THE ROLE OF COFFEE-BASED AGRICULTURE IN THE SOCIO-ECONOMIC DEVELOPMENT OF BORECHA DISTRICT, ETHIOPIA

by

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DECLARATION

I declare that this dissertation is my own work and that all the sources that I used or quoted have been duly indicated and acknowledged by means of complete references.

I further declare that I have not previously submitted this work, or part of it, for examination at UNISA for another qualification or at any other higher education institution.

_____   _____

Ayalew Kibret Dessie   Date

DEDICATION

This research work is dedicated to my family for their uninterrupted support throughout my life.

I would particularly like to dedicate this dissertation to my late sister, Wubitu Kibret, who lost her life to a brain tumour.

I.   Acknowledgements

My special appreciation and deepest thanks go to Professor Vusi Gumede, my supervisor, without whom this study would have not been accomplished. He devoted his precious time and energy to follow up, provide timely comments and ensure the progress of my thesis.

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I greatly appreciate the Directorate for Student Funding at the University of South Africa for providing me with financial support to undertake the fieldwork and study.

An unreserved acknowledgement also goes to the fieldwork enumerators who carefully and patiently collected the data for this study and to the 120 sample households. Without their unceasing cooperation, the study would not have been possible.

My sincere and heartfelt thanks go to my wife, Senait Bereket, for her encouragement and supervision during the study period.

Finally, I wish to express my most sincere appreciation to all persons and institutions that helped me in various ways to complete this work.

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[1] It is an International NGO that has been working in Ethiopia for more than three decades

II.   Abstract

This study was carried out to examine the significance of Coffee-based agriculture in the socio-economic development of rural livelihoods in Ethiopia, with particular emphasis on households in the Borecha District of the Illubabor Zone, Oromia Regional State.

In this dissertation, three randomly selected study kebeles[2] were considered. The primary data were collected using household questionnaires, observation and key informant interviews. The secondary data were acquired from a review of the diverse and extensive literature contained in journals, textbooks and published and unpublished documents.

The target population encompasses 1,600 coffee-growing households in the Borecha District, although the sample included only 120 coffee-growing farmers. Sample selection was performed using a stratified sampling technique to select three kebeles. The data analysis was both qualitative and quantitative, which involved descriptive statistics and general linear model (UNIANOVA, MANOVA). The data are presented as tables, bar charts, and line graphs accompanied by correlations and multiple comparisons that help to interpret the findings and to generate conclusions that support solutions to the identified problems.

The findings show that coffee growing has increased the income generated from direct sales and associated employment opportunities. The social contributions realised include that over the past two years, households trend in spending on education increased. Moreover, sampled households access to health facilities changed after they started growing coffee.

Key words: **coffee growing, socio-economic development, households, sustainable livelihoods.**

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[2] The kebele is the smallest unit of the government structure.

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VI.   Acronyms and Abbreviations

CSA   Central Statistical Agency

DFID   Department for International Development

EC   Ethiopian Calendar

ETB   Ethiopian Birr

FAO   United Nations Food and Agriculture Organization

FDRE   Federal Democratic Republic of Ethiopia

GDP   Gross Domestic Product

HH   Household

Hr   Hour

IAAE   International Association for Applied Econometrics

IFAD   International Fund for Agricultural Development

Kg   Kilogram

KM   Kilometre

Lb.   Pound or pounds (of weight)

MASL   Metres above Sea Level

MoFED   Ministry of Finance and Economic Development

MT   Metric Ton

NGO/NGOs Non-Governmental Organisation/Organisations

SCAA   Specialty Coffee Associations of America

SIDA   Swedish International Development Agency

SPSS   Statistical Package for the Social Sciences

USAID   United States Agency for International Development

Chapter One: Introduction

The focus of this dissertation is the role of Coffee-based agriculture in the Socio-Economic development of the Borecha District, Ethiopia. This research was conducted in Borecha, a district located in the Illubabor Zone of the Oromia Regional State, South West Ethiopia.

In the research, attention was paid to the effect of Coffee-based agriculture on rural households' livelihoods compared to other agricultural crops. Coffee producers who live in countryside zones in poor countries face several problems, such as low-quality infrastructure and poor organisation of related facilities. Their earnings are extremely uncertain primarily due to inconsistent international coffee market prices. In addition, domestic marketplaces remain inadequately competitive.

1.1 Background

Coffee has long been the Ethiopia's most important commodity, contributing up to 50 percent of exports (Central Statistical Agency [CSA], 2011). In this regard, coffee farming is important among the current agricultural practices of Ethiopia. In terms of total foreign exchange, coffee accounted for 424 million USD in the 2007 fiscal year. In terms of Ethiopian foreign trade, pulses and oil seeds and manufacturing accounted for 258 and 105 Million USD, respectively, following coffee (World Bank, 2008a).

Coffee is also very important in the diet and culture of the population. This importance manifests in its contribution to poverty reduction and foreign exchange. A number of policy actions have been formulated and executed to develop the coffee subsector in Ethiopia. As noted by Boansi and Crentsil (2013), to some extent, the actions of previous regimes have affected the vibrancy of and modifications experienced by the coffee subsector over the last 50 years.

Additionally, according to Boansi and Crentsil (2013), over the last 50 years, exports of coffee from Ethiopia have risen from 56,024 tonnes in 1961 to 211,840 tonnes in 2010, representing an increment of 278.12 percent. In terms of financial earnings, exports of coffee increased from nearly $38 million in 1961 to $677 million in 2010, representing an increment of 1681.58 percent. However, the relative lack of progress in exports between 1961 and 1991 may be due to the ineffective marketing and policy environments of

previous governments (i.e., the monarchy and the military junta) and to the unpredictable character of global coffee prices (ibid).

A record low volume of exports of 43,858 tonnes was witnessed in 1992 and a record high of 211,840 tonnes was registered in 2010. Foreign exchange earnings from coffee export were highest in 2010 at $677 million and lowest in 1961 at $37,558 million (Boansi and Crentsil, 2013). Dempsey and Campbell (2006) stated that Ethiopia's coffee was rated first in Africa and eighth in the world, and they reported that Ethiopia's yearly coffee production is nearly 280,000 metric tons (MT), nearly half of which is consumed within the country as part of traditional coffee ceremonies[3].

According to the Ethiopian Commodity Exchange Report (2013)[4], coffee, sesame and haricot beans are the three most commonly traded Ethiopian agricultural products in the international market. Sesame accounts for approximately 94 per cent of total export earnings from oilseeds and 19 per cent of total national export earnings (Ethiopian Commodity Exchange Report [ECX], 2013). However, no other agricultural product can compete with the trade volume of coffee. Thus, coffee is the leading agricultural product.

Furthermore, coffee is the second-most revenue generating and globally merchandised product after oil. There is a disjuncture between the magnitude of the coffee industry and the fact that the world's poorest populations are employed in that industry. This situation also makes coffee a valuable instrument for economic development (Shannon, 2009).

Ethiopian coffee exports represent between 2 and 3 per cent of world exports and account for approximately 2.5 per cent of the country's GDP (Asefa and Arega, 2012). Its importance stands regardless of international coffee price instability or other market circumstances that pose threats to coffee trading, including competition from other producers (Asefa and Arega, 2012).

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[3] The traditional coffee ceremony is considered the most important social occasion, and it is a sign of respect and friendship to be invited to a coffee ceremony. Coffee is typically roasted and brewed on a small charcoal burner. Cups are usually laid out in a square on a tray dressed with fresh grass and served with a snack, such as fresh popcorn in cities and toasted cereals in rural areas and rural towns.
[4] https://www.ecx.com http.et/commodities.aspx- Ethiopian Commodity Exchange Official Site

From 2005 to 2012, Ethiopian coffee was sent overseas to nearly 50 countries (Minten et al., 2014). A considerable portion of this coffee, i.e., one-third of Ethiopia's coffee exports, was sold to Germany (ibid).

According to the Ethiopian Customs and Revenue Authority (2014), the second- and third-most important destination countries for Ethiopian coffee are the Kingdom of Saudi Arabia and Japan, whose shares were 15.0 and 11.3 percent of coffee exports, respectively. It is evident from the table below that the top five coffee export destinations for Ethiopia in the fiscal year 2012/2013 were Germany, the Kingdom of Saudi Arabia, Japan, the United States of America and Belgium.

Table 1.1   Coffee Export in value and in volume by destination for 2012/13[5]

No	Country	Volume (1000 60-kg bag)	Value (USD) (1000)	% Share
1	Germany	853	167935.2	24.2
2	Saudi Arabia	462	104113.9	15.0
3	Japan	392	78514.4	11.3
4	USA	231	64709.1	9.3
5	Belgium	256	56014	8.1
6	Italy	146	32246.1	4.6
7	France	162	30061.1	4.3
8	Sudan	147	21230.6	3.1
9	Republic of Korea	80	19392.3	2.8
10	United Kingdom	67	19369.7	2.8
11	Sweden	75	16652	2.4
12	Australia	51	12933.8	1.9
13	Russia	35	6675.4	1.0
14	Canada	27	6901	1.0
15	Spain	27	6762	1.0
16	Other countries	215	51737	7.4
Total		3226	695247.6	100.0

Source: Ethiopian Customs and Revenue Authorities, 2014, P.6-7

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[5] Because of errors in the percentage calculation in the source document, the author calculated the percent share column part again

1.2   Research Kebeles

The field work for this research was conducted in southwestern Ethiopia within the Illubabor Zone of the Oromia Regional State. The Illubabor Zone consists of several districts, one of which is Borecha. Part of Borecha is home to both forests and garden coffee plantations. Because of this feature, it served the purposes of this research project. The coffee industry provides the main employment opportunities for workers living in the district and for outsiders. In the study area, households generate income through selling agricultural products such as cereals, pulses, livestock and livestock by-products. They also sell different kinds of vegetables, such as cabbage, white onion, red onion, beetroot, potato, and Ethiopian kale, which are grown through either rain-fed or small-scale irrigation systems (District Agriculture Report, 2012).

Figure 1.2   Map of Borecha Kebeles
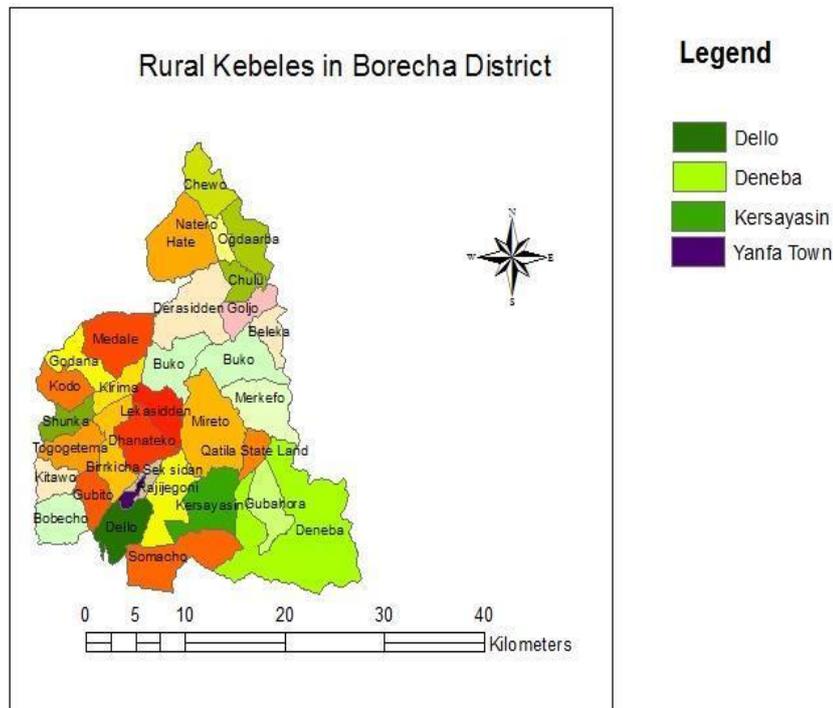
Source: Author, using Central Statistical Agency ArcGIS data

This research uses data from a farm household survey which was fielded in three kebeles of this district. Figure 1.2 maps the research kebeles and provides the name of each kebele. To identify them easily, the research kebeles are marked in different colours and included in the legend along with the district capital, Yanfa town proper, which is included to show the location and distance of each research kebele in relation to the capital.

The first kebele, Kersayasin, is located 12 km to the east of the district capital. The second kebele, Deneba, where the household survey was conducted, is located 25 km to the

southeast. This kebele is heavily populated; its 1,640 households represent 8,000 inhabitants, corresponding to an average family size of five. The third kebele, Dello, is located 7 km to the southwest. From an agro-ecological point of view, the research kebeles lie in the lower to middle altitudes ranging from 1,400 to 2100 metres above sea level [masl]. The metrological data indicate that these three kebeles receive an average of 1,100 mm of rainfall annually (District Agriculture Office, 2006). According to a district agriculture office report (2006), two research kebeles, namely, Kersayasin and Deneba have the highest agricultural potential, and the types of soils available are reasonably productive.

According to the interviewed elders[6], forest coffee management began in two research kebeles, namely, Kersayasin and Dello, many years ago. This is a nearly century-old practice, although the trend continued as garden coffee plantations. The coffee plantation that covers most of Deneba was established recently, i.e., in July 2008, and it has been increasing in size over time.

1.3 Problem Statement

As studies[7] note, almost all coffee producers are located in developing countries, which are characterised by widespread or evident poverty and low socio-economic development, in these developing countries, coffee production is the backbone of an industry employing millions of people. Therefore, considering the role of coffee in the socio-economic development of Ethiopia is important. For instance, in Ethiopia, coffee is an essential customary cash crop grown for direct sale.

Ethiopia is home to Arabica coffee, which nurtures a wide-ranging diversity of praiseworthy coffee beans. Most of these plants are shade-grown by small-scale farmers and devoid of chemical inputs. As noted by Dempsey and Campbell (2006), coffee farming plays an important role in the economy in terms of occupations and earnings, particularly for smallholder farmers in the countryside.

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[6] The author of this dissertation had a thorough discussion with elders during a key informants' session in the field. One of the topics raised in the discussion was when coffee growing began in the research kebeles in particular and in the Borecha District in general.
[7] Topik and Samper, 2003; Stanculescu et al., 2011; Tiwari& Bishit, 2012

According to Sida (2011), although coffee prices have decreased over the last decades due to changes in the coffee market, an estimated 15 million Ethiopians remain highly dependent on coffee and on coffee prices.

A similar view is held by Ministry of Trade [MOT] (2012): coffee is vital to the cultural and socio-economic life of Ethiopians. It sustains the livelihoods of over 15 million people and provides important income for casual labourers and many other poor rural people. Moreover, coffee contributes 25 to 30 percent of the country's foreign exchange earnings (ibid).

Ethiopia, however, remains one of the poorest countries in the world in spite of its productive land, labour and natural resources. Human development indicators reveal that almost one-half of its population lives below the poverty line.

USAID (2010) and Kufa (2013) argue that Ethiopia has enormous potential to increase coffee production because of its appropriate altitude, temperature, soil fertility, native quality plantation materials, and adequate precipitation in the country's coffee-growing belt. Coffee is a shade-demanding tree that is nurtured in good conditions beneath large native trees, such as Cordia abyssinica[8] and Acacia species, especially in two regions of Ethiopia, namely, Oromia and the Southern Nations Nationalities and People's Regional State. USAID (2010) and Kufa (2013) also note that in Ethiopia, smallholder farmers produce on lands of not more than two hectares and provide ninety-five percent of the coffee produced. The remaining 5 percent of total production comes from progressive profit-making farmsteads. Hence, coffee plays a principal part in the socio-economic development of Ethiopia and is considered an important cash crop for participating in the Ethiopian economy in terms of its potential output, export and domestic market values.

However, according to the MOT (2012), most encounters in the Ethiopian coffee industry lead to minimal output and minimal revenues for farmers. Challenges in the Ethiopian coffee sector include inadequate farming methods, inconsistent quality, and lack of access to capital at the lowest level of the value chain. The absence of price risk management

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[8] Cordia abyssinica is an indigenous tree grown in Ethiopia.

and supply chains that stretch from the farmstead to the harbours of the destinations are also considered challenges (ibid).

The MOT (2012) also notes that vulnerability to fluctuations in market prices and the effects of volatile and unmanageable stocks and requirements influence coffee producers. The MOT (2012) states that when coffee prices approached a record $3.10 per lb. in 2011, coffee producers became enthusiastically involved based on beliefs of plentiful yields in Brazil, the world's largest coffee producer. However, the current selling price of coffee is $1.8 per lb. despite predictions that they would reach $3 per lb. over the subsequent two years as a stock shortage materialised (ibid). At the household level, the influence of inconsistent coffee prices has been significant. Moreover, market changes are affecting traditional and sustainable approaches to coffee cultivation to a greater degree. This, in turn, forces coffee-growing farmers to sell family assets, leave behind coffee farms and move aimlessly to urban areas (MOT, 2012). Up to 85 per cent of coffee farmers consider coffee price instability a primary risk to their farms (MOT, 2012).

Gebreselassie and Ludi (2008) also indicated that coffee growers in Ethiopia have been subject to price fluctuations and influences that are not easily foreseen or predicted and to unmanageable challenges. Despite some improvements in producer prices during 2006 and 2007, local and global coffee prices dropped and remained extremely low for much of the late 1990s and early 2000s. The outcome of this price downturn was escalating poverty among coffee growers who had previously enjoyed good returns from their coffee transactions.

A 2002 Oxfam report (cited in Boansi and Crentsil, 2013) argues that despite the direct impacts of previous policy proceedings and alterations, both international and local coffee prices have largely prevented the achievement of poverty reduction and subsector development goals, thereby exacerbating the situations of nearly all producers and various actors in the supply chain who face challenges such as sales of assets, loss of capacity to repay loans, abandonment of coffee production, and escalating joblessness.

1.4 Research Objectives

The main goal of this study is to examine the role of coffee growing in socio-economic development, focusing on the livelihoods of rural households. In this regard, the proposed

study will explore this role in the livelihoods of coffee-growing households in the Borecha District of the Illubabor Zone within the Oromia National Regional State.

The following questions guided the research:

1. What have the effects of coffee growing been for households compared to other agricultural crops in their localities?
2. What consequences for socio-economic development have these effects had households?
3. How do these effects relate to the overall livelihoods of households?

1.5. Limitations and Scope of the Study

This study was limited geographically to one district in the Illubabor Zone of the Oromia National Regional State. The other limitation considered by the researcher is that none of the interviewees spoke English; therefore, enumerators translated all conversations into the local languages, Afaan Oromo[9] and Amharic[10].The possibility that connotation is somewhat changed by unqualified interpreters is always present. With regard to the scope of the study, the biological aspects and the various agronomic practices of coffee growing in the country are beyond the scope of this study.

This study focuses on the role of Coffee-based agriculture in the Socio-Economic development of the study district. Of course, assessing the role of coffee in the socio-economic development of the whole Oromia region would have improved the accuracy of the estimates and the reliability of the inferences. However, due to financial and time constraints, this study was restricted to one coffee-growing district in the southwestern part of the country. Although the study is restricted in terms of its coverage, its findings can be used as a springboard for more detailed, area-specific studies.

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[9] Afaan Oromo is the Cushitic language of the Oromo people.
[10] Amharic is the official language of Ethiopia.

1.6 Outline of Dissertation and Chapter Contents

This dissertation is divided into six chapters. The first chapter provides the introduction, background for the research, research area, problem statement, objectives and guiding research questions. The second chapter refers to a brief history, social, and economic perspective of Ethiopia. Subtopics such as history, geography, climate, population, culture, language, religion, and, economy of the whole country will be discussed in detail. In addition, a brief description of the study area that identifies the issues that are important to this research will be discussed in detail. In chapter three, the existing literature and theoretical frameworks, including Sustainable Livelihoods and Amartya Sen's Capability Approach, are discussed. Definitions of key concepts are provided, and the global context of coffee, coffee production and developing countries, coffee production in Ethiopia, the economic importance of coffee in Ethiopia, and the social contributions of coffee are considered in detail. Specifically, this chapter aims to consider the other research that has been conducted in the area of coffee growing that supports the livelihoods of rural households in terms of both social and economic development. As the name indicates, the review makes it possible for the researcher to better understand earlier efforts to understand the problem. Correspondingly, the results of the review help the researcher identify the prevailing gaps in understanding and further this study. In addition, the review improves and focuses the theoretical framework of the research design of this particular study. This review also helps uncover the connections, analogies or other relations among research results by comparing the various related studies conducted in this area. Furthermore, the empirical evidence that is available in the country and elsewhere in the world is discussed. Chapter four presents the research design and methodology, including the design followed and methods used during fieldwork. This chapter defines the key variables and outlines the sample design and sampling methods, the data collection methods and fieldwork, the process of capturing and editing the data, and the data analysis. Chapter five presents a discussion of the results of the investigation and provides a conclusion. Finally, chapter six presents a summary, concluding remarks and recommendations and policy implications.

Thus, the dissertation begins with an introductory chapter followed by a brief history of Ethiopia then the literature review/theoretical framework, research design and

methodology, research results and analysis, summary, concluding remarks recommendations, and policy implications.

Chapter Two: A Brief History of Ethiopia and its Socio-Economic situation

This chapter provides a brief survey of Ethiopia's historical, social, and economic development. Using concise summaries of the history, geography, climate, population, culture, language, religion, and economy of the country, this chapter presents information relevant to the role of coffee in Ethiopia's socio-economic development, particularly in the case of the Borecha District. Thus, this overview is essential to grasping how Borecha is connected to Ethiopia as a whole and to the rest of the world. Understanding this link is essential to grasping the coffee's role in Ethiopia in general and in the Borecha District in particular.

2.1   Geography

Ethiopia, officially called the Federal Democratic Republic of Ethiopia, is located 8° N and 38° E[11] in northeastern Africa (Figure 2 below). Ethiopia is bordered to the northeast by Eritrea and Djibouti, to the east and southeast by Somalia, to the southwest by Kenya, and to the west and northwest by Sudan (Keller, 2009). As noted by (IFAD, 2015), the country's topography and climate are exceedingly diverse; the Great Rift Valley slices through it, passing through a massive central highland area full of mountains and plateaus encircled by lowlands. Nearly 85 percent of Ethiopia's population resides in the temperate zone in the highlands. Where the environment is either tropical or arid and temperatures range from 27° to 50°C, the population becomes sparser and poorer. This is particularly true of the cooler zones and especially of the hot zone (ibid).

Ethiopia covers an area of 1,133,380 square kilometres (Keller, 2009). The distinctive part of the country is a high tableland, known as the 'Ethiopian Plateau,' that covers more than half the total area of the country. The upland is divided in a northeastern-to-southwestern direction by the Great Rift Valley. Although the mean elevation of this plateau is 1,680 m, it is divided by several rivers and entrenched gorges, a few of which reach 600 m below the height of the upland area. The area is covered by crags; its highest peak is Ras Dashen, which is 4,620 m above sea level. These pinnacles and depressions are found in northern Ethiopia, in the area adjoining Lake Tana, where the Blue Nile originates. The

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[11] www.indexmundi.com › Factbook › Countries › Ethiopia › Geography

northeastern boundaries of the upland are marked by sharp cliffs, which fall approximately 1,200 m – or even farther – to the Denakil Desert, 120 m below sea level. Analogous to the western provinces, the upland descends less rapidly to the arid region of Sudan. Across the southern and southwestern boundaries, the upland descends in the direction of Lake Turkana, which was previously called Lake Rudolf (Keller, 2009). The tableland area is productive and not fully developed. Great variety in soil, climate, and elevation allows the production of a varied scope of agricultural commodities (ibid).

Figure 2.1   Map of East Africa

Source: CIA World Factbook, 2009

2.2   Climate

Ethiopia is in the tropical zone, positioned between the Equator and the Tropic of Cancer. The climate[12] varies and has three zones that are mainly related to altitude. The first is the tropical zone, which is below 1830 meters in altitude and has an average annual

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[12] http://ccb.colorado.edu/ijas/ijasno2/bekele.html, Ethiopian National Metrological Services Agency

temperature of approximately 27 degrees Celsius, with annual rainfall of approximately 510 millimetres. The Danakil Depression (Danakil Desert) is approximately 125 meters below sea level and is the warmest region in Ethiopia; its temperature reaches 50 degrees Celsius. Second is the subtropical zone, which comprises the plateau areas of 1830-2440 meters in altitude and has an average annual temperature of approximately 22 degrees Celsius; annual rainfall is between 510 and 1530 millimetres. Third is the cool zone, which is above 2440 meters in altitude with an average annual temperature of approximately 16 degrees Celsius and annual rainfall between 1270 and 1280 millimetres. Ethiopia has four seasons. The first is summer, which lasts from June to August and is characterized by heavy rainfall. The second is autumn, which lasts from September to November and is sometimes considered the harvest season. The third is winter, which is the driest season and lasts from December to February. The fourth season is spring, with infrequent rainfall. It lasts from March to May, and May is considered the warmest month of this season. As reported by UNICEF (2014), Ethiopia's general meteorological state ranges between temperatures of 47 ˚C in the Afar depression to 10 ˚C in the highlands.

As Ethiopia's population increased, the domestication and herding of cattle, goats, sheep, and donkeys became more common, as did the rigorous gathering of uncultivated grains. This progress developed in accordance with the cultivation of thirty-six crops, for which Ethiopia was either the first or second site of cultivation at approximately the beginning of the third millennium B.C. The most important of these grains were teff[13] (ragrostistef) and ensete (ensete edulis, the "false" banana, which today is still consumed in large parts of southern and southwestern Ethiopia (Marcus, 1994).

In many ways, the growing use of these cultivated foods allowed proto-Ethiopians to spread into the temperate plateaus and to clear the land, which they prepared for crops with farm implements, an attribute of the highlands as ancient as agriculture itself. Barley and wheat were introduced during the second millennium B.C. as Middle Eastern grains (ibid).

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[13] Teff is one of the indigenous cereals grown in Ethiopia.

2.3 Brief History

Prehistoric Ethiopia was described by the Greek historian Herodotus in the fifth century BC. Additionally, the Bible's Old Testament chronicles the Queen of Sheba's official visit to Jerusalem, where "she demonstrated Solomon with tough queries". According to folklore, King Menelik I – the founder of the Ethiopian monarchy headed by an emperor or empress – was the son of Sheba and Solomon (Grierson and Munro-Hay, 2000).

The oldest fossil of a human ancestor was found in Ethiopia, making the country one of the oldest in the world. For example, fossils of a human ancestor believed to be nearly five million years old were discovered in the Awash Valley in Ethiopia. In 1974, the discovery of "Lucy", a 3.2 million-year-old fossil skeleton that was dug up in a similar area, added to our knowledge of Ethiopia's ancient history (Henz, 2000).

Ethiopia was also home to an antique culture, as seen in its 12th and 13th century rock-hewn Christian churches such as Lalibela. In the Tigray Regional State, in Axum in northern Ethiopia, wreckage of the Queen of Sheba's palace can be seen even today. Moreover, Axum is home to many other ancient historical sites and is also the home of the Ark of the Covenant, brought there from Jerusalem by Menelik I (Grierson and Munro-Hay, 2000).

Until the 20th century, Ethiopia was known as the ancient self-governing African nation of Abyssinia. It was home to the influential Christian kingdom of Aksum that became successful around the first century AD (Keller, 2009).

However, as a result of sectarian divisions within the Ethiopian church during the reign of Zara Yakub (1434-1468), the invasion of Gragn Ahmed in approximately 1527, and the death of Johannes' son, Iyasus I (also known as Iyasu the Great) in 1706. Ethiopia entered a prolonged period of successional disorder and became weaker; during this time, the country splintered into distinct regions. A new political system was introduced at this time and continued until the middle of the 20th century. This period of instability and successional uncertainty gave rise to a number of small kingdoms that controlled different segments of the country. This situation triggered social and political disorder (Selamta, 2016)[14]. Regardless of the resistance of local governors, Emperor Theodore II began to

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[14] www.selamta.net/**history**.htm

transform and consolidate Ethiopia's legitimate and administrative systems after having conquered a number of trivial feudal leaders (ibid). Ethiopia had been fully reunited by Menelik II in the 1880s (Keller, 2009).

According to Selamta[15] (2016), after the removal of Haile Selassie by members of the armed forces in 1974, a number of ideologically based political organizations came into being, each one with its own outlook as to the desired nature of a new Ethiopia. Resistance groups such as the Eritrean People's Liberation Front (EPLF) and the Tigray People's Liberation Front (TPLF), which had been driven into secrecy a decade earlier, appeared as strengthened and differently structured armed groups.

2.4   Ethiopia from 1935 to 1974

During the course of its short colonial period (1935-1941) under the Italians, the need for cotton, salt, kerosene, and the like expanded, and these new needs created a market for tools, machinery, technical equipment, trucks, spare parts, and petroleum products. The period when Italy occupied Ethiopia had stimulated growth similar to what had occurred under earlier conquerors. After the period of Italian rule ended, Haile Sellassie pressed on to educate dedicated elites to succeed in transforming the country. He thought that education could transform his feudal empire into a modern government. The Ministry of Education encouraged the population to send their children to school to learn how to improve Ethiopia and enforced an extra land levy in November 1947 to support provinces and localities to pay for new schools and teachers. This increased assistance came at a time when Ethiopian economic growth was decelerating. For the duration of the late 1950s, the international coffee market had been flooded by increased Latin American production, and Ethiopia's exports of cereals, oilseeds, and beans suffered from the closing of the Suez Canal and from worsening rivalry in Africa. Industry and agriculture suffered, trade was miserable, and the government drew heavily on its stocks to pay its bills. Ethiopia could provide the standard public services of modern life only in the capital and in limited

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[15] Selamta is the in-flight magazine of Ethiopian Airlines and is a world-class publication with an array of coverage as diverse as the airline and the regions it serves. Its pages feature business, technology, health, travel, sports, culture, fine dining and more.

regional centres. In other places, modernisation was restricted to remunerating levies and to buying insignificant goods brought in from abroad (Marcus, 1994).

The same source reports that many farmers were drawn into the marketplace; however, others were forced off their plots and grazing lands and became the working class of the countryside due to the formation of extensive plantations in the Awash and, later, in the Omo and Didesa gorges, as a result of the growing capitalization of coffee in Sidamo and in other places, which was widely extended by the proliferation of trucks in Shewa and Arsi. Ethiopia's small governing group heavily financed the farming industry and, with their returns, assisted in funding Addis Ababa's development. To meet the emperor's requirements regarding transformation, the outlay of money for financial institutions, domestic security, civic works, education, and social facilities all converged in the capital. Undeniably, the city's modern conveniences had attracted the attention of Ethiopia's citizens, overseas traders and business people, and a growing number of European skilled workers, consultants, teachers, and entrepreneurs Students perceived economic process as causing a social crisis, as privileged minorities cordoned off communal grazing lands, restricted rights to use water, drove out incompetent producers, and required farmers who leased agricultural land to make unreasonable rent payment in cash or dividends. Not only did the small governing group benefit, so did the exploitative middle class, who bought land for truck smallholdings and plantations to take advantage of the demand for Ethiopia's coffee, beans, cattle, sheep, and grain. Spreading from Addis Ababa was a zone of economic development that expanded every year, displacing ordinary growers. Farmers' concerns about land deprivation were vociferously reprised by the students, who hated the realism of unfair economic growth and chose as its replacement the theoretical social equality of untested Marxist-Leninist forms of development (Marcus, 1994).

2.5   Present Day Ethiopia

In May 1991, the EPLF took complete control of Eritrea. Thereafter, Eritrea, which had been part of Ethiopia since the 1950s, broke away to become an independent nation in 1993. Also, after the departure of Mengistu to Zimbabwe in May 1991, the Ethiopian People's Revolutionary Democratic Front (EPRDF) took control of Addis Ababa. Since 1995, Ethiopia has been divided into nine Regional states and two chartered cities (the regional states are Afar; Amhara; Benshangul-Gumuz; Gambella; Harari; Oromia; Somali; the Southern Nations, Nationalities and People's Region; and Tigray regional states; and

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the two chartered cities are Addis Ababa, the federal capital, and Dire Dawa (see Figure 2.2 below)). The regional states are divided according to the country's principal ethnic assemblies. Addis Ababa is Ethiopia's capital and largest city. The regional states are divided into 85 zones and 765 districts (CSA, 2007).

Squeezed in between war-ravaged Somalia, Eritrea, and the recently divided Sudan and South Sudan, Ethiopia occupies a challenging position in the Horn of Africa. The countries bordering Ethiopia make it challenging to cross over between communities. The areas around the edge of Ethiopia's lowland areas have long been influenced by insecurity, and Ethiopia's somewhat strong state, security and military systems are commonly established locally – and occasionally also regionally – to uphold the Government of Ethiopia's achievements in national security and safety measures. Nevertheless, Ethiopia's fundamental and significant foothold in the Horn of Africa also makes it a vital possibility for establishing regional support and partnerships, which could help meet a growing mutual need between the region's countries and advance peace and stability in the region (WBG, 2012).

Figure 2.2   Map of Ethiopia

2.6   Population

According to World Bank and United Nations Statistics (2014), Ethiopia's population has reached 96,506,031 million, making the country the second most populous in Africa after Nigeria. The annual growth rate of the population is 2.6 percent. According to the same source, 81 percent of the country's population lives in rural areas, and the rural poor account for 24.6 percent of the population.

2.7   Culture, Language, and, Religion

As noted by Marcus (1994), considerable progress took place on the linguistic front after the eighth millennium B.C. Ethiopia has a variety of ethnic and linguistic social classes. There are over 80 ethnic groups, each with its own language (most of them Afro Asiatic-

Semitic, Cushitic, and Omotic, plus some that are Nilo-Saharan), culture, customs and traditions. Oromo and Amhara account for 34.4 percent and 27.0 percent of the population, respectively (CSA, 2007). The official language is Amharic, which is the working language at the Federal level as well as in some Regional States such as Amhara, Gambella, Benshangul-Gumuz, the Southern Nations and Nationalities People's Regional State and the two chartered cities, Addis Ababa and Dire Dawa. At present, there are other local languages such as Afarigna, Afaan Oromo, Tigrigna, and Somaligna that serve as regional working languages in their respective regions (CSA, 2007).

English is the most extensively spoken foreign language and is the language of teaching in secondary schools and universities. Amharic was the languauge of primary school instruction, but after the collapse of the Derg administration in 1991, it has been replaced in many areas by local languages such as Afaan Oromo and Tigrinya. One of the most notable areas of Ethiopian culture is its literature, which is mainly translated from ancient Greek and Hebrew religious manuscripts into the ancient language Ge'ez[16,] as well as into contemporary Amharic and Tigrigna languages.

With regard to religious beliefs, 43.5 percent of the country's population is Orthodox Christian, 33.9 percent Muslim, 18.6 percent Protestant, 0.7 percent Catholic, 2.6 percent Traditional, and 0.7 percent other religions (SCA, 2007).

2.8 Economy

Agriculture is very important for Ethiopia. The country's economy is based on agriculture, which accounts for more than 45 percent of GDP, 80 percent of exports, and 80 percent of total employment. Ethiopia's principal source of financial reserves is its agricultural resources. In general, agriculture dominates the Ethiopian economy and accounts for approximately one-half of GDP (Jema, 2008). As a result, Ethiopia ranks third in the world and first in sub-Saharan Africa in terms of the share of GDP from agriculture (Jema, 2008).

The majority of Ethiopians are engaged in agriculture at yield levels that are tremendously below average. The agricultural sector is characterized by low inputs, low outputs and small plots. Because the majority of agriculture relies on rainwater, rural residents are

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[16] According to http://www.ethiopianorthodox.org/english/indexenglish.html, Ge'ez is one of the most ancient languages in the world and is still used today by the Ethiopian Orthodox Tewahedo Church.

heavily dependent on rain for both production and subsistence agriculture (World Bank and Facet, 2013).

As noted by the World Bank (2008), in many rural provinces of unindustrialized nations, an enormous segment of the population exists below the poverty level. Advancing their intensity of income and well-being rests heavily on creating fruitful and value-added opportunities for agricultural production.

As the study by Blokland and Gouet (2007) indicates, farmers with inadequate right of entry to finance and input markets face elevated expenditures when conducting business in the global supply chain. For instance, challenges that farmers are likely to encounter include obtaining profitable market openings and being bankrupted by price instabilities. To overcome these problems, it is imperative to establish agricultural marketing cooperatives to reduce costs and to strengthen the negotiating status of smallholder producers.

Getnet and Anullo (2012) indicate that the role of cooperatives in social and economic development is constantly stressed as a result of the international trends of market liberalization and globalization, especially when combined with the downward slope of poverty. This typically occurs in response to the problem of market failure, which is common in developing countries. Market failure excludes the poor from participating in income-generating opportunities and benefiting from social services. Thus, market failure can pave the way for cooperatives to improve equity, inclusiveness and democratization.

At present, there is a strong claim in Ethiopia that cooperatives could soon participate in smallholder promotion and poverty reduction. More-or-less successful examples, such as the direct exports of coffee, oilseeds and vegetables to markets in Europe and the USA by cooperative unions in which smallholder agrarians participate via primary cooperatives, have already been realized (ibid).

As soon as the existing government assumed power in 1991, it began a series of restructurings to achieve wide-ranging economic development in a secured market economy. These restructurings addressed inadequate public spending in agriculture, education, health, water, roads and telecommunications. Partly as a result of these restructurings and investments, the economy recorded rapid development, which lasted

through 2008, positioning Ethiopia in the middle of the strongest economies in sub-Saharan Africa. Also, the Government of the Federal Democratic Republic of Ethiopia has tried, to an excessive degree, to implement extensive institutional and policy restructurings in order to transform the country's situation from a consolidated and premeditated Marxist administration into an unwavering market economy over the past twenty years. These restructurings have buttressed efforts to lessen poverty and have escalated expenditures on agriculture, education, health, water, transport and telecommunications (IFAD, 2015).

Ethiopia is one African country that achieved rapid growth without petroleum from 2005-2011, although it is, even now, faced with prolonged food insecurity. However, since 2000, substantial investments have been made by the government (together with uninterrupted financial assistance from the global public) to support the development of trade and industry and to improve livelihoods. Ethiopia also took advantage of the Heavily Indebted Poor Countries (HIPC) arrears liberation program. Ethiopia is a nation transitioning from having a centralized government to being an ethnically centred federal state, and from a directive economy to an unrestricted market economy. The Ethiopian government is increasingly in favour of economic growth; even now, the prescribed private sector portion of the economy (27 percent) and its impact on employment (i.e., 5.8 percent) is lower than average, in contrast to other African nations (Facet, 2013).

The two-digit growth of the economy in terms of both trade and industrial development, and the inadequate impact of the private sector, demonstrate the government's full participation in the economy. The recognized business sector's investment input to the GDP accounts for 8.8 percent, which is considerably below the Sub Saharan average of 18 percent and extremely below that of comparable rapidly growing economies, which is 25 percent on average. In addition, imports and exports are tightly controlled by the national government. Overall, imports account for 33 percent of GDP yet are considerably greater than exports, which are 11 percent of GDP, creating a substantial transaction discrepancy (ibid). The same source adds that even though exports have begun to expand in recent years, Ethiopia's leading export item is coffee, while its floriculture and horticulture exports only expand sporadically. The leading imported product is petroleum.

As also noted by the International Fund for Agricultural Development [IFAD] (2014), large numbers of farmers are smallholders, and 95 percent of agricultural GDP is produced by approximately 12.7 million smallholders. These farmers are enormously susceptible to external shocks such as volatile global markets and drought and other natural disasters. These smallholder farmers produce approximately 95 percent of agriculture's share of GDP. Poor rural people are also susceptible to lack of basic social and economic infrastructure such as health and education facilities, veterinary services and access to safe drinking water, in addition to their susceptibility to climatic conditions.

As reported by the World Bank Group [WBG] (2012), the total size of the population living in poverty is approximately equivalent to what it was 15 years ago. A substantial portion of the population is exposed to shocks regardless of two-digit economic development and considerable declines in the percentage of the population living below the national poverty line. By the same token, the number of people living below the food poverty line has grown, and reliance on disaster aid remains high.

Moreover, even though right of entry to basic social services and infrastructure has been substantially enhanced, the standard of those facilities has not maintained a comparable pace of growth. To overcome these problems, corresponding efforts such as fundamental public infrastructure, consistent governmental enforcement of regulatory frameworks, commitment from the private sector, and mobile technologies to improve the productivity of farmers and businesses are required to diversify livelihoods and to initiate a structural shift from survival farming to a new contemporary and productive agriculture (ibid). Furthermore, the Ethiopian government has a crucial role to play in delivering rudimentary social services such as health and education, which would reinforce people's ability to take advantage of new opportunities. During this lengthy period, wide-ranging forms of economic development in every part of the economy will be crucial to move toward reduced susceptibility and improved resilience. However, there is also a need for a comprehensive social protection system that will enable the Government of Ethiopia to cope with risks, react to catastrophes and provide social services to the continually deprived (WBG, 2012).

In Ethiopia, along with the deleterious influence of the prolonged slowdown of the EU and other high-ranking economies, the main risk is the likelihood of external economic shocks

(WBG, 2012). IFAD (2015) and WBG (2012) also added that the other external shocks that pose risks are natural disasters; long periods of extremely dry weather during which there is insufficient rain to grow crops successfully or to replenish water supplies have shown the greatest frequency. There is a possible trade-off between economic development and the general state of sustainability, particularly for a development model that is dependent on considerable public investment in an environment of low national savings. For a number of years, Ethiopia has been known as having a culture that rejected dishonesty; nevertheless, there is a possibility that this will be weakened by encounters with rapid economic development together with significant government involvement in the control of the economy.

IFAD (2014) concluded that although Ethiopia continues to be one of the world's poorest countries, it has attained robust economic growth, making it one of the highest performing economies in sub-Saharan Africa since 2007. Nearly 29 percent of the population lives below the national poverty line. According to the United Nations Development Programme's human development index, Ethiopia's rank out of 187 countries is 174th. As also noted by IFAD (2014), Ethiopia's average per capita incomes are less half of the sub-Saharan average. On the other hand, even though Ethiopia has enormous potential for agricultural development, currently only approximately 25 percent of its arable land is cultivated. Agriculture is influenced by subsistence rain-fed farming; it uses few inputs and is characterized by low productivity (ibid).

According to IFAD (2014), the dominant crops are coffee, cereals, maize, sorghum, wheat, barley and millet. Cereals account for approximately 70 percent of agriculture's contribution to GDP. Cereal harvests declined in the past ten years, but in recent years they have stagnated. As cultivation has extended to marginal lands, it has led to severe land degradation. The country's irrigation potential is severely underutilized. Livestock production is an important sector of agriculture, accounting for approximately 15 percent of GDP.

As noted by Workman (2016), Ethiopia's 10 leading exports accounted for 92.8 percent of the total value of its worldwide consignments despite showing a -11.3 percent decrease from 2014 to 2015. According to the International Monetary Fund's World Economic

Outlook Database (Cited in Workman, 2016), Ethiopia's total Gross Domestic Product was equal to $170.5 billion in 2015.

Table 2.2 below shows Export product groups and their dollar values in Ethiopian worldwide consignments for the period of 2015. In addition, as shown in the table, the percentage share indicates each export group in relation to overall exports from Ethiopia. For example, coffee, tea and spices accounted for 21.7 percent of total exports; vegetables accounted for 19.4 percent; live trees and plants accounted for 16.0 percent of Ethiopia's export income, with oil and oil seeds making up 26.5 percent; gems and precious metals 7.2 percent; live animals 7.7 percent; animal products (meat, raw hides excluding fur skins) 4.4 percent; and knit or crocheted clothing 1.0 percent.

Table 2.2　　Export product groups and values in Ethiopian worldwide consignments for the period of 2015

No	Export product group	Value (billion USD)	Share (%)
1	Coffee, tea and spices	1	21.7
2	Vegetables	0.8974	19.4
3	Live trees and plants	0.7375	16.0
4	Oil	0.6932	15.0
5	Oil seeds	0.5314	11.5
6	Live animals	0.3322	7.2
7	Gems, precious metals	0.175	3.8
8	Meat	0.1069	2.3
9	Raw hides excluding fur skins	0.0981	2.1
10	Knit or crocheted clothing	0.044	1.0
	Total	4.615 billion	100.0

Source: Adapted by the author, usingwww.worldstop**exports**.com/**ethiopias**-top-10-**exports**/data

In the history of Ethiopia's export markets, the most important export item is coffee, far surpassing other export products. In the global market, there is high demand for Ethiopian coffee because of its special aroma and distinct flavour. Throughout Ethiopia, coffee utilization has not changed meaningfully in recent years. In this regard, Ethiopians are among the leading coffee-drinking people in Africa. Overall, Ethiopian coffee farmers do not practice chemical fertilizer application, unlike profit-making farms. The tradition of using fertilizer in coffee farmlands is not supported by the Ministry of Agriculture. The sale of coffee takes place in three distinct selling categories. Primary level coffee transactions are the first category, in which coffee growers and dealers trade coffee at a local level. These marketplaces are situated close to coffee smallholdings. The ECX Addis Ababa is the second category, dealing with chains where deals are made in an uproarious environment. The third level is the standard global coffee market in which exporters' trade coffee to importers. The coffee trade in Ethiopia is not entirely free. Coffee that is inferior in quality and does not meet the Ethiopian commodity exchange quality criteria is delivered to and transacted in the local markets. However, bit by bit, the stake of coffee in total export incomes has deteriorated over the years because of increased exports of other supplies, namely, gold, flowers, Chat, textiles, and leather products (Abu and Teddy, 2014).

Coffee not only sustains the absolute economic growth of the country; it is the source of income for millions of coffee growers, thousands of coffee dealers, basic cooperatives and unions, financial institutions and transportation firms. Next to coffee, oil crops take second place in relation to Ethiopian agricultural exports. Oil crops that include Niger, sesame seeds, sunflower and ground nuts are exported to Asia, Europe, America and Africa. Countries such as China, Turkey, Israel, USA, Jordan, Greece, Switzerland, Yemen, Saudi Arabia, Canada and Britain are key export destinations. In addition, export destinations for pulses such as white pea beans, chickpeas, peas, mung peas, lentils, and beans are Sudan, UAE, Pakistan, Yemen, India, South Africa, Germany and Singapore. The other source of foreign currency in the Ethiopian economy is gardening items such as vegetables (tomatoes, cabbages, onions, and, garlic) and fruits such as lemons, potatoes, bananas, oranges, mangos, avocados, and, papayas, which are exported to various nations. With regard to livestock numbers, Ethiopia stands first in Africa and tenth in the world, although livestock's contribution to the national economy is very limited due to mishandling of the sector. However, Ethiopia still exports diverse livestock such as cattle, camels, sheep and goats, together with their meat, to various nations (Gebre-Selassie and Bekele, 2016).

As reported by WB (2014), although Ethiopia is the oldest independent country in Africa, it is one of the world's poorest nations, with a per-capita gross domestic product (GDP) of $550.0 per year in 2014. Most Ethiopians do not participate in the monetary economy and simply barter in local markets. The health of the Ethiopian economy depends on the earnings of the agricultural sector, which rise and fall depending on rainfall. Ethiopia is therefore heavily dependent on funding from foreign donors (ibid).

However, as Zoellick (2014) indicates, although all of Ethiopia is not susceptible to a lengthy and serious lack of rain, most of the country experiences food insecurity. The reasons cited so far are that the majority of farmers have plots of land that are too small to be very productive and that soil fertility is declining due to intensive use rather than low precipitation/rainfall. For these reasons, large numbers of farmers' experience food insecurity despite the fact that there is consistent precipitation. Correspondingly, most regions have people who experience severe food shocks in times of inadequacy. Also, according to Zoellick (2014), the regions most affected by drought are located in the eastern portion of the country. Oromia and the Southern Nations Nationalists and Peoples

region (SNNP) are cases in point. These regions are particularly susceptible to recurrent drought, although there are also small pockets of drought-prone areas in other regions.

Beilli et.al, (2001) concluded that an enormous decline in the quality of the environment – due to natural factors, reckless utilization of natural resources, illogical ecological traditions and population burdens – has been observed during the most recent three decades in Ethiopia. As a result, land degradation – out of all the problems related to declining environmental quality – is becoming Ethiopia's most serious environmental problem. Because substantial portions of the population rely on agriculture for their livelihood, land degradation is one of the leading reasons that a growing number of people continue to live in poverty and suffer from scarcity of food and worsening livelihood situations.

2.8.1 Why is Ethiopia poor?

Unlike the rest of Africa, Ethiopia barely experienced a period of colonialism, and it is the home of an ancient civilization. The two leading explanations noted by most of the literatures in answering the question "Why Africa is poor?" are colonialism and slavery. Those reasons do not apply to Ethiopia. So, why is Ethiopia poor? There are different explanations as to why Ethiopia is poor. Among them are the following.

The period between 1769 and 1855 was the era of princes; there was disorder and a failure of central power. It is believed that this epoch may have caused Ethiopia to falter in development. Hostility and fighting among tribal chiefs and local rulers caused destruction for the country and the general public; above all, the farming community suffered from the most miserable lives. It is still believed that many of the widespread social and political problems affecting Ethiopia today are, to a certain degree, the consequences of unanswered questions of this epoch (Abraham, 2015).

For the majority of Ethiopians, life in the eighteenth century was challenging and full of hard work without adequate incentives. There was little perception of transformation, progress, or development. Each person had a position in society, only some progressed from rank to rank, and hardly anyone could succeed through his own efforts. Although there were infrequent farmer insurgencies, discord among groups had less to do with distinction than with number. Overall, Ethiopians had abused slaves as household

servants or as smallholding workforces, or to show prosperity and rank. Provided that Ethiopia was independent, an accessible agricultural oversupply may have supported the population of slaves. The change in the world economy in the late nineteenth century and the successive development of cash crops in southern Ethiopia changed this situation. During the 1920s, Ethiopian crop growing, particularly of coffee, became progressively more rewarding; the use of slaves was ineffective in changing the costs of business. In 1924, Ethiopia was lagging behind the progress and development of other countries of comparable status according to any criterion. Its economy was centred on old-fashioned farming that produced grain, coffee, and pulses, and hides and skins were important export items. There was basically no infrastructure (roads) at that time; cargo was freighted to Addis Ababa to take advantage of the railway to the sea. After the death of Emperor Menelik the second in 1909, the central government was relatively weak until 1930, which contributed to a decline in regulation and stability. This had a multiplier effect on the country's social and economic development. Also, as soon as Addis Ababa learned that the majestic (Haile Sellassie) family had gone into hiding, the absence of regulation and stability affected the entire country (Markus, 1994).

After the emperor of Ethiopia, Haile Selassie I, was removed from power in an armed forces coup in 1974, army authorities established the Provisional Military Administrative Council, known as the Derg, to rule Ethiopia. The Derg declared Ethiopia a socialist state with a one-party system and entirely took over its agricultural land and the majority of its industry. Mengistu retained power, devoting most of his time to fighting internal and external opponents and dealing with the aftermath of inappropriate economic policies (Keller, 2009).

A civil war was fought between 1975 and 1991. Of course, that civil war eventually led to the formation of a new state – Eritrea – in East Africa in the early 1990s and the removal of the Mengistu administration (Keller, 2009). According to a study conducted by Gebru in 1991 (cited in Bevan, 2000), Ethiopian farmers existed for several years under very bad conditions of deprivation, poverty, and lack of information due to a social hierarchy that was evidently extractive and manipulative. The public speeches and ideas that energized the Derg's programme and that of the TPLF during the course of the civil war were of Marxist origins.

In Ethiopia, absence of essential social and economic infrastructure such as health and education services, assistances relating to diseases of animals and their treatment and right of entry to harmless drinking water are the leading sources of rural poverty on top of the susceptibility to climatic conditions that caused by weather changes (IFAD, 2008). According to the same source, the magnitude of poverty differs at the family level in connection with the land's size, quality and productivity, climate situations and production method of applying technical knowledge. With regard to education or health welfares, women are exceptionally susceptible compared to their men counters. In general, among the other explicit reasons of rural poverty in Ethiopia are unsuccessful and unproductive agricultural marketing system, weak transport and communications networks, and weak production method of applying technical knowledge, inadequate right of entry of rural households to provide sufficient facilities, environmental degradation, and the nonexistence of involvement of countryside societies in the process of coming to a conclusion that influences their livelihoods (ibid).

As also noted by IFAD (2008), out of every ten Ethiopians, eight rely on agriculture as their main livelihood. Nevertheless, climatic circumstances and the disorderly effects of war and civil opposition make agricultural production enormously vulnerable. The growing prevalence and harshness of lack of rainfall have introduced instabilities affecting agricultural and economic growth.

A World Bank report of 2006 substantiated that historically, the influence of lack of rainfall on the inclusive financial wealth of Ethiopia is noteworthy. According to this report, the relationship between hydrology and GDP achievement in the Ethiopian context is extremely robust. It is widely accepted that the Ethiopian economy is held hostage by hydrology due to the so-far insignificant infrastructural development of the water sector.

According to Bevan (2000), an understanding of poverty and policy in Ethiopia must be rooted in an understanding of the varied historical practices of deprived and well-off societies and policy makers. In general, the economy is mainly sustenance and coffee-centred. From this perspective, there is extensive diversity in the way livelihood systems are constructed.

2.8.2 Livelihood Systems and Assets in the Ethiopian Context

In Ethiopia, the assets that are vital for production differ by livelihood system. For example, the most important assets are land for food production and grazing in cereal crop-growing areas. In this case, farmers use traditional ploughs and oxen or horses to cultivate their lands. On the other hand, in Enset ("false" banana)-centred livelihood systems, livestock are vital to organic fertilizer preparation from dung. This organic fertilizer is widely applied for Enset production. Similarly, in coffee growing parts of the country, access to processing plants that are essential for coffee bean extraction – and receiving appropriate prices – can be perceived as assets. Moreover, in the case of pastoralists, their most important assets are the means of entering or approaching the water and grazing. In areas where rainfall is abundant and where there are no population burdens, people are commonly dependent on agriculture as their main livelihood. In the absence of all these, either the farming community or the pastoralists are forced to use other assets to practice non-farm activities. In all existing frameworks, allocations of resources are rooted in historically set political and economic systems and in the associated social and cultural rules controlling the rights to use to these resources. According to the same source, in the case of towns, the essential assets are expertise, employment, land, buildings, and infrastructure as a foundation for diverse categories of self-employment (Bevan, 2000).

2.8.3 Poor People in Rural Ethiopia

As indicated by IFAD (2008), the largest groups of poor people characterized by widespread or evident poverty are located in the rural parts of Ethiopia. These populations of poor people constitute smallholders. In addition, record numbers of rural family units survive on below US$0.50 of per capita revenue per day. More than half of the country's 12 million smallholders have 1 hectare or less of land. According to the same source, nearly a third of rural households plow less than 0.5 hectare, which is not adequate to harvest sufficient food for an average household. Their output is low and they are susceptible to periods of dry weather and other challenging circumstances within the usual patterns of nature. Also, as indicated in the same source, an enormous number of poor households face a lengthy period of inadequate food ahead of harvest time. In addition to farmers, Ethiopia's rural poor consist of women and men who rely on herding to survive. Similar to farmers, those who look after domestic animals are also susceptible to

increasingly frequent lengthy periods of dry weather, which can destroy their livestock and assets. In the Ethiopian case, livestock is the sole vital indication of status and prosperity. In this regard, predominantly, there is a solid link between lack of livestock and poverty among female-headed households. In addition, these households are particularly susceptible to lack of basic social and economic infrastructure such as health and educational services, veterinary facilities related to animal diseases, and right of entry to potable water that is found in pristine status. Overall, women who reside in rural areas encounter more severe deprivation than men when trying to obtain education or health services, or when trying to exercise control over their lives (IFAD, 2008).

2.9   Study Area

2.9.1   Introduction

This section provides a brief description of the study area. Familiarity with the study area helps achieve the desired result, especially in the design of the research. That is, familiarity with the circumstances helps ensure the selection of appropriate research methodologies in this exploration of the role of coffee production in the socio-economic development of the study area. Moreover, the physical and demographic characteristics of the study area help establish the production potential; agro-climatic conditions; available production factors, such as land and human resources; opportunities and threats that determine the production and incomes of rural communities. These characteristics determine the production and income of rural households and play a vital role in the analysis part of the thesis. The description of the study area includes the arrangement of other sectors, such as trade and commerce, to provide details on the possibilities for income diversification and available infrastructure and marketing services.

2.9.2   Location

The Borecha District is one of 24 districts in Illubabor Zone of the Oromia National Regional State. This district comprises 34 kebeles and is located 173 km away from the town of Mettu; the capital of the district, Yanfa, is 25 km off the main road and 500 km from Addis Ababa, the Capital of Ethiopia (District Administration, 2006).

2.9.3   Physical Features and Area Coverage

According to the District Agriculture Office, topographically, the district covers a total area of 961 km^2, of which 58.8 percent is used for cultivation and homesteads, 23.4 percent is designated as forest and bush land, 8.4 percent is grazing land and the rest is wasteland. The district has both seasonal and perennial rivers, namely, the Didesa and Sidden Rivers, which are suitable for irrigation, although they are not yet used for this purpose. The district is also characterised by three types of agro-climatic zones: highlands represent 5 percent of the land; midlands, 66 percent; and lowlands, 29 percent, with altitudes ranging between 1280-2400 masl. The area receives annual rainfall ranging from 1100 to 1760 mm from March to October, while the dry season lasts for 4 months from November to February. The annual temperature varies from 19°Cto 25°C (District Administration, 2006).

2.9.4 Population

The population is approximately 85000 residents, with 43350 male and 41650 female residents and 17000 households. Of these, 4.97 percent are female-headed households. This figure is projected using a 2.9 percent annual population growth rate. The estimated average family size is 6 persons. The average density is 88 persons per km^2, making the district the fifth-most populous in the zone. Borecha is predominantly settled by the Oromos, who constitute 95 percent of the district population. The remaining 5% includes the Amhara and members of other ethnic groups (District Survey, 2012). The reported religious composition in the district is 94.96 percent Muslim, 4.45 percent Orthodox Christian and 0.59 percent Protestant (ibid).

2.9.5 Economic Activity

Regarding economic activities, agriculture is dominant, engaging 90% of the labour force (CSA, 2012). The major crops grown in the area are sorghum, teff, maize, rice, groundnut, and to some extent, pulses. Enset (false banana), coffee and chat[17] are also grown as perennial crops. Sorghum and maize are staple foods for lowlanders, while teff is a staple for highlanders. Coffee is the leading cash crop in the area. The productivity of cereal crops is below the national average because of poor agronomic practices and low levels of agricultural inputs and technologies. Livestock are also raised by most of households, providing income through the production of milk, butter, meat, and eggs. Livestock productivity is also poor due to a lack of improved breeds and the presence of diseases, particularly in the lowland areas of the district. A small percentage of the total population is engaged in off-farm economic activities in the area (District Agriculture Report, 2006).

2.9.6. Infrastructure and Marketing Services

The existing social services in the area include one health centre located in the town and four nucleus health centres spread across the district. Of these four health centres, one was constructed by the Menschen für Menschen Foundation. Moreover, 33 health posts, eight elementary and junior high schools (grades 1-8), three schools for grades 1-6, and

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[17] Chat is a shrub used as a stimulant; Ethiopia is the world's biggest producer of chat which has in recent times moving rapidly as a traded item to overseas. It has religious significance within the Muslim community.

twenty-nine schools for grades 1-4 were constructed by the government and the same NGO (District Health & Education Reports, 2013).

Of all the schools in the district, seven primary and junior high schools (grades 1-8), four lower primary schools (grades 1-4) and one secondary school (grades 9-10) were constructed up to code by the Menschen für Menschen Foundation (District Education Office, 2012). With regard to the potable water supply, 123 water schemes (springs, hand-dug wells and shallow wells) were constructed by the government. An additional 115 water sources were constructed by NGOs such as the Menschen für Menschen Foundation and evangelical church, and Save the Children Denmark which constructed 77 percent, 19 percent and 4 percent of these water sources, respectively (District Water Report, 2012).

One fixed line telephone centre provides individual households with access to landline telephones line as well as mobile networks. One all-weather road connects the district with the adjacent districts, and four other all-weather roads connect the kebeles to each other and the Borecha District to the neighbouring district of Didessa. These are the major transport facilities for the area. There are two large, local markets in the district, one in Yanfa, the district capital, and the other in Beleti, a village. When farmers want to sell their produce, they have to travel long distances to reach a market. They use pack animals and load their backs (women) or shoulders (men). They can also use vehicles, although these entail high transportation costs (District Rural Road Authority & Yanfa town Municipality Report, 2012).

2.10   Conclusion

Since 1995, Ethiopia has been divided into nine Regional States and two special privileged cities. According to World Bank and United Nations Statistics, Ethiopia's population has reached 96,506,031, making the country the second most heavily populated in Africa. Ethiopia has a wide-ranging mixture of ethnic and linguistic social classes. Oromo and Amhara represent 34.4 percent and 27.0 percent, respectively. Ethiopia's economy is based on farming, which represents more than 45 percent of its GDP, 80 percent of its exports, and 80 percent of overall occupations. As studies show, inadequate access to money and input markets predisposes agrarians to high transaction outlays involved in the international trade chain. To achieve inclusive economic growth in a safeguarded market economy, a chain of reforms was completed by the current government. Ethiopia is one of

the countries in Africa that achieved rapid progress without petroleum between 2005 and 2011 in spite of the presence of extended food insecurity. Imports and exports are exceedingly regulated by the federal government. By and large, imports account for 33 percent of GDP; they are in excess of exports, which account for 11 percent of the GDP, resulting in a significant difference in business deals. Large numbers of farmers are smallholders, and 95 percent of agricultural GDP is produced by nearly 12.7 million farmers. Regardless of its double-digit trade and industry growth and substantial declines in the percentage of its population below the nationwide poverty line, a considerable portion of Ethiopia's population is still threatened by shocks. The level of public facilities and infrastructure has not kept pace with growth. Ethiopia's average per capita earnings are less than half of the sub-Saharan average. Despite the fact that Ethiopia has huge potential for agricultural growth, at this time merely 25 percent of its land is cultivated for crops. Agriculture is affected by rain-fed crop growing, insufficient inputs and low-level yields. The leading crops include coffee, cereals, maize, sorghum, wheat, barley and millet. Cereals account for approximately 70 percent of agriculture's contribution to GDP. In the history of Ethiopia's export markets, the leading vital export is coffee, which far surpasses other export products. Coffee not only stands apart from the total economic development of the country; it is the basis of incomes for millions of coffee growers, thousands of coffee merchants, basic cooperatives and unions, financial organisations and travelling companies. In contrast to the other African nations, Ethiopia did not fail under colonialism; it is also the home of one of the world's earliest civilizations. It is one of the world's most poverty-stricken countries, with a per-capita gross domestic product (GDP) of $550.0 a year in 2014. Intense aggression and fighting among tribal leaders and indigenous governing authorities caused major devastation to the country and, in general, to all of its citizens. In addition, life in the eighteenth century was difficult, defined by heavy labour without motivation, the internal and external struggles of antagonists, and ineffective economic policies that occurred during the course of the Derg (established by the army authorities as a Provisional Military Administrative Council) regime. Of every ten Ethiopians, eight live off of agriculture as their primary livelihood. In Ethiopia, the assets that are essential to production differ by livelihood system (farmland, livestock, water and grazing land). Climatic conditions and the unruly outcomes of war and civil resistance make agricultural production extremely susceptible to shocks. The largest deprived populations are characterized by extensive poverty and are located in the rural

areas of Ethiopia. Huge numbers of deprived households face extensive periods of food insufficiency before the harvest period. Women who live in the countryside face worse deprivation than men when trying to obtain schooling or health benefits or to exercise control over their lives.

The study site is located in the Borecha District, Illubabor Zone within the Oromia Regional State. As agriculture is the mainstay in the study area, 90 percent of the labour force is engaged in agricultural activities, growing of varieties of crops, such as coffee and vegetables, and rearing livestock. Moreover, according to the secondary data obtained from the district agriculture office, households generate income from sales of coffee, cereals, pulses, vegetables, livestock and livestock by-products. A total of 58.8 percent of the land is suitable for agriculture and is divided into three major agro-climatic zones. Regarding infrastructure and marketing services, the district is far behind, particularly with regard to all-weather road accessibility and markets for farmers to sell their produce. Thus, farmers must travel long distances to markets.

Chapter Three: Literature Review and Theoretical Framework

3.1 Introduction

This chapter presents a literature review examining concepts and coffee production from the global, developing country, and national perspectives. It also addresses the socio-economic roles of coffee, especially in the livelihoods of rural households. Theoretical frameworks will also be discussed in the context of the intended research topic and research questions. In this section, the part of literature review that discusses the theoretical framework is rooted in two sources: one is related to the concept of Sustainable Livelihoods (SL) and the other is derived from Amartya Sen's Capability Approach (CA).

First, the existing literature concerning SL, which was first conceptualised by Robert Champers and Gordon R. Conway and subsequently developed as a practical concept by the Department for International Development (DFID), will be discussed in detail. Themes such as livelihood activities, vulnerability context, livelihood assets, transforming structures and processes, livelihood strategies, and livelihood outcomes will be discussed. Second, the literature on the Capability Approach, which was introduced by Amartya Sen, will be analysed. Sen's model is a wide-ranging theory of individual well-being and human development. Third, these two bodies of literature will be pooled with an emphasis on their shared aims or areas of correspondence. Nevertheless, attention will also be paid to differences between the two approaches. In addition, the empirical evidence that is available for Ethiopia and for elsewhere in the world will be considered. In both theoretical frameworks, issues will be evaluated in the context of the intended research topic and research questions.

3.2 Definitions

3.2.1 Socio-economic Development

Socio-economic development is understood as any effect or outcome, through various mechanisms that result in the improvement of the lives of the people under consideration (Gumede, 2015). In this regard, household incomes and public services, such as education and health facilities, will be considered socio-economic development measures.

3.2.2 Value Chain

A value chain is a stream of input providers, producers, processors and buyers that take a consumption item for from its origin to its end use. Value chains are often vital to economic development because micro- and small enterprises and smallholder farmers will only benefit over the long term if the industry as a whole is viable.

Those who collect coffee beans from producers and who purchase coffee beans from local collectors control the domestic coffee value chain. These companies supply coffee to the bidding market as well as to exporters. Presently, companies can hold more than one license and are allowed to buy coffee directly from growers. These practices hamper competition in the domestic value chain from which growers emerge as beneficiaries (Alemu & Worako, 2009).

It is evident from figure 3.2.2 (below) that there are numerous actors in the Ethiopian coffee value chain. The Ethiopian Commodity Exchange organisation collects coffee beans from different sources, which are indicated in the figure illustrating the coffee value chain.

Figure 3.2.2 The Value Chain of Coffee Markets in Ethiopia
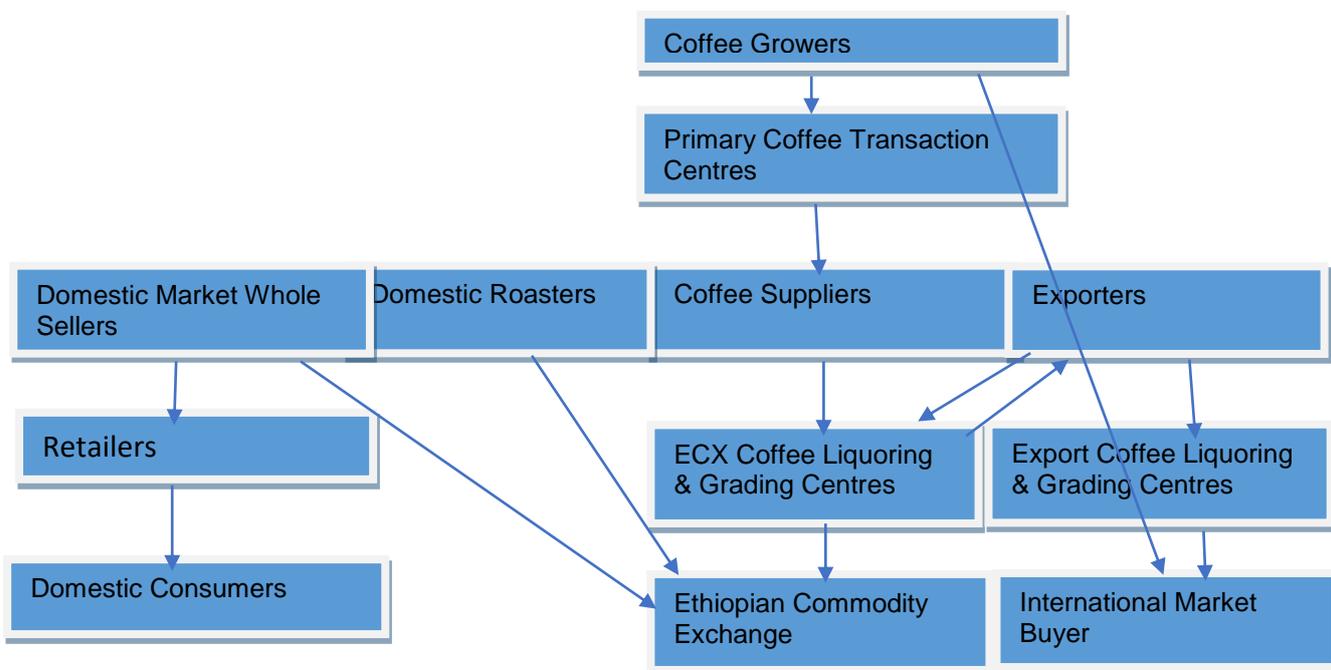
Source: Ministry of Trade, 2012, P.12

3.3   Sustainable Livelihoods

Within the United Kingdom's Department for International Development (DFID), approaches to sustainable livelihoods achieved greater significance during the process of developing the 'White Paper' on International Development of 1997. This signifies a shift from a focus on natural resource matters and programmes to people-focused ways and means, which highlights the goals of reducing neediness, building confidence, and improving livelihoods for the deprived. In addition, there has been a shift in emphasis from searching for ways to enhance agricultural production to searching for the optimal mixture of strategies to help deprived people in rural areas maintain their livelihoods and reinforce their choices. The changes initiated by this approach, in terms of DFID's principles and approach to matters of rural neediness, are considered valuable by the pertinent executives and by the advice-giving assembly at large. These changes include the acceptance of the International Development Targets, for instance; preparing forces for action under the framework of the international development community; increasing the neediness-reduction effect and justifiable dissemination of economic development; and recognizing the relevance of a 'human rights framework' to development thinking to stimulate involvement, presence and responsibility (Norton and Foster 2001).

The DFID (1999) considers a livelihood viable when it can address and overcome challenges and shocks to upholding or improving its capabilities and assets both at the present time and for the foreseeable future without eroding the natural resource base.

In the rural areas of Ethiopia, including the Borecha District, communities are engaged in sales of different varieties of crops to generate income, including coffee beans in the areas where coffee is grown. Sales of livestock and their by-products, seasonal employment and petty trade are also sources of income. According to the information gathered from the district agriculture office, there is usually a food shortfall between July and the middle of September. This situation has a multiplier effect on income and dietary intake. For instance, individuals will be forced to reduce the frequency and amount of food consumed per day to address the shortage, despite the fact that this has undesirable consequences on the nutrition of the family. Farmers with leftover stocks of coffee from the previous year can sell these to buy food items to help the family to overcome months of food shortage (personal Communication).

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A study by the FSS conducted in 2005 (cited in Shibeshi, 2005) concluded that food security has been a severe problem that has contributed to disease and distress in an enormous number of people in Ethiopia, especially among those living in rural areas. In any given year, under ordinary conditions, approximately six million people are incapable of feeding themselves for a portion of the year because they have minimal foodstuff reserves (ibid).

Studies by Bacon undertaken in 2008 (cited in Specialty Coffee Associations of America [SCAA] Sustainability Council, 2013) have shown that in Central America, substantial proportions of farming communities experience food insecurity, sometimes during the course of harvesting produce every year. According to a 6-year review that assessed 177 farmers in Nicaragua, 69% of them were unable to meet their nutritional requirements over the whole year. Likewise, a 2010 study by Méndez (cited in SCAA Sustainability Council, 2013) surveyed 469 households in Mexico, Nicaragua, El Salvador, and Guatemala, and found that 63 percent of coffee-growing households experienced food insecurity throughout the year.

Therefore, the SCAA Sustainability Council suggested that based on the findings from Mexico and Central America, comparable research in other coffee-growing regions is needed to better assess the global situation.

A 2013 FAO report (cited in SCAA Sustainability Council, 2013) substantiates reports of a severe lack of food and food security in Latin America, particularly among coffee-growers, but it is also an undeniably crucial concern among coffee growers in Africa and Asia, where neediness is likely to be greater and social safety nets weaker. The same source verifies that approximately one-fourth of the population is malnourished in sub-Saharan Africa, representing the highest degrees of deprivation of food in the world.

According to Norton and Foster (2001), sustainability has many dimensions, but the overall concept is vital to the Sustainable Livelihoods approach. The authors further elaborated, "livelihoods are sustainable as soon as they are strong in the aspect of external shocks and stresses; and when do not challenge the livelihoods of, or negotiate the livelihood choices open to others". The Sustainable Livelihoods approach is one of a number of analytical frameworks that address the dynamic dimensions of poverty and well-being by

establishing a typology of assets that poor individuals, households and communities deploy to maintain well-being under changing conditions. The livelihoods approach puts people at the centre of development (Norton & Foster, 2001).

Norton and Foster (2001) conceptualised many aspects of sustainability, differentiating among the environmental, economic, social and institutional aspects of sustainable systems. Environmental sustainability is realised when the productivity of life-supporting natural resources is maintained or improved for use by future generations. On the other hand, economic sustainability is attained when a known intensity of spending can be sustained over time.

According to Krantz (2001), there is no integrated method for putting the SL concept into practice. Depending on the agency, it can be used principally as an analytical framework (or tool) for programme planning and assessment or as a programme itself. There are, however, three basic characteristics common to most approaches. The first is the focus is on the livelihoods of the poor. The second is a rejection of the standard procedure of conventional approaches of taking a specific sector, such as agriculture, water, or health, as an entry point. Finally, the SL approach places considerable emphasis on involving people in both the identification and the implementation of activities where appropriate. In many ways, the Sustainable Livelihoods approach is comparable to the old Integrated Rural Development approach. The crucial difference is that the SL approach does not necessarily aim to address all aspects of the livelihoods of the poor. The intention is rather to employ a holistic perspective in the analysis of livelihoods to identify the issues or subject areas where intervention could be strategically important for effective poverty reduction, at either the local or the policy level (ibid).

3.3.1   Theoretical Framework of Sustainable Livelihoods

Related studies frequently use the prominent Sustainable Livelihoods Framework (SLF) to evaluate the effects of a set of activities with a specific goal. The main characteristic of this livelihood delineation is to target consideration of the associations between the assets and the power people have over established customs or habits to conduct mutually exclusive activities that can product sufficient earnings for survival (Ellis, 2000). This framework can be valuable for remaining aware of the extent of the promising effects of

coffee production because it enables us to illustrate and imagine the livelihoods of rural coffee-growing households.

A popular definition of livelihood is provided by Chambers and Conway (1992): a livelihood comprises the capabilities, assets and activities required for a means of living.

In the figure below, the Sustainable Livelihoods Framework is illustrated, and one is able to pinpoint a number of elements that retain opportunities and to demonstrate the ways in which these are connected. Therefore, the framework tries to achieve realistic insight into what influences societies' livelihoods and the ways the capital is essential to persons who obtain all or part of their livelihoods from resource-based undertakings. Therefore, the framework is essential to this study of the Borecha District.

Figure 3.3.1   Sustainable Livelihoods Framework
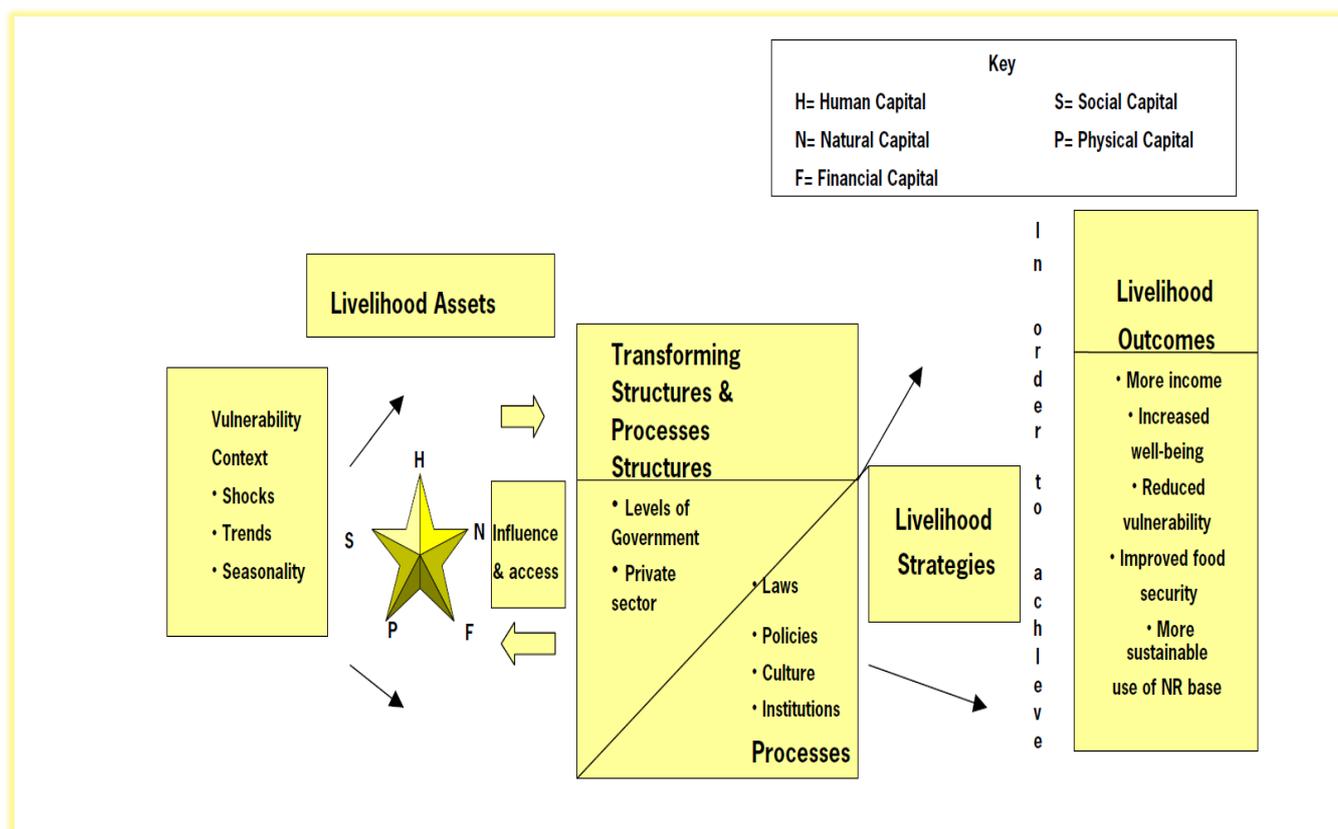
Source: DFID, 1999(cited in Krantz, 2001, P.19)

Physical capital encompasses the basic public services and producer goods needed to support livelihoods. Public services entail vicissitudes to the substantial environs that support individuals in meeting their basic needs that can be further useful (DFIED, 2007).

This latter feature may be especially true in the case of Borecha, where due to the availability of coffee, road accessibility improved and the community has benefited from this service.

Financial capital refers to the financial resources people use to achieve their livelihood objectives (DFID, 2007). However, this property is likely to be least available to the poor. The aforementioned lack of financial capital can be a rational as long as the other kinds of capital are equally vital. It is anticipated that significant effects will come about from both financial and natural capital. The effects of financial capital might be due to increases in off-farm wage income; with respect to natural capital, coffee might occupy part of the land that was formerly used for household food production. This phenomenon has been observed in the garden coffee plantations of the Borecha District.

To attain a comprehensive understanding of the effects of coffee production, qualitative and quantitative approaches are combined with the intention to demonstrate the varied range of socio-economic effects that coffee production may have on rural households' livelihoods.

As Carney's[18] 1998 study (Cited in Krantz 2001, p.19) shows, the framework presented (Fig. 3.3.1) above, offers a way of assessing how organisations, policies, institutions, and cultural norms shape livelihoods, both by determining who gains access to which type of asset and by defining the range of livelihood strategies that are open and attractive to people. The framework emphasises understanding the context in which people live, the assets available to them, and the livelihood strategies they follow in the face of their socio-economic situations. In addition, later studies demonstrated that this framework helps us explain the true wealth of the poor by prioritising the livelihood systems of the poor, as well as their ways of adapting to maintain their livelihoods under conditions of environmental, economic or political stress (Butler and Mazur, 2007).

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3.3.1.1 Livelihood Activities

Bass (2009) states that household livelihood activities commonly fall into one of three categories: income-generating activities, risk-reduction strategies, and shortfall-management strategies. In this case, income-generating activities are the key concern.

The same source indicated that the term 'livelihood' is frequently used interchangeably with 'economic development' and relates largely to economic production, employment, and household income. A more comprehensive understanding of livelihoods nevertheless includes this general definition in a broader setting of economic development, reduced vulnerability, and environmental viability.

Applying this framework is helpful for emphasising nearly all of the vital socio-economic developmental roles coffee plays at the household level. In the figure above, a number of groupings can be recognised.

3.3.1.2 Vulnerability Context

The DFID (2007) noted that the vulnerability context is mainly dependent on trends and shocks. It frames the external environment in which people exist. People's livelihoods and the accessibility of assets are extensively influenced by prevailing styles, shocks and seasonality over which they have limited or no control.

3.3.1.3 Livelihood Assets

At the centre of the framework is the livelihood asset, a five-sided concept that consists of human capital (skills, knowledge, ability to labour, health), social capital (networks, memberships, relationships), natural capital (natural resource stock), physical capital (basic infrastructure, producer goods) and financial capital (available stocks, regular flows of money). Assets can be destroyed or created by trends, shocks and seasonality. Changes in structures and processes partly determine access to assets, and those with more assets are able to switch between livelihood strategies to secure their livelihoods. Finally, research has found that different assets lead to different livelihood outcomes and that people with greater access to assets are better able to escape poverty (DFID, 2007).

Farmers in the study area are dependent on the seasons for their livelihoods, which are related to agricultural crops and livestock resources. These crops and livestock resources are sometimes challenged by natural disasters, particularly drought or less than optimal rainfall. Decreases in coffee prices and low yields can also be considered shocks and therefore have immediate effects on the livelihood sustainability of the affected individuals and households. Regarding trends, the availability of coffee has reduced migration from one place to another to search for jobs in different areas. Because of increased job opportunities, many members of the community lead stable lives in the study area. In addition to the opportunities for insiders, the coffee sector in the study area also creates job opportunity for outsiders. Of course, these trends are dependent on the stable nature of coffee trees and the ability to harvest reasonable amounts of coffee beans. Reduced liability is a predictable result of the escalation in employment and the creation of stable wage occupations for the coffee sector workforce. Many households generate income not only from subsistence crops and seasonal work but also from the coffee sector. Because of this diversification, farming households are able to mitigate predictable threats.

3.3.1.4 Transforming Structures and Processes

The structures such as institutions, organisations, policies and legislation delimit livelihoods by defining the right of entry, the medium of exchange and the returns on livelihood strategies. Furthermore, these structures impact the vulnerability context and can mitigate external shocks, such as droughts or economic crisis (DFID, 2007). In relation to coffee production, a crucial feature is that many coffee growers are not aware of their property rights due to a lack of information about both coffee production and trading policies. This leads to communities that are unaware of the legal positions they have in their coffee production that might have significant effects on the capacity of coffee growers to attain their desired ends in negotiations based on their strengths and weaknesses in coffee trading. On the other hand, the practice of coffee planting makes substantial contributions in terms of environmental protection that leads to the maintenance of ecological balance in the district. By nature, coffee is a shade-demanding crop that has a positive impact on the livelihoods of coffee growers because forests are preserved to provide shade services for the coffee plants. This situation reduces the impacts of external shocks such as drought or economic crisis to some extent.

3.3.1.5 Livelihood Strategies

Livelihood strategies refer to the number and mixture of activities and that people select and combine to attain their livelihood goals (DFID, 2007). In the study area, households' livelihood strategies are dependent on crop diversification via cultivation of different cash and food crops. Different kinds of fruit trees that have high market values and different varieties of vegetables that supplement the family's diet are included in the most common cropping pattern. All these activities are undertaken in the form of backyard agroforestry[19], and this is true in the case of garden coffee (Menschen für Menschen annual report, 2012). On the other hand, most households produce other types of agricultural crops, namely, cereal and oil crops, among others. Households in the study area also engage in livestock rearing to succeed in their livelihood aspirations (Baseline study result of Menschen für Menschen, 2006). In general, farmers in the study area are simultaneously taking on coffee promotion and crop diversification in a household livelihood strategy that may be a reaction to undependable food markets and elevated business outlays and risks, which could be augmented with a focus on coffee (personal communication). It is believed that diversified production reduces households' susceptibility to market and production risks and provides them with opportunities to choose specific crops to enhance smallholding earnings while building up household food security.

3.3.1.6 Livelihood Outcomes

Livelihood outcomes are the achievements or outputs of livelihood strategies, such as income, increased well-being, reduced vulnerability, improved food security or more sustainable use of the natural resource base (DFID, 2007).

In this context, there are expected outcomes for the livelihoods of rural communities, such as food security at the household level, capacity building and skill-based training provided by the district or NGOs. Agricultural development is particularly related to coffee management and production and access to education and health facilities, which has

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[19] Agroforestry is the practice of integrating the raising of trees into farming to provide fuel, fruit, forage, shelter for animals or crops, and other benefits on the same unit of land.

occurred primarily because of the income derived from coffee and the lines of work associated with coffee.

In general, the minimum livelihood requirements of the households in the study area are met, and they sense that their children and other family members are socially, economically, culturally and politically safe.

3.3.2 Accessible Coffee Farmer Assets

Accessible assets are known to share distinctive qualities for all coffee growers around the globe (Celi and Liverman, 2012). The following are issues from the literature review in relation to the designed study.

a. Human Capital

Human capital denotes the services, expertise, capacity to labour and good health that jointly allow people to work at diverse livelihood strategies and to attain their livelihood objectives (DFID, 2007). This is related to coffee-growing households' understandings of viable farming, as well as the availability of professionals and manual labourers. Human capital is among the most important factors that have been vulnerable to alteration due to the growing coffee industry, primarily because household labour potential is the main contributing factor to production capability. At the household level, human capital is a measure of the amount and quality of labour available. In this regard, the promotion of mental or physical ability to improve farming community know-how on coffee cultivation and production in the Borecha District is somewhat encouraging despite the fact that a knowledge gap remains among professionals. This activity is handled by development agents who are assigned by either district administrations or NGOs to work in the area at grass roots level.

b. Social Capital

In this context, the social aspects of coffee farmers' assets include the effectiveness of national or regional coffee organisations, membership in cooperatives or associations, interaction with other coffee growers and direct interactions with transferors/roasters (Celi and Liverman, 2012). To the best of the researcher's knowledge, in Ethiopia, social capital

has a particular meaning among the local communities to meet their livelihood objectives. There is a natural network across Ethiopia that helps farmers on their fields, particularly during growing and harvesting times. For instance, in the Borecha District, farmers work for a day or two in a neighbour's field. Then, they work on another neighbour's field, continuing until the growing and harvesting seasons are over. Lending each other money during difficult situations is also common in local communities.

c. Natural Capital

Natural capital refers to the raw materials reserved for present and future use, which facilitate livelihood improvements (DFID, 2007). In most cases, this is related to natural endowments, such as water access, soil productivity, and land compliance. Natural capital is of great significance to the livelihoods of rural communities because they are both producers and consumers of food crops. To the best of the researcher's knowledge, water access, soil productivity, and land compliance are adequate in the study area compared to northern Ethiopia because of its well-protected patches of natural forest. Due to the accessibility of the above-mentioned natural endowments, diverse crop types, including coffee, grow well in the Borecha District. As previously noted, there are times when rainfall becomes irregular, which leads to total or partial crop failure. Coffee is essential to those who derive all or part of their livelihoods from resource-based activities and is thus an important topic that needs to be researched in Borecha.

d. Physical Capital

Physical capital is related to farm roads and vehicles, energy availability, equipment (machinery and milling) in large-scale coffee farming, storerooms to reduce post-harvest losses, and communication facilities, such as telecom equipment, radios, and TVs (Celi and Liverman, 2012). In general, physical capital refers to the most important public services and producer goods needed to support livelihoods (ibid). For instance, in the study area, the initiation of coffee farming and the cultivation of other leading cash crops, such as groundnut and sesame, led to the construction of a new all-weather road along Deneba, one of the research kebeles. Presently, this road benefits the community in the kebele and the surrounding areas.

e. Financial Capital

Financial capital is used to realise livelihood objectives and includes credit access, savings intensity, transaction times, earnings discrepancies, and farm implements (DFID, 2007). As witnessed during the data collection period, job opportunities in the local community have increased *due* to the cultivation of coffee in the study area. Currently, many households obtain cash income from casual labour and from direct sales of coffee. Because of this, income generation has improved and a saving culture is developing in Borecha.

In this regard, microfinance institutions that create access to credit have been established by the government and by a nongovernmental organisation, the Menschen für Menschen Foundation. Because women are the most deprived and marginalised in terms of income generation, they are the front-line users of this credit service.

3.3.3 Global Vulnerability Context of Coffee Production (Shocks, Trends and Seasonality)

a. Financial Crisis

A 2008 study by Hutchins and Sutherland (cited in Celi and Liverman, 2012) suggests that financial crises are mainly characterised by changes in product prospects, price instability, and specialty coffee market developments in connection to yearly movements of goods and money through the supply chain. As noted by Celi and Liverman (2012), coffee is a renewable natural resource and can be consumed in accordance with its renewal proportion. Of course, cash returns can be generated by farmers from both inexhaustible and exhaustible resources. These resources are called natural capital. A decrease in natural capital leads to deteriorating welfare. This situation is exacerbated by extremely low levels of savings, by seasonality and by high reliance on agriculture crops for livelihoods (ibid).

b. Natural Disasters

Natural disasters are mostly related to climate change, which in turn, is mainly associated with floods and droughts. Pests and diseases are types of natural disasters. Ellis (2000) concludes that these shocks obliterate assets directly.

Existing research shows that Ethiopia is highly susceptible to global climate change. The country is extremely dependent on rain-fed agriculture, which is very much exposed to climate change. The Ethiopian coffee cultivation system is principally represented by smallholder, rain-fed agriculture and relatively small amounts of input-output-focused farming (Kassahun, 2006).

In addition, according to recent studies[20], the length of the growing season has already decreased by 15% not only in Ethiopia but also throughout East Africa. Future climate change risks are also forecasted: deteriorating access to water, sizeable decreases in principal cereal crops in terms of yield, and increased vulnerability to diseases with regard to human beings.

Other countries, such as Brazil, are also facing climate change–related challenges. According to Nishant Gurjer[21], a coffee exporter and former chairperson of the Karnataka Planters Association, the hot, dry weather in Brazil has already begun to affect the critical coffee crop, though the full extent of the damage is not yet known.

3.3.4 Common Coffee Farmer Capital Assets

a. Cooperation

A commitment to exploiting natural resources—in this context, coffee—without destroying the ecological balance of an area and intensive care of the viable coffee supply chain is essential for sustainable resources trade. This type of cooperation is called direct involvement (Beherens et al., 2006).

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[20] www.trocaire.org/sites/trocaire/.../ethiopia-climate-change-case-study.pdf
[21] http://tcktcktck.org/2014/03/changes-climate-threaten-coffee-jobs-latin america/#sthash.3g0aAP1x.dpuf).

Material and Money Flows

As noted by Celi and Liverman (2012), coffee is a renewable resource that has to be utilised in line with its recharge rate. To make money, a farmer is required to utilise both renewable and non-renewable resources. These means are known as natural capital, where the reduction of natural capital cannot continue without deteriorating welfare.

Knowledge and Information Flows

Seuring and Müller (2008) noted that knowledge and information flows are intangible but very important capital assets for most coffee farmers. Involvement in the international supply chain is indispensable for advancement. According to these authors, knowledge can be an important tool. In addition, direct collaborations in the coffee supply chain target advancing sustainable production, improving producer skill, increasing the stability of producer circumstances and establishing market entry rights.

Supply Chain Length

Vachon and Mao (2008) noted that supply chain length is the distance between producers and marketplaces. The proximity of these two actors is a feature of supply chain intensity. The same source added that sustainability develops as supply chain intensity increases, which in turn shorten the supply chains.

3.4   Sen's Capability Approach

The Capability Approach (CA) was developed in 1979 by Amartya Sen, the Indian economist and philosopher, and the concept has been expanded upon, improved, and endorsed in the years since, i.e., from 1982 to 1999 (Clark, 2005). Meanwhile the CA has become increasingly vital to arguments about poverty, inequality, and human development. For example, Sen (1999) concludes that poverty is understood as the deprivation of basic capabilities instead of simply a low-income status. According to Sen (1999, P.19), low income can be the most important cause of ignorance, poor health, lack of food and malnutrition. On the other hand, better education and health help people earn higher incomes.

As noted by Sen (2009), the capability approach highlights what people are proficient at doing and being, as opposed to what they have or how they feel. Sen contends that, in examining welfare, we have to shift our concentration from 'the means of living', such as income, to the 'actual opportunities a person has', namely, their functionings and capabilities. 'Functionings' denote a number of things that person is successful at 'doing or being', such as taking part in the life of society, being healthy, and so forth; whereas 'capabilities' denote a person's actual or practical autonomy to realize such functionings; for example, the power to have a hand in the life of society. In this context, women's position in the possession of coffee farmland is a case in point. As already mentioned in different sections of this dissertation, in the study area, women's access to coffee farmland in particular and to cash crops in general is very limited, which is in opposition to the principles of the capability approach.

The capability approach places particular emphasis on the capabilities a person possesses, regardless of whether they choose to exercise these or not. One customary approach to gauging the premium of life gives due attention to the resources demanded by various people. To the greatest extent, shared resource measures are undoubtedly monetary indicators of revenue or expenditure. Resources that are unrelated to money may consist of a variety of assets, along with the right to use definite infrastructures, namely, health, education, water, electricity, and roads. Resource-centred access to quality-of-life measures has a direct ethical dimension, for the reason that it abandons any potentially challenging value judgements and gives every person or family the unrestricted right to use their resources in any way that is fulfilling to them. In the moderate tradition, which is found in some places, these wide-ranging intentions such as privacy, non-interference and freedom of choice seem to be respected (Alkire, 2008).

As noted by Sen (1987), despite the fact that resources are evidently important and crucial means to realizing one's goals in life, there are many reasons for which standards centred on resources alone may perhaps not be enough. Primarily, many resources are not fundamentally important; they are helpful for other purposes. Nevertheless, one's quality of life is arguably contingent not on the scanty survival of resources but on what they empower people to do and be: "The importance of the conditions in which people live remains in the existence, and not in the possessing of commodities, which has derivative and varying relevance". This would not be challenging if resources were an impeccable

substitute for fundamentally useful undertakings or conditions. However, instead, people's ability to convert resources into valuable functionings varies in important ways. Having a small plot of coffee farmland might be a delightful source of recreation, pleasure and status to one particular farmer. However, if a person were overwhelmed by low yield and the low price of the coffee beans, the existence of the coffee farmland in his/her backyard would not inevitably supplement a household's quality of life to the equivalent level.

Thus, the deprivation of individual capabilities can be closely linked to low incomes. For instance, in the study area, an adult who is healthy, well fed, and relatively young can collect, on average, 40 cups of ripe coffee cherries per day, which is equivalent to 10 kg. Four glasses of red cherries is equal to 1 kg. The minimum payment is 25 ETB for collecting 25 glasses of red cherries per day, while those who collect 40 glasses of red cherries per day receive, on average, 65 ETB per day (Personal communications). When this situation is conceptualised with respect to the CA, the ability to obtain the maximum payment is dependent on individual efficiency, which in turn depends on the health status, age, and nutritional status of the individual.

The Capability Approach is a theoretical framework that includes two basic normative claims: first, that the freedom to attain well-being is of moral significance; and second, that freedom to attain well-being is to be recognised in terms of people's capabilities, that is, their real opportunities to do and be what they have reason to value. The approach has been developed in a variety of more specific normative theories, such as (partial) theories of social justice or accounts of development ethics. It has also led to a new and highly interdisciplinary literature in the social sciences resulting in the development of new statistics and social indicators, as well as a new policy paradigm that is mainly used in the so-called 'human development approach' to development studies (Vicari, 2011).

Figure 3.4 below displays the principal relationships in the Capability Approach and indicates how they relate to the principal possibility of choosing approaches, dedicated to resources and utility. Resources – in this context, coffee – are considered inputs, but their value rests on individuals' abilities to convert them into prized functionings. For example, selling of coffee beans at a reasonable price depends on individual awareness of coffee bean prices and market accessibility, which in turn depends on the quality of the road. According to Robeyns (2011), ''an individual's capability set is the set of valuable

functionings that an individual has real access to. Achieved functionings are those they actually select". For example, in this context, an individual's capabilities set may include access to different functionings relating to possession of coffee farmland. In the study area, a majority of female-headed households are deprived of coffee farmland. The functioning they actually select might be planting coffee trees. According to the same source, utility is considered both an output and a functioning. Utility is an output because what people choose to do and be naturally has an effect on their sense of subjective well-being (for example, female-headed households will be pleased if they have their own coffee farmland).

Figure 3.4   Outline of the core relationships in the Capability Approach
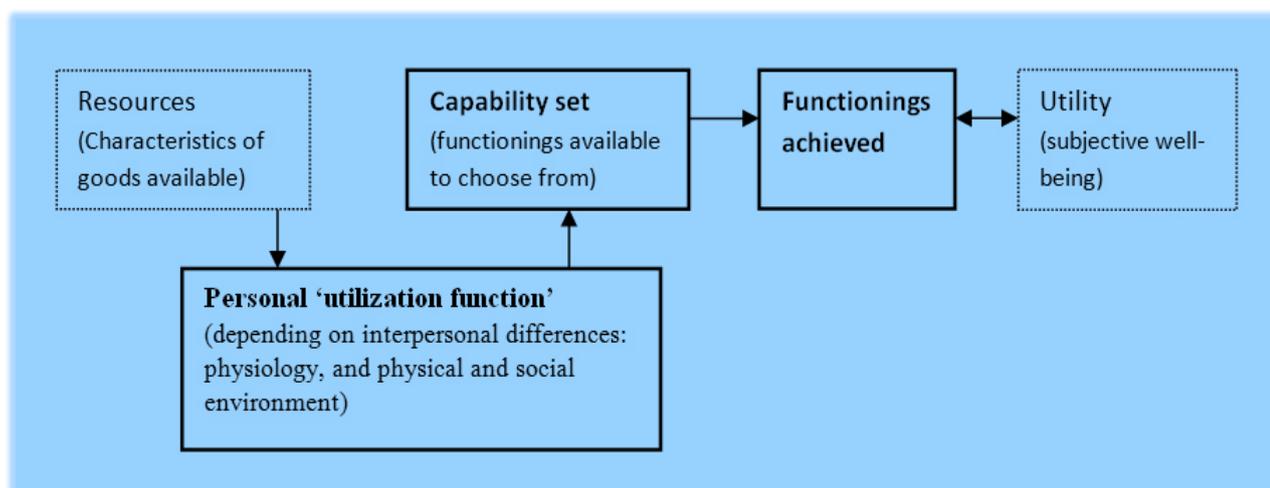
3.4.1 Functionings and Capabilities

As noted by Alkire (2008), Sen's capability approach is a moral framework. It proposes that social arrangements should be primarily evaluated according to the extent to which people have the freedom to promote or achieve the functionings they value.

The Capability Approach centres directly on the quality of life that individuals are actually able to achieve. This quality of life is analysed in terms of the core concepts of 'functionings' and 'capabilities'. Functionings are states of 'being and doing', such as being well nourished and having shelter. They should be distinguished from the means employed to achieve them (Wells, 2012). In this context, 'coffee bean selling' is different

from 'possessing a coffee plant'. Capabilities refer to the set of valuable functionings to which a person effectively has access (ibid).

As noted during the data collection, in Borecha, large numbers of women have no access to cash crops. Consequently, a woman's capabilities do not represent the real choices of an individual (woman) among different functioning combinations – different kinds of life – that she has reason to value. When evaluated from the perspective of functionings related to particular aspects of life, for example, the capabilities of literacy, health, or political freedom of men and women differ in the study area. These differences were witnessed during data collection. With regard to schooling, many households send boys to school rather than girls. From the perspective of political freedom, women cannot participate in political ranks positions at the kebele level to the same extent that men can, and women do not even sit together during social gatherings, government meetings and prayers times (personal communication).

The concepts of functionings and capabilities are essential components of Sen's Capability Approach. Capabilities are the freedoms that people have to realise the standard of living that they value. Freedom is implied as a concept consisting of both well-being and agency. Well-being is connected with what a person values, whereas agency is connected to the individual's freedom to choose and bring about the things that he/she values (Frediani, 2010).

3.4.2 Markets and freedom

As Sen (1999) states in his work 'Development as Freedom,' the connection of the market to freedom and, as a consequence, to economic growth, suggests at least two completely separate cases that have to be clearly distinguished. First, deprivation of business deal opportunities through subjective controls can be a cause of unfreedom in itself. Second, markets normally function to increase people's income, wealth and economic opportunities. Subjective limitations of the market can be lead to a decline in freedom because of the effects of the nonexistence of markets, which can in turn give rise to dispossession when people are denied the economic opportunities and constructive outcomes that markets can provide and sustain.

In the context of the current research, coffee growers and producers have no bargaining power when they sell their coffee because the price is set by actors who play different roles in the coffee value chain. This characteristic was described during the discussion with key informants and during data collection. Moreover, poor infrastructure (i.e., few all-weather roads) and lack of transport forces coffee-growing farmers to sell their produce at a cheaper local price.

As noted by Frediani (2010), the principal distinguishing feature of the Capability Approach is its deviation from income-led evaluation methods and its emphasis on people's ability to realise the things they value. Happiness or security can therefore be evaluated by assessing people's freedom and choices instead of their incomes or consumption.

3.4.3 Shared aims and differences between the SL and CA Frameworks

The Sustainable Livelihoods Framework (SLF) considers driving forces related to those appearing in Sen's works. Like the Capability Approach, the Sustainable Livelihoods Framework appeared at the end of the 1980s because of increasing discontentment with the income-intensification method. Its basic concepts emphasise attributes such as participation, a multifaceted concept of poverty, and empowerment. As with earlier approaches, the SLF is oriented towards people's capabilities and powers, as well as towards how these are transformed into progressive livelihood outcomes. This approach intends to address matters of vulnerability, risk, and insecurity. These adversities are tackled using the assets possessed by individuals, households, and communities. Assets, called 'capital' or 'capabilities', include material and social resources. The process of collecting of assets is assumed to establish stocks of capital. These stocks are divided into five categories: physical, financial, human, social, and natural (Monser & Norton, 2001). These points were discussed in detail earlier in chapter 3 of this dissertation.

SLF is people centred, inclusive and dynamic, building on strengths and ongoing abilities; concentrating on long-term sustainability; and focusing on stresses, shocks, and assets (DFID, 1999; Norton & Foster 2001).

Frediani (2010) argues that studies of livelihoods commonly employ the word 'capabilities' and explicitly notes that some of Sen's concepts have been incorporated despite the conceptual and practical dissimilarities of the two approaches. Primarily, the use of Sen's

concepts in the livelihoods approach is immature and incomplete. The word 'capabilities' is used repeatedly, sometimes with 'assets' and at other times with 'capital'. As a result, capabilities are linked to the capacity to attain resources. On the other hand, Sen's concept of capabilities has an extensive meaning that combines the selection of possible successes and that addresses the means of utilising resources. Therefore, the SLF reduces Sen's concept of capabilities to utilitarian applications. In addition, according to Frediani (2010), the five domains of assets are an extension of social capital theory. They address the instrumental value of people's livelihoods in the development of resources and the creation of capital.

3.5 The Global context of Coffee production

As many studies indicate coffee is classified into two species, namely, Arabica and Robusta. This thesis focuses on Arabica, which is lone type of coffee raised in Ethiopia. According to the International Coffee Organization (2011), Arabica is susceptible to diseases, frost and drought and grows best in tropical highlands.

As noted by the Policy Analysis and Economic Research Team (2008), coffee beans are frequently produced by small-scale farmers who are dependent on individually unidentified end users, huge companies and a shrinking market for their income and resources. At the global level, nearly 25 million small producers currently grow coffee for their livelihoods (ibid).

Because coffee is one of the world's most traded commodities, it is essential for end users and producers to recognise the influence that coffee production has on farmers at the local level. In a sense, increased internationalisation also increases the significant differences between coffee farmers and end users (Cleland, 2010).

Figure 3.5 below provides a general depiction of the coffee commodity chain. Although the multifarious market comprises several networks, in the study area, the chain only extends to the private intermediary level. The reason, as noted during the data collection as well as during the discussion with key informants, is that no processing plant exists in the district. Therefore, the primary producers sell unrefined coffee to private intermediaries who transport the coffee to processing plants.

Figure 3.5   The coffee commodity chain
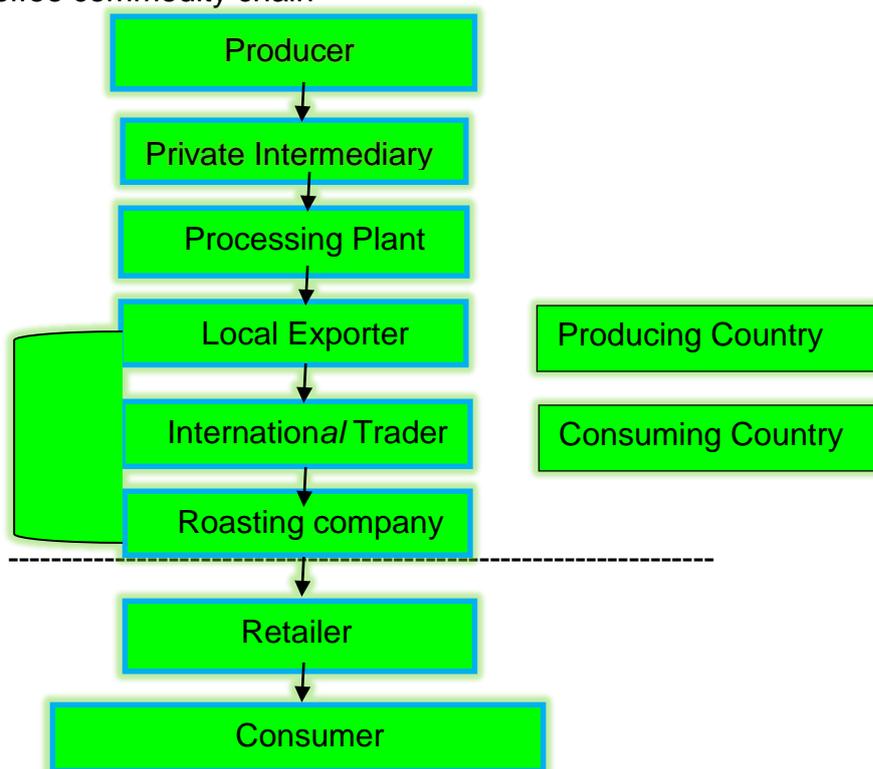
Source: Milford, 2004, P.5

As Bäckman (2009:2) shows, farmers pick red cherries from the coffee tree, pulverise them to pull out the green bean, and sell the beans at the local market to an intermediary who processes it by either washing or sun drying. Intermediaries then sell this coffee to another intermediary for export. Importers in the coffee-consuming country buy their coffee from a recognised exporter or large plantation owner and sell small amounts to roasters. Then, roasted and packaged coffee is sold in retail stores, ready for consumption.

As Sick 2008 (cited in Cleland, 2010) revealed, farmers are commonly "at a disadvantage in global markets and often receive low prices for their products" despite the varying circumstances of coffee farmers from one geographic region to another. The farmers are obliged to cope with the irregularity and dynamism of nature on top of "the boom and bust cycles in commodity prices" and inadequate economic resources and political influence (ibid).

Because small-scale producers' livelihoods depend on their crops production, coffee farmers must take into account the value of their crops. Market fluctuations have effects on an economic level as well as on farmers' lives at the local level (Cleland, 2010).

Celi and Liverman (2012) argued that the outcome of the uninterrupted and complex interactions of a number of internal and external factors depend on farmers' decisions about the agricultural strategies they adopt, including the choice of the coffee agro-ecosystem type. According to the same source, there are various kinds Arabica coffee agro-ecosystems ranging from full-sun coffee monoculture to shade-grown coffee monoculture and polyculture. Importantly, if the present managed coffee agro-ecosystem is not the most viable in a specific time or place, better alternatives, changes or improvements can be implemented. There is a need to improve the measurement and comparison of the sustainability of coffee farming systems, as well as their dynamics and mechanisms in response to different external and internal factors (ibid).

Topik and Samper (2003) provided evidence that coffee has been cultivated in the southern hemisphere to be consumed in the northern hemisphere for five centuries, connecting the societies of diverse nations and landmasses by trade, capital spending, conquest, culture and religious proselytising. The same source indicated that coffee is a commodity worthy of serious consideration due to its dominant and enduring status in the global economy and in the lives of millions of people. A relic from the epoch of the spice trade and commercialism, coffee has been the leading commodity since the sixteenth century. In fact, it is one of the most important agricultural products historically dealt with worldwide. Coffee from sub-Saharan Africa, where it is originated, is now produced in over one hundred nations across five continents and on several islands.

Stanculescu et al. (2011) noted that over 60 countries produce coffee; three of these, namely, Brazil, Vietnam and Columbia, represent more than one-half of world production. Africa's share of world production is approximately 12 per cent, a decrease from its 30 percent share in the 1970s. The world's yearly coffee production is nearly 7 million tons, with Brazil alone producing one-third of this total. Approximately 60 per cent of world production is Arabica coffee, with Robusta coffee accounting for 40%. Robusta coffee can be grown at a relatively low cost and is simple to cultivate (ibid).

It is imperative to be aware that over one million small-scale coffee-farming households produce approximately 90 per cent of Ethiopia's coffee. These numerous farmers are dispersed throughout the Ethiopian highlands and fundamentally influence the quality and, therefore, the value of the country's leading source of export income. Nevertheless, up to

the present day, Ethiopian coffee farmers have had practically no information about the quality of the beans they produce, what constitutes high-quality coffee, or how they can acquire this label. A distinct setback is that individuals who have this information frequently do not have the means for quality enhancement (Stanculescu et al., 2011). In addition, according to Stanculescu et al. (2011), it is well known that quality (excellence) has a decisive impact on the face value of coffee beans. In fact, people engaged in coffee trading differentiate the quality of coffee beans by the lot number on the tag. The lot number determines whether it can be exported or must be sold locally. This idea has been extended by Stanculescu et al. (2011), who emphasised that quality determines whether the lot will be purchased at the normal product face value or will receive a "specialty" mark-up, which is considerably above the average price.

Moreover, according to Stanculescu et al. (2011), although many elements limit quality during a coffee bean's trip from the field to the last cup, quality is principally created or destroyed at the farmstead stage, particularly over the course of the first post-harvest handling of the coffee cherries by farmers.

The data show that majority of consumers of coffee in the world are located in the northern hemisphere, although 90 per cent of production takes place in the southern hemisphere (Milford, 2004:6).

Milford (2004:6) has also indicated that 70 per cent of coffee producers are small-scale farmers. Additionally, coffee is one of the most important commodities exported by Third World countries.

However, coffee producers face a number of challenges. They are centred in rural areas in poor countries where infrastructure is insufficient and delivery of services is low. Their earnings are quite uncertain due to the instability of international coffee prices. In recent years, coffee prices have shown a general downward trend, reaching a record low in 2001 (Milford, 2004:6).

Glazer (2007) noted that in the world market, coffee farmers face problems with coffee price fluctuations. For instance, they sell a pound of coffee at a market price of approximately one dollar, which is then sold to consumers for approximately ten dollars

despite the fact that market price for coffee has decreased considerably since the coffee crisis in 1989.

Moreover, as noted by Glazer (2007), local purchasing markets are frequently described by insufficient competition. For instance, following the demise of the International Coffee Agreement (ICA) in 1989, the loosening of local coffee purchasing markets and competition among many new processing and exporting companies was expected. Nevertheless, these markets have frequently underperformed. As a result, currently, coffee farmers are in a position where the nonexistence of information and infrastructure forces them to endure market malfunctions. For instance, the formation of interest groups is a type of market failure. This idea has been extended:

> "Participation of a number of countries as consumers and suppliers in the international coffee trade makes coffee difficult to forecast. Different climatic, economic, political and demographic factors have emotional impact retail coffee prices. Prices of agricultural commodities such as coffee openly affect consumers and producers. If the retail price is higher than normal, it hurts consumers and forces them to make alternate choices and if the retail price is too low compared to normal levels, it affects the wellbeing of the producer. Coffee producers are generally poor farmers with small landholdings who live in developing nations. Price fluctuations create disturbances and uncertainty in the international coffee trade, which eventually makes coffee trade riskier for all stakeholders. Coffee producers generally are poor and their livelihood is directly linked to coffee prices. Coffee prices fluctuate at all levels viz. farm, spot and retail but for coffee consumers retail prices are most important among all prices at different levels. The retail coffee price is the final price of the coffee, which the consumer pays in order to buy a single unit of coffee". (Tiwari and Bisht, 2012, p.3)

Three continents, namely, South America, Asia and Africa, represent the top three coffee producers in descending order. Coffee is one of the most vibrant commodities in the global economy, following oil, despite regional differences in the production of this commodity (Policy Analysis and Economic Research Team, 2008).

An earlier study by Daviron and Ponte (2005) indicates that business in the coffee sector and its functioning has enormous development and poverty repercussions. In poor developing countries, coffee production by smallholders is high. As a result of changes in requirements and the growing importance of product distinction in importing countries, coffee's global value chains are quickly transforming. The same source indicates that the readiness of rich consumers to pay for premium, high-quality coffee is improving and the need for specialty and certified coffee is growing. In addition, the same source confirmed that over the last ten years, substantial price discrepancies appeared in international coffee markets, for instance, increasing by five-fold from 2002 to 2011 (ibid).

3.6 Coffee Production and Developing Countries

Latin America has been the world's leading producer of coffee, with over two times the production of the rest of the world combined; however, Africa is approaching Latin America's planted acres of coffee, and several African nations are more reliant on coffee for their exports. Ethiopia is the fifth-largest coffee producer, and Côte d'Ivoire, Cameron, Uganda, Kenya, Tanzania, Ruanda, Burundi, Congo, and Madagascar are important producers. On the Asian continent, coffee producers include Vietnam, India, Thailand, Indonesia, and the Philippines (Topik and Samper, 2003).

As previously demonstrated (Paiva, 2000), coffee is one of the pillars of the economy in Latin America. Thus, on the economic side, coffee is one of the most important export items, providing hard currency and having a major influence on gross domestic product. For instance, around 1925, coffee represented 75 percent of Brazil's total exports and approximately 80 percent of Colombia's total exports.

The work of Werner Baer, entitled "The Brazilian Economy" (cited in Paiva, 2000), indicated that coffee has had abundant economic consequences, such as the employment of an unlimited immigrant workforce, overseas outlays in infrastructure, wealth accretion for coffee growers, and resulting progress in the industry.

Likewise, Junguito and Pizano in their book, "Producción de Café en Colombia" (cited in Paiva, 2000), mentioned that the economic importance of coffee has not been limited to its impact on development through increased sales to other countries. It proposed that coffee has had a clear connection with growth in other sectors and with Colombia's inclusive development path. The outcomes of coffee production in light of employment and social conditions include the coffee sector has increased to the employment of immigrant labour; its relationship to public funds; its influence on industrial, regional, and institutional development; and its role in national politics.

The paper presented by Bigirwa[22] (2005) to the International Coffee Organization regarding equitable trading indicates that not enough money can be generated from green

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[22]Jack Bigirwa is the Chairman of the National Union of Coffee Agribusinesses and Farm Enterprises (NUCAFE) and the Vice Chairman of the Tropical Commodities Committee International Federation of Agricultural Producers (IFAP).

coffee even though producing countries continue to export green coffee as their final product. He argued that roasters capture the lion's share of total revenue, nearly 80 per cent, by increasing the value of a kilogram of instant coffee at the expense of primary producers and final consumers. Other important points raised by the presenter included the absence of information distribution to all interested parties with regard to justifiable trade, nonexistence of strong farmers' organisations because of government meddling and absence of financial power to provide viable facilities to their members. According to the same presenter, as soon as economic reforms began, particularly in developing countries, the coffee industry confronted numerous challenges. Many governments had controlled and regulated the coffee industry, and because of this change, many coffee producers, particularly in Africa, found themselves completely unable to play this role following economic reform and liberalisation. These reform and liberalisation programmes had very disappointing results, particularly among small-scale coffee-farming communities.

Gedefa (2011) claims that after Brazil, Vietnam and Colombia, Ethiopia's coffee production is the fastest growing in the world, with an estimated yearly average growth rate of 12 percent. In Brazil, Vietnam and Colombia, coffee production grows at rates of 7, 5 and 3 percent, respectively (ibid).

A study by Promar Consulting (2011) indicated that Ethiopia's yearly average coffee production was nearly 275,000 tons over the period from 2005 to 2010. Total coffee production has been increasing for the past twenty years, with 110 per cent growth between 1993 and 2011.

As noted by Daviron and Ponte (2005), near the beginning of 2000, a remarkable decrease in the world market price reach a level that millions of coffee farmers found difficult to endure. Smallholder producers in Africa and Latin America were especially harmed by this phenomenon. In the Ethiopian context, many farmers took measures to counter the drop-in face value. Many farmers uprooted portions of their coffee plants and replaced them with chat plants. Evidence from a recent ICO assessment (2012) indicates that Ethiopia produces approximately five per cent of the world's coffee and 39 per cent of the total produced in sub-Saharan Africa. Thus, Ethiopia is the leading coffee-producing country in

Africa and ranks fifth in the world (CSA, 2012). With regard to Ethiopia's foreign exchange income, the same source reported that coffee is currently responsible for 31 percent.

According to Gathura (2013), a decade ago, developing countries secured 30 per cent of the market value of coffee in contrast to the mere 10 percent they secure today. When coffee price decreased to less than 25 percent in 2002, it resulted in social and economic hardship for over 3,000,000 smallholder Kenyan coffee farmers and harmed their regular livelihoods. Before 2002, coffee provided commonly 60 percent of overseas exchange income in the Kenyan economy.

For many of Kenyan farmers, coffee was intended not merely to put cash in their pockets but to pay for education and health care to improve food security and family standards of living. Worldwide, the pattern has been similar, and this demands tangible efforts by coffee industry to search for joint solutions to the circumstances that are creating unbalanced coffee transactions (Javan et al., 2013).

Despite inadequate landholdings with above-average primary capital investments in their coffee plants on one hand and unpredictable global prices for their cash crop on the other hand, small-scale coffee producers are making an effort to create sustainable livelihoods. However, many small-scale coffee producers live in unstable areas and in nations with comparatively fragile markets. The supply chains are combined to provide importers with complete control despite the fact that production is being maintained at the same level as large-scale producers with supplementary capital to spend (Caswell & Méndez, 2014). As stated by the same authors, smallholders are limited in their ability to adjust to other valuable crops, leaving them with inadequate money to buy food and limited time and/or land to dedicate to the cultivation of food crops.

3.7   Coffee Production in Ethiopia

The tenth century was a historic period for the nomads living on the mountains of Ethiopia; because they were the first to discover coffee and its stimulating effects. In the beginning, they did not drink coffee as a hot drink, consuming the plain red cherries. Coffee was shared by the spiritual Sufi travellers of Islam across the Middle East. Coffee beans were shared with Europe via the Middle East and then to countries such as Indonesia and the

Americas, which were European colonies. The coffee story dates back over 1,000 years and begins in the southwestern highlands of Ethiopia when a goat herder picked a small number of red berries from some small green trees growing in the forest and tasted them to check whether they were pleasant to consume (Amamo, 2014). The name 'coffee' is derived from the Kaffa Province, which is located in the southern part of Ethiopia. David Beatty contributed words and pictures to the story of the discovery of coffee (Amamo, 2014).

In line with the view of Selamta and IAAE (cited in Amamo, 2014), the story of coffee begins in Ethiopia, the birthplace of Arabica coffee, which still grows naturally in the forests in the highlands of Ethiopia. The development and utilisation of coffee is thought to have begun in the 9th century in Ethiopia.

However, Selamta (cited in Amamo, 2014) notes that Arabica coffee was cultivated in Yemen earlier, around 575 AD, despite the fact that it is originated in Ethiopia, having passed into Yemen nearly 600 years before, and from Arabia, it began its journey around the world. However, no one knows exactly how coffee became a hot drink. The story of an Abyssinian goat herder named Kaldi who lived around 850 AD is one of the most common folk tales about the origin of coffee. According to folklore, one day, Kaldi saw his goats acting in a strangely and cheerfully, hopping, walking on their hind legs and moaning vociferously, among other strange behaviours. He noticed that the goats were consuming the bright red berries that grew in the green undergrowth in the surrounding area. Kaldi himself tasted a few and almost immediately experienced a unique sensation of joy. He stuffed his pouches with the berries and sprinted home to show his finding to his wife, who proclaimed the berries "heaven-sent". At that point, the folk tales make an effort to combine the discovery of coffee and the creation of the hot drink into one account. However, it is supposed that abbots in Ethiopia might have masticated the berries as an energiser for hundreds of years before it was prepared as a hot drink.

The wild forests of the vast southwestern highlands of the Kaffa and Buno districts of the country are ideal places for Arabica coffee. As the home of the Arabica coffee plant, Ethiopia is the source of most of its genetic diversity. The distinctive feature of Ethiopian coffee is its pleasant smell and taste. The nine coffee bean varieties that grow in four areas of Ethiopia all have unique flavours, dimensions, forms and colours. They grow at a

number of elevation categories ranging from 550 to 2750 masl (Policy Analysis and Economic Research Team, 2008).

An earlier assessment by the FDRE (2003) demonstrates that in Ethiopia, every district is classified as a main, intermediate or relatively small cultivator based on the area planted with coffee trees. The same source indicated that coffee growing is concentrated mainly in the Oromia Region and the Southern Nations, Nationalities and People's Region (SNNPR). Main and intermediate coffee-growing districts cover a projected 800,000 coffee farmers with approximately 520,000 ha of land under cultivation, of which 63.3 percent is in Oromia, 35.9 percent in SNNPR and 0.8 percent in Gambela. Smallholder producers control of approximately 95 percent of production, whereas state-run cultivated areas represent 4.4 percent and individual investors' cultivated areas 0.6 percent (ibid).

Research by Gole (2001,) shows that the largest numbers of the customary coffee-growing habits in southwestern and southeastern Ethiopia are forest centred given the extent of tree density and human involvement in safeguarding the range of organisms in the environment.

Coffee production systems in Ethiopia are commonly classified into four types, namely, forest coffee, partial-forest coffee, garden coffee, and plantation coffee. Forest coffee is nurtured beneath the shade of trees in natural forests with no specified holder. In the partial-forest method, smallholders cull forest trees to allow enough daylight to reach the coffee trees while providing sufficient shade. A smallholder who trims and clears that forest area just once in a year time is declared the holder of the partial-forest coffee. Garden coffee is usually grown near a smallholder's home. It is usually enriched with nonchemical substances and commonly involves other crops. In the plantation coffee-growing system, government or private investors are involved, fertilisers are used, and chemical substances are commonly applied to kill weeds (USAID, 2010).

A 2013 study by Sentayehu (cited in Amamo, 2014) indicates that forest coffee represents 10 percent, partial-forest coffee 30 percent, garden coffee 50 percent and plantation coffee 10 percent of coffee production. These figures have been challenged by Kufa (2013), who argues that forest coffee production represents 8-10 percent, partial-forest coffee 30-35 percent, garden coffee 50-55 percent and plantation coffee 5-8 percent of production.

According to CSA (2011), more farmers are involved in growing and producing stimulant crops, such as coffee and chat, than in growing fruits. The area and production of these crops are also larger than those of fruits because they earn a considerable amount of cash for the holder. For instance, in Illubabor, 2,251.3 hectares of land are planted with chat, while 58,197.66 hectares of land are planted with coffee. On the other hand, only 2,017.27 hectares of land are planted with varieties of fruits (CSA, 2011).

However, recent study by Asefa (2013) shows that coffee production is decreasing in Ethiopia for the following reasons. The first cause of reduced production of coffee in Ethiopia is the promotion of chat, which increasingly contends with coffee for farmland, especially in the Hararge Region of eastern Ethiopia. As stated by the same author, farmers prefer to grow chat because it is harvested three or four times a year and provides improved returns compared to other cash crops, including coffee. Many smallholder farmers in Hararge have converted their smallholdings from coffee to chat production. This shift to chat farms has been offset by recently established coffee farms in other regions causing a very minimal increase in the total area devoted to coffee.

Conversion is becoming common in the study area because settlers from Hararge introduced chat. In one research kebele, namely, Deneba and its neighbour Gubahora, chat is invading farmlands to a greater extent. For instance, farmlands that were occupied by other crops are being planted with chat, and one large river that was diverted by an NGO to promote vegetable production now supports chat growing. The situation is frightening and needs serious attention from the local authorities.

Asefa (2013) cites inadequate extension services for smallholder farmers as another reason, and this is especially true in the case of coffee-growing areas. As was noted during the study period, even development agents do not have enough knowledge about agronomic practices for coffee. For instance, the researcher himself had a chance to see aged coffee trees, which had never received maintenance such as pruning. The third reason is that so far, the government has paid little attention. Indeed, according to Asefa (2013), government organisations do not have specialised institutions to provide extension support for coffee production.

Weather, including temperature, rainfall patterns and other metrological conditions; disease; and other factors naturally lead to an insecure coffee market that is typified by large fluctuations in the price of coffee (Amamo, 2014). Coffee price instability and worldwide production differs over time. This instability has substantial effects on those who rely on coffee for their livelihoods, constraining coffee growers' abilities to forecast their earnings for the year and to make financial plans for their household and agribusiness requirements. As face values are low, farmers have neither the incentive and nor the means to spend money safeguarding their smallholdings by applying fertilisers and pesticides or replacing aged coffee trees. As soon as face values drop below the amount spent on production, farmers take great pains to place sufficient food on the table and make medical (treatment) and school payments. A price decrease is the most important reason for children to be pulled out of school to help generate household income through employment on the farmstead or through off-farm income (ibid).

3.8 Economic Importance of Coffee in Ethiopia

Stellmacher (2007) describes the inherently complex nature of coffee for Ethiopians. Coffee production and consumption are strongly connected with the history, culture and economy of Ethiopia. The same source emphasises the importance of coffee in the Ethiopian context: coffee has been nurtured, collected, sorted, transacted, and used for a long time. Even now, coffee remains important in the day-to-day existence of the majority of Ethiopians. In general, it plays a role at the macro level for the government of Ethiopia.

According to Asefa and Arega (2012), among the agricultural products traded in the international market between the 2009 and the 2011 fiscal years, coffee represents the lion's share in terms of volume and value. They also indicated that the coffee sector is the main basis of foreign exchange for the country and currently accounts for approximately 27 percent of total export income, although it previously accounted for nearly 60 per cent. In the 2011/2012 fiscal year, coffee represented 38.25 percent and 70.24 percent of the volume and value, respectively, of commodities traded in the international market (Asefa and Arega, 2012).

From the 2004/2005 to the 2011/2012 fiscal years, Ethiopia produced 2,692,831 tons of coffee. Accordingly, 1,162,673 tons were exported, and 3,395,500,000 US dollars were

earned. Thus, of the total amount of coffee produced, 43.2 percent was exported overseas compared to the 56.8 percent consumed domestically, despite the fact that figures for coffee exports were not available for the 2011/2012 fiscal year (Table 3.8).

Table 3.8   Ethiopia- Coffee production, export volume and value

Production year	Production (ton)	Export Volume (ton)	Value (million USD)
2004/5		159,845	334.5
2005/6	308,565	153,155	365.8
2006/7	319,145	176,390	424.1
2007/8	353,570	170,961	525.4
2008/9	283,000	133,993	375.8
2009/10	480,621	172,211	528.3
2010/11	449,165	196,118	841.6
2011/12	498,765	N/A	N/A

Source: Ministry of Trade (cited in UNDP, 2012, P.3)

In Ethiopia, coffee has always been an essential crop grown for direct sale as a leading export commodity (Policy Analysis and Economic Research Team, 2008).

In addition, as found by Coates et al. (2011) and published by GIZ-Ethiopia, coffee is the nation's major cash crop and is considered an exceedingly important part of the economy. Its importance is indicated by the priority that the government places on the industry in articulating its socio-economic policies. In recent years, coffee has constituted more than one-third of goods exported for foreign exchange (ibid).

3.9   Social Contributions of Coffee in Ethiopia

Gole (2003) and Kufa (2006) have both shown that coffee is associated with lines of works such as production, processing and marketing facilities that directly or indirectly support nearly 25 percent of the Ethiopian population. Generally, this information indicates, as in the Ethiopian context, that coffee is more than just a market commodity.

Coffee requires a great deal of labour for production activities. Accordingly, a relatively large number of people obtain their livelihoods from coffee. Therefore, coffee has a

substantial effect on the socio-economic lives of the people and on the overall economic development of the country (Policy Analysis and Economic Research Team, 2008).

A related assessment by Coates et al. (2011) shows that the coffee production process needs a concentrated workforce; for example, the coffee industry is an important occupation in the countryside. Thus, approximately 20 million families rely on coffee for their livelihoods in some form, and most of them are moderate agrarians with limited financial resources and land to diversify their crop production. Moreover, the different taxes levied along the coffee value chain are essential sources of government income (ibid).

3.10   Empirical Evidence

According to Paiva (2000), coffee has been a driving force of labour migration in many Latin American countries: at the beginning of the twenty-first century, the coffee sector continued to perform a significant role in the social and economic environment of the region, although the sector has continued to encounter challenges.

Agricultural communities in the least developed nations continue to cultivate coffee because of its importance as a commodity. Still, global trade rules have changed capitalism over the last two decades of the 20th century – an epoch spanning from the end of the Cold War to the propagation of financial neoliberalism (Smith, 2010). Small-scale farming families around the globe have long struggled with producing goods for global commodity markets. Export commodities potentially provide farmers with opportunities to improve their livelihoods but at the expense of navigating booms and recessions in the global market (ibid).

A similar view is held by Lindsey (2004): coffee is one product from the less developed nations of Africa, Asia and Latin America that stimulates global consumers. More than 25 million farmers in over 50 countries, the majority of whom are smallholders with less than 25 acres[23] of coffee land, depend on coffee for their livelihoods.

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[23] One acre is equivalent to 0.405 hectares of land.

Dempsey and Campbell (2006) indicate that Ethiopia's range of coffee varieties and distinctive tastes, its history and culture of high-quality coffee, and its customary organic, shade-grown and bird-friendly production by small-scale farmers increases its competitiveness in the international specialty coffee market. Despite this fact, the authors also emphasised that in order to improve international competitiveness, the industry demanded progress in three areas: efficiency, product differentiation and response to specialised market demand.

In his work, 'Ethiopia's Coffee Sector: A Bitter or Better Future', Petit (2007) has shown concern about economic development projections and the poverty consequences of reliance on principal commodities for export, issues that have become main interests.

As noted by Bäckman (2009:2), coffee is extensively traded, and it is estimated that 25 per cent of the population relies, directly or indirectly, on coffee for their livelihoods. Ethiopian coffee farmers' reliance on international prices, together with the sluggishness of the rural economy, leaves farmers vulnerable.

A study by Amsalu[24] and Ludi (2010) estimates that nearly one-third of the population in the countryside and over one-quarter of the total population is involved in the production of coffee. Overall, coffee growers number approximately 1 million in Ethiopia. According to the same source, the leading producers of coffee are small farmers, most of whom cultivate less than half a hectare of land. Over 90% of total coffee output is produced by small-scale farmers (ibid).

A 2011 study undertaken by the Improving Productivity and Market Success (IPMS) project for Ethiopian farmers has shown that value chain interventions, such as improved input supplies, production interventions, and processing/marketing interventions are of paramount importance.

Moreover, Emana (2010) stated that the agricultural production system has limited or no access to market facilities, thereby resulting in low participation of smallholder farmers in the value chain or the production of value added for their products.

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[24] He is an assistant professor who has been at Addis Ababa University since October 1997.

As reported by International Coffee Council [ICC] (2015), in Africa, coffee is one of the most important commodities, generating substantial incomes for rural communities, contributing to the fight against extreme poverty and key to achieving the first United Nations Millennium Development Goal (MDG). It is the primary source of income for more than 10 million households in 25 coffee-growing countries in Africa. Some of these countries depend on coffee as the primary source of income for their rural populations and as an important source of export revenues. It is a vital contributor to foreign exchange earnings in addition to accounting for a significant proportion of tax revenues and gross domestic product in a number of countries in Africa (ICC, 2015).

3.11   Conclusion

As many studies indicate, coffee serves multiple purposes in terms of income, social and ecological benefits. Coffee growing in Ethiopia is concentrated in the Oromia Region and the Southern Nations, Nationalities and People's Region. Household livelihood activities commonly fall into one of three categories: income-generating activities, risk-reduction strategies, and loss-management strategies. To support this study with a theoretical framework, the Sustainable Livelihoods framework and Amartya Sen's Capability Approach were chosen.

The empirical evidence indicates that because of the availability of coffee within the agrarian community, income and employment are the key elements in addition to the social benefits of the traditional Ethiopian coffee ceremony. It is proved that coffee has a direct connection with the growth of other sectors and with the inclusive development paths of developing countries. For instance, more than 25 million farmers in over 50 countries, the majority of whom are smallholders with less than 25 acres of coffee land, depend on coffee for their livelihoods.

Chapter Four: Research Design and Methodology

4.1 Introduction

This chapter outlines the course of action and approach the researcher used to obtain the data required for this study. It comprises a number of subtopics: research design and methodology employed in fieldwork, research instruments, descriptions of key variables, data collection procedures, such as those for data capturing and editing, and data analysis methods.

4.2 Research Design

A research design allows us to answer the original question as explicitly as possible, stipulating the kinds of facts required to answer the research question, to test a theory, to assess a programme or to precisely designate a certain occurrence[25]. In other words, a research design is the general plan for connecting conceptual research problems to relevant (and achievable) empirical research. That is, the research design expresses which data are necessary or appropriate, which approaches will be applied to gather and scrutinise these data, and how all of these steps help answer the research question[26].

Although many types of research designs are suitable for thesis research, this study employs a descriptive survey research design. According to Carroll[27,] a descriptive survey research design makes an effort to express and rationalise situations, as in the present research, using many subjects and questionnaires to fully describe a phenomenon. The same source explained that survey research design or survey conceptualisation of the study, followed by selection of an appropriate research methodology, operationalisation of the concepts, preparation of the study population and sampling strategy, observation and survey distribution, data processing, and data analysis.

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[25]https://www.nyu.edu/classes/bkg/methods/005847ch1.pdf
[26]http://study.com/academy/lesson/what-is-a-pilot-study-definition-example.html
[27]*http://www.dissertation-statistics.com/research-designs.html*

4.3   Research Methodology

This section describes the research methods employed to select the sample, collect the data and analyse the data. The discussion of sampling includes the various procedures used to select the sample kebeles and households.

4.3.1   Sampling Technique and Sample Size

4.3.1.1   Selection of Sample Kebeles

The study was conducted in the Borecha District of the Oromia Region in southwestern Ethiopia. The district for this study was selected because it includes both forest and garden coffee stands. In total, there are 34 kebeles in the district, of which 33 are rural and 1 is a town. Of these kebeles, 16 grow coffee, and of the 16 coffee-growing kebeles, 3 kebeles were selected using simple random sampling[28]. The Kersayasin, Deneba, and Dello kebeles were selected.

4.3.1.2   Household Selection

The household sample was selected using randomly stratified sampling from within the sampled kebeles. Households were stratified based on their economic status (resource-poor, medium and rich households) to capture the heterogeneity of households and to determine the actual contribution of coffee to each household.

The classification of households was conducted with local development agents in each sampled kebele. The development agents were assigned by and represented the district administration as well as NGOs at grass root level in each kebele. To safeguard privacy, sampled households were assigned an identification number starting with 1 and continued sequentially.

In view of the above classifications, the final households were selected randomly. Overall, 118 male-headed and two female-headed households were randomly selected. A total of 120 households were selected from the three kebeles, representing 743 family members. The proportion of the sample from each kebele was determined by their total population.

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[28]All coffee-growing kebeles in the district were assigned numbers, and three kebeles were selected using a lottery method (drawing numbers from the complete list).

The household sampling procedure is condensed in the following table. The lists of all households living in each sampled kebele were obtained from the district administration office.

Table 4.1   Distribution of Sampled Households by study Kebele

Name of research Kebele	Total HHs in the sample Kebele	Coffee-growing HHs 5 years & above	Sample HHs
Kersayasin	324	196	39
Deneba	1640	180	36
Dello	416	225	45
Total	2380	601	120

Source: District Survey (2012) and Own Sampling

Following selection of the sample kebeles and households, a survey questionnaire was pre-tested on non-sampled households to ensure its appropriateness and to improve it before use.

4.4   Research Instruments

Two key research instruments, namely, a discussion with key informants and a survey questionnaire, were used.

4.4.1 Discussion with key informants

Discussions with key informants were useful for collecting as much information as possible about the research area and the realities on the ground. Informants were employed in different sectors related to agricultural and development activities. The key informants represent district agriculture office experts, development agents at the grass roots level (kebeles), district NGO development workers engaged in all areas of coffee, members of primary cooperatives engaged in coffee trading and elders from the community. Extensive discussions with these key informants provided considerable amounts of data about the coffee sector. These data were noted and written down afterward the discussion. These discussions led to filtering of the questions included in the coffee growers' (i.e., the sampled respondent households') official interview sessions.

4.4.2 Survey Instrument

The questionnaire included closed-ended questions and a few open-ended questions. A draft of the questionnaire was prepared in advance and refined over time.

4.4.3 Reliability of the Instruments

Reliability has been defined as several scores attained by an instrument (the surveyed score) that are composed of the "true" score, which is unknown, and the "error" in the measurement process (Kimberlin and Winterstein, 2008). According to the authors, the "true" score is the score that a person would have expected if the measurement were perfect. To attain an acceptable level of reliability, the researcher used a self-supervision method of data collection. Nearly all the questionnaires were completed in the presence of the researcher, which allowed clarification where required and ensured that the correct persons completed the inquiry forms. These factors made the research outcomes more fact based and reliable.

4.4.4 Validity of Instruments

Validity has frequently been defined as the extent to which an instrument measures what is significant to measure (Kimberlin and Winterstein, 2008). Accordingly, validity necessitates that an instrument is dependable, but an instrument can be dependable without being valid. In connection with this concept, the research used survey questionnaires. In addition, the research supervisor evaluated the substance of the questionnaire and gave the researcher feedback at the proposal stage. Therefore, the instruments were considered to have high validity prior to being administered in the field.

4.4.5 Pilot Study

According to Collins English Dictionary (2012), a pilot study is defined as a small-scale experiment or set of observations undertaken to decide how and whether to launch a full-scale project.

Thus, to determine whether the data collection instruments were suitable for the intended research, as well as to ensure non-ambiguity when used, the data instrument was pre-tested. This process helped the researcher consider the reality on the ground. Eight

subjects were recruited for pre-testing. They were not part of the study group, but their remarks were valuable in revising the questionnaire.

4.4.6 Survey Questionnaire Arrangement

The five-section survey questionnaire organised in the following manner (see appendix A). Though this study made use of some qualitative data, most of the data are used for quantitative analysis.

Section I: Personal information: related to socio-demographic data of the individual households.

Section II: Household economy and resources: related to major sources of livelihoods and income generation.

Section III: Coffee attributes: related to the socio-economic attributes of coffee in terms of direct income and employment opportunities on their own coffee farms and as hired labourers are included. Wage type and amount from employment and its effect on the livelihoods of coffee-growing rural households in terms of education and health facilities are also included.

Section IV: Market services: related to the buyers to whom producers sell their produce, linkages with commercial value chain actors, distances they travel to sell their products and transport facilities are included in this section of the survey questionnaire.

Section V: Non-economic activities: related to activities such as social gatherings and other non-economic activities included in the survey questionnaire.

4.5 Description of key Variables

Once the analytical procedure and its requirements are known, it is necessary to identify potential explanatory variables and to describe their measurement. Different variables are expected to affect the livelihoods of rural households in the study area. A brief description of each variable is presented below.

(a) Demographic characteristics

The main demographic characteristics include six age classifications (18-30, 31-40, 41-50, 51-65, 65-70 and over 70). The gender of the head of household, residence, marital status and family size are among the demographic characteristics considered. In addition, the number of active labourers in the family (ages 15-60), the number of children in school, the number of dependents (ages < 15 and > 60), the length of time the respondent household has lived in the area and his/her area of origin and the education level of the household were important demographic characteristics considered.

(b) Household Economy and Resource Use

As noted in the survey structure subsection, major sources of livelihoods and major means of income generation are included as major variables. Households use different varieties of crops including coffee, and animal rearing as sources of livelihoods and major means of income.

(c) Attributes of Coffee

In this category, variables related to both social and economic attributes of coffee are included. Regarding the social attributes, issues such the extent to which income from coffee contributes to schooling and health services are considered in detail.

(d) Market Services

In this category, issues such as where coffee producers sell their produce, their buyers, and their linkages with commercial value chain actors and transportation facilities are included.

(e) Non-Economic Activities

Various non-economic variables considered in this category.

4.6 Data Collection

Before administering the survey questionnaires, clarification was provided to all respondent households regarding the uniqueness of the study and its goals. Consent to participate was requested (see Appendix B). Any respondent who did not seem willing to participate in the interview was abandoned. Face-to-face interviews with coffee growers were conducted in the study kebeles via enumerators. The key informant discussion was conducted with the researcher and focused on the socio-economic developmental role of coffee.

Primary data were collected from sample households using a structured questionnaire, and secondary data were collected from the relevant offices for administration, agriculture, water, education, rural infrastructure; from NGO project documents; and from the Central Statistical Agency (CSA). During primary data collection, interviews were normally conducted in the yard of the farmhouse and, occasionally, in the house. In most cases, respondents were very cooperative in the interviews. The questionnaire was only administered to coffee-growing households. On average, administration of the interview took 40 minutes per respondent household, and walks between residences lasted an average of 12 minutes. The settlement is very scattered. Therefore, to reach each randomly selected household, it was important to walk to each interviewee's residential area on foot. A quick review of the sample showed no signs of discriminatory sampling. The enumerators showed no preference for male or female respondents; rather, both male- and female-headed households from the sample kebeles were interviewed despite the fact that the probability of selecting a female-headed household was lower than that of selecting a male-headed household. In Ethiopia, cash crops are generally grown by male-headed households rather than female-headed ones. Because of this, we were unlikely to observe many female-headed households growing cash crops. The questionnaires were completed by the enumerators who interviewed the farmers. Three enumerators were selected based on their education, good knowledge of the locality, ability to speak the local languages and experience in data collection. Before enumeration commenced, training was provided on administering the questionnaire and recording the responses. The data collection was conducted from the third week of December 2014 to the first week of April 2015. More than two weeks were spent planning and organising the

enumerators' movements, making necessary arrangements for field visits and collecting general facts and, if possible, figures on the research area.

All key informant discussions and household interviews were conducted in Afaan Oromo and Amharic. In the research kebeles, Afaan Oromo is a widely spoken local language. The interviews were administered with interpretation from the enumerators. The enumerators spoke Afaan Oromo, Amharic and English. The researcher also independently conducted discussions with concerned government representatives in Amharic. The enumerators' competence in the above-mentioned three languages made the interview easy to administer without major challenges even though the survey questionnaires were prepared in English.

The sizes of the three sampled kebeles and the sampled households are not equal. For example, of the sampled kebeles, Deneba is the largest in terms of area (10,312.5 hectares of land and 1,640 household numbers). On the other hand, Dello is the smallest kebele in terms of area (2085.93 hectares) despite having more households than Kersayasin (CSA, 2007).

At the time, the study was conducted in the three sample kebeles, two ethnic groups (Oromo and Amhara) and agro-climatic conditions (e.g., altitude, temperature, rainfall) are observed even though no there are expectations about their overall relevance to the outcomes.

The researcher faced one challenge during data collection that significantly extended the time of the study period: data collection coincided with the harvest season. It was thus difficult to locate respondents near their residential areas. Moreover, it was a challenge to obtain secondary data from government offices because most of the concerned personnel were away from their duty areas for trainings/meetings or for personal reasons.

4.7 Data Analysis

The completed and inspected questionnaire responses and economic data were initially coded and analysed quantitatively using the Statistical Package for Social Sciences, SPSS version 22.0 manufactured by IBM in the United States of America. This software

expired prior to the completion of the data processing, and the researcher was forced to use the earlier version, v 21.0, to re-enter and reprocess the collected data.

The latest version was purchased for a limited time from IBM by the University of South Africa (UNISA) and installed by the UNISA IT Regional Office in Ethiopia. Statistical calculations, such as percentages, cross tabulation, multiple responses analysis, and correlations, were used to analyse the data. The outputs are displayed in the tables and figures. Interviews and notes were written out and analysed.

4.8   Conclusion

Primary data were collected from the study kebeles, whereas secondary data were collected from relevant administrative offices. To collect primary data, an interview questionnaire was developed and completed by enumerators who knew the locality and spoke the local languages. The sampling was conducted via a two-stage random sampling technique that first selected the kebeles and then the households. Thus, three kebeles and 120 respondents were selected via this two-stage random sampling method. Before proceeding to the presentation of the results and discussion, some of the variables were briefly discussed.

Chapter Five: Results - Presentation and Discussion

5.1   Results

This chapter presents the results of various measurements and analyses related to the objective of this study. As indicated in chapter 4, a survey questionnaire was one tool used to collect data on the socio-economic characteristics of the study population in the three kebeles and to understand the viewpoints and insights of farmers with respect to the socio-economic developmental role played by coffee. The following is a comprehensive analysis of the data and a presentation of the major socio-economic characteristics, positions and understandings of the role of coffee in socio-economic development and of its significance to the overall livelihoods of the households in the study area.

The household survey conducted in 2012 indicates that there are 324 Kersayasin, 1,640 Deneba, and 416 Dello total households in each research kebele (Table 4.1); with a 2.9 percent annual population growth rate (CSA, 2012). Because not all households in the study district grow coffee, the sampled households are randomly drawn from among the coffee-growing kebeles. The sampled households had started growing coffee at least five years before. This study evaluates the role of coffee in the socio-economic development of the research kebeles. According to agronomists, coffee reaches maturity in four to six years, depending on the agro-climatic conditions of the growing area. Since 2013, most of the farmers in this area started growing coffee because they obtained a sustainable supply of inputs (coffee seedlings) from the Menschen für Menschen Foundation. Therefore, in the next three years, most farming households will have coffee holdings. During the key informants' discussion, many households showed interest in growing more garden coffee. This issue will be further discussed in the forthcoming sections.

The outcomes of this study imply that rural female-headed households' access to land for cash crops such as coffee is limited due to traditional systems of control in the Ethiopian context.

(a)**Household Characteristics**

Table 5.1.1   Family Size of respondent's

Family size(number)	N	Percent (%)
2	1	0.8
3	19	15.8
4	13	10.8
5	22	18.3
6	17	14.2
7	21	17.5
8	17	14.2
9	10	8.3
Total	120	100.0

Source: Survey Result, 2014

Family Size: This is the total number of household members who reside together as a family unit. The expectation is that as the family size increases, the probability that the household has disguised joblessness and the dependency ratio increase, which in turn, affect the well-being of the household. According to a 1995 issue of the Economic Journal[29], there is substantial evidence of a strong negative relationship between household size and consumption (or income) per person in developing countries.

There are 700 total family members in the 120 households, including the heads of household, with an average family size of 5.8. This figure is above the average household sizes of 5.2 and 5.0 at the national and regional levels, respectively, for rural areas (CSA, 2007).

Currently, socio-economic development efforts are directed towards fast-growing populations, particularly in developing countries, which deplete environmental resources

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[29] https://www.researchgate.net/publication/4889869_Poverty_and_Household_Size

that need to be maintained within acceptable levels of global resource depletion and environmental pollution.

Additionally, 8.3 percent of sampled households had nine family members, which is the maximum family size, while 0.8 percent of sampled households had only two-family members, the minimum. The remaining respondent households (90.9 percent) had between three and eight family members (Table 5.1.1).

As described in Table 5.1.2 below, 120 households were randomly selected from the three research kebeles to respond to the structured questionnaire; women represent 1.7 percent of total respondents, while men represent the remaining 98.3 per cent of the total sample. As in other parts of the country, households are frequently headed by men, and as a result, the male to female ratio of respondents in the district appears very imbalanced.

Table 5.1.2   Gender of respondent's

Gender	N	Percent (%)
Male	118	98.3
Female	2	1.7
Total	120	100.0

Source: Survey Result, 2014

Table 5.1.3   Distribution of HH's Marital Status by Age Group

Marital status	Age group of Households						Total
	18-30	31-40	41-50	51-64	65-70	>70	
Single	0	0	0	0	0	0	0
Married	22	36	34	9	14	5	120
Divorced	0	0	0	0	0	0	0
Widower/Widowed	0	0	0	0	0	0	0
Total	22	36	34	9	14	5	120
Percent (%)	18	30	28	8	12	4	100

Source: Survey Result, 2014

As noted in table 5.1.3 above, all respondents from the sampled households are married. When we consider the age structure in relation to the range for the economically active proportion of the population given by the CSA in 2007, i.e., 15-64, shows that 84.1 percent of the sampled households fall within this range.

This percentage indicates the existence of a significant share of economically active people compared to the national average, i.e., 51.9 percent (CSA, 2007). This figure also reveals a smaller dependency ratio compared to the national and regional averages.

Over the course of gathering the data, it was very challenging to obtain dependable data on age. It is common for individuals in rural areas to not know or be unable to record their ages. Nor can they report their children's ages.

Table 5.1.4   HH's Level of Education by Age Group

Level of Education	Age of Respondents						Total
	18-30	31-40	41-50	51-64	65-70	>70	
Illiterate	0	9	14	3	7	2	35
Functional adult literacy	0	1	1	1	2	0	5
Primary first cycle (grades 1-4)	11	17	14	2	2	0	46
Primary first cycle (grades 5-8)	8	8	13	0	1	0	30
Secondary first cycle (grades 9-10)	3	1	0	0	0	0	4
Total	22	36	42	6	12	2	120
Percent	18	30	35	5	10	2	100

Source: Survey Result, 2014

Education level of Household heads: This variable, records the educational level of the household head. Education produces social benefits that improve the situations of the poor, such as lower fertility, improved health care for children, and greater participation of women in the labour market. For example, Ferreira and Litchfield's 1998 study (Cited in Servaas van der Berg, 2008) shows that in Chile, between one-quarter and one-third of household income differences can be explained by the level of education of the household head. It is hypothesised that education makes a positive contribution to family welfare, so it is expected to have a negative correlation with poverty. As indicated in table 5.1.4 above, of the total respondents, 29.2 percent are illiterate. This represents 35 respondents who are over 30 years old, and 4.2 percent (5) of respondents over 30 years old have reached functional adult literacy[30]. On the other hand, 38.3 per cent (46) and 25.0 percent (30) of respondents aged 18 to 70 have completed lower (grades 1-4) and higher secondary

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[30] A person is considered literate when he/she acquires a number of technical skills in his daily life through the Functional Adult Literacy Program. For instance, in the Ethiopian context, the rural community who have no access for formal education are expected to attend the Functional Adult Literacy program which is practical oriented in the area of improved agricultural practices, improved animal husbandry, etc. This program is evaluated based on a person's ability to implement the skill he/ she acquired from the program on top of read and write.

(grades 5-8) schooling, respectively. Only 3.3 percent (4 respondents) 18 to 40 years old have attended secondary first cycle education (grades 9-10).

The results indicate for the largest share of respondents (38.3 percent), schooling ended at the lower primary level (Table 5.1.4).

The mean value of family size is different across the levels of education. As the results show, among the illiterate, primary second cycle (Grades 5-8) and secondary first cycle (Grades 9-10), and between the functional adult literacy level and secondary first cycle (Grades 9-10) level, the mean difference is significant at .05 alpha level (Appendix A1).

Also, as indicated in figure 5.1.1 below, there was a gradual rise in family size from approximately 6.4 at an illiterate education level to approximately 6.5 at the adult functional literacy level. Conversely, there was a gradual decrease in family size from the mean of 6.5 to 5.1 family size at the Primary second cycle (Grades 5-8) education level, but family size plummeted dramatically to the mean of 4.4 at the Secondary first cycle (Grades 9-10) education level. From the study results, it can be inferred that education has a positive impact on shaping family size at the household level. It is clearly shown that when the level of education increases, family size decreases. As many studies indicate, population pressure is becoming a threat in developing countries such as Ethiopia in relation to the depletion of environmental resources, such that education could be a means of raising the level of awareness of the local community in connection with shaping family size, particularly in rural areas such as Borecha District, where this study was conducted.

Figure 5.1.1 Family size by education level
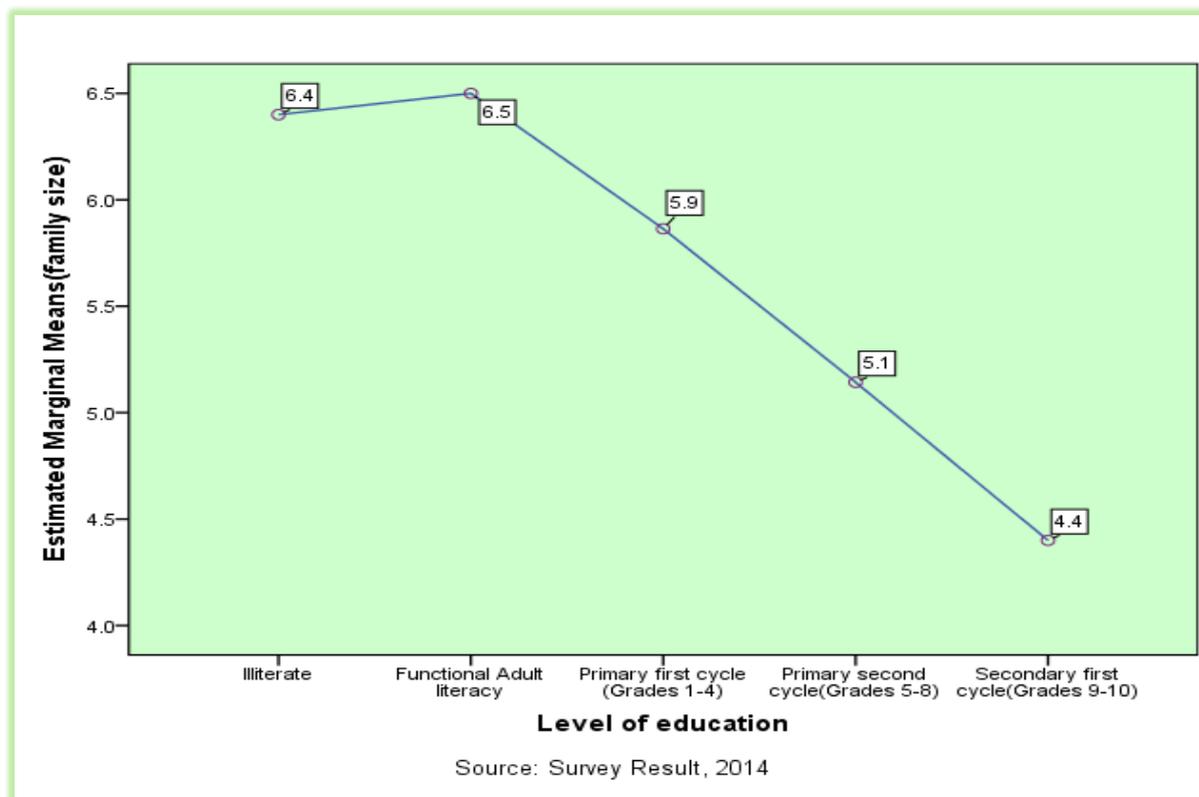
Figure 5.1.2 Bargaining power by the level of education during coffee transaction
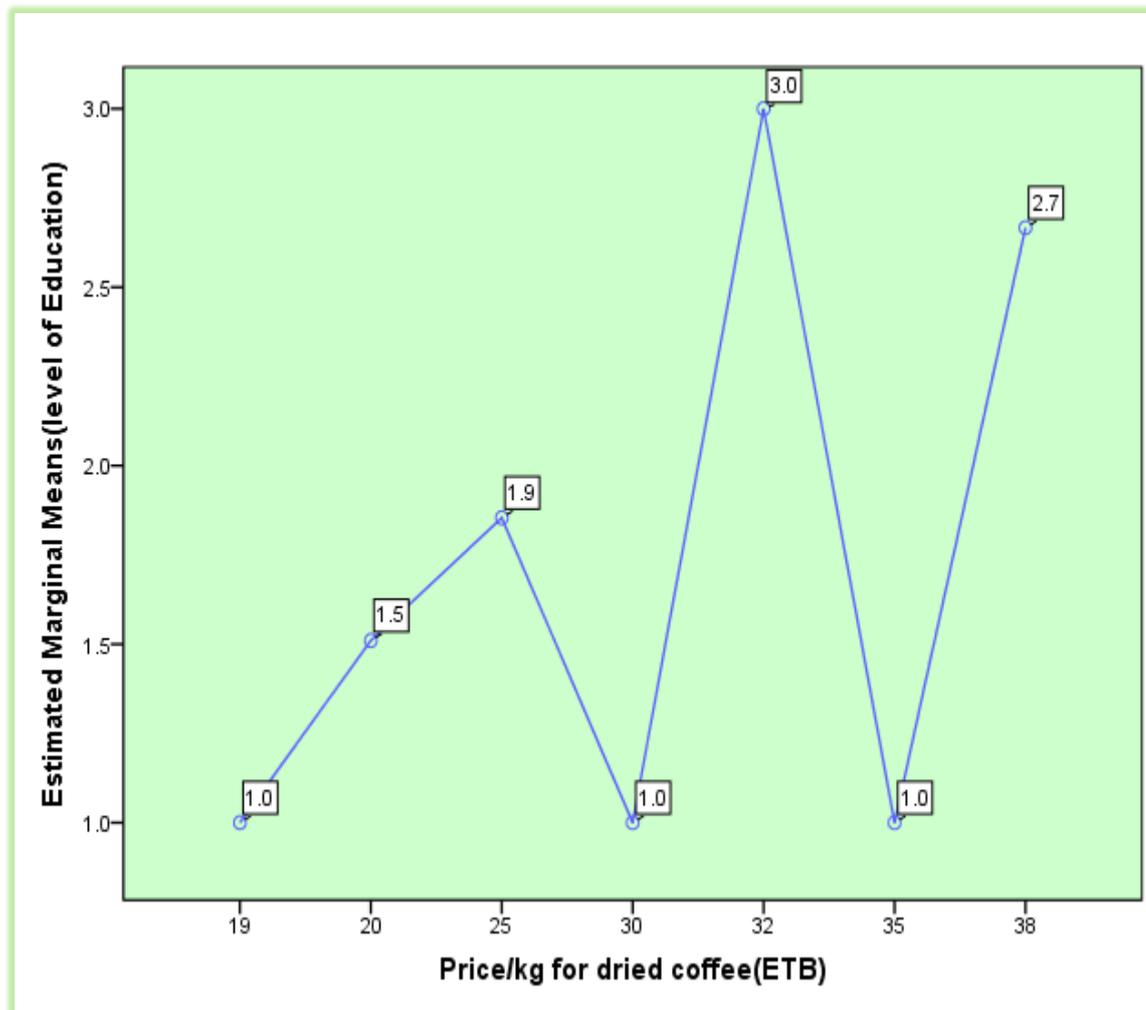
Source: survey Result, 2014

As indicated in figure 5.1.2 above, those farmers whose level of education at an illiterate level (29.2 percent), sold their coffee produce from the minimum of 19 ETB to the maximum of 35 ETB/kg. Conversely, those farmers whose education level is from the functional adult literacy to the secondary first cycle (grades 9-10) education level (70.8 percent), sold their coffee produce from the minimum of 25 ETB to the maximum of 38 ETB/kg. From the study results, it can be concluded that education has a progressive impact on a bargaining power during transactions.

Table 5.1.5   Distribution of sample Household by the number of children who had access to the government Education

No of Children	N	Percent (%)
0	19	15.8
1	18	15
2	41	34.2
3	30	25
4	8	6.7
5	1	0.8
> 5	3	2.5
Total	120	100.0

Source: Survey Result, 2014

Beyond developments in skills and labour productivity, education supports better health, hygiene, nutrition practices and childcare. Thus, in addition to being a right in itself, education is an instrument for recognising other rights. Primary education is universally accepted in developed and developing countries as a basic principle. The right to basic education is acknowledged by the Ethiopian Government and is considered a human right included in the country's constitution as 'the right of all children to education.' In 1994, a new Education and Training Policy (ETP) plan was formulated by the Government of Ethiopia to respect 'the right of all children to education'[31].

As shown above in table 5.1.6, 84.2 percent of respondents send their children to school, while 15.8 percent of respondents do not. This indicates that farming households have already become aware of the importance of education, yet farming techniques in Ethiopia remain mainly old fashioned and lead to the impression of below average economic rationality among Ethiopian farm households for financing education.

A 1975 study by Shultz (cited in Weir, 1999) states that education may improve farm efficiency directly by enhancing the quality of labour even though its outcome rests on the tendency to effectively address disparities, keeping in mind this could be achieved by augmenting capacities (i.e., the mental ability of the farming community). Education is

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[31] http://www.iiste.org/Journals/index.php/JEDS/article/download/14561/14870

believed to be essential to farm production in quickly evolving high-tech, trade and industry environments.

As technological innovations spread across the country, the importance of formal schooling to farm production ought to become more apparent. Conventional education is appropriate for stimulating the development of reasoning skills, creating the capacity to engage in theoretical analyses and changing outlooks. On the other hand, non-formal education regularly transmits information required for specific tasks or kinds of work. Informal education may also help to structure outlooks, philosophies and practices (Weir, 1999).

As concluded by Weir (1999), the returns to spending on schooling may accrue to other members of a household or to the village rather than to the person who has obtained the education. Personal returns to schooling take into account income-generating capabilities in addition to other quality of life improvements. On the other hand, the social outcomes of schooling include the diffusion of new farm inputs and productivity-enhancing techniques.

It is believed that the education of rural people impacts sustainable development. To encourage education within the framework of countrywide strategies for poverty alleviation and to escalate the capacity to attain the global development goals related to education, it is imperative to support national programmes and strategies to ensure that all children, boys and girls, rural and urban have the same access all levels of education consistent with national requirements by the year 2015. In this sense, an explicit purpose is required to influence rural people (Shibeshi, 2005). Low levels of education are among the most powerful determinants of poverty, and unequal access to educational opportunities is correlated with income inequality. Thus, without educational investment, sustained economic growth, rural development and progress in poverty reduction become difficult. Increasing the proportion of children with access to and who complete primary education by eliminating disparities and increasing the percentage of literate adults are ambitious goals (ibid).

A similar view is held by Bäckman (2009:2); to make development easy, education is essential because social profits are considerably higher than social expenditures at the primary and secondary educational stages. In addition, according to Bäckman (2009:2), education is vital for Ethiopia to competently use contemporary technology and to increase

output. As soon as people acquire essential schooling, namely, reading and mathematics, productivity increases noticeably. Without education, it will be challenging for farmers to end subsistence agriculture as the leading source of income and to implement dynamic and varied production.

Table 5.1.6   Distribution of farm size by respondent households

Farm size(Ha)	N	Percent (%)
0.5	8	6.7
1.0	18	15.0
1.5	14	11.7
2.0	7	5.8
2.5	21	17.5
3.0	7	5.8
3.5	25	20.8
4.0	20	16.7
Total	120	100.0

Source: Survey Result, 2014

Table 5.1.7   Descriptive statistics of farm size

N	120
Mean	2.5
Std. Error of Mean	.11
Std. Deviation	1.1
Variance	1.3
Minimum	.5
Maximum	4.0

Source: Survey Result, 2014

As indicated in table 5.1.6 above, 6.7 percent of sampled households have plots of less than 1 hectare, 15.0 percent have 1-hectare farm plots, 11.7 percent have 1.5-hectare farm plots, 5.8 & 17.5 percent have 2 & 2.5 hectares farm plots respectively, and 5.8 percent, 20.8 percent and 16.7 percent have farm plots of 3.0, 3.5 and 4.0 hectares, respectively.

The minimum farm size is 0.5 ha per household, and the maximum is 4 ha. The sampled households have, on average, farm plots of 2.5 hectares (Table 5.1.7). This is above the national average, especially those who have farm plots larger than 1.4 hectares. An

important reason is that Borecha has less land scarcity compared to other parts of Ethiopia. A national survey conducted in 2004 (cited in Gebresilassie, 2006) indicates that typical smallholdings in the highlands of Ethiopia are sectioned into 2.3 plots totalling 0.35 hectares. Nearly 33.3 percent of assessed smallholdings comprise 3 or more plots. The same author indicates that this fragmentation was willingly produced by farmers to assign lands to their children as they reach working age and to help them establish their own family farms despite lacking replacement livelihoods. Family plots in the highlands of Ethiopia are also quite fragmented, ranging from 0.81 to 1.4 hectares of land (ibid).

Gebresilassie (2006) holds that the majority of Ethiopians are concerned with access to land because they rely on some agricultural production for their earnings and survival. This is both an economic and a political/social issue in present-day Ethiopia.

Smallholding earnings and the intensity of family food security are determined by landholding size, which is one of the limiting factors. For instance, whenever landholding deteriorates, both subsistence food production and smallholder earnings deteriorate. This indicates that undersized smallholdings cannot produce much more using better technology, and they are unquestionably insufficient to address rural poverty via extension programmes that concentrate on technology transmission. In these situations, farmers have nothing leftover to purchase assets and inputs (Gebreamanel, 2011).

According to International Fund for Agricultural Development [IFAD] (2011), farmers who control of a piece of farmland that is smaller than average have formed the largest group of deprived persons in Ethiopia. To sustain their households, more than one-half of farmers plow parcels of 1 hectare or a less, struggling to churn out sufficient foodstuff. A lengthy food shortage season during the pre-harvest period is common among a large number of poor households. Herders, as with farmers, are vulnerable to increasingly frequent droughts, which can wipe out their livestock and assets and create severe poverty. The continual absence of rainfall is the most important factor in countryside neediness. Since 2001, droughts have become increasingly frequent and severe across Ethiopia, and this tendency has led to signs of deterioration. In addition to their vulnerability to climatic conditions, poverty-stricken rural individuals are dispossessed of basic social and economic public services, namely, health and educational amenities, veterinary services relating to animal diseases and access to safe drinking water (ibid.).

(b). Household Economy and Resource Use

In all research kebeles, agriculture remains a fundamental resource of livelihoods, although the degree to which it contributes differs among households. Therefore, in the structured questionnaire, in order to study the household economy and resource use, a question was developed to determine the major sources of livelihoods in the household. Responses to this question indicate that members of each household are involved in a wide range of livelihood activities, commonly agricultural activities. Farming-based livelihood activities include production of crops such as teff, wheat, barley, maize, beans and peas in the middle and high altitudes, whereas sorghum, maize, groundnut and sesame are grown in the low altitudes. Livestock rearing and coffee and honey production are also farming activities that support the livelihoods of the study population.

Table 5.1.8   Major sources of household's livelihood

Major sources of livelihood	N	Percent (%)
Grain production	41	34.2
Coffee	21	17.5
Livestock	24	20.0
labour	9	7.5
Combination of these and others	25	20.8
Total	120	100.0

Source: Survey Result, 2014

As shown in table 5.1.8 above, grain production was noted by 34.2 percent of respondents as a major source of livelihood. Of the 120 respondents, 17.5 percent reported that coffee plays an important role. On the other hand, livestock production was indicated as a major source of livelihoods by 20.0 percent of respondents and labour by 7.5 percent respondents. Twenty-five respondents (20.8 percent) stated that combinations of the above-mentioned activities and others serve as major sources of their livelihoods. As indicated below in table 5.1.9, livestock production is an untapped resource. The means of each category of livestock are provided: households owned 5.54 cattle, 3.17 poultry birds, 0.48 pack animals, and 1.93 beehives.

Table 5.1.9   Descriptive statistics for Livestock in the research kebeles

Livestock (number)	N	Min.	Max.	Mean	Std. Deviation
Cattle	120	0	12	5.54	2.641
Pack Animals	120	0	4	0.48	.788
Beehives	120	0	11	1.93	2.817
Poultry Birds	120	0	12	3.17	2.952

Source: Survey Result, 2014

Table 5.1.10 Major source of livelihood Assets of sample households by research kebeles

Research kebele		Major source of livelihoods					Total
		Grain production	Coffee	Livestock	labour	Combination of these and others	
Kersayasin	N	15	6	5	3	10	39
	Percent	13	5	4	3	8	
Deneba	N	17	2	11	2	4	36
	Percent	14	2	9	2	30	
Dello	N	9	13	8	4	11	45
	Percent	8	11	7	3	9	

Source: Survey Result, 2014

As the results show, grain production supports the livelihoods of 12.5 percent, 14.2 percent, and 7.5 percent of sampled households in the Kersayasin, Deneba, and Dello kebeles, respectively. Similarly, coffee supports the livelihoods of 5.0 percent, 1.7 percent, and 10.8 percent of sampled households in the Kersayasin, Deneba, and Dello kebeles, respectively (Table 5.1.10). According to the study results, the sampled households i.e., 4.2 percent, 9.2 percent, and 6.7 percent mainly depend on livestock production in the Kersayasin, Deneba, and Dello kebeles, respectively. On the other hand, 2.5 percent, 1.7 percent, and 3.3 percent of sampled households depend on labour in the Kersayasin, Deneba, and Dello kebeles, respectively for their livelihoods. In addition, as shown above in table 5.1.10, 8.3 percent of sampled households in Kersayasin depend on a combination of grain, coffee, and livestock production and labour. The same holds for 30.0 percent and 9.2 percent of respondents in the Deneba and Dello kebeles, respectively.

Table 5.1.11 Major Income-generation Sources

Income generating sources[a]	Responses		Percent of Cases (%)
	N	Percent (%)	

Grain Production	107	26.6	89.2
Livestock Production	104	25.9	86.7
Coffee Production	102	25.4	85.0
Chat	64	15.9	53.3
Pulses Production	25	6.2	20.8
Total	402	100.0	335.0

[a.] Dichotomy group tabulated at value 1[32]. (**Source:** Survey Result, 2014)

The respondent households were also asked whether they had sources of income generation. All respondents answered yes. Among the income-generating sources listed in table 5.1.11 above, grain production is found to be the leading income source, followed by livestock production and coffee production. Chat and pulse[33] production ranked fourth and fifth, respectively, in terms of income-generating sources in the research kebeles. As indicated in table 5.1.11 above[34], in the study area, grain production contributes to 89.2 percent of the households' livelihoods, livestock to 86.7 percent, coffee to 85.0 percent, chat to 53.3 percent, and pulses to 20.8 percent. As previously discussed in chapter four, livelihood strategies are among the concepts listed under the sustainable livelihood theoretical framework. The sustainable livelihood strategies refer to the number and mixture of activities that people select and combine to attain their livelihood goals (DFID, 2007). The findings of this research reveal that in the study area, households' livelihood strategies are dependent on crop diversification via cultivation of different cash and food crops as indicated above in table 5.1.2.

This result is supplemented by secondary data gathered from the district agriculture office. When the secondary data regarding income-generating activities were gathered in the district, the experts assigned to that agriculture office indicated that households generate income by selling agricultural products, including coffee, chat, cereals, pulses, livestock and livestock by-products (personal communication).

c. Attributes of Coffee in the Research Kebeles

The previous section attempted to analyse the effects of coffee on the livelihoods of rural households compared to other agricultural crops. Thus, coffee has made an immense

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[32] Sources are coded as dichotomy variables, where dependence on that activity is coded 1.
[33] The most common varieties of pulses are dried peas, beans lentils and chickpeas, haricot bean, peanuts. These varieties are widely grown in most parts of Ethiopia.
[34] The percentage of cases indicates the number of sampled households that responded yes to each activity

contribution to the livelihoods of the sampled households. Therefore, this section addresses different variables related to coffee production in the research kebeles.

Table 5.1.12 Origin of sample HHs

Origin	N	Percent (%)
Native	101	84.2
Immigrant	13	10.8
Relocated	6	5.0
Total	120	100.0

Source: Survey Result, 2014

Concerning the origin of respondent households, 84.2 percent were native to the research kebeles, 10.8 percent were immigrants, whereas 5.0 percent of respondent households had migrated and subsequently relocated in the area (Table 5.1.12).

Table 5.1.13 HH coffee growing Experience in the research kebeles

Research kebeles	Distribution of HHs in years of coffee growing Experiences by research kebeles				Total	Percent (%)
	More than 5 years	More than 10 years	More than 15 years	More than 25 years		
Kersayasin	6	11	10	12	39	32.5
Deneba	16	6	7	7	36	30
Dello	6	17	13	9	45	37.5
Total	28	34	30	28	120	100

Source: Survey Result, 2014

Table 5.1.13 above, indicates when farmers started growing coffee in the study area, ranging from five to over twenty-five years of experience in coffee growing. Of the total respondents, 23.3 percent started growing coffee in their area more than five years before, and an equivalent proportion, 23.3 percent, started growing coffee in their locality twenty-five years before. The remaining 28.3 percent and 25 percent started growing coffee ten and fifteen years before, respectively.

The elders indicated that coffee growing started long ago. Nevertheless, there are considerable differences in the number of years farmers had been growing coffee. As noted during the data collection time, the Kersayasin and Dello kebeles have the most experience growing coffee trees, as they have cultivated them for 80 years. In these two

research kebeles, forest coffee is dominant, while in Deneba, the least experienced coffee growers had 3 years old experience and most experienced 6 years.

Figure 5.1.3 Number of coffee trees by experience in coffee growing

Source: Survey Result, 2014
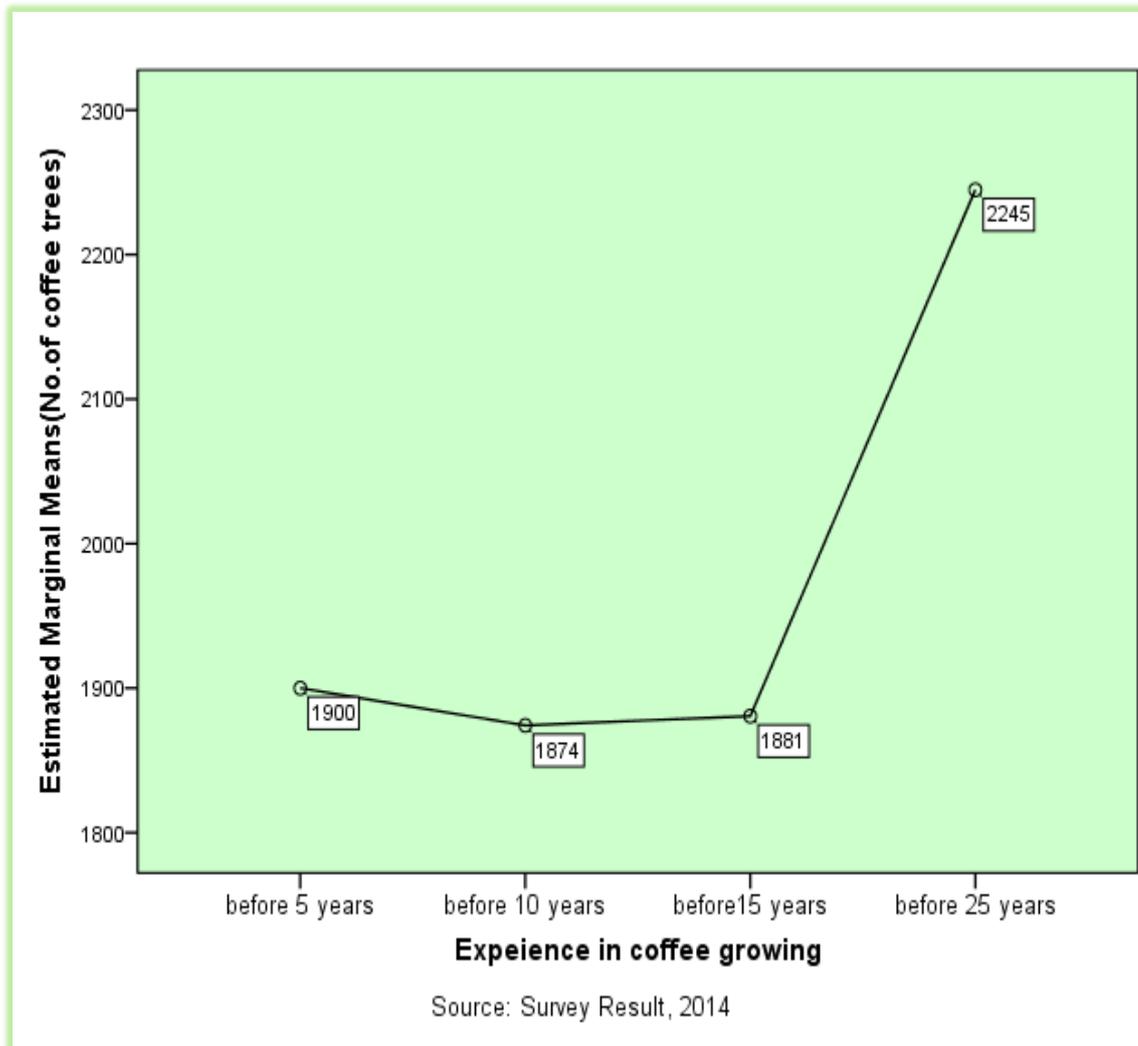
As seen in figure 5.1.2 above, farmers who have been growing coffee for many years owned more coffee trees. Here, sampled households who started growing coffee between fifteen and twenty-five years ago owned more coffee trees per household compared to sampled households who initiated coffee growing between five and ten years ago. Those who had more than 5 years of experience in coffee growing owned, on average, 1.900 coffee trees per household, and farmers who had been growing coffee for over 10 years, 15 years, and 25 years owned 1.874, 1.881, and 2,245 coffee trees, respectively, on average, per household. The interviewed households were asked what encouraged them to grow coffee. The justifications given, especially by farmers who have been cultivating

coffee for 25 years, included the tradition of growing coffee inherited from their fathers and grandfathers. In the case of forest coffee, in the research kebeles, particularly in Kersayasin and Dello, this practice is nearly a century old. In addition, at present, coffee is considered the most important source of income in the research kebeles. Above all, garden coffee is becoming dominant in the research kebeles in terms of direct income and as an employment opportunity for households who do not have their own coffee stands. This growing importance is due to inputs (seeds) supplied by the Jimma Agricultural Research Centre, which is located 140 km from Borecha. According to the research centre, these varieties (F59[35] and 74110[36]) are relatively disease and drought resistant compared to the coffee varieties previously planted in the natural forest. These are varieties of the species Arabica.

The number of coffee trees is different across the farm sizes. As the results show, between farm sizes of 1.0 ha and 3.5 ha, and between 1.0 ha and 4.0 ha, the mean difference is statistically significant at .05 alpha level (Appendix A2). The rest of the comparisons are not statistically significant. Also, as indicated in figure 5.1.4 below, the number of trees rose and fell across the farm sizes. The minimum is 1411 at the 1.0 ha farm size, and the maximum is 2428 at the 3.5 ha farm size.

As shown in appendix A4, in the case of garden coffee production, total production volume is largest in Deneba, followed by Dello and Kersayasin. This is because garden coffee is dominant in Deneba kebele. However, total production volume is largest in Dello, followed by Kersayasin and Deneba. This is because producers in Dello and Kersayasin started growing coffee before farmers in Deneba. The main reason for the higher production volume of these two kebeles is the older coffee trees in their natural forests. In contrast to the forest coffee trees, in all three research kebeles – Kersayasin, Deneba and Dello – the total annual production volume was low because garden coffee stands have yet not reached the production stage at full scale.

The interaction between Kersayasin and Deneba kebeles, as well as between Dello and Deneba, is statistically significant with regard to annual garden coffee production. Although statistically there is no significant difference between Kersayasin and Dello

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[35] F59 is a lowland variety
[36] 74110 is a medium- and high-altitude variety

kebeles, the rest are statistically different. Deneba kebele is the largest effect. The extent of the difference in coffee production seems bigger in Deneba kebele.

In the case of annual forest coffee production, the interaction between Deneba and Dello kebeles and between Kersayasin and Dello kebeles is statistically significant, and even more significantly different at Dello kebele. Despite the fact that all of them are significantly different, Dello kebele is the largest outcome. The degree of the difference in coffee production at forest stands seems higher at Dello kebele (Appendix A4).

As indicated below in figure 5.1.3, in the case of garden coffee, production rose steeply from 126.2 kg to 335.4 kg, and then there was a slow increase in production at Deneba kebele, where the highest mean (350.0 kg) is recorded by a female-headed household, and then a steep fall in production (150.9 kg) is recorded at Dello kebele.

Figure 5.1.4 Annual coffee production from garden stand by research kebeles

Source: Survey Result, 2014
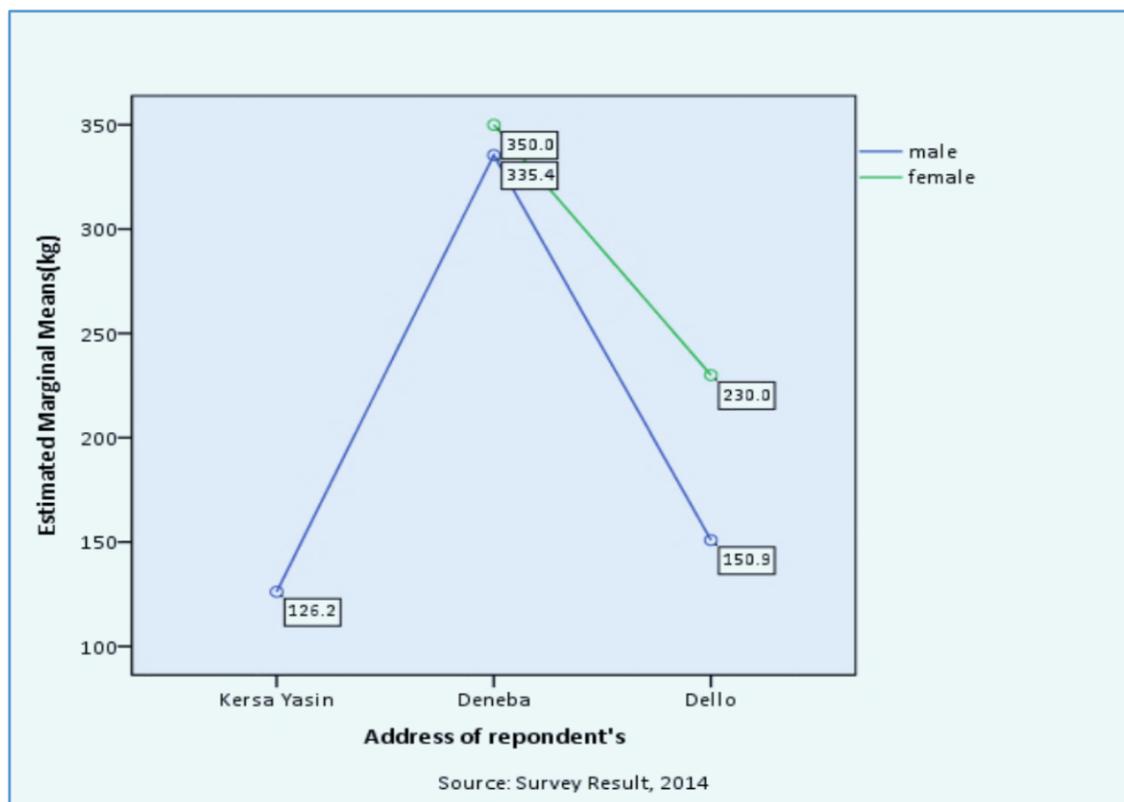
 In the case of forest coffee, there was a gradual rise in production at Kersayasin kebele and then a steep fall in production at Deneba kebele (42.0 kg). Again, production has risen very slowly and steadily. There was a considerable jump in production at Dello kebele (434.8 kg), where the highest average production is recorded by a male-headed household (Figure 5.1.5).

In the Ethiopian context, the participation of women in cash crops is very limited due to traditional systems of control. In both cases, the difference between males and females in coffee production does depend upon kebeles; that is the interaction. Here, the Capability Approach theory is connected with the findings of this study. As was explained earlier in chapter four, the Capability Approach theoretical framework includes two basic normative claims (the freedom to attain well-being and that freedom to attain well-being) and is to be recognised in terms of people's capabilities. Research has found out that in the study District, large numbers of women have no access to cash crops. The CA theory confirms that a woman's capabilities do not symbolize the actual choices of an individual (woman) among different functioning combinations – different types of life – that she has reason to value. 'Capabilities refer to the set of valuable functionings to which a person effectively has access'.

Figure 5.1.5 Annual coffee production from forest stand by research kebeles

Source: Survey Result, 2014
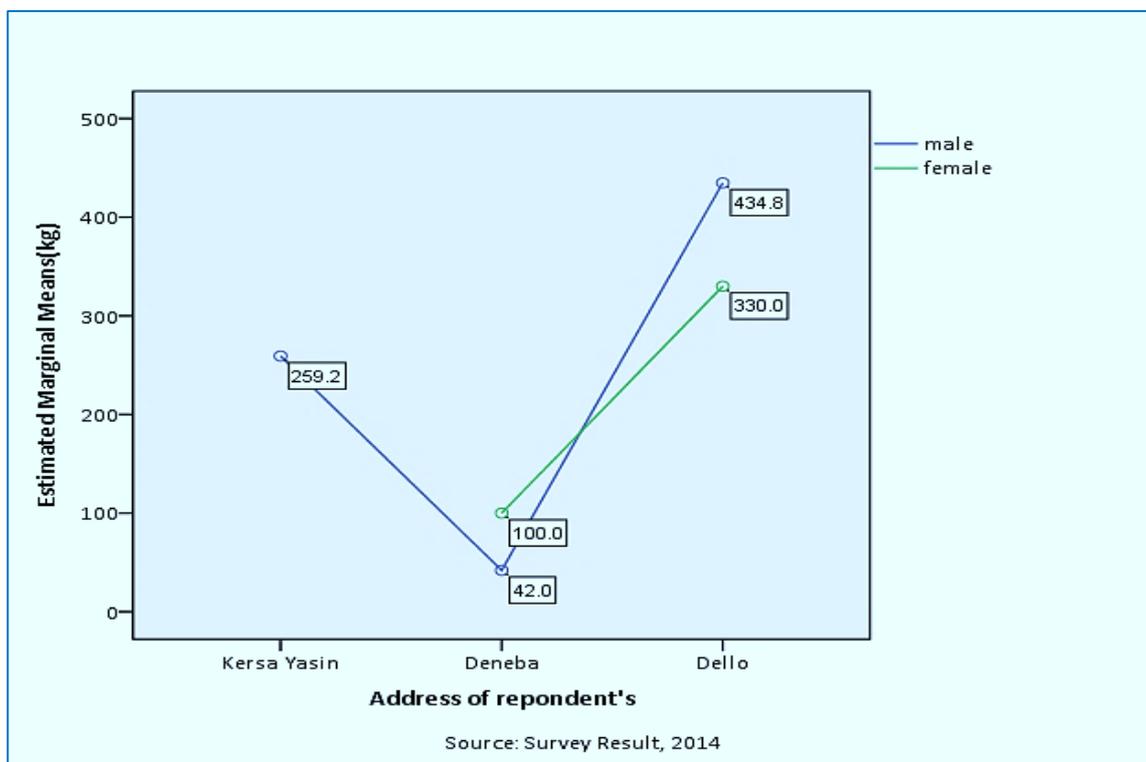
The majority of other agricultural yields can be improved within one year by increasing the area devoted to growing that crop. However, this is not the situation with coffee. The ideal yield of a coffee tree is obtained when it is five to six years old. The production of extraordinary beans can then continue for 20 years, followed by another 20 years of declining production. The only way to increase production over the short term is by using more inputs, such as hired workers, fertilisers and pesticides. Consequently, the supply elasticity of coffee with respect to price is relatively low (Milford, 2004:6).

As shown in figure 5.1.5 below, in the 2013/2014 season, 5.8 percent of sampled households earned 3000 ETB, 72.5 cumulative percent earned between 3001 ETB and 11000 ETB, 11.7 percent earned between 11001 ETB and 15000 ETB, 8.3 cumulative percent of sampled households earned between 15001 to 23000 ETB, and 1.7 percent of sampled households earned between 23001 to 27000 ETB.

Figure 5.1.6 Income earned from the sale of garden/ forest coffee in 2013/2014
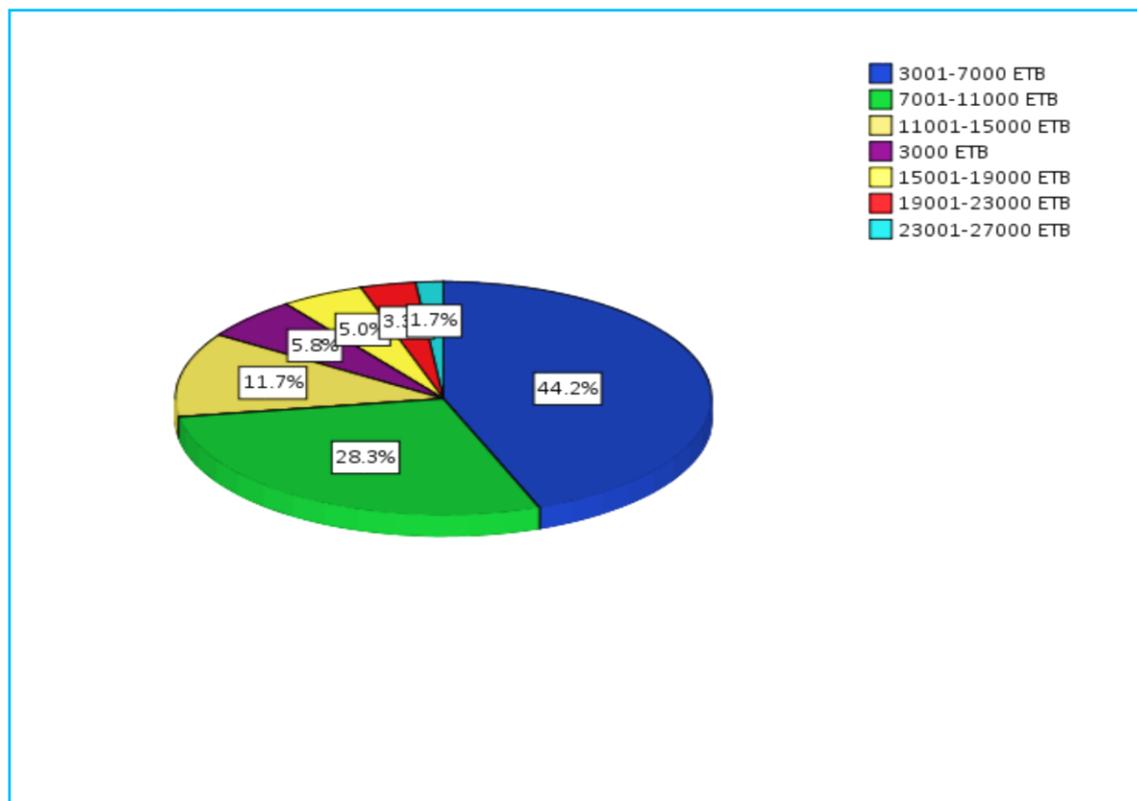
Source: Survey Result, 2014

On the other hand, as shown in figure 5.1.7 below, in the 2014/2015 season, 6.7 percent of sampled households earned 1000 ETB, 72.5 cumulative percent earned between 1001 ETB and 9000 ETB, 9.1 cumulative percent earned between 9001 ETB and 17000 ETB, 3.3 percent of sampled households earned between 17001 to 21000 ETB, and 8.3 percent of sampled households earned nothing. Lower/ no income do not mean that sampled households did not harvest enough coffee cherries. As noted during the data collection, some respondents did not take their whole coffee harvest to the local markets in hopes of receiving better prices in the future. This is a common practice among farming communities in rural Ethiopia.

Figure 5.1.7   Income earned from the sale of garden/ forest coffee in 2014/2015
harvesting season
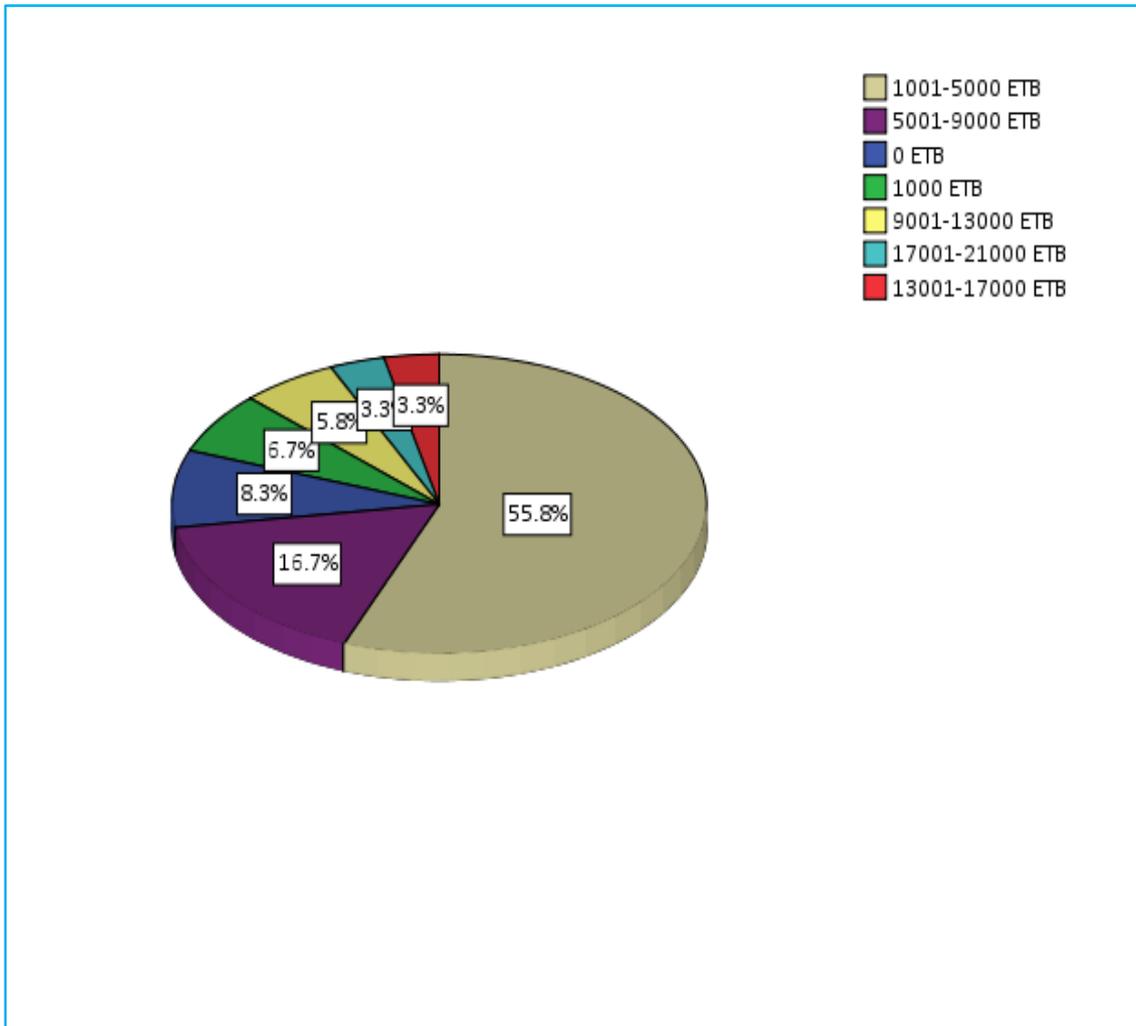
Source: Survey Result, 2014

With regard to cash income from direct sales of coffee, a strong and significant relationship was found between annual production from garden coffee and the amount of money earned during the 2013/2014 harvesting season (Pearson correlation: 0.528**at the 0.01 level [2-tailed]). Similarly, a strong and significant relationship was found between annual production from forest coffee and the amount of money earned during the 2014/2015 harvesting season (Pearson correlation: 0.451**at the 0.01 level [2-tailed]).

Table 5.1.14 Method of Harvesting Coffee Cherries from Forests or Gardens

Method of Harvesting	N	Percent (%)
Picking the red only	53	44.2
Stripping & Picking the red only	33	27.5
Stripping	11	9.2
Stripping & collecting from the ground	10	8.3
Picking the red and Collecting from the ground	9	7.5
Collecting from ground	4	3.3
Total	120	100.0

Source: Survey Result, 2014

The structured questionnaire included the following item: 'What method of harvesting coffee cherries do you use?' This question included six possible responses. According to the results, 44.2 per cent of respondent households explained that they pick only the red cherries, which is appropriate harvesting.

On the other hand, 3.3 percent of interviewed farmers collect coffee cherries from the ground, which is not recommended by agronomists as far as coffee quality is concerned. Similarly, 9.2 percent of sampled households use a stripping method that has no support from agronomists and contributes to low-quality coffee production (Table 5.1.14). Because of the absence of machinery that can replace human or animal labour in a place such as at Borecha, the overall handling of coffee by smallholders is not promising.

In this regard, Ponte (2002) stated that coffee quality was worth pursing over quantity among producers. He claimed that producers should bear in mind the ultimate consumers' preferences and the features of the coffee for which users would be willing to pay more. Quality coffee provides additional income for producers as extra returns for equivalent amounts of inferior-quality coffee (ibid).

According to Bäckman (2009:2), coffee can be processed by two methods. The wet method consists of pulverising the ripe cherries, fermentation and washing, followed by desiccating, peeling and polishing. In the dry method, ripe cherries are harvested, dried and the outer cover of the bean removed. Washed coffee prices are higher than unwashed;

nevertheless, processing is more difficult and the risk of damaging the beans and decreasing their value is greater.

During the discussion, key informants noted that the majority of coffee-growing farmers who reside in Borecha do not remove the outer pulp from the coffee beans, and they simply dry them in the sunlight. As a result, the average price of sun-dried coffee was only 20-25 Birr per kg and sometimes even lower, which has clear implications for the incomes of farmers. If coffee were processed properly, i.e., had the outer pulp been removed and the bean washed, the price would have been 50-75 Birr per kg. As also observed during data collection, no processing firm was identified in the research kebeles or in the entire district. Therefore, much has to be done in the area of adding value and making coffee-growing farmers more competitive in the world market.

Recent research (Smith, 2010) shows that tangible functioning in coffee production as opposed to capacity explains why high quality can increase the value of coffee and improve income for families.

In a 2006 study, Kufa (cited in Hailu, 2011) notes that over 73 percent of coffee processing in Ethiopia is carried out by traditional dry processing. This method is preferred by most farmers because it is low-cost and commonly performed by the producers themselves. In this method, the berries are set out to dry under the sun, which can take several weeks. The same source noted that producers complete the drying themselves; if not, farmers sell their crop as "fresh cherries". As soon as the cherries are dried, producers sell them to collectors, wholesalers or cooperatives. These actors then hull the cherries to remove the outer pulp and obtain green beans that can be sold on the market. This pattern reflects the real situation in coffee processing in the Borecha District.

According to the FAO (2014), although there is a possibility of increasing coffee export earnings, Ethiopia's coffee exports are undeniably considered of inferior quality. For a large amount of coffee in Ethiopia, this low quality arises mainly from the older methods of producing, harvesting, storing and processing. The same source states that each of these phases results in a reduction in the level of coffee quality. Although washed coffee receives a considerably higher price compared to unwashed coffee, unwashed coffee exports increase at a more rapid rate than do exports of washed coffee. In this case, unwashed coffee represents 73 percent of exports (ibid).

Table 5.1.15 Future Plan of HHs in relation to coffee production

Plan	N	Percent (%)
Maintain the same area	27	22.5
Substitute coffee with another crop type	1	0.8
Increase the area of coffee	87	72.5
Nothing specific	5	4.2
Total	120	100.0

Source: Survey Result, 2014

Farmers were also asked their plans for growing coffee trees in the future. According to the results shown in table 5.1.15 above, 72.5 percent of respondents planned to increase their coffee cultivation. This reflects the importance of coffee in supporting the livelihoods of many households in rural areas.

The other question raised in the survey questionnaire was the issue of forest and garden coffee management. The results in table 5.1.16 below, shows that 34.2 percent of respondents favour forest coffee, while the remaining 65.8 percent prefer the garden coffee business.

Table 5.1.16 Households' preferences in coffee stand types

Coffee stand type	N	Percent (%)
Forest Coffee	41	34.2
Garden coffee	79	65.8
Total	120	100.0

Source: Survey Result, 2014

Table 5.1.17 Reasons for the preference of Garden Coffee stands

Reasons	N	Percent (%)
To obtain and receive a higher price in the market	4	3.3
Collect extra produce	27	22.5
Simple handling	21	17.5
Combination of the above	68	56.7
Total	120	100.0

Source: Survey Result, 2014

Of those who favour garden coffee, 3.3 percent of respondents believe it has a better market price. Approximately 22.5 percent respondents believe that they will collect more produce, 17.5 percent cited its simple handling, and the remaining 56.7 percent replied that they considered a combination of those reasons (Table 5.1.17).

According to key informants, farmers currently confront with a coffee disease that reduces yield; this is particularly common in forest coffee trees. Moreover, wild animals, such as baboons and apes, are serious threats to ripe garden coffee. Traditional harvesting methods, such as stripping and collecting from the ground, also contribute to low-quality yields (personal communication).

The interviewed households were also asked what encouraged them to grow coffee. Especially among farmers who have been cultivating coffee for more than 25 years, respondents refer to the tradition of coffee growing inherited from their fathers and great grandfathers. In the case of forest coffee, people in the study area have cultivated coffee for nearly a century. In addition, coffee is presently among the most important sources of income in the study area. Above all, garden coffee is becoming dominant in the study area in terms of direct income and employment opportunities. The reasons indicated by respondents are shown in table 5.1.18 below.

Table 5.1.18 Motives of HHs in coffee growing activity in the study area

Reasons	N	Percent (%)
Best income source	100	83.3
Tradition	3	2.5
No other alternative	0	0.0
All three	17	14.2
Total	120	100.0

Source: Survey Result, 2014

Table 5.1.18 above, provides responses to the question 'why is coffee grown in your area'. Of the respondent households, 83.3 percent considered coffee its best income source; 2.5 percent grow coffee because of tradition, and 14.2 percent replied that they grow coffee because it is both the best income source and a tradition. This result shows that coffee is important in the study area to supplement the livelihoods of households, and in general, one can infer from the results how important coffee is to rural households' livelihoods.

For established coffee stands, income from coffee is made during a short phase of the growing season. The interviewed farmers harvest coffee once a year. However, the yield depends on the availability of rainfall during the coffee-growing period. During the field visit, respondents expressed that they do not obtain high yields every year; rather, they produce sufficiently high yields every two or three years, although they produce some coffee every year (personal communication). A disadvantage of coffee farming is that it entails a rotation of long-standing promise at the initial stage. The majority of other agricultural yields can be increased the next year by increasing the area devoted to the crop.

More hired labour is needed during the coffee harvest than during the ordinary coffee-growing season. The efficiency of farmers' smallholdings is subject to a level or degree of household labour available throughout the growing season, including during harvesting. The availability of labour   at the household level has an impact on the area that can be realistically harvested. The size of the crop is also affected by the availability of labour at the household level. According to district agronomists, coffee requires more labour during the harvest than during the ordinary coffee-growing season. These requirements can be evaluated from the point of view of the activities, the number of persons required, and the limited period during which an action or process can be completed. Some activities must be executed in order, demanding a few persons over a long timetable. A strong and

significant relationship was found between hired labour during ordinary the coffee growing and hired labour during harvesting season (Pearson correlation: 0.729** at the 0.01 level (2-tailed)).

Other activities may require greater concomitant planning or necessitate many people over a short timetable. In the research area, labour is required throughout the year during the ordinary coffee-growing season but only once a year during the coffee harvest period that lasts from the second week of November to the second week of January. Therefore, coffee demands more labour during these months. The coffee harvesting season sometimes coincides with the harvesting of other crop types. In most cases, this situation leads to labour shortages in the vicinity. To overcome the shortage, outside labourers are encouraged to participate in harvesting activities. This has implications for both the household members and the financial assets of the household.

According to the key informants, in Borecha, over most of the year, farmers who grow coffee depend on labour from relatives or close family members during the coffee-growing season as well during harvesting, although some farmers employ casual labours in both cases. Because coffee growing is labour intensive, farmers employ many daily labourers during the harvest. They want to take maximum care to prevent damage to the ripe coffee cherries. Most of the time, manual workers are employed on a day-to-day basis with few organised welfare policies, such as minimum wages or consistent hours. During the study, farmers told the researcher that they cover daily labourers' meals, especially during lunchtime, in addition to monetary payments.

The number of working persons in the family is statistically significant with regard to family labour during the ordinary coffee growing time, except the interface between pairwise comparisons of 3 and 4 working persons in the family and pairwise comparisons of 5 and more than 5 working persons in the family (Appendix A5).

Similarly, in the case of family labour during the coffee harvesting season, the number of working persons in the family is statistically significant, except the interface between pairwise comparisons of 4 and 5 working persons in the family and pairwise comparison of 5 and more than 5 working persons in the family (Appendix A5).

As shown in figure 5.1.8 below, as the number of working persons (ages 15-60) in the family increases, the availability of family labour increases correspondingly during the ordinary coffee growing time. The graph shows that there was a gradual rise in family

labour for those families who have 2 to 4 working persons in the family. There was a sharp increase in family labour for those families who have more than 4 working persons in the family.

Figure 5.1.8 Family labour during the ordinary coffee growing time
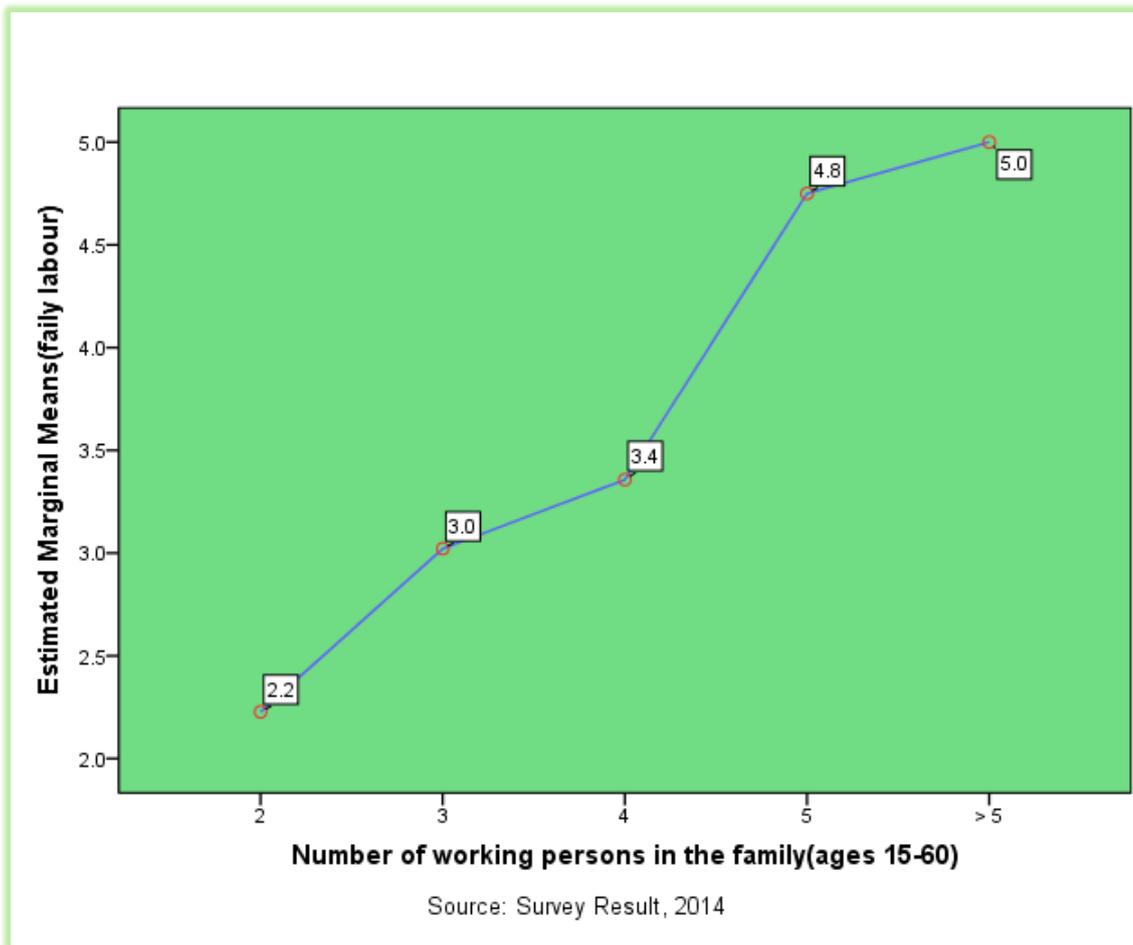
Also, as shown in figure 5.1.9 below, during coffee harvesting time, as the availability of working persons in the family is high, the arithmetic increase in family labour is also high. The graph shows that there was a continuous increase in family labour, which went up unsteadily, proportional to the number of working persons in the family.

Figure 5.1.9 Family labour during the coffee harvesting time

Source: Survey Result, 2014
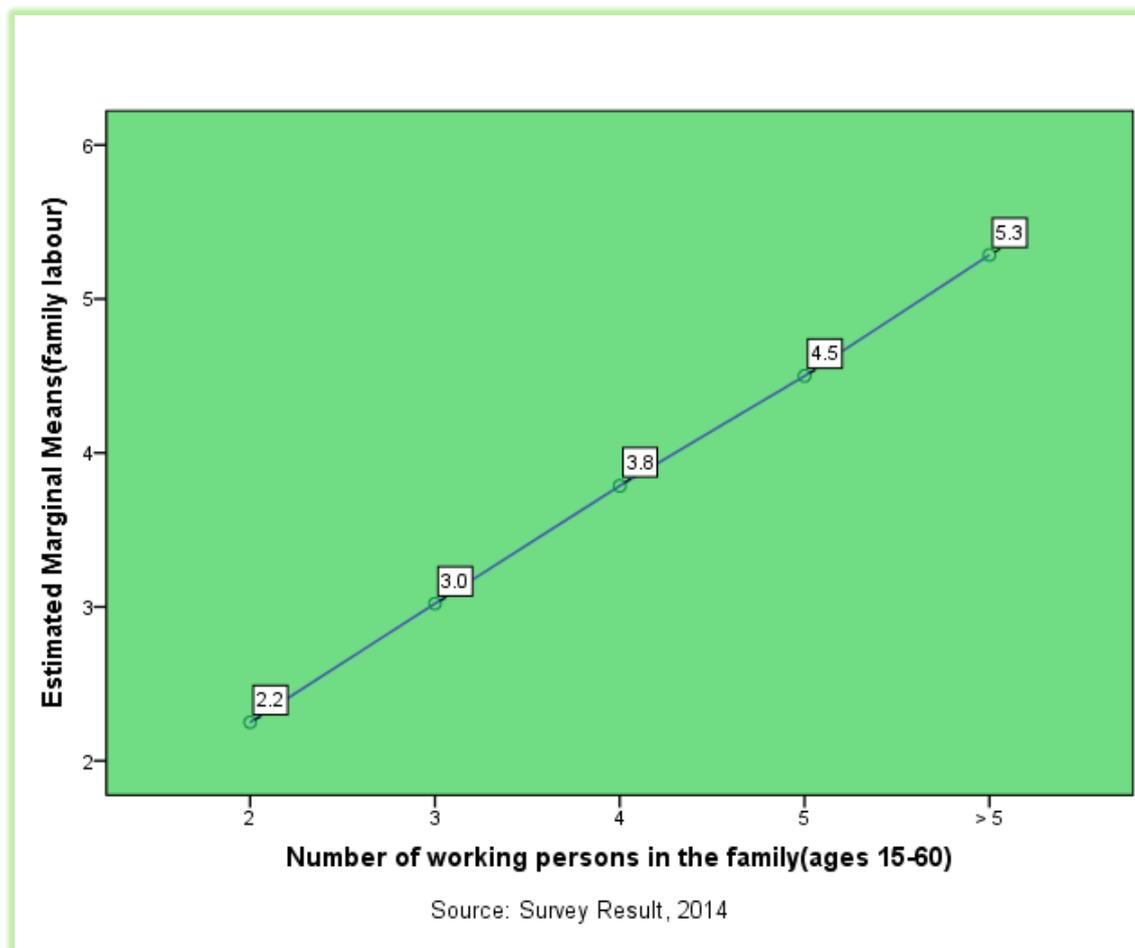
As explained earlier in chapter four on the five-sided sustainable livelihood theoretical framework, human capital is among the most important factors that has been vulnerable to alteration due to the growing coffee industry, primarily because household labour (family labour) potential is the main contributing factor to production capability. This is related to coffee-growing households' understandings of viable farming, as well as the availability of professionals and manual labourers. Research has found that there is a strong and significant relationship between family labour and number of working persons in the family (Pearson correlation: 0.695** at the 0.01 alpha level [2-tailed]).

Paiva (2000) demonstrates at the World Coffee Conference that a very large number of employment opportunities are created. This is especially true during the peak coffee-growing and harvesting seasons. This situation allows for some social mobility of those participating in these activities. For instance, according to the author, labour migration is common in countries such as Brazil, Colombia, El Salvador, and Guatemala. Paiva (2000) further emphasises that social development nationally is reliant on employment opportunities, continuous coffee production and overseas trade in coffee.

More recently, the ICC (2014)[37] has shown that 20 percent of the population relies on coffee production and related businesses for source of income. The same source indicates that more than 15 million people cultivate coffee to earning a living. Large numbers of middlemen collect crops directly from growers for both overseas and internal markets. Moreover, in Ethiopia, coffee is important in emotional discussions, in sympathizing with friends and kinfolk, and in conveying admiration for elders; thus, drinking coffee adds value in the Ethiopian context (ibid).

As previously discussed, the coffee sector creates job opportunities for people who reside in the study area despite Payment for wage labour is not uniform. For instance, as seen in figure 5.1.10 below, payment for wage labour per day hit a low of 25 ETB, and payment for wage labour per day reached a high of 45.1-55 ETB during the ordinary coffee growing time.

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[37] A proposal submitted to ICC indicates that Ethiopia has shown a keen interest in hosting the 4th ICO World Coffee Conference in Addis Ababa, the Ethiopian capital.

Figure 5.1.10   The demand for the hired labour and the amount of money paid
                        during the ordinary coffee growing time
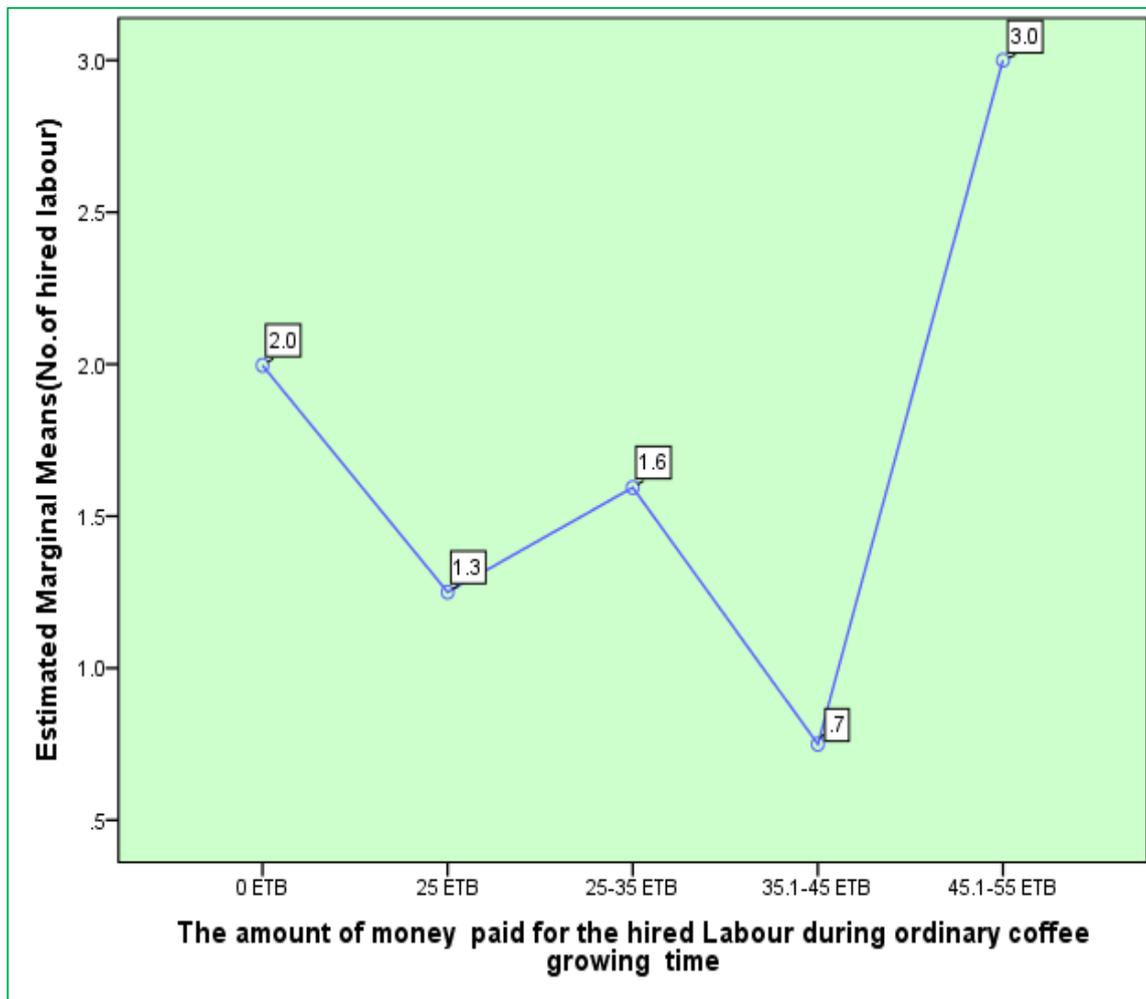
As shown above in figure 5.1.10 above, the demand for hired labour during ordinary coffee growing time is low compared to during coffee harvesting time. Of the 120 respondent households, 70(58.3 percent) of them do not need hired labour during coffee ordinary coffee growing time (Appendix A6).

The demand for hired labour during coffee harvesting time is high compared to ordinary coffee growing time. Of the 120 respondent households, 59 (49.2 percent) of them do require hired labour during coffee harvesting time (Appendix A6 and Figure 5.1.11). Payment for wage labour is not uniform. As seen below in Figure 5.1.11, payments reached a low of 25 ETB for wage labour per day, and payment for wage labour per day peaked at 65.1 to 75 ETB.

Figure 5.1.11   The demand for the hired labour and the amount of money paid
                   during coffee harvesting time
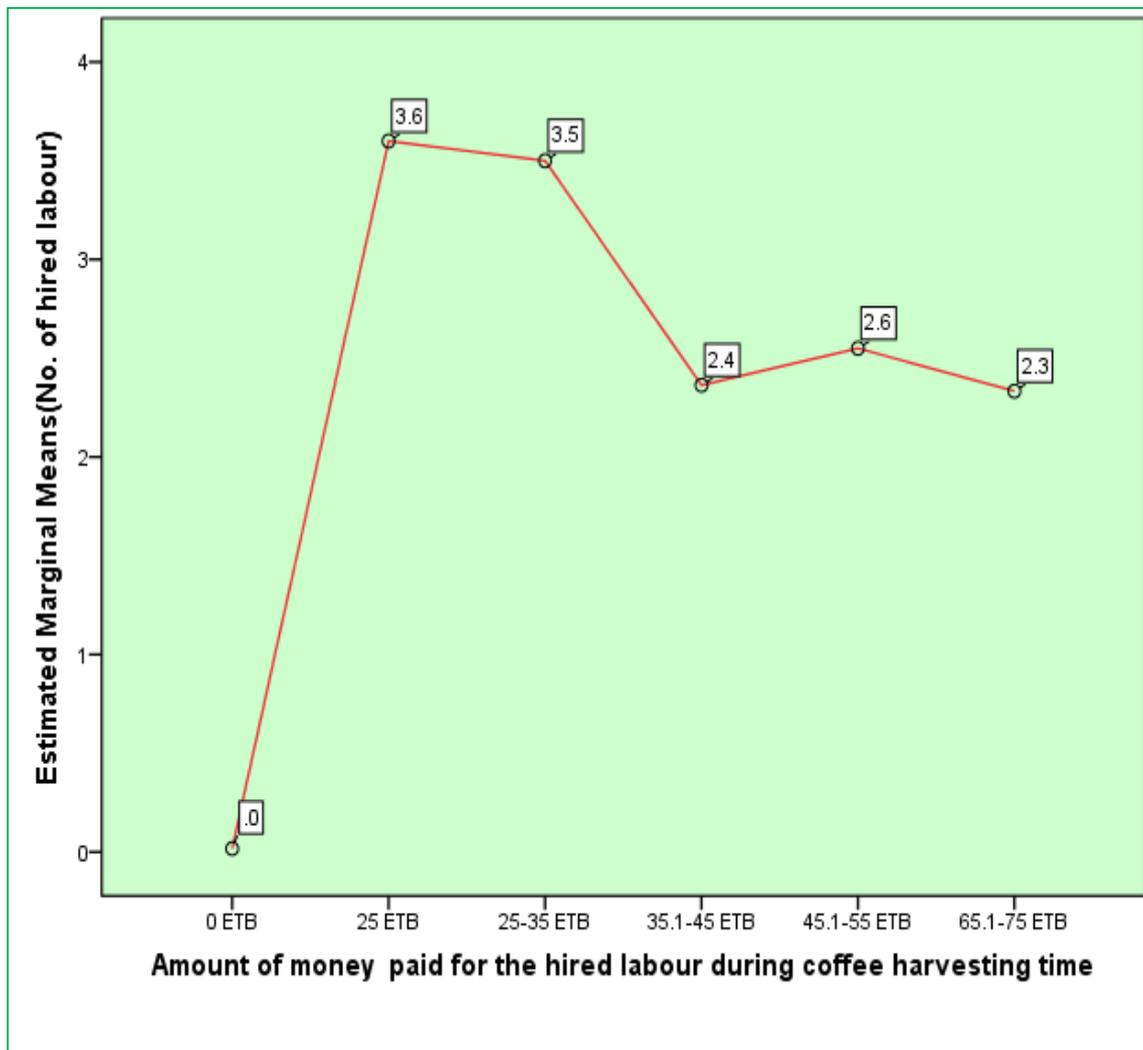
As the result shows, many people obtain cash income from casual labour. Research has found that there is a strong and significant relationship between the wages paid during ordinary coffee growing and coffee harvesting seasons (Pearson correlation: 0.736**at the 0.01 alpha level [2-tailed]).

As previously argued in chapter four, financial capital is among the theoretical concepts listed under the five-sided sustainable livelihood theoretical framework. Financial capital is used to realise livelihood objectives and includes credit access, savings intensity, transaction times, earnings discrepancies, and farm implements (DFID, 2007). Job opportunities in the local community have increased due to the cultivation of coffee in the study area. Related to cash income from direct sales of coffee, a strong and significant relationship was found between annual production from garden coffee and the amount of money earned during the 2013/2014 harvesting season (Pearson correlation: 0.528**at

the 0.01 level [2-tailed]). Similarly, a strong and significant relationship was found between annual production from forest coffee and the amount of money earned during the 2014/2015 harvesting season (Pearson correlation: 0.451**at the 0.01 level [2-tailed]).

In connection with payments, Sen's Capability Approach theory states that 'the ability to obtain the maximum payment is dependent on individual efficiency, which in turn depends on the health status, age, and nutritional status of the individual'.

A recent report by the Pan-African Bank [PAB] (2014) highlighted that specialty coffee represented merely 2 percent of the international market. To gain insight into value added, a multiple-choice question was included in the structured survey questionnaire: 'Do you engage in any value-added processing of coffee products'.

Table 5.1.19   Value-added Processing of Coffee Products

Value addition[a]	Responses		Percent of Cases (%)
	N	Percent (%)	
Selling special sun-dried coffee	88	28.9	75.9
Use better packing materials	80	26.3	69.0
Promotion of specialty coffee	62	20.4	53.4
Hybrid coffee production	59	19.4	50.9
None	15	4.9	12.9
Total	304	100.0	262.1

[a.] Dichotomy group tabulated at value 1 (**Source:** Survey Result,2014)

As shown in table. 5.1.19 above, of the 120 respondent households, in terms of the percentage of cases, 75.9 percent of respondents plan to sell specialty sun-dried coffee, 69.0 percent plan to use better packing materials, 53.4 percent plan to engage in the promotion of hybrid coffee production, 50.9 percent plan to participate in the promotion of speciality coffee, and 12.9 percent indicate no plans for value-added processing. Although the author of this dissertation respects the ideas of the sampled households, it is not clear why respondents would not be involved in value-added processing. Further study is required on this matter.

As the results show, little effort is made with regard to the promotion of specialty coffee, which has high demand on the global market; the PAB (2014) report indicates that the

government is motivating farmers to escalate specialty coffee based on ever-increasing global demand for specialty coffee.

As shown in figure 5.1.12 below, customarily, Ethiopian farmers produce single-origin specialty Arabica coffee of different brands. Nine varieties of single-origin specialty coffee (Jimma, Nekemte, Illubabor, Limu, Tepi, Bebeka, YirgaChefe, Sidamo and Harar) are clearly branded for regular producers. These varieties have been thus far effectively disseminated through coffee trade routes (Mekuria, et al., 2004).

Figure 5.1.12   The Nine Coffee Bean Varieties in Ethiopia

Source : www.technoserve.org/Coffee-Farming

Right of entry was created to encourage more small- and large-scale producers to engage in organic coffee production. The main reason for this change is the higher payments promised for organic coffee. Quality-guaranteed organic products not only improve the confidence of end users but also guarantee a consistent market for organic coffee. The costs of improving knowledge of sustainable organic farming practices may be offset by the development of the organic Arabica coffee sector in Ethiopia. This may improve the economic conditions of small-scale farmers and maintain of the genetic diversity of high-quality Arabica coffee. Research to produce technological innovations in response to farmers' critical problems in the organic coffee market is in its early stages. For instance, certified organic farmers sought to produce 5-6 q/ha of pure coffee beans compared to

average coffee yields in research, state-owned and traditional farm settings starting at 10-20 q/ha, 8-12 q/ha and 4.5 q/ha, respectively. To minimise these wide-ranging disparities, unconventional techniques for improved soil fertility management, selection of a variety of cultivated plants and safeguarding crops are among the new development directions in the speciality coffee area (Mekuria, et al., 2004). This notion can be elaborated as follows:

> "One of the most important trends in the coffee market has been the growing demand for specialty coffees. Sellers distinguish these coffees by highlighting their country of origin, by emphasizing their particular characteristics, or by showing a commitment to organic, shade-grown or Fair-Trade practices. Some producer countries have benefited from the specialty market by branding local quality coffee and successfully developing a name and niche market" (Slob, 2006, p.9).

Table 5.1.20 Monthly Coffee Consumption of Households by Family Size

Family Size (number)	Monthly Coffee Consumption at HH level (kg)					Total	Percent (%)
	0.5	1.0	2.0	3.0	4.0		
2	0	0	1	0	0	1	0.8
3	7	6	5	1	0	19	15.8
4	1	7	3	2	0	13	10.8
5	2	7	9	4	0	22	18.3
6	1	8	5	1	2	17	14.2
7	0	3	9	9	0	21	17.5
8	0	2	3	9	3	17	14.2
9	0	0	1	5	4	10	8.3
Total	11	33	36	31	9	120	100.0
Percent (%)	9.2	27.5	30.0	25.8	7.5	100.0	

Source: Survey Result, 2014

As indicated in table 5.1.20 above, 9.2 percent of respondents consume the minimum of 0.5 kg of coffee beans per month, while 7.5 percent of respondents consume the maximum of 4 kg. The other 83.6 percent respondents consume between 1 and 3 kg of coffee beans per month.

As shown in appendix A11, mean consumption of coffee at the household level is 2.98 kg. If this amount is multiplied by the total number of sampled households, it accounts for nearly 358 kg of coffee consumed among the respondent households per month or 23,270.00 ETB in monetary terms at the current average coffee price of 65.00 ETB. This implies a total consumption of 4296 kg per year, which is equivalent to 279,240.00 ETB in monetary terms. An effort was made to conduct a Pearson correlation analysis to

determine whether there is a relationship between family size and coffee consumption at the household (Pearson correlation: 0.621** at the 0.01 level [2-tailed]

Mayne et al. (2002) confirmed that coffee is a defining feature of national culture and identity in Ethiopia, with 44 percent of production used domestically. In addition, according to the International Coffee Organization (2014), almost one-half of the coffee produced is consumed in the vicinity. With regard to the utilisation of coffee, the same source estimates consumption of 2.4 kg per capita. Therefore, Ethiopia is the frontrunner among African countries in using coffee domestically.

This idea is further supported by an FAO (2003) report. Coffee consumption in non-industrialised nations is predicted to grow from 1.7 million tons in 2000 to 1.9 million tons in 2010 at yearly rate of 1.3 percent, whereas their share of the world market is anticipated to increase from 26 percent to 28 percent by 2010. The growth rate in coffee consumption is somewhat better in non-industrialised nations compared to the 29 industrialised nations, primarily because of growing revenue and population.

Table 5.1.21 Use of Packaging and Storing Materials for coffee beans

Packing Materials	N	Percent (%)
Used plastic Sack	55	45.8
Sisal & Used plastic Sack	34	28.4
Sisal Sack	31	25.8
Total	120	100.0

Source: Survey Result, 2014

Packaging is a key to maintaining the quality of coffee and making coffee producers more competitive in the world market. According to table 5.1.20 above, 45.8 percent of respondents use plastic packing materials, 28.3 percent of interviewed farmers use sisal and plastic sacks, and 25.8 percent respondents use sisal sacks to pack their coffee products. Used plastic packing materials are not recommended because these sacks have been previously used to pack chemical fertilisers, such as urea and diammonium phosphate (DAP), and these chemical substances remained in contact with the sack for a long time. According to agronomists, these chemicals are easily identified by laboratory tests either before or after the coffee are supplied to the world market. As I have been informed by the district agriculture office, farmers are persuaded to use sisal sacks instead of plastic sacks to maintain a chemical-free coffee supply.

Ethiopian coffee cannot meet quality tests in the global coffee market and earn reasonable prices. The foremost quality problems in Ethiopian coffee are related to harvesting, processing and storage (Policy Analysis and Economic Research Team, 2008). This contention is supported by Musebe et al. (2007); two key factors, namely, the geographic source and the post-harvest processing techniques influence Ethiopian coffee quality. It is expected that 40 percent of the quality of coffee is regulated in the field, 40 percent at post-harvest primary processing, and 20 percent at secondary/export processing and handling, including storage. As soon as the coffee beans are dry, they are likely to be sold. The price depends on the quality of the beans, which is influenced by the level of dryness, purity and extent of damage or mould on the beans (Milford (2004). Greater caution over the course of the harvesting and drying processes will ensure higher-quality coffee and hence better prices (ibid).

A condition for improving the quality and market value of Ethiopian coffee is better-quality primary processing by farmers at the village level. An enhancement in coffee quality, and

thus in returns, has a direct influence on the livelihoods of a sizeable number of resource-poor rural populations (ibid). This conviction is supported as follows:

> "In many producing countries, the liberalisation of the coffee industry in the 1980s and 1990s meant considerable change in the way coffee was collected, processed and marketed. In some countries, the situation went from total control of all aspects of the collection and marketing chain, to virtually no controls at all, referred to by some as anarchy. This is not to say that all had been well in those tightly controlled coffee industries, but quality did initially suffer in some countries. Different producing countries have differing quality control systems and attach differing values to certain aspects of quality. When setting quality limits, one should recognise that without active quality control, such as paying premiums for better quality, the maximum permissible limit (on defects, for instance) quickly becomes the new standard. In setting export taxes care should be taken not to penalise producers of better quality who manage to obtain premium prices as a result of their effort" (Slob, 2006, p.12).

d. Market Services and Transportation Facilities

Market services, which benefit the supply of agricultural products to local or international markets, are also considered in this study. A higher income depends on a better price, which in turn depends on market accessibility.

Although Ethiopia established a new system of coffee and other cash crop transactions via the Ethiopian Commodity Exchange, it was possible to observe during the study period that coffee-growing farmers still face a number of challenges. Under this system, farmers are sometimes forced by farm-level commercial actors to accept fixed prices for their crops. For instance, as shown in Table 5.1.22 below, 90.8 percent of respondents reported that the coffee price is set by other actors, with only 9.2 percent of respondents setting their own coffee price. This indicates that coffee producers have limited bargaining power.

Table 5.1.22 Decision making power in coffee selling price of the local market

Who sets the selling Price	N	Percent (%)
Myself	11	9.2
Demand and supply	28	23.3
Buyers	41	34.2
Other (Government)	40	33.3
Total	120	100.0

Source: Survey Result, 2014

Regarding the selling price of coffee, an item was included in the survey questionnaire. As the results show, 34.2 percent of sampled households responded that the selling price is set by buyers, 33.3 percent replied that it is set by the government, 23.3 percent answered that it is set by demand and supply, and 9.2 percent replied that they decide the selling price themselves (Table 5.1.22).

Table 5.1.23 Locations of coffee markets for coffee producing households

Type of Market	N	Percent (%)
At the farm gate	17	14.2
Central local markets	93	77.5
Both	10	8.3
Total	120	100

Source: Survey Result, 2014

As indicated in table 5.1.23 above, 14.2 percent of sampled households sell their produce on the farm, 77.5 percent sell their coffee in the local markets and the remaining 8.3 percent sell their coffee in both local markets and on the farm.

With regard to linkages with commercial value chain actors, a question was posed to the sampled households. As a result, in terms of the percentage of cases, 81.7 percent of respondents clarified that they have business connections with retailers, 73.3 percent with consumers, 35.0 percent local collectors, and 35.0percent with wholesalers. On the other hand, 1.7 percent respondents noted that they do not have any connections with these commercial value chain actors. As the results show, retailers play a major role in coffee bean transactions, followed by consumers, while wholesalers and local collectors occupy the same position in the hierarchy of commercial value chain actors.

Table 5.1.24 Linkage with commercial value chain actors

Value chain actors[a]	Responses		Percent of Cases (%)
	N	Percent (%)	
Retailors	98	36.0	81.7
wholesalers	42	15.4	35.0
Consumers	88	32.4	73.3
Local collectors	42	15.4	35.0
None	2	0.7	1.7
Total	272	100.0	226.7

[a.] Dichotomy group tabulated at value 1. (**Source:** Survey Result, 2014)

A 2012 report compiled by the Federal Democratic Republic of Ethiopia, Ministry of Trade has shown that there are three transaction chains: the first is Primary Level Transaction Centres (PLCTC) where coffee growers and suppliers transact coffee. The second is the Ethiopian Commodity Exchange (ECX) where coffee business deals are conducted in Ethiopia. The third is the international coffee market where transferors sell coffee to dealers. Coffee transactions in the study area are found at the primary business deal level, i.e., growers sell coffee to traders/suppliers.

Bäckman (2009:2) indicates that farmers sell their coffee crops to the highest bidder, a middleman in the local market who in turn trades to processors and transferors. In general, there are small numbers of processors and transferors because of high barriers to entry in the form of money assurances and storehouse services. In addition, the status of farmers who live in the rural area and their lack of awareness of market roles prevent them from entering markets, informing themselves about prices and obtaining technical assistance (ibid).

The channel from producers to trade warehouses includes many traders who benefit from coffee sales. The same source indicates that the unpredictability of the price of coffee has made hedging indispensable for the majority of dealers worldwide. By hedging, the dealer lessens the threat of shortfall in the event of a sudden decrease in prices (Bäckman (2009:2).

According to a study by the Policy Analysis and Economic Research Team (2008), in Ethiopian coffee and its ecological unit, there are different actors in the value chain. Among these linkages are known and possible difficulties within the coffee market, such as marketing, allotment, and production requirements.

Table 5.1.25 Coffee Transaction System of Sample households

Parties to whom coffee is sold	N	Percent (%)
Consumers and traders	42	35.0
Traders	38	31.7
Consumers and cooperatives	12	10.0
Traders and cooperatives	11	9.2
Consumers	10	8.3
Cooperatives	7	8.3
Total	120	100.0

Source: Survey Result, 2014

According to table 5.1.25 above, 35.0 percent respondents sell their coffee to consumers and traders, and 31.7 percent sell their coffee to traders. On the other hand, 25.8 percent of interviewed farmers sell their coffee to consumers, traders and cooperatives. Moreover, 4.2 percent and 3.3 percent sell their coffee to consumers and to traders and cooperatives, respectively.

Farmers face a number of difficulties in spot markets. To explore the situation, the survey questionnaire included the following item: 'what do you do if the some of the product is unsold'. Accordingly, 34.2 percent of sampled households responded that they take it back home, 25.8 percent take it to another market, 3.3 percent sell it at lower price, and 36.7 percent sell it on other market day (Table 5.1.26).

Table 5.1.26 Decision of HH's for some unsold coffee during the trading process

Decision	N	Percent (%)
Take it back home	41	34.2
Take it to another market	31	25.8
Sell it at lower price	4	3.3
Sell it on other market day	44	36.7
Total	120	100.0

Source: Survey Result, 2014

Because of the power imbalance in the conventional coffee value chain, farmers and their families face a succession of hindrances, starting with unstable face values for coffee on the global market. Farmers repeatedly have to accept the face value offered by traders and have very little, if any, bargaining power (Slob, 2006).

What is important is that the market price is minimal; a few purchasers are involved dealings over the value chain, and where there is slight competition, they are able to extract benefits. The return the producer receives at the end of this series of transactions is insignificant and, occasionally, conditional on the price at the time, insufficient to make a living (Bäckman, 2009:2).

As shown in Appendix A10, the nearest market accessibility across the research kebeles is statistically significant, except the interface between pairwise comparisons of 2 km and 6.1 to 10 km and pairwise comparisons of 2.1 to 6 km and 6.1 to 10 km.

Similarly, with regard to farthest market, the market accessibility across the research kebeles is statistically significant between pairwise comparisons of 11 km and 19.1 to 23 km and between 11 km to 23.1to 27 km and pairwise comparisons of 11.1 to 15 kmand15.1 to 19 km; between 11.1 to 15 km and 19.1 to 23 km Also, there is difference statistically between 11.1to 15 km and 19.1 to 23 km; between 11.1to 15 km and 23.1 to 27 km (Appendix A11).

As indicated in appendix A12 and figure 5.1.13 below, only 15.4 percent of the interviewed farmers from Kersayasin have access to a market located 2 km, 51.3 percent and 33.3 percent have access to a market located 2.1 to 6 km and 6.1 to 10 km from their farm. In the case of farthest market, 17.9 percent, 51.3 percent, and the remaining 20.5 percent have to travel 11 km, 11.1 to 15 km, 15.1 to 19 km, and 23.1 to 27 km respectively. In the case of Deneba, only 2.8 percent of respondent households travel 2 km, the remaining 77.8 percent and 19.4 percent travel 2.1 to 6 km and 6.1 to 10 km respectively. Regarding the farthest market, 2.8 percent sampled households are forced to travel 11km, 16.7 percent sampled households travel 11.1 to 15 km, 50.0 percent sampled households have to travel 15.1 to 19 km, 13.9 percent and 16.7 percent sampled households travel 19.1 to 23 km and 23.1 to 27 km respectively to access markets. On the other hand, of all the interviewed farmers sampled in Dello, only 2.2 percent travel very short distances, the remaining 46.7 percent and 51.2 percent travel ranging from 2.1to 6 km and 6.1 to 10 km respectively. With regard to the farthest market, 4.4 percent have to travel 11 km. The remaining 15.6 percent, 8.9 percent, and 15.6 have to travel 11.1 to 15 km, 15.1 to 19km, and 19.1 to 23 km respectively to access markets. In addition to the Kersayasin and Deneba kebeles, 55.6 percent of sampled households in Dello have to travel 23.1 to 27 km, assuming that they will receive higher prices in the districts adjacent to Borecha. They travel to markets in the adjacent districts and within the district. For example, they might travel to the local Beleti market, which is located inside the Gubahora Kebele, every Thursday.

Figure 5.1.13 Market Accessibility by research kebeles

Source: Survey Result, 2014
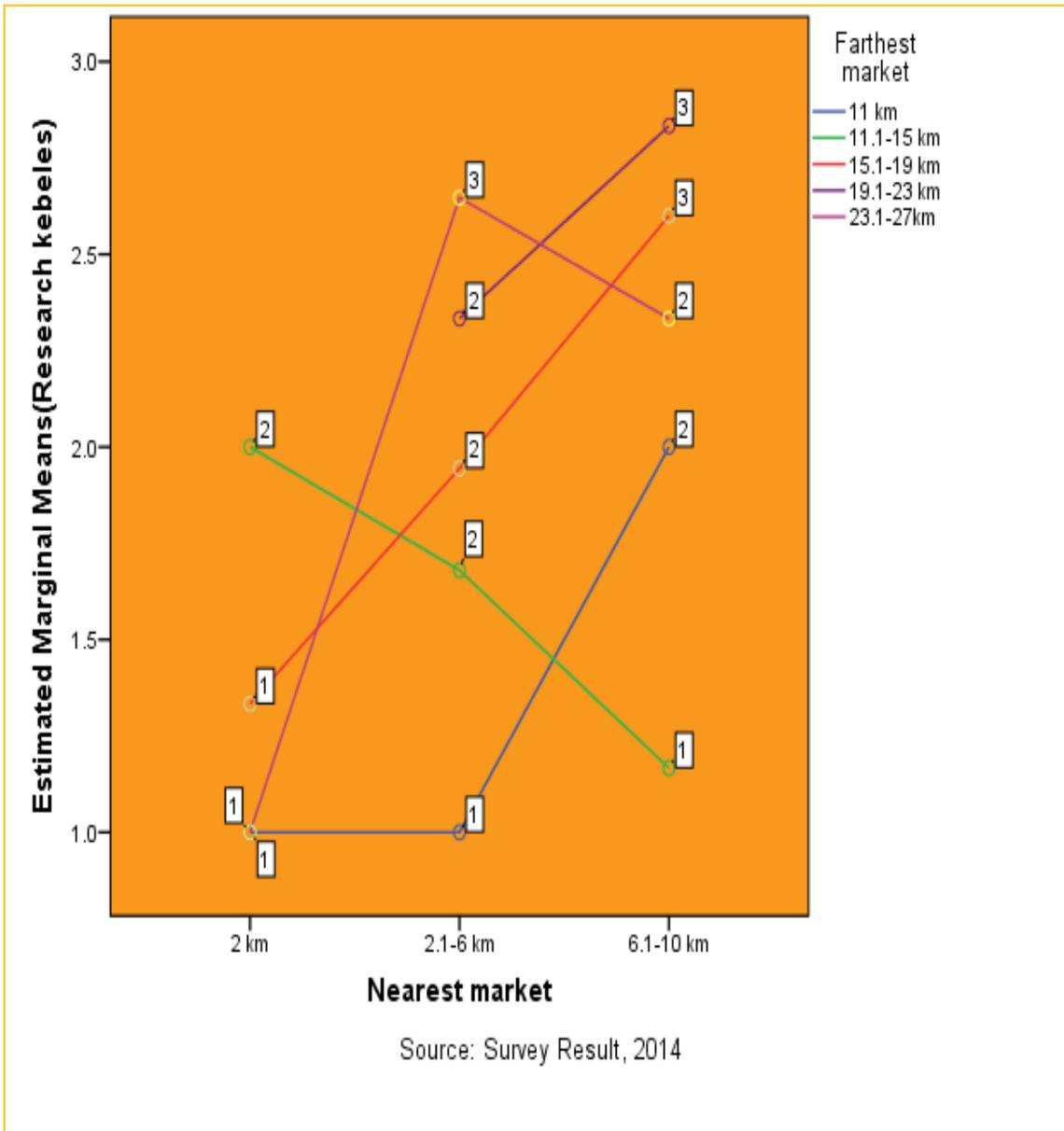
The interaction between 2 km and 6.1 to 10 kilometres is statistically significant with regard to coffee price per kg for dried coffee. Albeit two of them are significantly different, 6.1 to 10 kilometres is the biggest effect. The magnitude of the difference in dried coffee price per kg seems bigger between 6.1 to 10 kilometres. However, there is no significant difference statistically across all the kilometres travelled with respect to coffee price for red cherries (Appendix A13).

On the other hand, the interaction between 11.1 to 15 k m and 19.1 to 23 km, as well as the interaction between 11.1 to 15 km and 19.1 to 23 km, is statistically significant in relation to coffee price per kg for dried coffee. The scale of the difference in dried coffee price per kg is observed to be significant at 11.1 to 15 km. In contrast to the price of dried coffee, the interaction between 11 km and 15.1 to 19 km, 11 km and 23.1 to 27 km, and

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the interaction between 11.1 to 15 km and 15.1 to 19 km, and 11.1 to 15 km and 23.1 to 27 km, is statistically significant in the case of red cherries' price per kg. However, the scale of the difference in red cherries' price per kg seems higher at 23.1 to 27 km (Appendix A14).

As indicated below in figure 5.1.13, in the case of the nearest market, the price per kg for dried coffee rose and fell across the kilometres travelled to obtain the best price. For instance, there was a steep rise in the price at 2 km. However, prices dropped continuously between 2.1 to 6 km and 6.1 to 10 km.

Figure 5.1.14 Price of dried coffee/kg by nearest and farthest markets

Source: Survey Result,2014
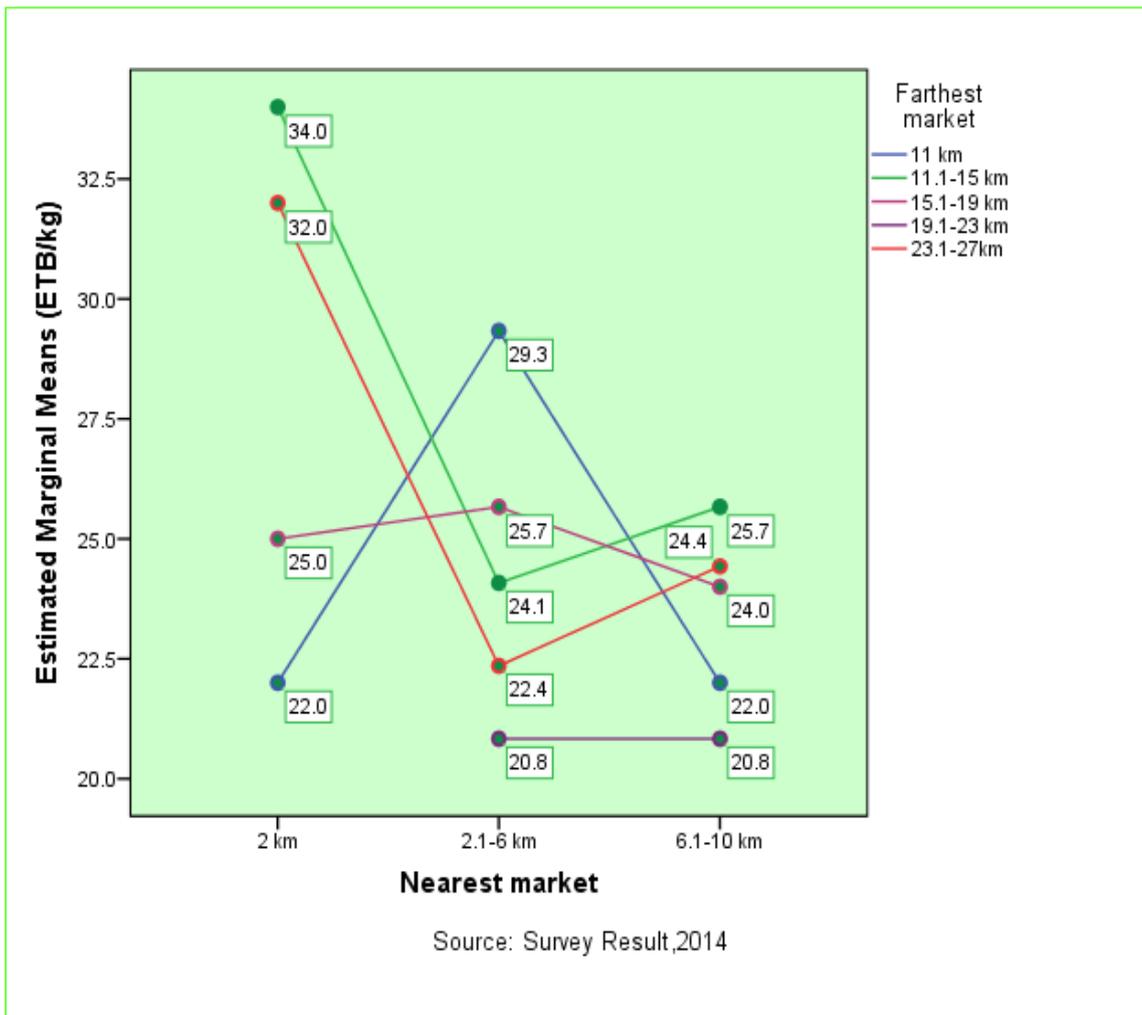
On the other hand, in connection with the farthest market, there was a steady rise in price at the 11th km, and at 11.1 to 15 km there was a steep rise in price. At the 19.1 to 23 km distance, price per kg hit a low of nearly 20.8 ETB, and then the price rocketed at the 23.1 to 27 km distance (Figure 5.1.14).

Figure 5.1.15   Price of red cherries/kg by nearest and farthest markets

Source: Survey Result, 2014
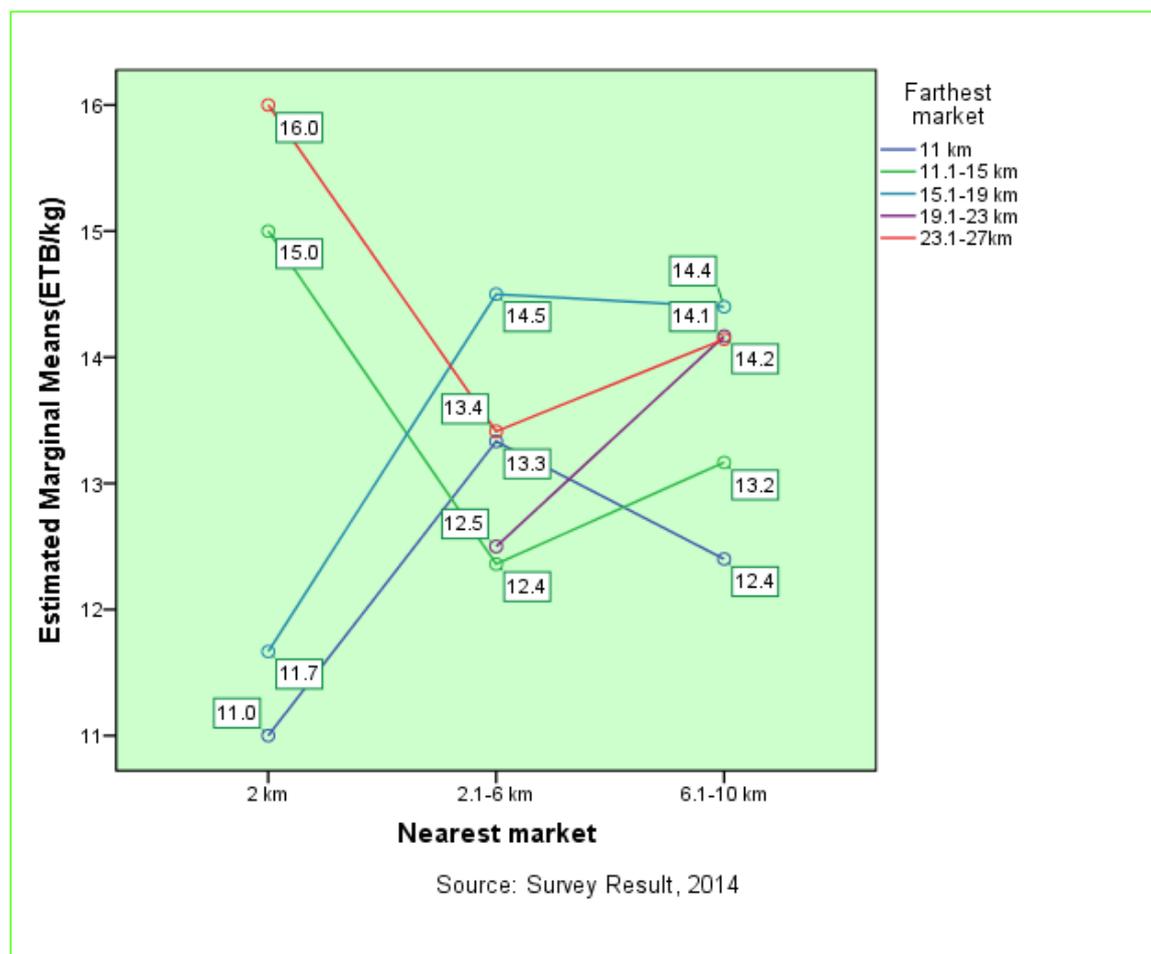
In contrast, as indicated above in figure 5.1.15, the price per kg for red cherries rose gradually. At the 2km distance, the price per kg was approximately 11.0 ETB on average. However, the price gained momentum at 6.1 to 10 km and reached a high of 13.8 ETB. In the case of the farthest markets, the price for red cherries per kg has fluctuated; across all kms, prices increased slowly and steadily. However, at the 19.1 to 23 km distance, the price decreased slowly and steadily. At the 23.1 to 27 km distance, prices rose gradually again.

As these results show, the sale of coffee beans at a reasonable price is subject to individual awareness of coffee bean prices and market accessibility. As Sen (1999) states in his work 'Development as Freedom', one of the theoretical concepts is market to economic growth. Markets normally function to increase people's income, wealth and economic opportunities. Resources – in this context, coffee – are considered inputs, but their value depends on individuals' abilities to convert them into prized functionings.

As Sette (2012) highlighted, the organisational findings include weak right of entry into markets and long supply chains. These problems were echoed at a conference held in Ethiopia organised by the International Coffee Organization (ICO).

Transportation facilities are part of the value chain in the coffee market. Thus, to examine the situation, a question was included in the structured survey questionnaire and posed to the sampled households.

*T*able 5.1.27 HH's Transportation Facilities for coffee marketing

Whether they have own transportation facilities	N	Percent (%)
Yes	47	39.2
No	73	60.8
Total	120	100

Source: Survey Result, 2014

As shown in Table 5.1.25 above, the results show that only 39.2 percent of sampled households have their own transport facilities. In contrast, 60.8 percent of respondents explained that they do not have the ability to transport their agricultural products to either the nearest or the farthest market areas. The secondary data collected from district administrative office indicated that farmers without transportation facilities, especially pack animals, which are commonly used for transport in rural areas, either carry their agricultural products on their backs (women) and shoulders (men) or rent transport animals. Occasionally, they incur high transportation costs to use vehicles.

During the key informant discussion, a challenge mentioned by participants was that most coffee-growing farmers face difficulties taking their produce to the farthest market areas because of a lack of transport. This challenge in turn reduces farmers' chances to gain access to alternative markets that might allow them to receive better prices for their coffee and other agricultural products.

Table 5.1.28 Indicators of improvement on household income

Indicators[a]	Responses		Percent of Cases (%)
	N	Percent (%)	
Able to buy cloths	120	26.9	100.0
Abel to change houses from thatched roof to corrugated iron sheet	114	25.6	95.0
Abel to expend for health treatment	113	25.3	94.2
Able to send children to school	99	22.2	82.5
Total	446	100.0	371.7

[a.] Dichotomy group tabulated at value 1. (**Source:** Survey Result, 2014)

As shown in table 5.1.28 above and evaluated as the percent of cases, based on the availability of coffee among households in the research kebeles, 100.0 percent are able to buy clothes for the family, 95.0 percent to change the thatched roofs of their houses to corrugated iron roofing, 94.2 percent to spend on medical treatments, and 82.5 percent are able to send children to school.

In general, as the results of the analysis indicate, farmers who are engaged in coffee production are already in the pipeline to realise the benefits of coffee. These changes in the livelihoods of the rural households in the research kebeles emphasise coffee's importance as a major source of income generation. In addition, coffee continues to provide essential cash income in growing areas. This cash is clearly important because household income is sufficient to support household investments in education and health services.

As shown in table 5.1.29 below and evaluated as the percent of cases, in the research kebeles, the results show that 89.7 percent of sampled households had access to money from sales of coffee, 66.4 percent had access to money from sales of other crops, and 41.4 percent had access to money from sales of other sources to cover school related costs.

Table 5.1.29   Source of money to cover schooling costs

Source of schooling fee[a]	Responses		Percent of Cases (%)
	N	Percent (%)	
Money from the sale of coffee produce	104	45.4	89.7
Money from the sale of other crops produces	77	33.6	66.4
Money from the sale of other sources	48	21.0	41.4
Total	229	100.0	197

[a.] Dichotomy group tabulated at value 1. (**Source:** Survey Result, 2014)

According to the analysis and evaluated as the percent of cases, 81.1 percent used money from sales of coffee, 65.8 percent used money from sales of other crops, and 6.3 percent borrowed from relatives/friends to visit health facilities. From this analysis, one can understand easily the extent to which money from coffee sales plays a significant role among coffee producers who need to access health services when they are sick (Table 5.1.30).

Table 5.1.30   Source of money for visits to health facilities

Source of money[a]	Responses		Percent of Cases (%)
	N	Percent (%)	
From sales of coffee	90	52.9	81.1
From sales of other crops	73	42.9	65.8
Borrowed from relatives/friends	7	4.1	6.3
Total	170	100.0	153.2

[a.] Dichotomy group tabulated at value 1. (**Source:** Survey Result, 2014)

Table5.1.31   HH's Perceptions of the effects of coffee growing on their children Education

S/n	Indicators	Very high		High		Medium		Low		Very low
1	How do you see the effect of coffee production on education?	N	%	N	%	N	%	N	%	N
		10	8.3	70	58.3	40	33.3	-	-	-
2	What is the trend in your spending on education over the past two years?	Increased		Decreased		No Change				
		N	%	N	%	N	%			
		110	91.7	-	-	10	8.3			

Source: Survey Result, 2014

To learn about the perceptions of the effects of coffee on education and health services, two questions were posed to each sampled household. Accordingly, 8.3 percent of respondents reported that the effect of coffee on education is very high, 58.3 percent of respondents rated it high, and 33.3 percent rated it medium. Respondents' views on education expenditures were also considered.

As shown in table 5.1.31 above, the information collected from sample respondents indicates that 91.7 percent of respondents reported that their expenditures on education over the past two years had increased because of income derived from coffee sales. On the contrary, 8.3 percent of respondents reported that coffee produced no change in their education-related expenditures. From this analysis, it can be concluded that, on the one hand, trends in expenditures for education are encouraging, as the majority of interviewed households send their school-aged children to school. On the other hand, a few respondents have not yet realised the benefits of income derived from coffee sales. It is assumed that this might describe households that have coffee trees but have not yet harvested a large volume of coffee compared with other households. In this case, the results do not mean that the respondent households are not sending their children to

school. As discussed in other sections, the sampled households have various income sources besides coffee, despite its significance.

Table 5.1.32 HHs Perceptions of the effects of coffee-based agriculture on the access of Health services

S/N	Indicators	Rate			
		Yes		No	
		N	%	N	%
1	During the last 12 months, did a HH member need treatment?	113	94.2	7	5.8
2	How do you think your access to health facilities changed after you started growing coffee?	Increased		Decreased		No Change	
		N	%	N	%	N	%
		100	83.3	-	-	20	16.7

Source: Survey Result, 2014

With regard to health, respondent households were asked whether a HH member needed treatment over the last 12 months. Accordingly, 94.2 percent of sampled households answered yes, and 5.8 percent of respondents answered no. Respondents were asked to indicate whether their access to health facilities improved, worsened or did not change after they started growing coffee. Accordingly, 83.3 percent of respondents answered that their access to health facilities improved, and 16.7 percent replied that they had experienced no change with regard to health care access.

e. Non-Economic Activities

In addition to economic activities, farmers are engaged in other commitments, such as religious obligations to mosques/churches, participating in social gatherings, and other types of commitments in their day-to-day lives. These social activities forced many farmers to take time off from livelihood activities. During the data collection, attempts were made to collect information about the types of social gatherings in which respondents actively participated. According to the interviewed farmers, they participate in weddings, funerals, religious festivals, and government meetings.

The number of days they participate in social gatherings depends on the number of events that happen in their locality. As indicated in table 5.1.28, households that attend mosque/church every day accounts for 47.5 percent of respondents, once a week accounts for 48.3 percent, and twice a week accounts for 4.2 percent.

Also, to determine how long they stay for prayers, sampled households were also asked about this practice in the interview. Accordingly, 34.2 percent stay at the mosque/church for prayers lasting less than 1 hour. Likewise, 41.7 percent, 23.3 percent, and 0.8 per cent of respondents stay at the mosque/church for prayers lasting 1 hr, 1-2 hrs, and 2-3 hrs, respectively (Table 5.1.33).

Table 5.1.33 Length of time of HH heads stay for religious rituals

Frequency	Length of time				Total	Percent (%)
	< 1 hr	1 hr	1-2 hr	2-3 hr		
Every day	21	21	15	0	57	47.5
Once a week	15	29	13	1	58	48.3
Twice a week	5	0	0	0	5	4.2
Total	41	50	28	1	120	100
Percent (%)	34.2	41.7	23.3	0.8	100	

Source: Survey Result, 2014

As shown in table 5.1.34 below, sampled households participate in social gatherings of different types, where 6.7 percent of sampled households participate in social gatherings once a week; 2.5 percent, twice a week; 50.8 percent, once a month; and 30.8 percent, sometimes. Of the total respondents, 10.0 percent never participate in social gathering.

Table5.1.34 Frequency of participation of HH heads in Social Gatherings

Frequency of participation in social gatherings	N	Percent (%)
Once a week	8	6.7
Twice a week	3	2.5
Once a month	61	50.8
Sometimes	36	30
Never	12	10
Total	120	100

Source: Survey Result, 2014

5.2   Synthesis

As the demographic results have shown, of the 120 households randomly sampled from the three research kebeles, women represent 1.7 percent of respondents, while men represent the remaining 98.3 percent.

Regarding the age range of the economically active population given by the CSA, 2007, i.e., 15-64, 84.1 percent of sampled households fall within this range. In the case of educational status, 29.2 percent of respondents are illiterate, and 4.2 percent attained functional adult literacy. Regarding formal schooling, 38.3 percent, 25.0 percent, and 3.3 percent attended lower primary (grades 1-4), higher primary (grades 5-8), and secondary first cycle (grade 9-10) school, respectively.

In connection with household economy and resource use, coffee supports in total the livelihoods of 17.5 percent of coffee-growing respondent households in the three research kebeles (5.0 percent in Kersayasin, 1.7 percent in Deneba, and 10.8 percent in Dello kebeles).

According to the study results, besides coffee, the sampled households mainly depend on other crops for their livelihoods, as well as livestock products and combinations of these and others types of production. The minimum period since coffee was introduced in the study area was five years, and the maximum was more than twenty-five years. Coffee production is found to be the leading component of income. Next to coffee, livestock production is the second-most important source followed by grain production. Chat and pulses ranked fourth and fifth, respectively, in terms of income-generating sources in the research kebeles. According to 83.3 percent of respondents, coffee is one of the best income-generating activities.

In the research kebeles, with regard to employment opportunity, 173 people received job opportunities during the ordinary coffee-growing season, and 201 people were hired for coffee harvesting. In the case of wages, respondents replied that they pay daily labourers per day from a minimum of 25 ETB to a maximum of 45.1 to 55 ETB during the ordinary coffee-growing season and 61.1 to 75 ETB for coffee harvesting.

5.3   Discussion

5.3.1 Introduction

This section explores the results with reference to related studies on the role of coffee-based agriculture in socio-economic development. Accordingly, issues such as the purpose of coffee growing in the study area, the income earned from sales of coffee, employment opportunities, market services and transportation facilities, indicators of improvement, and respondent perceptions of the effects of coffee growing on education and health services will be discussed.

In Ethiopia, the coffee sector is the main source of income and employment. This is to say that there are well-paying jobs, various options, and numerous institutions that are sources of easy money (a way of obtaining large amounts of money or other benefits for very little effort) in the coffee sector. In addition, coffee is the major source of overseas trade and hard currency. Over the years, the economic performance of coffee has had consequences for all spheres of life. As shown in section 5.1(Table 5.1.18), 83.3 percent of sampled households considered coffee their best income source compared to other agricultural crops.

As various studies indicate, most of Ethiopia's coffee farmers are smallholders who depend on income from coffee to support a considerable portion of their household essentials. As the findings of this study indicate, all sampled households reflect this fact despite the presence of income from diversified sources, such as other crop types and livestock rearing. Of course, coffee is considered to have a progressive effect on well-being when prices are not volatile. At the national level, as shown in table 1.1, total income generated from coffee was equal to 695,247.6 USD in the 2012/2013 cropping season. Figures 5.1.7 and 5.1.8 indicate that farmers who participated in coffee production in the research kebeles earned from the minimum 3000 ETB to the maximum 23001 to 27000 ETB in 2013/2014 and in the 2014/2015 cropping seasons, sampled households earned from the minimum 1000 ETB to the maximum 17001 to 21000 ETB. In both cases, this is a huge sum compared to other agricultural products. The average coffee price of sun-dried cherries is 20-25 ETB per kilogram. Had this coffee been washed and dried, the price could have been higher, say 50-70 ETB.

Coffee sales are expected to increase the income available for fostering the household's resources, which may include human, financial, social or natural capital. Education and health can be cited as social benefits of coffee sales. As has been discussed in section 5.1, coffee supports the livelihoods of 17.5 percent coffee-growing farmers in the three research kebeles, Kersayasin, Deneba, and Dello, respectively.

To come back to the starting point, the succeeding paragraph reconsiders the research questions mentioned in Chapter 1 of this dissertation. The following were the questions guided this research:

1. What have the effects of coffee growing been for the households in their locality compared to other agricultural crops?

2. What has the socio-economic developmental role of coffee been for these households?

3. How do these effects relate to the overall livelihoods of the households?

Consistent with earlier findings, these three research questions are intended to provide a brief description of coffee growers in the Borecha District. This study provides insight into the effects of coffee growing for households in their localities compared to other agricultural crops, the socio-economic developmental role of these effects for the households that are engaged in coffee growing in Borecha and the effects related to the overall livelihoods of the households. For this, indicators of income, employment opportunities, and marketing situations, perceptions of income generated from coffee and coffee-associated work in terms of education and health facilities are briefly described.

Returning to the SL and CA theories that were discussed in detail in chapter 3, the above brief descriptions, which are distinctive with regard to the coffee growers in Borecha, are in accordance with the DFID and Sen's principles. For instance, to perform worthwhile planning for development activities that are new, the SLF theoretical model is found to be useful. This theoretical model is also used in examining the contribution of existing programs or activities to people's livelihood (DFID, 1999).

According to the DIFID (1999), (i) trends in population, resource, technological, governance and national/international economic trends); (iii) shocks such as human health shocks, natural shocks, conflict, economic shocks, and crop/livestock health shocks; and

(iii) seasonality (price, production, health and employment) are among the many factors that prompt peoples' livelihood. In the situation of this study, the cause of vulnerability conveys overdependence on seasonal crops, which perpetuates the deprivation of wellbeing of the agricultural communities in the Borecha District since sometimes it is confronted by the deficiency of rainfall.

The right of entry to or ownership of livelihood assets such as human capital, social capital, natural or stock of the natural resources, and physical capital that have significance in affecting livelihood strategies is underlined at the second level of the framework. From the perspective of this study, participating in coffee production as a livelihood strategy can be affected by livelihood factors such as educational level; social networks such as group membership; access to water (for instance, as indicated in chapter 3 of this dissertation, crops and livestock resources are sometimes challenged by natural disasters, particularly drought or rainfall that is less than optimal); access to information (research shows that since many coffee growing farmers in the study area have less or no information, they sell their coffee produce at a lower price); land ownership; household assets; and financial resources such as credit or savings, among others (in the study area, there is a shortage of credit service or there exists a low saving culture despite, a saving culture that is on the rise at this time). The framework at the subsequent rank solicits the transforming structures and processes that also influence the livelihood strategy. The SLF categorizes transforming structures as physical components (e.g., civic or self-contained organizations such as cooperatives/unions that provide a service in supplying inputs related to coffee or other crop-type production); and processes are labelled as programmes (e.g., national policies related to coffee production intended to make more efficient the advancement and dissemination of coffee production in the uncommon coffee-producing parts of Ethiopia); as indicated in table 5.1.19, insignificant effort is made with regard to the advancement of specialty coffee, which has eminent demand on the world market. In this regard, national policies play a great role to enhance speciality coffee in the traditional coffee growing areas as well as in the non-traditional coffee growing areas. Others include: culture, and power relations – age, gender, and class. For instance, as indicated in chapter 5 of section 1.1 of this dissertation, due to the culture/tradition barrier with respect to gender, only 1.7 percent of female respondents possess cash crop lands (e.g., coffee land). On the other hand, with regard to decision-making power, as shown in table 5.1.22, only 9.2 percent of respondents decide the price of coffee by themselves. The rest, i.e., 90.8 percent of respondents, explained that other actors take the lion's share to decide on the price of

coffee. In addition, because of the power disparity in the common coffee value chain, farmers and their families confront a series of obstacles, starting with uncertain prices for coffee on the international market. Therefore, this finding is a clear manifestation of the power relationship between coffee-producing households and other actors such as buyers, the government, and the demand and supply situation. Undeniably, the livelihood strategies in the SLF are diverse undertakings that can be performed by people to realize livelihood outcomes. From the perspective of this finding, one such strategy is partaking in some fruitful endeavours such as coffee farming. Within a comparable perspective of the framework, the praiseworthiness of livelihoods strategy (or the praiseworthiness of being involved in an intervention) is presumed. For example, coffee farming is influenced by different factors such as skills or education (human capital). As indicated in figure 5.1.2, coffee producing farmers whose level of education is at the functional adult literacy and above (70.8 percent), sold their coffee produce with a better price compared to the illiterate ones (29.2 percent). This result shows how education has an impact on a bargaining power in the course of dealings. Also, in relation to education level, previous studies cited in this dissertation show that between one-fourth and one-third of the differences in household income can be explained by the educational level of the head of household. Other factors include: access to financial resources, physical infrastructure (e.g., as indicated in chapter 3 of this dissertation, the poor infrastructure situation, such as road accessibility to access markets, has led to low transportation facilities. As presented in table 5.1.25, 60.8 percent of respondents explained that they do not have the ability to transport their agricultural products to either the nearest or the farthest market areas. Therefore, they either carry their agricultural products on their backs (women) and shoulders (men) or rent transport animals; also, as indicated in figure 5.1.13, since a higher income is subject to a better price, which in turn depends on market accessibility, many farmers who produce coffee, travelled long distances to obtain the best price. On the other hand, the absence of coffee processing plants has forced many coffee-growing farmers in the study area to produce low-quality coffee); the research result shows that the price of coffee is subject to the quality of the beans, which is influenced by the level of dryness, purity and extent of damage on the beans. If coffee were processed properly, i.e., had the outer pulp been removed and the bean washed, the price would have been better. An improvement in coffee quality, and thus in incomes, has a direct influence on the livelihoods of a large number of resource-poor rural populations. Therefore, the unavailability of improved physical infrastructures has an enormous contribution to influence the livelihood of the rural community. On the other hand, transforming structures and processes that include

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organizations, institutions, policies, and regulations/legislation affect livelihood. These factors influence livelihood by exerting an influence on access to different types of capital and livelihood strategies, the exchange terms between the different forms of capital, and the gains/returns arising from a given livelihood strategy.

As the research result shows, the attainment of extra assets by means of income that derives from coffee indicates progress in wellbeing. For instance, in the study area, farmers who grow coffee have realized this by sending their children to school and visiting health service facilities regularly. Hence, assessing the asset build-up is able to make possible valuation the extent to which coffee farmers in the Borecha District have been benefited. Consequently, under this theoretical background, the livelihood status of individuals can be measured using variables such as asset accumulation or household income, which are affected by the livelihood strategy, for instance, an intervention such as coffee production. In this study, then, the effect of coffee-based agriculture is analysed from the perspectives of the livelihood outcome status of the farming community involved in coffee farming.

Moreover, as discussed in chapter 3, coffee-growing farmers in the research kebeles have observably stronger assets. The vulnerability context has little power over financial assets because the unpredictability of coffee prices is properly balanced by diversified income sources from other crop types and livestock. In addition, volatility is counterbalanced by a strong market. On the other hand, as discussed in chapter 3, climate change could reduce natural and physical assets despite mitigation efforts. In the research kebeles as well as in adjacent kebeles in the district, farmers commonly have a specific, important asset to cope with the burden of climate change, e.g., growing trees to provide shade for coffee, particularly in the case of garden coffee. Moreover, forest coffee has benefitted from the protection of trees found in natural forests. Both cases represent good climate change mitigation strategies. The coffee-farming strategy in the research kebeles is of direct significance to the human assets obtained by nurturing man-made forests to shade coffee, maintaining patches of natural forest and ensuring product diversity. These practices have supported financial assets though observable and uninterrupted burdens on financial assets and, therefore, on human and physical assets. On the other hand, to fully exploit financial capital, shifting from Arabica coffee to chat is becoming common in Borecha

 Individual enablement can only emerge when small changes are made to these frameworks and programmes are competently planned. Because of the participation of

local professionals and coffee growers in this research, the outcomes noted above express the values of the target group. Similarly, the brief descriptions of economic groups and social contexts provided throughout this dissertation provide a comprehensive depiction of the distinctive situations and preconditions that coffee growers in Borecha confront.

As a result, this research provides a solid foundation to allow these coffee growers to improve their quality of life and form distinctive and careful plans of action to provide better results for the coffee growers in the district over the long run. In conclusion, this analysis of three research kebeles has helped identify the most important risk areas for the sustainable development of the coffee-farming business.

Chapter Six: Summary, Conclusions and Recommendations

This chapter will try to summarise the major findings and to present possible policy recommendations to promote coffee in the district. It is organised as follows. Section 6.1 summarises the major findings, while section6.2providesthe study's policy implications. On the other hand, section 6.3 Provides conclusions and recommendations.

6.1   Summary

The study was conducted in 3 kebeles (Kersayasin, Deneba, and Dello) in Borecha, a district of the Illubabor Zone of the Oromia Regional State. This investigation focused on the effects of coffee growing on socio-economic development in Ethiopia.

The main goal of this study was to examine the significance of coffee in terms of socio-economic development and rural households' livelihoods. To this end, identification and examination of the role of coffee growing in socio-economic development has been based on the following research questions: What have the effects of coffee growing been for households compared to other agricultural crops in their localities? What consequences for socio-economic development have these effects had in households? How do these effects relate to the overall livelihoods of households? This study has investigated the bio-physical, demographic and socio-economic characteristics of the sampled households in the study area.

This study used the primary data that the researcher collected via formal surveys and a discussion with key informants. The data collection took place from the third week of December 2014 to first week of April 2015. A two-stage random sampling procedure was followed. In the first stage, all coffee-growing kebeles in the district were assigned numbers, and three kebeles were selected using a lottery method (drawing numbers from the complete list of 16 coffee-growing kebeles). In the second stage, 120 households were randomly drawn from the selected kebeles. In the analysis, a first attempt was made to explore the data and information that pertained to the general sample.

Primary data were collected from respondents through personal interviews using a structured questionnaire. Furthermore, secondary data were collected from various sources. The collected data were presented, organised and discussed.

Descriptive statistics were employed to meet the study's specific objectives. By applying descriptive statistics, one can compare and contrast different categories of sample units with respect to the desired characteristics in order to draw important conclusions. In this study, descriptive statistics, such as frequencies, percentages, correlations and multiple response analyses, were used to analyse the collected data. With regard to the socio-economic characteristics of the coffee-growing households, the study results have shown that the role of coffee is significant in the socio-economic development of the kebeles under study. For example, in terms of the percentage of cases 84.2 percent of respondent households derive their income from coffee. Moreover, over the past two years, households' trend in spending on education increased. Similarly, sampled households access to health facilities changed after they started growing coffee.

6.2   Conclusions and Recommendations

6.2.1 Conclusions

This research specifically focused on the effects of coffee-based agriculture on socio-economic development in Ethiopia, particularly the Borecha District. The study provides an empirical basis for measuring the share of households that benefit from coffee production and the extent to which household income depends on coffee sales. The study also identifies the characteristics of households with different income levels. As the analysis is conducted on individual households, it is possible to determine which households will benefit – or have benefited – from coffee intervention in terms of income from the direct sales of coffee and income derived from employment opportunities in the coffee sector.

Under the SLF theoretical contextual, the livelihood status of individuals can be measured using variables such as asset accumulation or household income, which are affected by the livelihood strategy, for instance, an intervention such as coffee production. Coffee growing has several advantages in rural areas that may subsidise socio-economic development, which can be considered added assets. Of course, the prospective return is conditional on the households' ability to improve the income derived from coffee production and thereby increase the social returns, such as sending their children to school and frequently visiting health facilities when they fall ill. As previous studies indicate with respect to income, international competition is a challenge for smallholder farmers who seek to maximise the benefits of coffee production. Therefore, the government, donor

organisations and other actors in the coffee sector are expected to support coffee-growing smallholder farmers by increasing their capacity and involvement in the coffee sector. It is thereby possible to increase the efficiency of coffee-growing farmers in the study area. The researcher believes that coffee cannot be taken for granted as a crop that will benefit all members of a community; due to traditional systems in Ethiopia, female-headed, rural households' access to cash crops, such as coffee, is limited compared with that of male-headed households.

The information provided on households' access to land, labour and employment may contribute to further in-depth research that could identify the characteristics of households that have been able to accumulate capital and those whose resource stocks are diminishing. To be useful on a national level, such research would have to include all coffee-producing districts in the Illubabor Zone. As the price of specialty coffee in the world market is much higher than that of other coffee grown in the district, the former should be promoted. In this regard, the study's results show that only 2.6 percent of all respondents intended to participate in the promotion of specialty coffee in the future. In addition, the study has shown that investment in coffee production may increase the income derived from coffee.

The results of this dissertation raise questions relating to coffee-based agriculture sustenance to rural households' livelihoods. Does coffee-based agriculture create a pathway for rural households to support their livelihoods within current social and economic contexts? Is it debatable that coffee has the potential for inordinate effect on households' livelihoods compared to other agricultural crops, such as cereals, pulses etc.? The ability of coffee-based agriculture to create a pathway for rural households to support their livelihoods within current social and economic contexts depends, to some extent, on households having adequate coffee farmland, available labour and favourable climatic conditions. The outcomes of this study show, at the household level, the potential for an increase in the amount of coffee produced, as well as for improved environmental performance due to the presence of trees that provide shade for the coffee trees; however, quality remains a pending issue. The shortage of transport facilities and poor infrastructure to transport and sell coffee products in an effective way may prevent the majority of households from realizing the rewards of growing and selling coffee. This study's results prove the role that coffee can play in rural households' livelihoods and in assisting asset creation among households. Despite the fact that the setbacks related to technical

assistance are real, it was also clear that for the majority of households, the NGO (Menschen für Menschen) is the lone provider of technical assistance. Better-quality service provision by the NGO to households engaged in coffee growing, as well as building the capacity of the District line offices, should be enhanced to bridge the gap when the NGO phases out of the area. Organic coffee production may give the impression of being more environmentally sustainable and may sell for a premium price; on the other hand, the participation of households is very limited. Because it uses organic fertilizers, it improves soil fertility and thereby increases natural assets. Therefore, more has to be done in this regard. Supplementary development approaches, such as improved market access and chain efficiencies that contribute to the improvement of a household's livelihood, would orient interventions toward the needs of supplier households. As mentioned earlier in this dissertation, better-quality rural infrastructure, better-quality technical assistance services, and promotion of markets and related linkages for a range of products and services are required. Another approach mentioned in this dissertation is the diversity of coffee-based backyard agroforestry systems (which is common in the case of garden coffee in the study area) and related livelihood strategies. This method takes advantage of market and commercial activity openings for ancillary backyard agroforestry harvests such as timber, fruits, and other crops. The mix is determined by the markets for ancillary backyard agroforestry harvests.

Of most immediate interest is those associated with the connection between coffee prices and processing companies? In the study area, coffee-growing farmers have few alternatives to sell their coffee at a reasonable price; because of the power disparity in the common coffee value chain, farmers and their families encounter chains of problems, starting with unreliable prices for coffee on the world market. Therefore, the finding of this study shows unproportioned power relationship between coffee-producing households and other actors such as buyers, the government, and the demand and supply situation.

They take their sun-dried coffee and pulp to nearby local markets and sell their produce at lower prices to private intermediaries, who usually come from large towns and rural towns to buy sun-dried coffee to supply to processing companies. There is no processing company in the sampled kebeles or in the entire district studied in this research. In addition, although the roads in the study area are accessible to some extent throughout the year, they are not kept in good condition. Their poor condition makes transportation difficult during the rainy season. None of the coffee-growing farmers in the study area

reported having a vehicle, which makes this journey even more difficult. Intermediaries rent vehicles and transport coffee to the processing companies, which have specialised machines and tools for further processing.

6.2.2 Recommendations

A broad perspective of the role of coffee-based agriculture in socio-economic development allows an examination of the multiple effects it has on coffee-growing households. Concrete action-oriented programmes are needed to ensure that coffee has a positive impact on rural households' livelihoods.

The restructuring of extensions should be taken into account to boost output scales for coffee and realize better profits for households taking part in coffee growing. Explicit features should focus on smallholder farmers as an important factor in requirements and capacity, while keeping an eye on production methods. The dissertation shows that market-oriented value chain approaches are important for improving rural households' livelihoods by helping them obtain a better price out of their coffee product.

Established methods and organic coffee production can progress if the public advisors/ extension agents address alternatives to promote improved yields. Services, whether provided by the government or partner NGOs, must address how to ease the risks households may encounter, such as price instability and climate-associated risks.

NGOs like Menschen für Menschen working in the Borecha District should focus on value chain development from a livelihood perspective to improve the capacities and incomes of coffee growing households. This will call for advancement and risk-taking in the creation of a detailed plan of public advisors' services, and devices will support risk simplification in the course of coffee production.

As repeatedly highlighted in this dissertation, female-headed households do not possess cash crop farmlands compared to their male-headed counterparts. Therefore, exceptional consideration will be required to increase the number of female-headed households participating in coffee-based agriculture. Value chain improvement for products including coffee and the design of mechanisms for managing risk will contribute to better livelihoods.

As highlighted in this dissertation, there is no single processing plant in the Borecha District to carry out dry-processing. Therefore, maximum effort should be exerted to

establish a processing plant at the District level. With regard to the purchase and operation of dry-milling services, assistance may be obtained from partner NGOs or other sources, such as unions, to secure financial support.

Changes in organisational, educational, and societal arenas can facilitate coffee-growing households' efforts to maximise the income they obtain from the coffee they produce. Policies that capture this broad perspective and that can mobilise and direct the efforts of a variety of institutions are needed.

A narrow approach will not solve the problems of coffee-growing households. As such, the government and non-governmental organisations need to work together to improve the lives of coffee-growing households as well as of the larger farming community in the district. The gap in expertise in the area of coffee production between the international and the domestic markets undoubtedly necessitates the consideration of the parties involved in the coffee sector. Focused government policies must be designed to promote coffee, particularly in the area of value-added activities, processing, transportation and market facilities. In general, interventions must be designed based on an analysis and understanding of the characteristics and dynamics of local, context-specific livelihood systems and must be oriented towards supporting coffee-growing households and the diverse policies, institutions and processes that have impact coffee-growing households.

Coffee promotion strategies must target all households in the district that could potentially grow coffee. The strategy should identify and address the needs that arise from coffee-growing households' specific constraints, which requires that households express their views and needs during the planning process.

6.3   Policy Implications

In Ethiopia, there has been a severe need for agricultural policy for the past hundred years. Most of the programs envisioned within Ethiopian agricultural policy frameworks have failed to support farmers with expertise, equipment, finance and marketing opportunities, which in turn led to severe implications for the all-inclusive economy, including regressive and accelerative relationships. As a result, this had cumulative effect on the agriculture-based economy. The agricultural system in rural Ethiopia is based on small-scale family farms, and it needs to be transformed into larger scale farming. The family is dependent on the farm and on animal products to send children to school, to buy clothes and other

consumable items, and to visit health facilities. Ethiopian agriculture has generated lower-than-average incomes and higher percentages of families living in poverty compared to nonfarm families. Low pay for farm labourers and weaker production ties to the local community are the manifestations of Ethiopian agriculture. Traditional farming is greatly hindering the social, economic and political vitality of rural Ethiopia. The policy should answer the question of to what end better social and economic development of Ethiopian agriculture should be directed. To secure the existence of small farms – because of their social and economic role in the rural community – and if one of the goals of rural development policy is to maintain an element of the family farm as part of Ethiopian culture, policies might need to promote alternative approaches to Ethiopian agriculture.

One goal is better investment in agriculture to ensure better social and economic development. Agricultural investment is among the most important and effective strategies for economic growth and poverty reduction in rural areas, which is where the majority of the rural poor live in the Ethiopian context. Better investment in agriculture by both domestic and international investors is a rational way to transform Ethiopian agriculture and to eradicate poverty and hunger in their all appearances and magnitudes. However, care has to be taken in the case of international investors. Though in the past decade there have been international investors engaged in Ethiopian agriculture, their contribution to the transformation of the country's social and economic development has been insignificant. Therefore, empirical evidence on their past practices should be reviewed. In addition, compulsory lawful standards and other devices such as safety measures that are appropriate for agricultural investment should be in place to prevent confrontational influences and improve social and economic development. Moreover, the yearly investment in agriculture by the government should be enhanced to eliminate the disparity between low- and middle-income farming communities. In Ethiopia, youth unemployment and vicious food insecurity problems are major concerns. If better investment in agriculture is implemented, it can stand-in for the build-up of agricultural investment shares in Ethiopia. It can create employment for the majority of rural youth and teach them skills, and it can invest in capabilities and marketing networks to improve the effectiveness of agricultural production and value chains. Because large-scale investments in agriculture have confrontational social and environmental influences, policies, laws and regulations must be reasonably good and commendably realised to guarantee and to promote both economic and social returns to the country. At the same time, assuring a justifiable utilization of natural assets such as land and water sources should not be negotiated. To

make agricultural investment in Ethiopia attractive and to increase the level of self-assurance of investors, domestic or international, minor or major, there should be clarity, policy consistency and fairness. In agricultural investment, the primary endowments are land, water, properly operative input and output put-ups for sale, and real systems to put into effect legally binding agreements and reimbursements. In addition, the prearrangement of inducements, investment stimulations and enablement could be used as attractive means to make use of a pull on agrarian capital spending. Fully developed public services such as public transport, power supplies, water supplies, telecommunications, and road networks are also expected to be in place to attract agricultural investment.

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Appendixes

Appendix A: Initial stages of Data Analysis

Appendix A1:Comparisons of level of education in relation to family size

(I) Level of education	(J) Level of education	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Illiterate	Primary first cycle (Grades 1-4)	0.51	0.41	0.216	-0.3	1.32
	Primary second cycle (Grades 5-8)	1.21*	0.455	0.009	0.31	2.12
	Secondary first cycle (Grades 9-10)	2.06*	0.965	0.034	0.15	3.98
Functional Adult literacy	Illiterate	0.69	0.874	0.434	-1.05	2.42
	Primary first cycle (Grades 1-4)	1.2	0.861	0.167	-0.51	2.9
	Primary second cycle (Grades 5-8)	1.90*	0.883	0.033	0.15	3.65
	Secondary first cycle (Grades 9-10	2.75*	1.226	0.027	0.32	5.18
Primary first cycle (Grades 1-4)	Illiterate	-0.51	0.41	0.216	-1.32	0.3
	Primary second cycle (Grades 5-8)	0.7	0.429	0.103	-0.15	1.55
Secondary first cycle (Grades 9-10)	Illiterate	-2.06*	0.965	0.034	-3.98	-0.15
	Functional Adult literacy	-2.75*	1.226	0.027	-5.18	-0.32
	Primary first cycle (Grades 1-4)	-1.55	0.953	0.106	-3.44	0.33

Source: Survey Result, 2014

Based on estimated marginal mean.
*. The mean difference is significant at the .05 alpha level**.**
b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Appendix A2: Comparisons of farm size in relation to number of coffee trees

(I) Farm size	(J) Farm size	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
0.5	1	463.89	561.711	0.411	-649.07	1576.85
	1.5	39.29	585.881	0.947	-1121.56	1200.13
	2	-67.86	684.162	0.921	-1423.44	1287.72
	2.5	122.62	549.227	0.824	-965.6	1210.84
	3	289.29	684.162	0.673	-1066.29	1644.87
1	0.5	-463.89	561.711	0.411	-1576.85	649.07
	2.5	-341.27	424.613	0.423	-1182.59	500.05
	3	-174.6	588.833	0.767	-1341.3	992.09
	3.5	-1016.89*	408.635	0.014	-1826.55	-207.23
	4	-1003.89*	429.485	0.021	-1854.86	-152.92
1.5	4	-579.29	460.647	0.211	-1492	333.43
2	0.5	67.86	684.162	0.921	-1287.72	1423.44
	1	531.75	588.833	0.368	-634.95	1698.44
	1.5	107.14	611.933	0.861	-1105.32	1319.61
	2.5	190.48	576.936	0.742	-952.65	1333.6
	3	357.14	706.6	0.614	-1042.89	1757.18
	3.5	-485.14	565.28	0.393	-1605.17	634.89
	4	-472.14	580.531	0.418	-1622.39	678.1
2.5	1	341.27	424.613	0.423	-500.05	1182.59
	1.5	-83.33	456.108	0.855	-987.05	820.39
	2	-190.48	576.936	0.742	-1333.6	952.65
	3	166.67	576.936	0.773	-976.46	1309.79
	3.5	-675.62	391.297	0.087	-1450.92	99.69
	4	-662.62	413.023	0.111	-1480.97	155.73
3	0.5	-289.29	684.162	0.673	-1644.87	1066.29
	1	174.6	588.833	0.767	-992.09	1341.3
	1.5	-250	611.933	0.684	-1462.47	962.47
	2	-357.14	706.6	0.614	-1757.18	1042.89
	2.5	-166.67	576.936	0.773	-1309.79	976.46
	3.5	-842.29	565.28	0.139	-1962.31	277.74
	4	-829.29	580.531	0.156	-1979.53	320.96
3.5	1.5	592.29	441.271	0.182	-282.04	1466.61
	2	485.14	565.28	0.393	-634.89	1605.17
	2.5	675.62	391.297	0.087	-99.69	1450.92
	3	842.29	565.28	0.139	-277.74	1962.31
4	1.5	579.29	460.647	0.211	-333.43	1492
	2	472.14	580.531	0.418	-678.1	1622.39
	2.5	662.62	413.023	0.111	-155.73	1480.97

Source: Survey Result, 2014

Based on observed means

The error term is Mean Square (Error) = 1747490.320.

*. The mean difference is significant at the .05 level.

Appendix A3: Descriptive statistics of annual coffee production from garden and forest stands

Dependent variable	Gender of respondent	Address of respondent	Mean(kg)	Std. Deviation	N
Annual production from garden stand	male	Kersayasin	126.15	90.949	39
		Deneba	335.43	181.422	35
		Dello	150.91	109.626	44
		Total	197.46	157.709	118
	female	Deneba	350		1
		Dello	230		1
		Total	290	84.853	2
	Total	Kersayasin	126.15	90.949	39
		Deneba	335.83	178.828	36
		Dello	152.67	109.012	45
		Total	199	157.023	120
Annual production from forest stand	male	Kersayasin	259.23	159.924	39
		Deneba	42	75.995	35
		Dello	434.77	218.297	44
		Total	260.25	230.657	118
	female	Deneba	100		1
		Dello	330		1
		Total	215	162.635	2
	Total	Kersayasin	259.23	159.924	39
		Deneba	43.61	75.523	36
		Dello	432.44	216.366	45
		Total	259.5	229.269	120

Source: Survey Result of 2014

Appendix A4: Comparisons of kebeles in relation to the annual coffee production from garden and forest stands

Dependent Variable	(I) Address of respondent	(J) Address of respondent	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Annual production from garden stand	Kersayasin	Deneba	-209.68*	29.888	.000	-268.87	-150.49
		Dello	-26.51	28.291	.351	-82.54	29.52
	Deneba	Kersayasin	209.68*	29.888	.000	150.49	268.87
		Dello	183.17*	28.915	.000	125.90	240.43
	Dello	Kersayasin	26.51	28.291	.351	-29.52	82.54
		Deneba	-183.17*	28.915	.000	-240.43	-125.90
Annual production from forest stand	Kersayasin	Deneba	215.62*	38.410	.000	139.55	291.69
		Dello	-173.21*	36.358	.000	-245.22	-101.21
	Deneba	Kersayasin	-215.62*	38.410	.000	-291.69	-139.55
		Dello	-388.83*	37.161	.000	-462.43	-315.24
	Dello	Kersayasin	173.21*	36.358	.000	101.21	245.22
		Deneba	388.83*	37.161	.000	315.24	462.43

Source: Survey Result, 2014

Based on estimated marginal means

The error term is Mean Square (Error) = 27618.279.

*. The mean difference is significant at the .05 alpha level.

Appendix A5: Comparisons of Number of working persons in the family (ages 15- 60)

Dependent Variable	(I) Number of working persons in the family (ages 15-60)	(J) Number of working persons in the family (ages 15-60)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Family labour during ordinary coffee growing time	2	3	-.75*	0.211	0.001	-1.16	-0.33
		4	-1.06*	0.311	0.001	-1.68	-0.45
		5	-2.28*	0.412	0.000	-3.09	-1.46
		> 5	-2.70*	0.412	0.000	-3.52	-1.89
	3	2	.75*	0.211	0.001	0.33	1.16
		4	-0.32	0.308	0.307	-0.92	0.29
		5	-1.53*	0.410	0.000	-2.34	-0.72
		> 5	-1.96*	0.410	0.000	-2.77	-1.15
	4	2	1.06*	0.311	0.001	0.45	1.68
		3	0.32	0.308	0.307	-0.29	0.92
		5	-1.21*	0.469	0.011	-2.14	-0.29
		> 5	-1.64*	0.469	0.001	-2.57	-0.71
	5	2	2.28*	0.412	0.000	1.46	3.09
		3	1.53*	0.410	0.000	0.72	2.34
		4	1.21*	0.469	0.011	0.29	2.14
		> 5	-0.43	0.541	0.430	-1.5	0.64
	> 5	2	2.70*	0.412	0.000	1.89	3.52
		3	1.96*	0.410	0.000	1.15	2.77
		4	1.64*	0.469	0.001	0.71	2.57
		5	0.43	0.541	0.430	-0.64	1.5
Family labour during coffee harvesting time	2	3	-.72*	0.201	0.000	-1.12	-0.33
		4	-1.47*	0.296	0.000	-2.05	-0.88
		5	-1.97*	0.392	0.000	-2.74	-1.19
		> 5	-2.97*	0.392	0.000	-3.74	-2.19
	3	2	.72*	0.201	0.000	0.33	1.12
		4	-.74*	0.293	0.012	-1.32	-0.16
	4	2	1.47*	0.296	0.000	0.88	2.05
		5	-0.5	0.446	0.264	-1.38	0.38
		> 5	-1.50*	0.446	0.001	-2.38	-0.62
	5	2	1.97*	0.392	0.000	1.19	2.74
		3	1.24*	0.390	0.002	0.47	2.02
		4	0.5	0.446	0.264	-0.38	1.38
		> 5	-1	0.515	0.055	-2.02	0.02
	> 5	2	2.97*	0.392	0.000	2.19	3.74
		3	2.24*	0.390	0.000	1.47	3.02
		4	1.50*	0.446	0.000	0.62	2.38

Source: Survey Result, 2014

Based on estimated marginal means
The error term is Mean Square (Error) = 27976.823.
*. The mean difference is significant at the .05 alpha level.

Appendix A6: Family labour during the ordinary coffee growing and harvesting time

Dependent variable	Amount of money paid for the hired Labour during ordinary coffee growing time	Amount of money paid for the hired labour during coffee harvesting time	Mean	Std. Deviation	N
Family labor during the ordinary coffee growing time	0	0	3.27	1.243	59
		25	4	1.414	2
		30	4	1.414	2
		35	2.5	0.707	2
		45	2		1
		55	3	0	2
		75	2	0	2
		Total	3.23	1.218	70
	25	35	2.67	0.577	3
		75	3		1
	30	35	6		1
		Total	4.67	2.309	3
	35	25	3.8	1.643	5
		35	3	1.225	5
		45	2.75	1.708	4
		55	2.24	0.664	17
		Total	2.68	1.194	31
	40	45	2		1
	45	45	2.33	0.577	3
		55	2		1
		Total	2.38	0.916	8
	55	35	3		1
		55	1		1
		Total	2	1.414	2
	65	75	2		1
	Total	0	3.25	1.244	60
		25	3.86	1.464	7
		30	4	1.826	4
		35	3	1.254	15
		45	2.44	1.13	9
		55	2.24	0.7	21
		75	2.25	0.5	4
Family labour during coffee harvesting time	0	0	3.32	1.279	59
		25	4	1.414	2
		35	2.5	0.707	2
		45	3		1
		55	3	0	2
		75	2	0	2
		Total	3.29	1.241	70
	25	35	2.67	0.577	3
		75	3		1
		Total	2.75	0.5	4
	30	30	4	2.828	2
		35	6		1
		Total	4.67	2.309	3
	35	25	3.2	1.643	5
		35	3	1.225	5
		55	2.47	0.8	17
	40	45	2		1
		Total	2		1
	45	0	2		1
		35	3.33	0.577	3
		45	2.33	0.577	3
		55	2		1

			2.63	0.744	8
	55	35	3		1
		55	1		1
	65	75	2		1
		Total	2		1

Appendix A7: No of trees by research kebeles

	Research Kebeles						Total Number of Coffee trees sampled per Kebele		
	Kersayasin		Deneba		Dello		Kersayasin (No of trees*N)	Deneba (No of trees*N)	Dello (No of trees*N)
No of tress	N	Percent	N	Percent	N	Percent			
600	4	10.3	3	8.3	2	4.4	2400	1800	1200
800	4	10.3	4	11.1	4	8.9	3200	3200	3200
900	11	28.2	10	27.8	9	20.0	9900	9000	8100
1200	5	12.8	9	25.0	9	20.0	6000	10800	10800
2000	8	20.5	4	11.1	7	15.6	16000	8000	14000
3000	4	10.3	2	5.6	2	4.4	12000	6000	6000
4000	0	0.0	3	8.3	4	8.9	0	12000	16000
5000	1	2.6	0	0.0	4	8.9	5000	0	20000
6000	0	0.0	1	2.8	3	6.7	0	6000	18000
7000	2	5.1	0	0.0	1	2.2	14000	0	7000
Total	39	100.0	36	100.0	45	100.0	68500	56800	104300
Average coffee trees per research kebele							1756	1578	2318

Source: Own computation from survey result, 2014

Appendix A8   Descriptive statistics of coffee trees by research kebeles

Research kebeles	Mean	Std. Deviation	N
Kersayasin	1636.84	913.094	39
Deneba	1710.53	1141.310	36
Dello	2486.36	1637.865	45
Total	1971.67	1337.575	120

Source: Survey Result, 2014

Appendix A9:   Comparisons of nearest market in relation to research kebeles

(I) Nearest market	(J) Nearest market	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
2 km	2.1-6 km	-.65*	.264	.015	-1.18	-.13
	6.1-10 km	-.83*	.272	.003	-1.37	-.30
2.1-6 km	2 km	.65*	.264	.015	.13	1.18
	6.1-10 km	-.18	.137	.192	-.45	.09
6.1-10 km	2 km	.83*	.272	.003	.30	1.37
	2.1-6 km	.18	.137	.192	-.09	.45

Based on observed means.   **Source:** Survey Result, 2014
The error term is Mean Square (Error) = .499.
*. The mean difference is significant at the .05 alpha level

Appendix A10: Comparisons of farthest market in relation to research kebeles

(I) Farthest market	(J) Farthest market	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
11 km	11.1-15 km	-.11	.255	.678	-.61	.40
	15.1-19 km	-.50	.263	.060	-1.02	.02
	19.1-23 km	-1.08*	.302	.001	-1.68	-.48
	23.1-27km	-.94*	.250	.000	-1.43	-.44
11.1-15 km	11 km	.11	.255	.678	-.40	.61
	15.1-19 km	-.39*	.185	.036	-.76	-.03
	19.1-23 km	-.98*	.238	.000	-1.45	-.51
	23.1-27km	-.83*	.167	.000	-1.16	-.50
15.1-19 km	11 km	.50	.263	.060	-.02	1.02
	11.1-15 km	.39*	.185	.036	.03	.76
	19.1-23 km	-.58*	.246	.020	-1.07	-.09
	23.1-27km	-.44*	.179	.016	-.79	-.08
19.1-23 km	11 km	1.08*	.302	.001	.48	1.68
	11.1-15 km	.98*	.238	.000	.51	1.45
	15.1-19 km	.58*	.246	.020	.09	1.07
	23.1-27km	.15	.233	.528	-.31	.61
23.1-27km	11 km	.94*	.250	.000	.44	1.43
	11.1-15 km	.83*	.167	.000	.50	1.16
	15.1-19 km	.44*	.179	.016	.08	.79
	19.1-23 km	-.15	.233	.528	-.61	.31

Based on observed means
The error term is Mean Square (Error) = .499.
*. The mean difference is significant at the .05 alpha level

Source: Survey Result, 2014.

Appendix A11:   Monthly coffee consumption at the HH level

N	
	120
Mean	2.98
Std. Error of Mean	0.098
Std. Deviation	1.073
Minimum	1
Maximum	5

Source: Survey Result, 2014

Appendix A12:   Comparisons of nearest markets in relation to price of dried coffee and red cherries

Dependent Variable	(I) The nearest market	(J) The nearest market	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Price/kg for dried coffee	2 km	2.1-6 km	3.36	1.760	.059	-.13	6.85
		6.1-10 km	3.61*	1.815	.049	.01	7.21
	2.1-6 km	2 km	-3.36	1.760	.059	-6.85	.13
		6.1-10 km	.25	.916	.788	-1.57	2.06
	6.1-10 km	2 km	-3.61*	1.815	.049	-7.21	-.01
		2.1-6 km	-.25	.916	.788	-2.06	1.57
Price/kg for red Cherries	2 km	2.1-6 km	-.36	.694	.608	-1.73	1.02
		6.1-10 km	-.96	.715	.181	-2.38	.46
	2.1-6 km	2 km	.36	.694	.608	-1.02	1.73
		6.1-10 km	-.61	.361	.096	-1.32	.11
	6.1-10 km	2 km	.96	.715	.181	-.46	2.38
		2.1-6 km	.61	.361	.096	-.11	1.32

Source: Survey Result, 2014

Based on estimated marginal means
The error term is Mean Square (Error) = 3.451.
*. The mean difference is significant at the .05 alpha level.

Appendix A13: HHs' coffee Market Accessibility in terms of proximity by research kebeles

Market accessibility	Distance travelled	Research kebeles						Total
		Kersayasin		Deneba		Dello		
		N	Percent (%)	N	Percent (%)	N	Percent (%)	
Nearest market	2 km	6	15.4	1	2.8	1	2.2	8
	2.1-6 km	20	51.3	28	77.8	21	46.7	69
	6.1-10 km	13	33.3	7	19.4	23	51.1	43
Total		39	100.0	36	100.0	45	100.0	120
Farthest market	11 km	7	17.9	1	2.8	2	4.4	10
	11.1-15 km	20	51.3	6	16.7	7	15.6	33
	15.1-19 km	4	10.3	18	50.0	4	8.9	26
	19.1-23 km	0	0.0	5	13.9	7	15.6	12
	23.1-27km	8	20.5	6	16.7	25	55.6	39
Total		39	100.0	36		45	100.0	120

Source: Survey Result, 2014

Appendix A14: Comparisons of farthest markets in relation to price of dried coffee and red cherries

Dependent Variable	(I) Farthest market	(J) Farthest market	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower bound	Upper bound
Price/kg for dried coffee	11 km	11.1-15 km	-0.77	1.701	0.652	-4.14	2.6
		15.1-19 km	-1.07	1.754	0.543	-4.55	2.41
		19.1-23 km	3.37	2.018	0.098	-0.63	7.37
	11.1-15 km	11 km	0.77	1.701	0.652	-2.6	4.14
		15.1-19 km	-0.3	1.236	0.809	-2.75	2.15
		19.1-23 km	4.14*	1.589	0.011	0.99	7.29
		23.1-27 km	1.25	1.115	0.264	-0.96	3.46
	15.1-19 km	11 km	1.07	1.754	0.543	-2.41	4.55
		11.1-15 km	0.3	1.236	0.809	-2.15	2.75
		19.1-23 km	4.44*	1.645	0.008	1.17	7.7
		23.1-27 km	1.55	1.193	0.196	-0.81	3.92
	19.1-23 km	11 km	-3.37	2.018	0.098	-7.37	0.63
		11.1-15 km	-4.14*	1.589	0.011	-7.29	-0.99
		23.1-27 km	-2.88	1.556	0.067	-5.97	0.2
	23.1-27 km	11 km	-0.48	1.671	0.773	-3.79	2.83
		11.1-15 km	-1.25	1.115	0.264	-3.46	0.96
		15.1-19 km	-1.55	1.193	0.196	-3.92	0.81
		19.1-23 km	2.88	1.556	0.067	-0.2	5.97
Price/kg for red Cherries	11 km	19.1-23 km	-0.93	0.795	0.243	-2.51	0.64
	11.1-15 km	19.1-23 km	-0.67	0.626	0.290	-1.91	0.57
		23.1-27 km	-1.21*	0.439	0.007	-2.08	-0.33
	15.1-19 km	11 km	1.75*	0.691	0.013	0.38	3.12
		11.1-15 km	1.49*	0.487	0.003	0.52	2.45
		19.1-23 km	0.82	0.648	0.208	-0.46	2.11

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		23.1-27 km	0.28	0.47	0.550	-0.65	1.21
	19.1-23 km	11 km	0.93	0.795	0.243	-0.64	2.51
		11.1-15 km	0.67	0.626	0.29	-0.57	1.91
		15.1-19 km	-0.82	0.648	0.208	-2.11	0.46
		23.1-27 km	-0.54	0.613	0.382	-1.75	0.68
	23.1-27 km	11 km	1.47*	0.659	0.028	0.17	2.78
		11.1-15 km	1.21*	0.439	0.007	0.33	2.08

Source: Survey Result, 2014

Based on estimated marginal means
The error term is Mean Square (Error) = 3.451.
*. The mean difference is significant at the .05 alpha level.

Appendix A15: Summary Statistics of Major Demographic Characteristics

Variables	Min.	Max.	Mean	Std. Deviation
Age, years				
1= 18-30				
2= 31-40				
3= 41-50	1	6	2.8	1.4
4= 51-64				
5= 65-70				
6= >70				
Family Size, number	2	9	5.8	1.9
Number of working persons in the family (ages 15-60), number	2	6	3.1	1.1
Number children in school	0	6	2	1.3
Number of dependents (<15 and >60 ages), number	0	6	1.48	1.5
Level of Education				
0= Illiterate				
1= Functional Adult literacy				
2= Primary first cycle (grades 1-4)	0	4	1.7	1.2
3= Primary second cycle (grades 5-8)				
4= Secondary first cycle (grades 9-10)				
Size of farm, hectares	0.5	4	2.5	1.2
Livestock, number	0	12	5.5	2.6
Poultry, number	0	12	3.2	3
Pack animals, number	0	4	0.5	0.8
Beehive, number	0	11	1.9	2.8

Source: Survey Result, 2014

Appendix A16: Summary Statistics of major socio-economic attributes of Coffee

Variables	N	Min.	Max.	Mean	Std. Deviation
Number of coffee trees	120	600	6000	1971.7	1337.6
Family labor during the ordinary coffee growing time	120	1	7	3.0	1.3
Hired labour during the ordinary coffee growing time	120	0	6	1.2	1.6
Family labour during coffee harvesting time	120	1	7	3.1	1.3
Hired labour during coffee harvesting time	120	0	6	1.5	1.8
Amount of money paid for the hired Labour during ordinary coffee growing time	120	1	5	1.9	1.2
Amount of money paid for the hired labour during coffee harvesting time	120	1	7	2.5	1.7
Annual production from garden stand	120	1	7	2.9	1.2
Annual production from forest stand	120	1	7	3.2	1.2
Income earned from the sale of garden/ forest coffee in 2013/2014 harvesting season	120	1	7	2.8	1.2
Income earned from the sale of garden/ forest coffee in 2014/2015 harvesting season	120	1	7	3.3	1.3
Price/kg for dried coffee	120	19	38	24.2	5.0
Price/kg for red Cherries	120	8	16	13.4	2.0
kilograms of coffee consumed monthly at HH level	120	1	5	3.0	1.1
Nearest market	120	1	3	2.3	0.6
Farthest market	120	1	5	3.3	1.4

Source: Survey Result, 2014

Appendix B : Survey Questionnaire

Survey Questionnaire and Interview Questions

Code_____   Date _____

Personal Information

1. Age: _____ 1. 18 – 30 2. 31 – 40 3. 41 – 50 4. 51 – 65 5. Greater than 65

2. Gender: Male_____ Female _____

3. Residence: District _____Kebele_____Village_____

4   Marital   status: Married_____   Single_____   Divorced _____Widow/widowed

5. Family size: Male_____ Female_____ Total_____

6. Number of working persons in the family (ages 15-60):

Male _____ Female_____ Total_____

7. Number of children in school: Male _____ Female_____ Total_____

8. Number of dependents (ages < 15 and > 60): Male _____ Female_____ Total_____

9. For how long have you been living in the area?

1. Less than 5 years 2. 6 - 15 years 3. 16 – 25 years 4. More than 25 years

10. What is your origin? a. Native b. Immigrant c. Relocated

Education

1. Illiterate _____

2. Adult Functional Literacy

3. Primary first cycle (Grades 1-4) _____

4. Primary second cycle (Grades 5-8) _____

5. Secondary first cycle (Grades 9-10) and above _____

Household Economy and Resource Use

1. What are the major sources of livelihood?
a. Grain production b. Coffee production c. Livestock production d. labour e. A combination of these and others

2. What is the size of your farm? _____

3. What are the types of crops you are growing on your farmland?

_____

_____

_____

_____

_____

 _____

_____

4. What is your major means of income generation? (Multiple responses are possible)
a. Chat b. Coffee production c. Vegetable production d. Fruit production 5. Grain production 6. Pulse production 7. Livestock production

5. Do you produce enough for your consumption?
1. Yes 2. No
6. Do you have livestock?
1. Yes 2. No

7. If your answer for Q.6 is yes,

7.1 How many cattle? _____

7.2 How many poultry birds? _____

7.3 How many pack animals38? _____

7.4 How many beehives do you have? _____

Attributes of Coffee

1. Do you grow coffee?
1. Yes 2. No

2. When did you start growing coffee?
a. Over 5 years ago b. Over 10 years ago c. Over 15 years ago d. Over 25 years ago

3. How many coffee trees do you have? _____

4. Why do people grow coffee in your area?

a. Best income source b. No other alternative c. Tradition d. All the above

5. Do you use family labour during the ordinary coffee-growing season?
1. Yes 2. No

6. How many family labourers? _____

7. Do you need hired labour during the ordinary coffee-growing season?
1. Yes 2. No
8. How many hired labourers? _____

_____

38 Pack animals are used to carry goods and equipment, e.g., horses, donkeys or mules.

9. Do you use family labour during the coffee harvest?

1. Yes 2. No

10. How many family labourers? _____

11. Do you need hired labour during the coffee harvest?

1. Yes 2. No

12. How many hired labourers? _____

13. For hired labourers, how are wages paid?

a. Daily b. Weekly c. Monthly d. All three

14. Wages paid to hired labourers during the ordinary coffee-growing

season_____

15. Wages paid to hired labourers during the harvest_____

16. How many times per year do you collect coffee cherries from your forest/garden coffee stands?

a. Once a year b. Twice a year c. Every two years d. Every 3 years

17. Which do you want more of?

 a. Forest coffee b. Garden coffee

18. What is the reason?

a. Because I will be able to obtain a better price in the market b. Because I can collect extra produce c. Because it is simple to handle d. Combination of all the above

19. From which do you make sufficient earnings?

a. Forest coffee b. Garden coffee

20. What is your method of harvesting coffee cherries from the forest or your home garden stands?

a. Stripping b. Picking the red cherries only c. Collecting cherries from ground d. Stripping and picking the red cherries e. Picking the red cherries and collecting them from the ground f. Stripping and collecting cherries from the ground

21. What method do you use to dry the coffee cherries collected from the forest or your home garden?

a. Mesh wire b. Raised bed c. Ground d. Mesh wire and raised bed e. Raised bed and ground

22. What is the estimated annual production of your garden stand? _____

23. What is the estimated annual production of the forest stand? _____

24. Do you earn adequate money from sales of garden or forest coffee?
1. Yes 2. No

25. How much did you earn from selling your garden/forest coffee this year?
_____

26. How much did you earn from selling your garden/forest coffee last year?
_____

27. What type of coffee do you sell your clients?
1. Sun-dried coffee 2. Red cherries

28. What is the price/kg for sun-dried coffee? _____

29. What is the price/kg for red cherries? _____

30. If the price of sun-dried coffee per kg is less than 20 ETB, what is the reason for paying lower amount?

a. To repay a debt b. Hoping to use advantage of limited market chances c. The quality is below average. d. No justification

31. What is your plan for coffee cultivation in the future?
a. Cultivate the same area b. Substitute coffee with alternative crops c. Increase the area of coffee d. Nothing specific

32. Do you engage in any value-added processing of your coffee products?
1. Yes 2. No

33. If your answer to Q.32 is yes, what are those value-added activities? (Multiple responses are possible).
a. Hybrid coffee production b. Promotion of specialty coffee c. Use better packing materials
4. Selling special sun-dried coffee 5. Other _____

33. Does your coffee have qualities preferred by buyers?
1. Yes 2. No

34. If your answer for Q.33 is no, what interventions are needed to improve the quantity and quality of your coffee to receive higher prices? _____

35. Do you consider the quality requirements of your customers in your production process?
 1. Yes 2. No

 36. If your answer for Q.35 is yes, what quality requirements do you consider? _____

37. Do you know the market prices in different markets (farm, village market and other areas) before you sell your coffee? 1. Yes 2. No

38. What is your packaging material?
a. Sisal sack b. Plastic sack c. Basket d. Sisal and plastic sacks 5. Other _____

39 How many kilograms of coffee you consume at the HH level each month? _____

40. What is the impact of coffee growing on improving income at the HH level?
a. Very high b. High c. Very low d. No change 5. Other _____

41. During the past two years, has HH income
a. Improved b. No change c. Other _____

42. If improved, what are the indicators (multiple responses are possible)?
a. Able to send children to school b. Able to buy clothes c. Able to pay for health treatment
d. Able to change from thatched to corrugated iron sheet roofing

43. What is the impact of coffee growing on education?
a. Very high b. High c. Medium d. Low e. Very low

44. What was the HH's average educational expenditure over the past 12 months? _____

45. What is the trend in your expenditure on education over the past two years?
a. Increased b. Decreased c. No change

46. If increased, what are the reasons (multiple responses are possible)?
a. Access to money from sales of coffee b. Access to money from sales of other crops c. Access to money from other sources

47. During the last 12 months, did a HH member need medical treatment?
1. Yes. 2. No

48. If yes, where was the money obtained?
a. Borrowed from relatives/friends b. From sales of coffee c. From sales of other crops d. Other (specify)

49. What was HH average medical expenditure over the past 12 months? _____

50. Did your access to health facilities change after you started growing coffee? _____
a. Improved b. No change c. Decreased

Market Services

1. Where do you sell your coffee?
a. On the farm b. Local markets c. Both

2. To whom do you sell your coffee?
 a. Consumers b. Traders c. Cooperatives d. All the three

3. Linkage with commercial value chain actors: (Multiple responses are possible).
a. Retailers b. Wholesalers c. Consumers d. Local collectors e. Others (specify) _____

4. Who sets the selling price?
a. Myself b. Demand and supply c. Buyers d. Other (specify)

5. What do you do if some of the product is not sold?
a. Take it back home b. Take it to another market c. Sell it at lower price d. Sell it on other market day

6. Do you have your own transportation facilities? 1. Yes 2. No

7. If your answer for **Q**. 6 is yes, what type? a. Vehicle b. Transport animals c. Cart

8. Are all your selling centres accessible to vehicles? 1. Yes 2. No.

9. How far is the nearest market? _____ Km _____ Hours

10. How far is the farthest market? _____ Km _____ Hours

Non-Economic Activities

1. Do you go to Mosque/Church?
1. Yes 2. No

2. If your answer is yes for Q. 6.1, how many days do you attend?
1. Every day 2. Once a week 3. Twice a week 4. Once a month

3. How long you stay at the Mosque/ Church for prayers?
1. One hour 2. Two hours 3. Three hours 4. Four hours

4. Do you participate in social gatherings?
1. Yes 2. No

5. If your answer is yes for Q. 6.4, how often?
1. Once a week 2. Twice a week. 3. Once a month.

6. List the types of social gatherings in your area.

_____
_____
_____
_____
_____
_____
_____
_____

Thank You!

Consent Form for Participation in a Research Study

University of South Africa

Title of Study: The Role of Coffee-based agriculture in the Socio-Economic Development of Borecha District, Ethiopia

Description of the research and your participation

You are invited to participate in a research study conducted by Ayalew Kibret Dessie. The purpose of this research is to examine the significance of coffee in terms of the socio-economic development of rural households' livelihoods.

Your participation will involve responding to a survey questionnaire developed for the above-mentioned study.

Risks and discomforts

There are no known risks associated with this research.

Potential benefits

There are no known benefits to you that would result from your participation in this research. This research may help provide a holistic picture of existing challenges, opportunities and entry points in the coffee value chain. Accordingly, the outcome might contribute towards increasing earnings from coffee and improving the livelihood of coffee growing farmers.

Protection of confidentiality

Your anonymity and confidentiality will be protected. Your identity will not be revealed in any publication resulting from this study.

Voluntary participation

Your participation in this research study is voluntary. You may choose not to participate, and you may withdraw your consent to participate at any time. You will not be penalised in any way should you decide not to participate or to withdraw from this study.

Contact information

If you have any questions or concerns about this study or if any problem arises, please contact Ayalew Kibret Dessie in Borecha District at 0477800098/0911820867. If you have any questions or concerns about your rights as a research participant, please contact the University of South Africa Institutional Review Board/Department of Development Studies at 0124296506.

Consent

I have read this consent form and have been given the opportunity to ask questions. I give my consent to participate in this study.

Participant's signature_____ Date: _____

A copy of this consent form should be given to you.