are many reasons that may confront cooperatives to carry out coffee value adding activities along the chain. It‟s found that the most serious impediments are lack of market, government policy, lack of finance, absence of competition, lack of human and physical resources, etc. As many writers have indentified in many literatures. Accordingly, possible reasons were mentioned and provided to the farmers as option to be marked. Based on the responses provided mean was calculated. As indicated in table 7, 60.5% of the farmers show their agreement on the statement that members have place to sell coffee product with the calculated mean value 3.36. However 39.4% of farmers‟ respondents did not accept that members have place to sell coffee product. This shows that the respondents agreed that the members have place to sell coffee product. In relation to the above data, interview with the official of the cooperatives disclosed that farmers sell their coffee in the respective near market place. From these views one can be argued that members have place to sell coffee product.

Concerning the requirements necessary for coffee marketing, 90.3% of farmers‟ respondents agree that moisture content, uniformity and color are requirements necessary for coffee marketing. However, 9.6% of farmers disagree on the same issue. The calculated mean value 4.21 is greater than the moderate value (x=3).This shows that respondents agreed that moisture content, uniformity and color are requirements necessary for coffee marketing. Data gathered from the interview with officials of coffee cooperatives and executes of the union discovered that the above requirements are essential for the coffee marketing. From this finding one can be conclude that that moisture content, uniformity and color are requirements necessary for coffee marketing.

As can be seen on item 3, of the table 7, 77.2% of farmers agreed that members have access to market information for coffee marketing. The mean value 4.17 of respondents shows they were strongly agreed that the members have access to market information for coffee marketing. The data collected from the Key Informant also confirmed the results from the respondents. Hence from this finding one can be conclude that members have access to market information for coffee marketing.

In relation to the source of information respondents were requested to reflect their views as stated in item 4 of table 7. Accordingly, 46.5% farmers disagreed on the statement. However 37.8% of farmers‟ respondent agreed. Furthermore, the calculated mean value is found to be less than the moderate value(x=3). This indicated that respondents did not agree on the statement.

Concerning table 7, item 5, and farmer‟s respondents confirmed that members know the nearby market price before sold coffee. About 73.7% of farmers agreed that members know the nearby market price before sold coffee. The calculated mean value of respondents is respondents greater than the moderate value(x=3). In supporting the survey the key informant interview result with both officials support the respondents. Therefore based on this finding one can conclude that the farmers aware the nearby market price before sold the coffee.

Regarding the coffee price difference across different market in the area, in the above table 7, item 6 78.1% of farmers has shown their agreement that coffee price difference across different market in the area. The calculated mean value is greater than the moderate vale (x=3). The data collected from the Key Informant also confirmed the results from the respondents. Hence the coffee price difference across different market in the area.

Moreover, 62.2% of the farmers agreed that relative advantage of price is one requirement to sell coffee. However, 18.4% of farmers did not accept the same issue. The calculated mean value is greater than the moderate mean value(x=3). Data obtained from the Key Informant Interview indicated that members of the cooperatives sold the coffee after checking the price advantage in different market in the Kebeles. From this finding one can be conclude that price is one of important requirement to sell coffee.

Regarding item 8, 51.8% of farmers agreed that members sell coffee at any time without any problem with a mean value of 3.02. However 43.0% of the farmers disagreed to this issue. As per the interview with the officials of the cooperatives members of the cooperatives faced different problems when they need to sell the produced coffee. As a result the cooperatives have to make suit the market as possible in order to facilitate the smooth flow of the product.

In relation to item 9 of table 7, on the statement members face problem with access to market, 77.2% agreed with the mean value of 4.11. Only 12.3% farmers give their disagreement to this issue. In supporting the survey the key informant interview result with both officials support

access to the market in one of the problem of the chain that confront the smooth flow of goods. This is in accord with the finding of the study by Margaret Njeri Gathura,(2013) in Githunguri District, Kenya suggested that marketing is one factor that affect the coffee production. Therefore based on this finding one can conclude that access to market is one of the problem that prohibit the effective achievement of the actors roles in the coffee value chain.

Table 8: Respondent View on the problems of government policy

No	Item	Level of agreement	Freq	%	Mean	Std. Deviation
1	The government assist the cooperatives	SD	18	15.8	3.87	1.485
		D	7	6.1		
		N	4	3.5		
		A	28	24.6		
		SA	57	50.0		
	Total		114	100.0		
2	The Kebele administrator assist the cooperatives	SD	18	15.8	3.59	1.362
		D	7	6.1		
		N	9	7.9		
		A	50	43.9		
		SA	30	26.3		
	Total		114	100.0		
3	An extension agent assist the cooperatives	SD	21	18.4	3.45	1.421
		D	9	7.9		
		N	10	8.8		
		A	46	40.4		
		SA	28	24.6		
	Total		114	100.0		
4	Government assistance in facilitating credit	SD	15	13.2	3.41	1.275
		D	10	8.8		
		N	25	21.9		
		A	41	36.0		
		SA	23	20.2		
	Total		114	100.0		

5	The current policy of government is favorable for cooperative expansion	SD	13	11.4	3.72	1.286
		D	8	7.0		
		N	12	10.5		
		A	46	40.4		
		SA	35	30.7		
			114	100.0		
6	Government policy is one of the problem in the coffee value chain	SD	3	2.6	4.04	.990
		D				
		N	35	30.7		
		A	27	23.7		
		SA	49	43.0		
			114	100.0		

Source: Survey result, 2017

N.B. Mean value >3 high, mean=3 moderate and mean <3 low. Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A) and Strongly Agree (SA).

The government policy is one of the most important issues in the day to day activities of the cooperatives. In this aspect, respondents were requested whether the government assist the cooperatives item 1 of the above table, majority (74.6%) of the farmer respondents confirmed that the government assist the cooperatives. However, .21.9% of the farmers‟ respondents did not agree. The rest of the farmers‟ respondents 3.5% were neutral to this issue. Moreover, the mean value of the farmers‟ respondents is 3.87. The government design different proclamations that facilitate the development of cooperatives in the country. In addition to all these values, was found from the document that there had been government support for different types of the cooperatives established in the country. This is in agreement with the paper presented by Kifle, (2015) at the National Conference Organized by Mekelle University and Federal Cooperative Agency (FCA) pointed out that the existence of clear and accommodating governmental policy and all-inclusive structures and the government‟s commitment to transform the subsistence economy have created conducive environment for the development of voluntary based cooperatives in the country**.**

In connection to item 2 of the same table 8, 70.2% of the farmers agree that the Kebele administrator assist the cooperatives, while 21.9% and 7.9% of the farmers disagree and neutral on the same issue respectively. According to the calculated mean value 3.59 showed that respondents agreed to this issue. The data from key informant interview support the respondents‟ idea on the issues.

Concerning an extension agent assist the cooperatives, 65.0% of the farmers‟ respondents agreed that an extension agent assist the cooperatives as indicated in item 3 of table 8. However 26.3% of the farmers did not accept the issue. Besides, the calculated mean value is found to be greater than the moderate agreement level(x=3). In supporting the survey the key informant interview result with both officials support the above stated responses. Thus based on this finding one can conclude that extension agent assist the cooperatives.

In addition farmers respondents were requested their opinion whether the government assistance is in facilitating credit. As a result, 56.2% of farmers‟ respondents agreed that the government assistance is in facilitating credit, while equally 22.0% of farmers‟ respondents disagreed and neutral to the same issue. The calculated mean value 3.41 found to be greater than the moderate agreement level(x=3). Data obtained from the Key Informant Interview indicated that the government assistance should be improved in order to increase the exchange of goods along the chain. As a result the governments have to give great emphasis for the financial ability of the cooperatives.

Regarding whether the current policy of government is favorable for cooperative expansion, majority farmers (71.1%) agree on the statement indicated item 5 of table 8. However 18.4% farmers disagreed on the same issue. Moreover, the mean value of 3.72 for farmers‟ respondents shows that there is high level of agreement. These results are in concurrent with findings by Dempsey (2006), which stated since 2001, however, cooperatives have been granted permission to by-pass coffee auction opening the way for direct export sales.

Concerning table 8, item 6, and farmers‟ respondents confirmed government policy is one of the problems in the coffee value chain. About 66.7% of farmers agreed that government policy is one of the problems in the coffee value chain. However 30.7% of farmers respondents neutral to the same issue. The calculated mean value of respondents greater than the moderate agreement level(x=3). In addition the key informant interview with officials of the cooperatives confirmed

that the government policy is the major issues that need great emphasis in the application of the strategies. This results is in concurrent with findings by Bezabih (2012),which stated as cooperatives in Ethiopia are encountered by three challenges such as lack of comprehensive policy and strategy; low capacity of cooperatives leadership and management and lack of finance by cooperatives**.** Therefore from this one can conclude that government policy is one problem that constrained the activities of the cooperatives.

Table 9: Respondent View on the problems of financial issue

No	Item	Level of agreement	Freq	%	Mean	Std. Deviation
1	Cooperatives give credit for the members	SD	23	20.2	2.66	1.323
		D	37	32.5		
		N	29	25.4		
		A	6	5.3		
		SA	19	16.7		
	Total		114	100.0		
2	The credit you get enough for production	SD	39	34.2	2.20	1.115
		D	29	25.4		
		N	36	31.6		
		A	4	3.5		
		SA	6	5.3		
	Total		114	100.0		
3	Faced any problem while wanting to borrow money from financial institutions	SD	10	8.8	4.16	1.287
		D	6	5.3		
		N	8	7.0		
		A	22	19.3		
		SA	68	59.6		
	Total		114	100.0		
4	Financial issue is one problem in the coffee value chain	SD	2	1.8	4.32	.964
		D	1	.9		
		N	25	21.9		
		A	16	14.0		
		SA	70	61.4		
	Total		114	100.0		

Source: Survey result, 2017

Finance is one of essential resources for the value adding process of coffee. In this aspect, respondents where requested whether cooperatives give credit for the members item 1 of the above table, majority (52.7%) of farmer respondents did not agree on the same issue. However, 22% and 25.4% of the farmer agree and neutral on the same issue respectively. Moreover, the calculated mean value 2.66 found to be low level from the moderate agreement level(x=3). The data from key informant interview with the officials of the cooperatives asserted that the financial ability of the cooperative is limited to give credit for the members.

Moreover, 59.6% of the farmers did not agree that the credit they get enough for production. However, 31.6% and .8.8% of the farmers neutral and agreed on the same issue. The calculated mean value 2.20 found to be low level from the moderate agreement level(x=3). As per the interview result the credit is inadequate for the farmers to produce coffee.

In connection to item 3 of the same table 9, 78.9% of the farmers agree that members faced any problem while wanting to borrow money from financial institutions, while 14.1% and 7.0% of the farmers disagree and neutral on the same issue respectively. According to the calculated mean value 4.16 showed that respondents agreed to this issue. In supporting the survey results, interview with the execute officials of the union point out that collateral issues, complex procedure of the financial institutions and late delivery of the services are the main problems members faced when want to borrow money from financial institutions.

Regarding whether financial issue is one problem in the coffee value chain, majority farmers (75.0%) agree on the statement indicated item 4 of table 9. However 21.9% farmers neutral on the same issue. Moreover, the mean value of 4.34 for farmers‟ respondents shows that there is high level of agreement. This result is agreed with findings of Bezabih,(2012) indicated that lack of finance is one of the constraints cooperatives faced such as lack of finance lending policy of the commercial banks is not suitable for cooperatives, one cooperative bank which is limited by region and capacity and low saving by the members(poverty and awareness of benefits and confidence).Thus one can conclude that the financial issues is one of the challenges cooperatives faced in the coffee value chain.

Table 10: Respondent View on the problems of competition issue

No	Item	Level of agreement	Freq	%	Mean	Std. Deviation
1	Members compete with others coffee producers	SD	7	6.1	4.41	1.120
		D	3	2.6		
		N	6	5.3		
		A	18	15.8		
		SA	80	70.2		
	Total		114	100.0		
2	The level of competition is high between actors	SD	14	12.3	3.65	1.205
		D	5	4.4		
		N	10	8.8		
		A	63	55.3		
		SA	22	19.3		
	Total		114	100.0		
3	Coffee selling price different from others your competitors' price	SD	21	18.4	3.77	1.580
		D	6	5.3		
		N	13	11.4		
		A	12	10.5		
		SA	62	54.4		
	Total		114	100.0		
4	The cooperatives create competitive environment for your products in the local market	SD	13	11.4	4.11	1.372
		D	5	4.4		
		N	8	7.0		
		A	19	16.7		
		SA	69	60.5		
	Total		114	100.0		
5	Competition issue is one of the problem in the coffee value chain	SD	-	-	4.17	.882
		D	1	.9		
		N	33	28.9		
		A	26	22.8		
		SA	54	47.4		
	Total		114	100.0		

Source: Survey result, 2017

As indicated in the above table 10 items 1, 86% of the farmers agree that members compete with others coffee producers while, 9.7% of the farmers disagree on this issue. The mean value of 4.41 showed that there is an agreement on the stated issue. As per the interview with the officials confirmed the members of the coop compete with the non members that sold their coffee to private traders, investors and exporters that participate in the coffee value chain of the district.

Moreover, 74.6% of the farmers agreed that the level of competition is high between actors. Besides the mean response were greater than the moderate mean value(x=3) which is 3.65.Therefore it is possible to conclude that the level of competition is high between actors. The interview results support the respondent opinion on the issue.

In addition coffee producer were requested about their opinion whether coffee selling price different from others competitors' price. Consequently, 64.9% of farmers respondents agree that coffee selling price different from others competitors' price. However 23.7% of farmers‟ respondents did not accept the same issue. The calculated mean value were greater than the moderate mean value(x=3).Since there are different competitors‟ along the chain the officials asserted that the price of the coffee is one tool to took the competitive positions.

Regarding item 4.77.2% of farmers agreed that the cooperatives create competitive environment for products in the local market with a mean value of 4.05 which is greater than the moderate mean value(x=3). However 15.8% of the farmers disagree to this issue. Moreover, the calculated mean value 4.11 revealing that farmer agrees that the cooperatives create competitive environment for products in the local market. The interview results support the respondent opinion on the issue.

In relation to competition issue is one of the problems in the coffee value chain respondents were requested to reflect their views as stated in item 5 of table 10. Accordingly, 70.2% farmers agreed on the statement. However 28.9% of farmers‟ respondent neutral. Furthermore, the calculated mean value is found to be greater than the moderate value(x=3). This indicated that respondents agreed on the statement. In supporting the survey results, interview with the execute officials of the union point out that lack of conductive market place and lack differentiated products were the ones raised under this issues. In order to be competent cooperatives have to present well organized services at attractive prices. According to Rouse and Von Pischke (1997)

in cooperative, efficiency increased through minimizing business operation costs while maintaining quality of services.

Table 11: Respondent View on the problems of human and physical resources issue

No	Item	Level of agreement	Freq	%	Mean	Std. Deviation
1	Coffee production and processing equipments supply is adequate	SD	40	35.1	2.70	1.551
		D	17	14.9		
		N	15	13.2		
		A	21	18.4		
		SA	21	18.4		
	Total		114	100.0		
2	Cooperatives give training for the members	SD	10	8.8	3.86	1.182
		D	7	6.1		
		N	7	6.1		
		A	55	48.2		
		SA	35	30.7		
	Total		114	100.0		
3	Members have awareness about cooperatives value, definition and principles	SD	3	2.6	3.96	.940
		D	7	6.1		
		N	13	11.4		
		A	59	51.8		
		SA	32	28.1		
	Total		114	100.0		
4	Members have access to mass media(TV, Radio etc)	SD	38	33.3	2.86	1.596
		D	18	15.8		
		N	1	.9		
		A	36	31.6		
		SA	21	18.4		
	Total		114	100.0		
5	Members have access to transportation, telephone and electric power	SD	52	45.6	2.19	1.395
		D	29	25.4		
		N	-	-		
		A	25	21.9		
		SA	8	7.0		
	Total		114	100.0		

6	Human and physical resources of the cooperative are adequate	SD	34	29.8	2.41	1.309
		D	38	33.3		
		N	13	11.4		
		A	19	16.7		
		SA	10	8.8		
	Total		114	100.0		
7	Human and physical resources are one of the problem in the coffee value chain	SD	2	1.8	4.12	.811
		D	1	.9		
		N	16	14.0		
		A	57	50.0		
		SA	38	33.3		
	Total		114	100.0		

Source: Survey result, 2017

According to table 11, 50.0% of the respondents strongly disagreed on the coffee production and processing equipments supply is adequate. The 36.8% of the respondents also agreed on the same issue. The 13.2 of the respondents neutral on the stated statement. The calculated mean value 2.70 is below the moderate level of agreement(x=3). As per the interview with the officials of the cooperatives assert that the coffee production and processing equipments supply of the cooperatives is insufficient because the fund the union distributed for each primary cooperatives is inadequate to buy equipments.

Based on table 11, 78.9.0% of the respondents agreed on cooperatives give training for the members. The 14.9% of the respondents disagreed on the same issue. The calculated mean value is greater than the moderate level of agreement(x=3).The key informant interview result support the above responses‟.

In addition farmers respondents were requested their opinion whether members have awareness about cooperatives value, definition and principles. As a result, 79.9% of farmers‟ respondents agreed that members have awareness about cooperatives value, definition and principles, while 11.4% and 8.7% of farmers‟ respondents neutral and disagreed to the same issue. The calculated mean value 3.96 found to be greater than the moderate agreement level(x=3). In supporting the survey results, interview with the execute officials of the union point out that majority of members were aware but cooperatives need to suit ways to create awareness for the new members.

Moreover, 50.0% of the farmers agree that members have access to mass media (TV, Radio etc). However, 49.0.1% of the farmers disagreed on the same issue. The calculated mean value 2.86 found to be low level from the moderate agreement level(x=3). The key informant interview result support the above responses‟

In connection to item 5 of the same table 11, 71.0% of the farmers disagree that members have access to transportation, telephone and electric power, while 28.9% of the farmers agree on the same issue. According to the calculated mean value 2.19 showed that respondents disagreed to this issue. As per the interview with the officials of the cooperatives assert that low level of infrastructural facilities in the district greatly impact the day to day operations of the cooperatives.

Regarding whether human and physical resources of the cooperative are adequate, majority farmers (63.1%) disagree on the statement indicated item 6 of table 11. However 25.5% farmers agreed on the same issue. Moreover, the mean value of 2.41for farmers‟ respondents shows that there is high level of disagreement. The key informant interview result shows that the working staffs as well as the availability of the recourses are in adequate.

In connection to item 7 of the same table 11, 83.3% of the farmers agree that human and physical resources are one of the problems in the coffee value chain, while 14.0% and 2.7% of the farmers neutral and disagree on the same issue respectively. According to the calculated mean value 4.12 showed that respondents agreed to this issue. As per the interview with the officials of the cooperatives show that low level of infrastructural facilities in the district greatly impacts the day to day operations of the cooperatives. This results also agreed with findings of earlier studies of Alema (2008),Dawit(2005) ,Emana (2009) and Alemayehu (2002), point out that most of the cooperatives in our country are characterized by; limited institutional capacity, inadequate qualified personnel, low entrepreneurial skill, lack of resources, lack of market information, poor members participation in the different activities. The results in this study are reliable with other similar studies. Therefore from this result one can conclude that the human and physical resources are one of the problems in the coffee value chain.

4.2.1 Coffee value chain mapping

Value chain mapping enables to envision the flow of the product from conception to end consumer through different actors (McCormick and Schmitz, 2002).It also helps to identify the different actors involved in the coffee value chain of the YCFCU, and to understand their relationships and roles. Through these sections, coffee and value added coffee products passes through different channels before it reaches to the end users of consumers. The main actors in the coffee value chain of the YCFCU are input supplier, farmers, agents, primary cooperatives, ECX, union, and consumers.

Coffee value chain map is the graphical representation of the various functions in the value chain, key actors achieving those functions and their dynamic interrelationships. Similarly, it is the geographic dispersal of production, processing, marketing and consumption. Finally, generic figure showing the coffee value chain of the YCFCU and diagram based on information collected in the survey study presented in Figure 4.

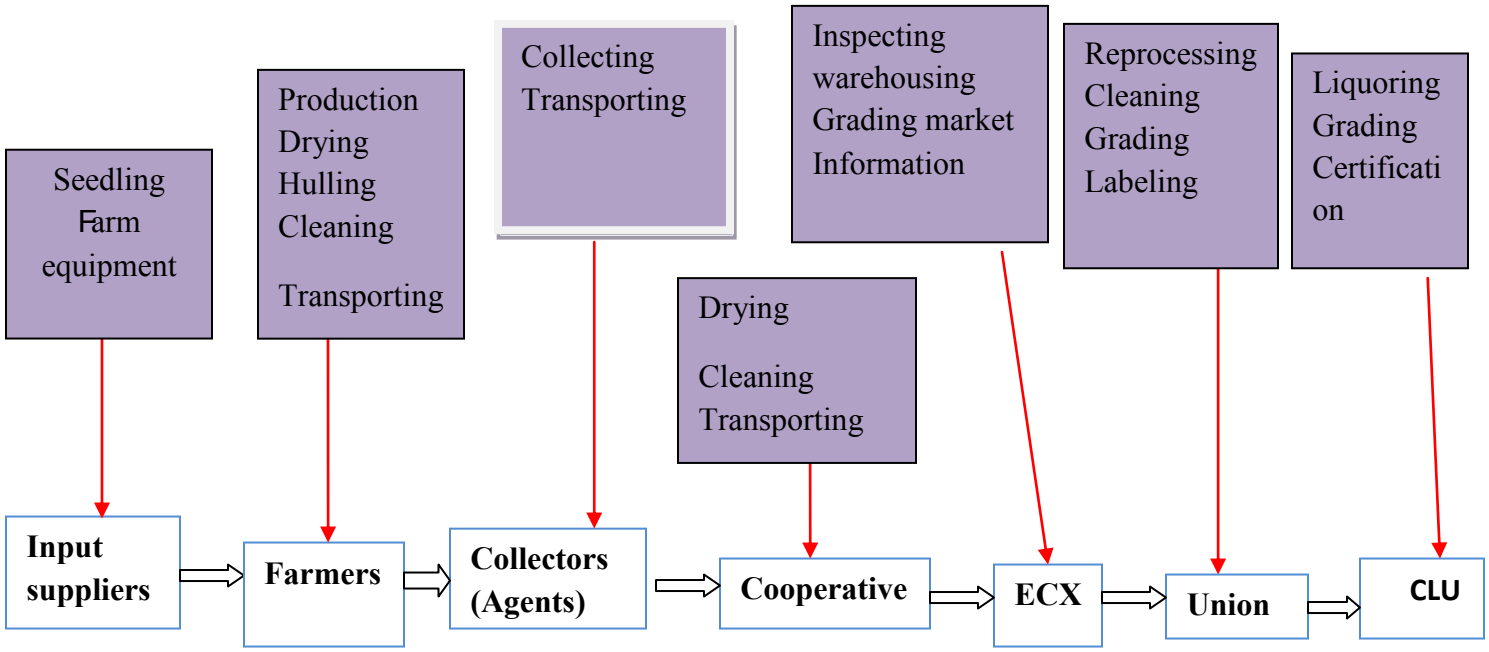


Figure 4.Map of coffee value chain of YCFCU

Source: Survey result, 2017

4.2.2 Actors, their relationship and roles in the coffee value chain of the YCFCU

Value chain actors contain two types of actors‟ direct and indirect actors. Direct chain actors are actors which directly participate in the chain for commercial purpose and indirect actors are actors which indirectly contribute for the chain through providing financial and non financial support. The survey results indicated that the coffee value chain actors in the YCFCU are input supplier, farmers, collector (agents) , primary cooperatives, ECX, union, and consumers. Actors and their roles are described as follows:

Input suppliers

Input supply for coffee production was minimal for Yirgacheffee farmers. They use no chemical inputs rather they follow traditional cultivation practice such as seedling and labor. In addition the farm tools like pruning scissors, hoe, machetes, cutting saw, and spade were the major inputs used for coffee production. Suppliers of inputs for the coffee production are primary cooperatives and government. Sometimes model members of the cooperatives were supplied seedling of coffee. While farm tools were provide by traders in the towns.

Farmers

Farmers are the second link along the coffee value chain actors, who decides on how to produce and for whom to sell their produced coffee products. They are main actors in the value chain who carry out most of the value chain activities right from farm input preparation to producing the final output of coffee. The major value chain functions that coffee producers perform include: preparing the coffee land harvesting, drying the coffee beans, sorting the cherries, cleaning and storing. About 90.0% of farmers‟ respondents indicated that moisture content, uniformity and color are requirements necessary for coffee marketing. Also 73.0% of the farmers disagree that members have access to transportation, telephone and electric power. In addition 84.0% of the farmers agree that human and physical resources are one of the problems in the coffee value chain Since farmers are members of the cooperatives they sell their coffee in near market through agents of the cooperatives with price advantage.

Agents

Agents of the cooperatives were the third actors in the coffee value chain of the YCFCU of the cooperatives. They represent the cooperatives in the market. Moreover they buy coffee from the members of the cooperatives with price advantage. Most of them were seasonal workers and their number is high in coffee collection period. They transport the coffee from the marketing center through traditional means of transportations to the warehouse of primary cooperatives.

Primary cooperatives

They also fourth actors in coffee value chain of the YCFCU. They are located in different Kebeles of the district. Moreover, they mainly supply coffee. They buy coffee from the members of the cooperatives and supplied to ECX warehouse at Dilla for inspection of quality and grading then transported to Yirgacheffe Coffee Farmers Cooperatives Union in Adiss Ababa. The union buys coffee by current price set at ECX for the specific kind of coffee.

Yirgacheffe Coffee Farmers Cooperatives Union (YCFCU)

YCFCU is one of the coffee marketing cooperatives established in 2002 currently representing over 43,794 farmers organized in 27 primary cooperatives located in Gedeo, southern Ethiopia, one of the most famous coffee growing region in the country and the only source of Yirgacheffe coffee. The union played different roles such as providing a warehouse service, support coffee processing, make certain supply of organic coffee directly from its origin, providing modern farm inputs, offer saving and credit facilities and representing its members.

4.2.3 Coffee Production System in the YCFCU

Cultivation

Gedeo people, an ethnic group known for their mixed agriculture practice which has been in place for centuries and on the verge to certify this practice as world heritage in UNESCO, are keen for organic byproduct to fertilize their coffee, the tree they render the utmost care they can. As such, long before inclination of global community towards organic way of life began, these people have been practicing this way. Their indigenous knowledge has helped them to maintain the ecosystem in its natural way for which they received NATIONAL AWARD for their

indigenous knowledge and practice of agro-forestry. They are playing vital role in mitigating climate change aggravating activities at their level best. It is from this area that the coffee organic by default coming in your way.

The traditional Ethiopian coffee cultivation practices are still dominant amongst Yirgacheffe farmers. Coffee trees are managed by hand and fertilized with organic matter. Pests are controlled by biological, natural methods, period. Just like the long history of coffee production in the Gedeo area, farmers follow traditional cultivation practices rather than using chemical fertilizers, pesticides and herbicides. This helps the Yirgacheffee Coffee Farmers Cooperatives Union bring customers the best Ethiopian organic coffee straight from the gardens. Yirgacheffee coffee, growing 1600 to 2440 meters above sea level in fertile loamy soil, is the world‟s finest highland-grown Ethiopia Arabica coffee .Most members own 0.65 to 1.5 hectares of coffee land in which they cultivate coffee together with other crops such as false banana which is used for entire production system as garden production system. Garden coffee is a coffee grown under shade in vicinity of farmers‟ homes. The primary cooperatives under YCFCU are organic and fair trade certified. Clearly the coffee is produced in highly socially and environmentally responsible way.

Harvesting

Ripening of Coffee follows the same track that means it starts from the lower altitude to higher altitude. Ripening from low altitude to high altitude starts between October and November. Farms will be ripened in between the months depending with the altitude they are found. Yirgacheffe coffee is produced in areas inter planted with false bananas which are used for local food consumption. After ripening of coffee, a farmer usually take it to a near Primary Cooperative Society where he/she sale his/her parchment coffee**.** Refreshment training has been conducted for contact farmers on coffee harvesting to improve coffee quality of the season. Top-quality coffee is produced only from fully-ripened and freshly picked cherries. Primary cooperatives always advice farmers to pick this type of coffee thereby maintaining quality for their clientele. Top quality coffee is produced only from fully-ripened and freshly picked cherries. Harvesting is done carefully under close supervision.

Coffee Processing

Processing of good coffee starts from the harvest. As such farmers are advised to pick only fully ripe cherries. However, if the farmers turn out mixed cherries; manual sorting will be applied to separate good cherries from the others. Then it will be made ready either for pulping or special natural preparation.

Washed Processing

It is the most commonly used coffee processing method, especially among premium coffees. After the red cherries are picked the coffee is further sorted by immersion in water. Less dense cherries will float and the others will sink. The skin of the cherry is removed using ecopulpers to get parchment coffee. However, the parchment still has significant amount of mucilage. In order to remove the mucilage the parchment coffee will be kept in fermentation tank for about 2 to 3 days depending on the temperature and the humidity of the area. Once it is realized that the mucilage is removed the coffee goes to a soaking tank. Stays there for about 12 hours, and then will be taken the raised be where the coffee dries to the proper moisture level for about two weeks. The dried parchment will be taken to the cooperatives warehouse, where the coffee rests before starting the long journey. When the coffee reaches appropriate moisture level, it will be further handpicked to remove exposed and damage bean.

Sun-dry Coffee Processing

Sun-dried coffee harvesting is done mostly by family laborers. The arrival cherry from the farmers will be hand sorted first and then the less dense cherries also will be removed. Then the good cherries will be taken to raise bed to dry under sun light. The coffee cherry is allowed to dry to about 11.5% moisture. This will take about 21 days . This will take about 21 days. After that the husk will be removed at the cooperative level and the green bean will be transported to the union for final processing before it is shipped.

Figure 5: Sorting red cherries (Source: Own compilation, 2017)

Exporting

Figure 6: Coffee stored for quality (Source: Own compilation, 2017)

Before Exportation, the coffee is brought to the quality control center in order to;-

1. Verify the original character of the coffee

2. Check if the green and cup quality have met the export standards
3. Ensure the reputation of the country in general and at YCFCU particular for high quality coffee supply

4.3. Results & Discussions of Secondary Sources of Data

4.3.1. Analysis of Secondary Sources of Data

4.3.2 Trends and progress of membership and capital in cooperatives

Regardless of uneven practiced; cooperatives movement in Ethiopia has registered numerical growth over the past decade both in terms of membership and capital. Though, membership is still much smaller beside the huge potential. The graph below indicates that cooperative have been constantly growing in terms of number, membership and capital mobilized over the period.

The below graph showed the primary cooperatives growth in our country. The table indicated rapid growth of the primary cooperatives in our country.

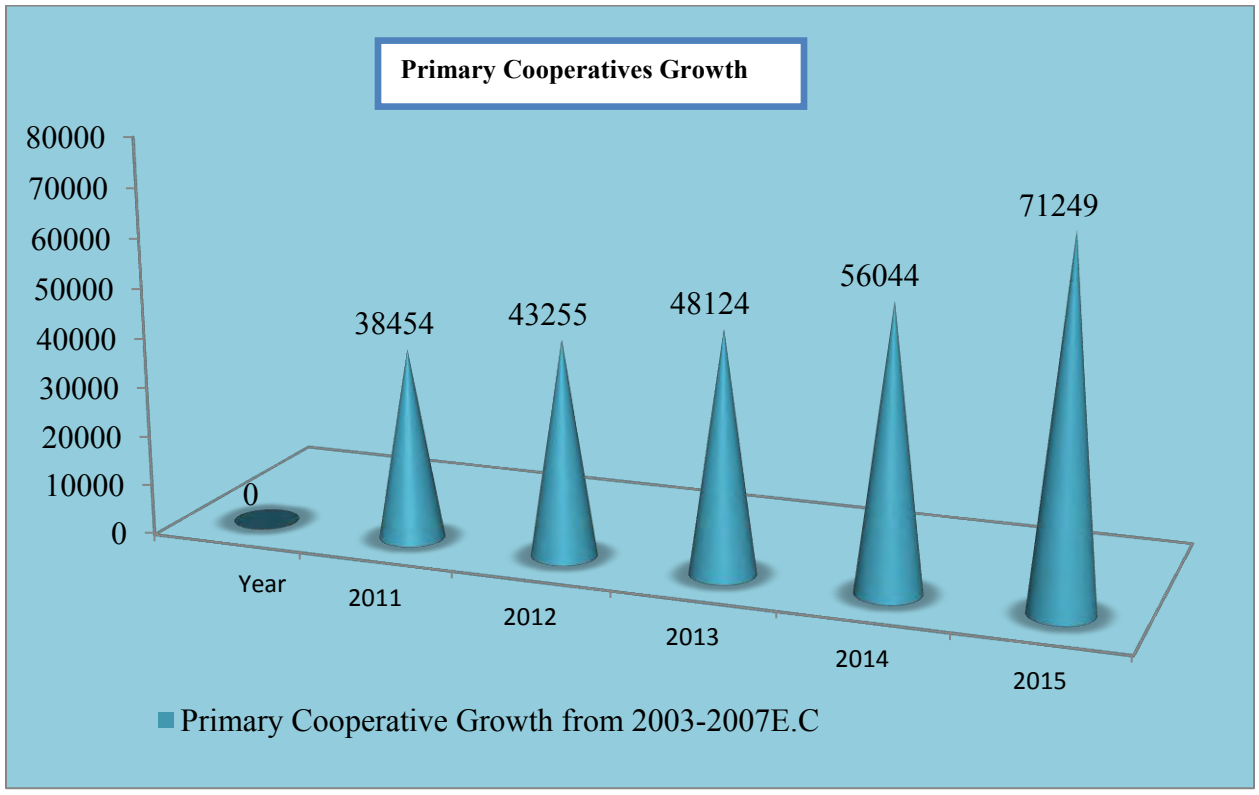


Figure 7: Primary Cooperatives Growth From 2003-2007 E.C (Source: Author's calculation based on the data from FCA, 2016)

As indicated from the following graph the capital growth of the Primary Cooperatives was 3,121,292,588 in year 2011. Rather than year 2012 the Primary Cooperatives capital growth was increased for the consecutives years.

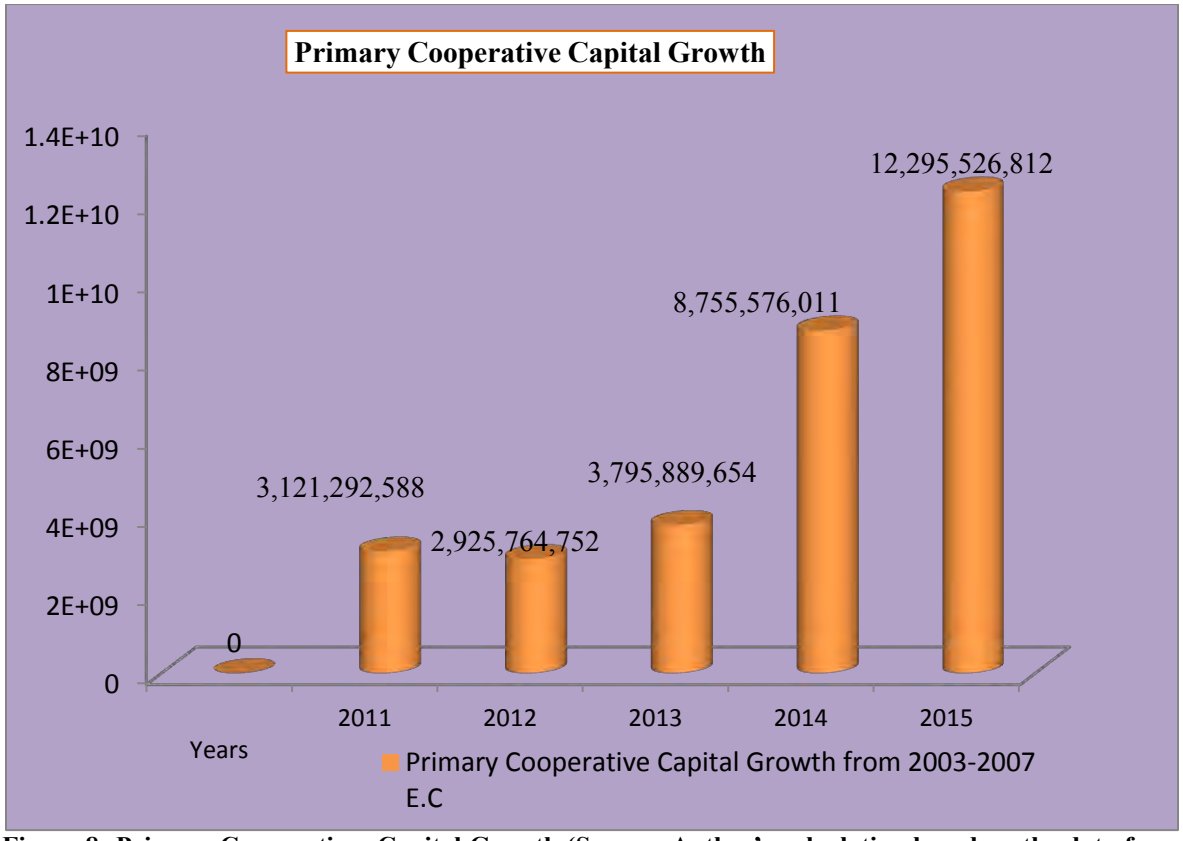


Figure 8: Primary Cooperatives Capital Growth (Source: Author's calculation based on the data from FCA, 2016)

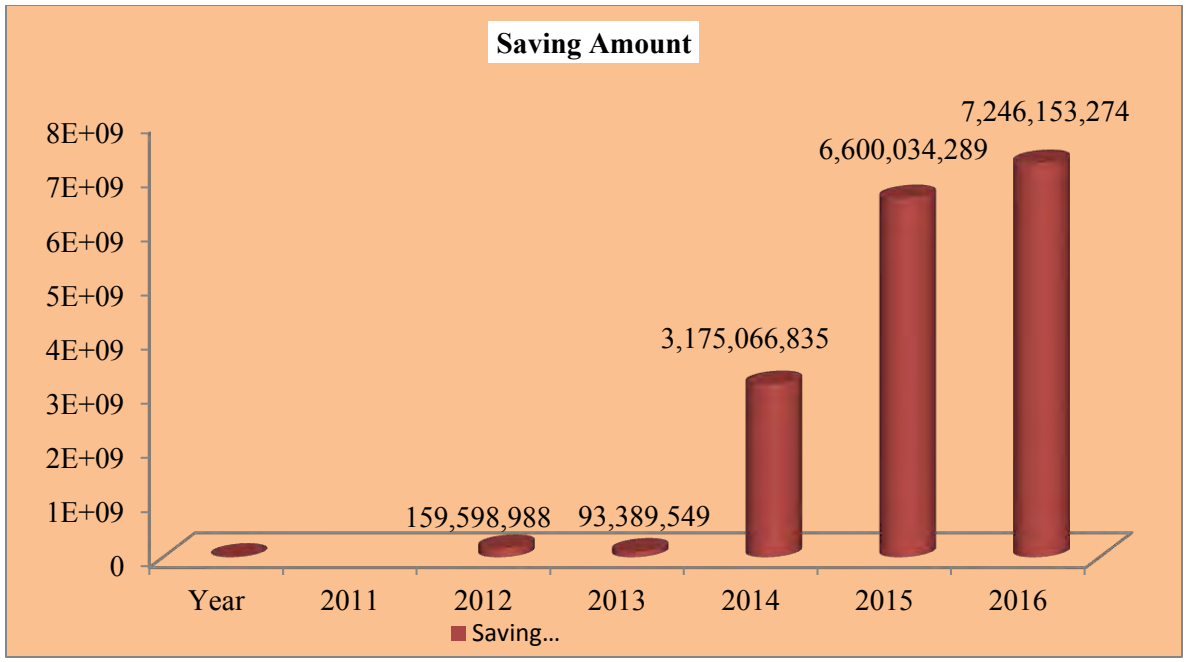
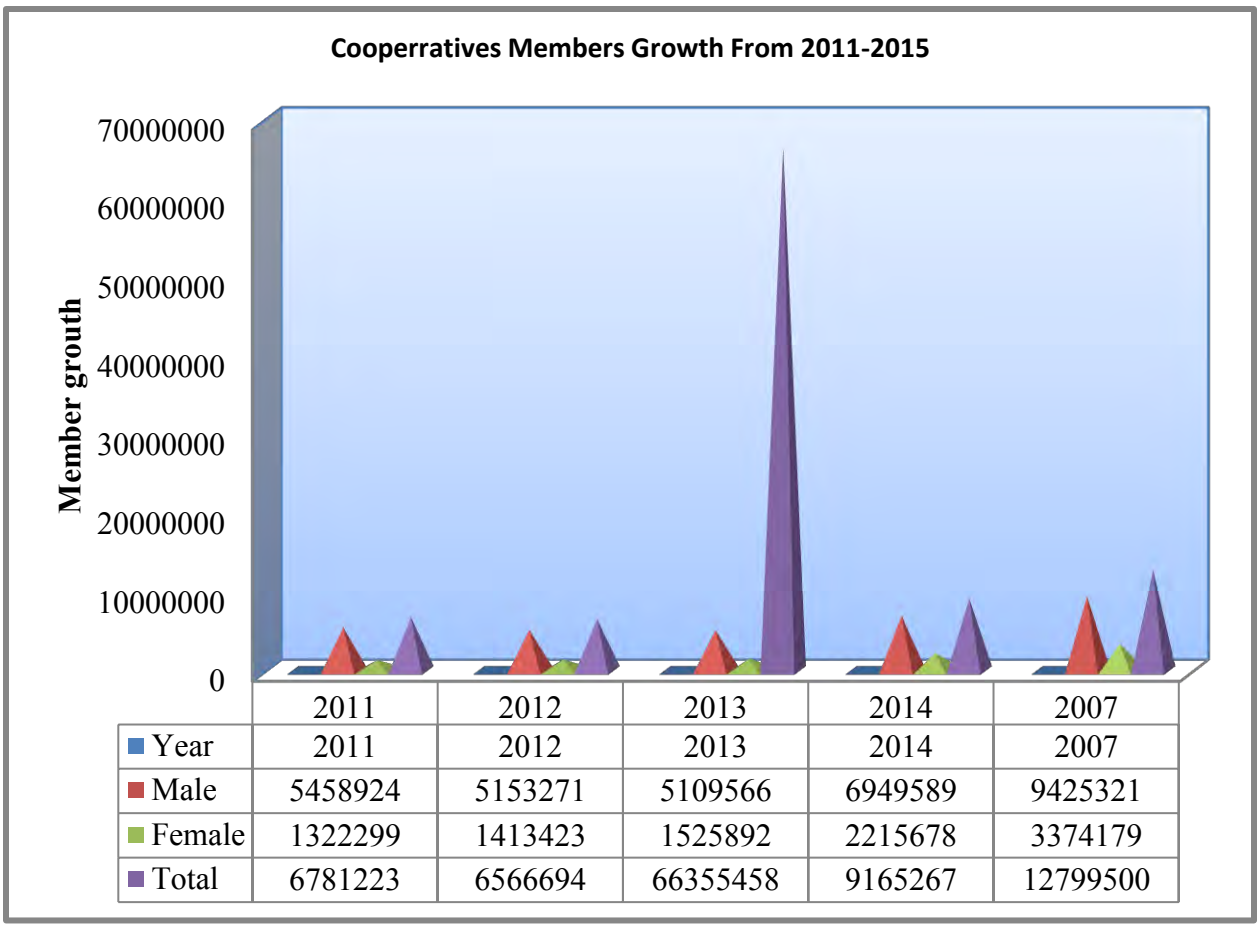


Figure 9: Primary Cooperatives Saving Amount (Source: Author's calculation based on the data from FCA, 2016)

The above graph indicated the rapid growth of primary cooperatives saving amount for the consecutive years.



	2011	2012	2013	2014	2007
Year	2011	2012	2013	2014	2007
Male	5458924	5153271	5109566	6949589	9425321
Female	1322299	1413423	1525892	2215678	3374179
Total	6781223	6566694	66355458	9165267	12799500

Figure 10: Primary Cooperatives Members Growth (Source: Author's calculation based on the data from FCA, 2016).

As depicted from the above graph there is rapid members" growth in primary cooperatives from the year 2011 to 2015.

The following chart described females" participation in the cooperatives from year 2011 to 2016.Therefore their participation is increased from 19.49% in year 2011 to 21.52% in year 2012.Also their participation is greatly increased to 22.99%, 24.17%,26.36%,and 39.48% in year 2013,2014,2015 and 2016.

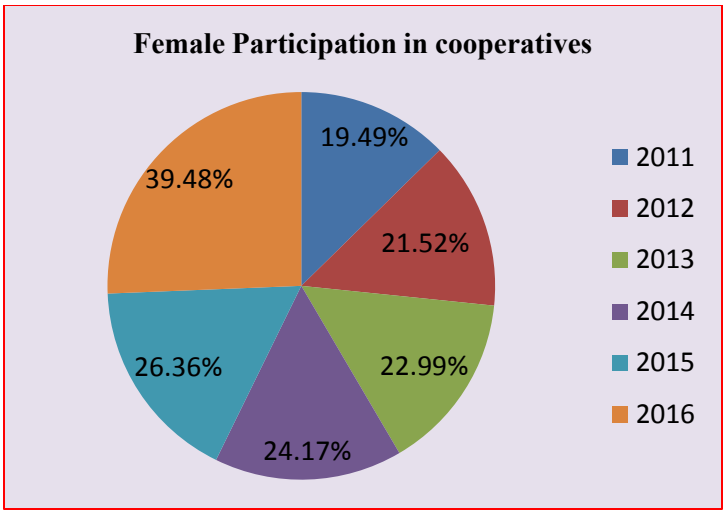


Figure 11: Female Participation in Cooperatives (Source: Author's calculation based on the data from FCA, 2016).

4.3.3 Export Amount of YCFCU in Value and Volume

As indicated from the following graph export amount of YCFCU in value in year 2010 was 1,110.54 sum of ton .This value was increased in 2011 to 1,208.70. However the export value was decreased in year 2012 to 852.96 sum of ton. In contrary the export value was increased to 1,243.80, 1,562.70 and 1,627.92 sum of ton in year 2013, 2014 and 2015 respectively. But the export value again decreased in year 2016 to 154.00 sum of ton. In general the export amount of YCFCU shows fluctuation in sum of ton in different years.

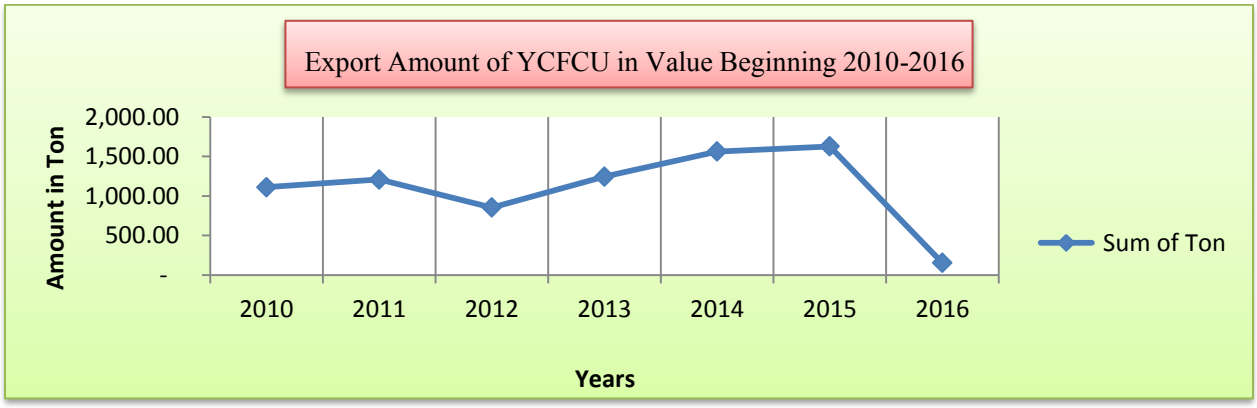


Figure 12: Export amount of YCFCU in Value beginning 2010 to 2016 (Source: Author's Calculation Based on Data from Coffee and Tea Authority)

As showed from the following graph export amount of YCFCU in volume in year 2010 was 5,627,248.66 USD. This volume was increased in 2011 to 7, 469,427.74 USD. However the export volume was decreased in year 2012 to 6,991,971.38 USD. In contrary the export volume was increased to 9,036,611.26, 10,449,016.59, 13,564,900.45 and 18,780,805.08 USD in year 2013, 2014, 2015 and 2016 respectively. Therefore this indicates that the export amount of YCFCU in volumes was increased.

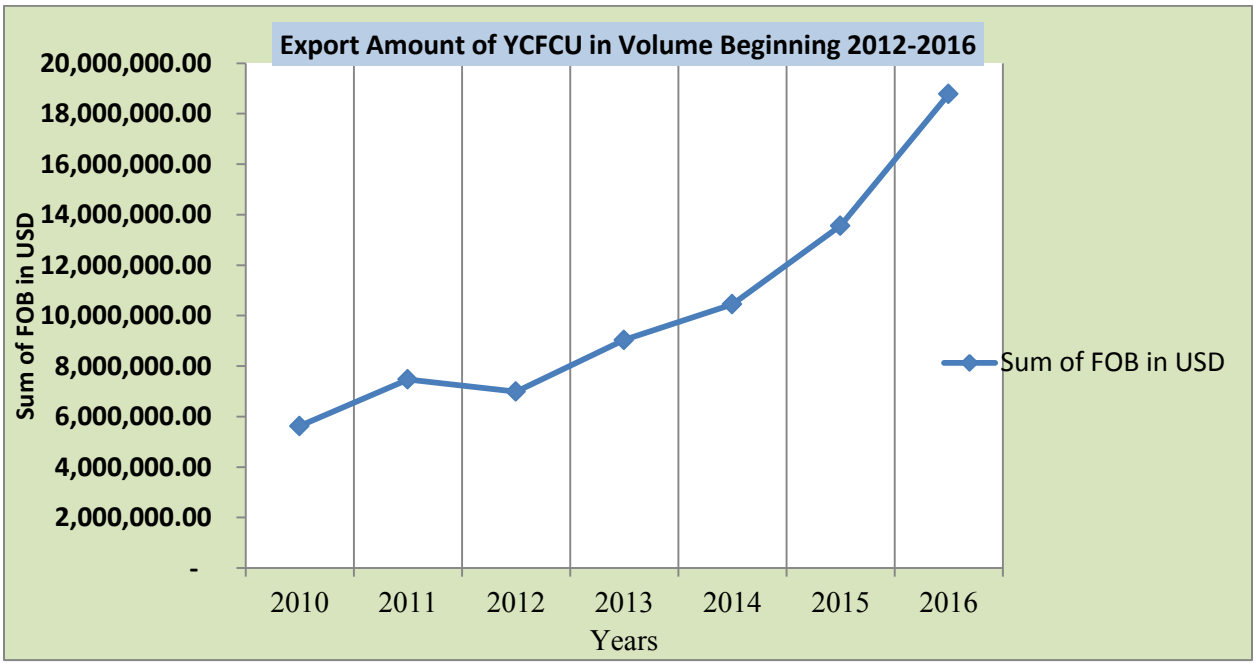


Figure 13: Export amount of YCFCU in Volume beginning 2010 EC to 2016 (Source: Author's Calculation Based on Data from Coffee and Tea Authority)

4.4 Results of Correlations

		PVCAC	AM	GI	FI	C I	HPI	MR	AR
PVCAC	Pearson Correlation	1							
	N	114							
AM	Pearson Correlation	.300**	1						
	Sig. (2-tailed)	.001							
	N	114	114						
GI	Pearson Correlation	.315**	.196**	1					
	Sig. (2-tailed)	.001	.037						
	N	114	114	114					
FI	Pearson Correlation	.019	-.379**	.258**	1				
	Sig. (2-tailed)	.843	.000	.006					
	N	114	114	114	114				
CI	Pearson Correlation	.388 **	.306**	.343**	.081	1			
	Sig. (2-tailed)	.000	.001	.000	.392				
	N	114	114	114	114	114			
HPI	Pearson Correlation	.083	.050	.244**	-.014	.028	1		
	Sig. (2-tailed)	.378	.600	.009	.880	.770			
	N	114	114	114	114	114	114		
MR	Pearson Correlation	.443**	.233**	.303**	.177	.244**	.270 **	1	
	Sig. (2-tailed)	.000	.013	.001	.060	.009	.004		
	N	114	114	114	114	114	114	114	
AR	Pearson Correlation	.859**	.217**	.143	-.102	.343**	-.048	-.025	1
	Sig. (2-tailed)	.000	.021	.130	.282	.000	.611	.796	
	N	114	114	114	114	114	114	114	114

. Correlation is significant at the 0.05 level (2-tailed). **Source: Survey result, 2017

N.B. Performance of value chain analysis of coffee (PVCA), Access to Market (AM), Government Issue (GI), Financial Issues (FI), Competition Issues (CI), Human and physical Issue (HPI), Marketing Relation (MR), Actors Role (AR).

From the correlation analysis, result table 12, there was strong correlation between performance of value chain analysis of coffee and actors roles, this indicates that as the actors‟ roles with increasing with the performance of value chain analysis of coffee since r= 0.859 is positive.

In relation to marketing relation on performance of value chain analysis of coffee also positive, this point outs that as marketing relation increases with increasing of performance of value chain analysis of coffee.

In addition competition issues moderately correlated with the dependent variable of performance of value chain analysis of coffee with the r =.388. The independent variable government issue and market issue also moderately correlated with the dependent variable of performance of value chain analysis of coffee.

On contrary to this the independent variable financial issues and human and physical issue they do not have linear correlated with the dependent variable of performance of value chain analysis of coffee with r=.019 and.083 respectively.

Table 13: Weighted Mean and Rank of Variables

Variable	Weighted Mean	Std .Deviation	Rank
Marketing relation	4.0417	.56826	1
Competition Issues	4.0211	.80984	2
Actors role	3.8743	.59972	3
Access to Market	3.7018	.51765	4
Government Issue	3.6798	.95502	5

Source: Survey result, 2017

As depicted from the above table marketing relation with mean value of 4.0417 strongly affect the performance of value chain analysis of coffee. Competition issues, actors‟ role, access to market and government issue with mean value of 4.0211, 3.8743, 3.7018 and 3.6798 took the second, third, fourth and fifth rank for the effect on performance of value chain analysis of coffee respectively. Therefore concerned stakeholders have to consider the rank of these variables to take measurements accordingly.

Chapter Five

Summary of Findings, Conclusion and Recommendation

5.1 Summary of Findings

The study was aimed at analyzing coffee value chain analysis in Gedio Zone Yirgacheffe Coffee Farmers Cooperatives Union (YCFCU). The specific objectives of the study include mapping the coffee value chain in the study areas, examining the relationship between actors and assess their linkage, elaborating each actor role in the value creation activities and identifying the key factors that hamper the coffee value chain in the study area.

The data were collected from both primary and secondary sources. The primary data were generated from farmers using questionnaires. The primary data for this study were collected from 121 producers randomly selected from four Kebels of primary coffee farmers‟ marketing cooperatives (Konga, Koke,Hafursa and Domarso) in Yirgacheffe district. Also Key Informant Interview and secondary data were used. Descriptive statistics, correlation and regression analysis were used for analyzing the data.

Relationship between actors is important for enhanced coffee value chain. About 85.9% of the farmers agree that the relationship between actors in the coffee value chain is good. From the total sample households, 84.2% of the farmers agreed that each actors exchange information and knowledge regularly. However, 61.4% of farmers agreed that relationship is one of the problems in the coffee value chain. Regard to nature of participation most members agreed that their participation is infrequent in different activities of the cooperatives.

Role played by each actor along the chain is essential for the value adding process. About (68.4%) of the farmer respondents confirmed that each actors play role in the chain. From the total sample households, 77.2% of the farmers agree that the members joined the cooperatives due to the cooperatives provide better price. Concerning members sell coffee to the cooperatives, 87.7% of the farmers respondents agreed that members sell coffee to the cooperatives .About (60.5%) farmers disagreed that members buy inputs from the cooperatives. In relation to members face problem related to roles table 6, item 6 78.9% of farmers respondents has shown their agreement.

Market is the place that facilitates the exchange of products. From the total sample households, 60.5% of the farmers show their agreement on the statement that members have place to sell coffee product. Though 39.4% of farmers‟ respondents did not accept this issue. Most of the respondents affirmed that moisture content, uniformity and color are requirements necessary for coffee marketing. Further on the statement members face problem with access to market, 77.2% agreed with the stated issues

The government policy play great role for the value adding practice of each actor in the chain. Most of the respondents 70.2%, 65.0% and 56.2% asserted that Kebele administrator, extension agent and government assist the cooperatives. However, about 66.7% of farmers agreed that government policy is one of the problems in the coffee value chain.

From the study it was also identified that majority (52.7%) of farmer respondents did not agree cooperatives give credit for the members. Regarding whether financial issue is one problem in the coffee value chain, majority farmers (75.0%) agree on the statement.

About 86% of the farmers agree that members compete with others coffee producers in the coffee value chain. Accordingly, 70.2% farmers agreed that competition issue is one of the problems in the coffee value chain.

Regard the coffee production and processing equipments supply is adequate 50.0% of the respondents strongly disagreed.

From the study 83.3% of the farmers agree that human and physical resources are one of the problems in the coffee value chain.

The result of Pearson correlation analysis of actors roles, marketing relation, competition issues, government issue and market issue on performance of value chain analysis of coffee were found to be 0.859 at a level of significance.000 (.000<0.05), 0.443 at a level of significance.000 (.000<0.05), 0.388 at a level of significance .000(.000<0.05), 0.315 at a level of significance .001(.001<0.05), 0.300 at a level of significance .001(.001<0.05), respectively. Thus, these shows that performance of value chain analysis of coffee dimensions (actors roles, marketing relation, competition issues, government issue and market issue) are positively and significantly correlated with performance of value chain analysis of coffee. On contrary financial issues and human and physical issue are not strongly correlated with performance of value chain analysis of coffee.

5.2 Conclusions

One can conclude that relationship between actors in the chain positively affects the coffee value chain of the union based on the respondents and interview result. Concerning each actors exchange information and knowledge regularly it is possible to conclude that each actors exchange information and knowledge regularly. Moreover regarding relationship is one of the problems in the coffee value chain respondents and interview result with officials of the coffee cooperatives agreed to the issue. But interview result with the executives of the union is in contrary to the above responses. Pertaining to nature of participation of members in different activities of the coop one conclude that the coffee marketing cooperatives need to insist the members to actively participate in different activities of the cooperatives.

Regarding role played by each actor one can be conclude that actors play roles in the coffee value chain of the union. In addition one can be conclude that members joined the cooperatives due to the cooperatives provide better price based on farmers responses and key informant interview result. Based on farmers‟ response and interview result one can be conclude that members sell coffee to the cooperatives. The data collected from respondents and Key Informant confirmed the cooperatives have inadequate resources that limit it from affording important equipments. Hence from this finding one can be conclude that members did not buy inputs from the cooperatives. Concerning members face problem related to roles the replied responses from respondents and key informant interview enable to conclude members face problem related to roles.

Pertaining to members has place to sell coffee product one can conclude that members have place to sell coffee product based on respondents and interview results. From the finding one can be conclude that that moisture content, uniformity and color are requirements necessary for coffee marketing. In relation to members face problem with access to market based on the finding from replied responses of respondents and key informant interview result one can conclude that access to market is one of the problem that prohibit the effective achievement of the actors roles in the coffee value chain.

In addition based on the replied responses of respondents and key informant interview one can conclude that Kebele administrator, extension agent and government assist the cooperatives. Regarding government policy is one problem one can conclude that government policy is one

problem that constrained the activities of the cooperatives in support with respondents and interview results.

Moreover one can conclude that financial ability of the cooperative is limited to give credit for the members in line with farmers and officials responses. Regarding financial issue is one of the problem in the coffee value chain with supporting results of respondents and interview one can concluded that financial issues is one of the challenges cooperatives faced in the coffee value chain.

Concerning members compete with others coffee producers it is possible to conclude that the level of competition is high between actors in support of respondents and interview results. In relation to competition issue is one of the problems in the coffee value chain one can conclude that competition issue is one of the problems in the coffee value chain in line with replied responses.

In addition coffee production and processing equipments supply is inadequate in support with respondents and key informant interview results. From the respondents replied responses and the key informant interview results one can conclude that the human and physical resources are one of the problems in the coffee value chain.

The result of Pearson correlation analysis of this study seems to indicate that actors roles, marketing relation, competition issues, government issue and market issue have a positive and significant effect on performance of value chain analysis of coffee. The relative importance of marketing relation is high than other independent variables. Therefore, the implication is that actors should take an active role in managing all aspects of their performance of value chain analysis of coffee.

5.3 Recommendations

The findings of this study enabled us to make the following Recommendations for policy makers, development actor and researchers who involved in promoting coffee value chain in the study area.

Therefore all stakeholders that directly and indirectly participate along the coffee value chain are responsible for the integrated operations. The fast flow of information and knowledge between actors in the chain facilitates the day to day value adding activities therefore all actors have to usually exchange information and knowledge.

The role of each actor along the value chain is essential for effective achievements of the chain activities. Therefore the cooperatives have to encourage their members through providing different incentives mechanisms for the produced goods in the market. This facilitates the supply of coffee along the chain without any interruption. In addition the cooperatives should create conductive environments for the member farmers to buy different agricultural inputs at a little cost in order to improve the coffee production.

In addition the coffee cooperatives in different kebeles of the district have their own near market to sell the coffee products. Therefore these local markets in different kebeles have to be expanded to increase free flow of differentiated coffee products and participated farmers along the chain. Further all actors should consider other essential requirements necessary for coffee marketing than the replied requirements. Especially the primary coffee marketing cooperatives are expected to provide different means of transportation for the members to actively participate in the market.

Moreover the Kebele administrator, extension agent and government should increase their level of support for the cooperatives. The government has to improve its policy about the cooperatives in general especially coffee cooperatives in particular since they took the lion share for foreign revenue of the country.

Also cooperatives have to facilitate credit facilities for their members and as much as possible they need to create their own bank to build their financial abilities. Especially the chain participants have to play their own effort in order to improve their operations.

Furthermore the competition level with each actor has to be increase to take the competitive advantage and benefited from the profit through it.

The coffee production and processing equipments supply of the cooperatives is inadequate for the operations. The cooperatives are controlled by the YCFCU therefore the union should provide adequate modern processing machines that play great role in the value adding process of coffee. Also the cooperatives have to hire experts in order to increase the quality of coffee beginning from production. This decreased the cost of final out put before it reaches to the final consumers. Due to this the cooperatives can minimize unnecessary costs which incurred during the production time. This may improve the living and welfare of their members. In sum different institutions in the study area should improve the human and physical issues for instance Dilla Universities as academic institutions should provide new means of approaching the coffee cooperatives in the area and the government is also expected to improve the infrastructural facilities of the study area.

All actors should take an active role in managing all aspects of their performance of value chain analysis of coffee.

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Appendices

Appendix 1

Addis Ababa University

Faculty of Business and Economics

School of commerce

Name of student: Beyenech Yilma

Dear Respondents

The purpose of this questionnaire is to collect primary data for conducting a study on the topic,"Value Chain Analysis of Coffee in Yirgacheffe Coffee Farmers Cooperative Union" as partial fulfillment to the completion of the masters of Art in Logistics and Supply Chain Management at Addis Ababa University School of Commerce. In this regard I kindly request your time to provide me with reliable information so that the findings of this study will meet the intended outcome. I strongly assure you for the confidential treatment of your answers. I would like to thank your voluntary participation for the success of my research study.

Name of enumerator: _____ Signature_____

Questionnaire number: _____ Date of data collection: _____/_____/_____

Survey questionnaire for farmers

Part One Demographic Data

1. Sex of household head A. Male B. Female
2. Age A. Less than 20 B. 20-29 C.30-39 D. 40- 49 E. 50 and above
3. Marital status of household head
   A. Single B. Married C. Divorce D. Widowed
4. Educational level of household head
   A .Illiterate B. (1-4) grade C. (5-8) grade D. (9-12) grade E. Above grade 12

Part Two

1. **Actors Relationship**:-The following questions are related to actor's relationship in the YCFCU coffee value chain. Please read each statement carefully and show the extent of your agreement on the statements by putting a tick mark (√) in the boxes against each rating scale of choice. The rating represents your level of agreement as follows: 5=Strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly Disagree

S.N	Actors Relationship	1	2	3	4	5
1	The relationship between actors in the coffee value chain is good					
2	Each actors regularly exchange information and knowledge with each actor					
3	Information about market requirements and developments, equipment and input factors for production, loans and technical assistance and training are kind of information do you get from each other					
4	Relationship is one of the problem in the coffee value chain					
5	Nature of participation 1=Regularly 2=Occasionally 3=Rarely	1		2		3
	5.1Attending the meetings of coffee marketing cooperative					
	5.2Attending the planning activities of the coop					
	5.3Attending in the implementation of activities of the coop					
	5.4Attending fund raising activities of the coop					
	5.5Attending decision making of the coffee coop					

2. **Actors Roles: -** The following questions are related to the roles of each actor along the coffee value chain. Please read each statement carefully and show the extent of your agreement on the statements by putting a tick mark (√) in the boxes against each rating scale of choice. The rating represents your level of agreement as follows: 5=Strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly Disagree

S.N	Role	1	2	3	4	5
1	Each actors play roles in the coffee value chain of the union					
2	Members joined the cooperative due to the cooperatives provide better price					
3	Members sell coffee to the cooperatives					
4	Members buy inputs from the cooperatives					
5	Members add value to the cooperatives					
6	Members face problems related to roles					

3. YCFCU Challenge

The following set of statements relates to the perceptions on the major challenges encountered by YCFCU. The following statements refer to opinion on whether YCFCU face challenges to grow and sustain. Please read each statement carefully and show the extent of your agreement on the statements by putting a tick mark (√) in the boxes against each rating scale of choice. The rating represents your level of agreement as follows: 5=Strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly Disagree

S.N	Items					
1	**Access to market**	1	2	3	4	5
	1.1 Members have places to sell coffee product					
	1.2 Moisture content , uniformity and color are requirements necessary for coffee marketing					
	1.3 Members have access to market information for coffee marketing					
	1.4 Cooperatives are source of your information on demand, supply and price of other markets					
	1.5 Members know the nearby market price before you sold coffee					
	1.6 Coffee price difference across different markets in your area					
	1.7 Relative advantage of price is one requirement to sell coffee					
	1.8 Members sell coffee at any time without any problem					
	1.9 Members face problem with access to market					
2	**Government issue**					
	2.1 The government assist the cooperatives					
	2.2 The kebele administrator assist the cooperatives					
	2.3 An extension agent visit the cooperatives					
	2.4 Government assistance in facilitating credit					
	2.5 The current policy of government is Favorable for cooperative expansion					
	2.6 Government policy is one of the problem in the coffee value chain					
3	**Financial issues**					
	3.1 Cooperatives give credit for the members					
	3.2 The credit you get enough for production					
	3.3 Faced any problem while wanting to borrow money from financial institution					
	3.4 Financial issue is one problem in the coffee value chain					
4	**Competition issue**					
	4.1 Members compete with others coffee producers					
	4.2 The level of competition is high between actors					

	4.3 Coffee selling price different from others your competitors' price					
	4.4 The cooperatives create competitive environment for your products in the local market					
	4.5 Competition issue is one of the problem in the coffee value chain					
5	**Human and physical issue**					
	5.1 Coffee production and processing equipment supply is adequate					
	5.2 Cooperatives give training for the members					
	5.3 Members have awareness about cooperative values, definition and principles					
	5.4 Members have access to mass media (TV, Radio)					
	5.5 Members have access to transportation , telephone and electric power					
	5.6 Human and physical resources of the cooperative are adequate					
	5.7 Human and physical resources are one of the problem in the coffee value chain					

THANK YOU!!!

Appendix 2

Interview Questions

II. Interview with officials of cooperatives and unions

1. Who are the actors involved in the coffee value chain of the union in the district?
2. How is each actor is coordinated along the chain?
3. What are the roles of each actor take part in value adding process of coffee?
4. What are problems related to market, government policy, finance, competition and human and physical resources?
5. What is your suggestion to solve the above problems?