



**THE EFFECT OF SUSTAINABLE COFFEE CERTIFICATION SCHEMES ON THE  
BENEFITS OF COFFEE CERTIFICATION:  
THE CASE OF CERTIFIED COMMERCIAL COFFEE FARMS  
IN SOUTHWESTERN ETHIOPIA**

**A THESIS SUBMITTED TO THE COLLEGE OF BUSINESS AND ECONOMICS, ADDIS  
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THE DEGREE OF EXECUTIVE MASTER OF BUSINESS ADMINISTRATION (EMBA).**

**BY  
HABTAMU REGASSA**

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ADDIS ABABA UNIVERSITY  
COLLEGE OF BUSINESS AND ECONOMICS  
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BY  
HABTAMU REGASSA AYANE

**Approved by the Board of Examiners:**

Tariku Atomssa (PhD) (External Examiner)	_____	_____
	signature	date
Zewdie Shibre (PhD) (Internal Examiner)	_____	_____
	signature	date
Workneh Kassa (PhD) (Advisor)	_____	_____
	signature	date
_____	_____	_____
Department Chairman/Coordinator	signature	date

## **DECLARATION**

I, the undersigned, declare that this thesis is my original work and has not been presented for a degree in any other university, and that all sources of materials used for the thesis have been duly acknowledged.

Name:           Habtamu Regassa

Signature:       \_\_\_\_\_

Date:             \_\_\_\_\_

## CERTIFICATION

This is to certify that Mr. Habtamu Regassa has conducted the study on the topic of “**The effect of sustainable coffee certification schemes on the benefits of coffee certification: The case of certified commercial coffee farms in southwestern Ethiopia**” under my guidance and supervision.

Advisor Name: Workneh Kassa (PhD)

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

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## ABBREVIATIONS AND ACRONYMS

4C/CCCC	Common Code for the Coffee Community
AAA	Nespresso company coffee verification program (1 <sup>st</sup> A=Quality; 2 <sup>nd</sup> A=Sustainability and 3 <sup>rd</sup> A=Productivity)
CP/C.A.F.E./	Café Practices /Coffee and Farmers Equity/
ECX	Ethiopian Commodity Exchange
FLO	Fairtrade Labeling Organization
GAP	Good Agricultural Practices
ICA	International Coffee Agreement
ICO	International Coffee Organization
ICS	Internal Control System
IFCC	Independent Fine Coffee Consultant
ILO	International Labour Organization
RA	Rainforest Alliance
SAN	Sustainable Agriculture Network
SCCS	Sustainable Coffee Certification Schemes
SFCI	Sustainable Farm Certification International
SMBC	Smithsonian Migratory Bird Center
SSI	State of Sustainability Initiative

## ABSTRACT

*The aim of this study is to assess if in practice the certification schemes could deliver benefits on the three acknowledged sustainability pillars-economic, social, and environmental- at the level of certified commercial coffee farms in southwestern Ethiopia. Primary source of data was employed to generate the data of interest. Data was collected using structured questionnaires from 135 respondents who were selected by purposive sampling from seven certified commercial coffee farms by considering their familiarity with certification and the seven certified farms were selected by simple random sampling from 16 certified commercial coffee farms operating in southwestern Ethiopia. The questionnaire data were analyzed using descriptive statistics, correlations, and Chi-Square analysis.*

*Results show the various coffee certification programmes could deliver benefits over the three pillars of sustainability- economic, social and environmental –to the certified commercial coffee farms. The study further finds the practice of farming system, working and living conditions and environmental protection have significant effect on the three acknowledged pillars of sustainability. But no significant effect is recorded for the marketing dimension of certification. The study also finds that multiple certification is more beneficial than single certification but the relative high costs associated with them may hinder the broader adoption of the schemes by the coffee farms. The study indicates the number of certified commercial farms in Ethiopia are very few in number regardless of the rapid growth and necessity of certification globally.*

*In general, certified commercial coffee farms can be benefited from certification schemes. The study recommends successful engagement with the certification programmes and effective adherence to standards of various certification schemes by the certified commercial coffee farms will enhance the benefits from certification at higher level. The study further recommends the need for harmonization of the various certification schemes or alignment of their standards globally in order to reduce costs and time to implement the multiple certification and the need to have national certification policy and local accreditation bodies to facilitate and support the smooth joining and easy access of certification in the country. The study also indicates areas for further research including analyzing reasons for other commercial coffee farms for not joining the programmes and the net benefits achieved from individual certification scheme by comparing certified against non-certified commercial farms.*

**Key Words:** coffee, certification benefits, sustainability, economic, social, environment, southwestern Ethiopia

# CHAPTER ONE

## INTRODUCTION

### 1.1 Study Background

Coffee is one of the world's most widely traded commodities, produced in over 70 countries and providing a livelihood for around 125 million people (FLO, 2012). But over 60% of the world production of coffee is coming from only four countries namely: - Brazil, Vietnam, Colombia and Indonesia. According to the London based International Coffee Organization statistical record, the yearly average (own calculations from ICO raw data) world production of coffee during 2010/11 to 2014/15 is about 8.4 million tons of which Brazil is the largest producer with a 33.5% share, followed by Vietnam (17.9%), Colombia (7.2%), and Indonesia (7.1%) and balance contributed by other coffee growing countries each with below 5% share (ICO, 2014). Ethiopia remains Africa's top coffee producer and is the 5<sup>th</sup> largest coffee producer in the world, contributing about 4.8% of total world coffee production.

As per the statistical record (ICO, 2014), the yearly average coffee export to the world markets during 2010 to 2014 by all exporting countries is 6.4 million tones. Brazil led the export with a market share of 30%, followed by Vietnam (19%), Colombia (8%) and Indonesia (7%). Though, coffee is still Ethiopia's number one export commodity, the country ranked 10<sup>th</sup> by export volume with market share of only 3% over the last five years. Ethiopia exports coffee to over 70 countries among which Germany, Saudi Arabia, Japan, Belgium, USA, France, and Italy are the largest importers.

World consumption of coffee increased at an average annual growth rate of 1.9% over the last 50 years, from 57.9 million bags in 1964 to 142 million bags (8.5 million tons) in 2012 (ICO, 2014). An estimated 1.6 billion cups of coffee are drunk worldwide every day (Gold, 2013). As compared to the exporting countries, the higher consumption of coffee is observed in importing countries such as Japan, the European Union and USA. While 90% of the world's coffee production takes place in developing countries, the majority consumption takes place in industrialized nations (Gold, 2013). But Brazil is not only the biggest producing and consuming country among the world's coffee exporting countries but also the world's second biggest consuming country after the United States (Wallengren, 2013).

Ethiopians are also heavy coffee drinkers, known as one of the largest coffee consumers in Africa. Ethiopian households normally prepare and consume coffee two or three times a day and the coffee ceremony is a traditional way to welcome guests to one's house. Nearly half of Ethiopia's coffee production (average annual coffee production over the last five years is about 400,000 tones) is locally consumed.

In most cases, coffee is a primary cash crop in several producing countries and critical for their economies. It is the major foreign exchange earnings in many developing countries. In the case of Ethiopia, it accounts for 22% of the country's total export earnings (ECEA, 2014). Coffee is vital to the Ethiopian economy with over 20 million people engaged in production, processing, export, and service provision along the coffee value chain. It is mainly produced in the southwestern and south eastern parts of the country. 63% of coffee production comes from Oromia region, followed by South region (35%) and Gambella and Benshangul Gumuz (2%) (ECEA, 2013). While reliable recent statistics are lacking, 85% of Ethiopia's coffee is produced by small holder farmers on less than 3 hectares of land, and the remaining 15% is grown by commercial farms (JARC, 2016).

Recognizing the importance of coffee to the economies of many countries and the challenges faced by the coffee sector from global economic crisis, impacts of climate change, speculation, rising production costs, and volatile coffee prices, the ground for sustainable coffee development has been discussed by many scholars in the field and promoted largely. The threat of global warming has brought sustainability business practices to the forefront (Larson and Gray, 2011). Today sustainability has become the hot topic in the coffee industry. The term sustainability in agriculture refers to a crop that is grown in healthy environment, that is economically viable for farmers, and that promotes social equity among farmers and workers (Giovannucci and Ponte, 2005). Production activities are categorized as sustainable if the three pillars of sustainability can be met namely environmentally friendly, socially responsible and economically traceable, safe and valuable (Haris et al., 2001). All sustainability standards refer to the three acknowledged pillars of sustainability-economic, social and environment-but by weighting them in different way and traducing them in different visions and requirements they diversify in front of the producers and consumers (Trimarch, 2015).

One way to address the three elements of sustainability is through certification and verification schemes. Certification is a procedure whereby an accredited third party provides written assurance that a product or process conforms to certain standards, which are prepared with reference to the economic viability of the farmers, preservation of the environment and social responsibility.

Today certification is one of the few sustainability tools to demonstrate the facts and one of the most trusted tools by product buyers. There are numbers of Sustainable coffee certification schemes (SCCS) initiated by private sectors based in developed countries and imposed to coffee growers based in coffee growing countries. The SCCS can be categorized into three groups:

- Third Party Certified Coffee Programmes: Organic, Fairtrade, RA, Bird-Friendly and UTZ
- Global verification program-4C, and
- Company promoted verification programmes: Nespresso's AAA and Starbuck's CAFÉ Practices

## 1.2 Problem Statement

In recent years, the world market share of sustainable coffee that adheres to economic, social and environment standards has grown rapidly owing to the growing interest among importers and consumers to buy coffee produced under strict production process (Giovannucci et al., 2008). In the case of coffee, People in the United States are not only interested in the quality and origin of coffee, but many are also concerned about the social, economic, and environmental aspects of coffee production (Giovannucci et al., 2008). Coffee certification programs aim to promote a responsible production following one or more of sustainability aspects (: social, economic, environmental or quality Guhl, 2009). Such interest and concerns have created the coffee to go through various certification or verification schemes. There are presently eight certification schemes operating for coffee:- Organic, Fairtrade, UTZ, Rainforest Alliance, Bird Friendly, C.A.F.E practices, AAA and 4C.

Based on the public commitment of major roasters, the share of certified coffees in the world trade is projected to grow to 18% of the market by 2015 (from 9% in 2010), which raises the question whether there is a tapping point beyond which sustainable production becomes the *de facto* standard (ICO, 2012). Coffee certifications are increasingly required by buyers and consumers in the main markets of industrialized nations- North America, Europe and Japan.

It is just assumed that the certification is a voluntary process, and farmers or growers decide if they want to participate in the process. However, the reality today goes beyond voluntarism because the international demand for certified coffee is on the rise and a number of certification schemes are multiplying to respond to the various market demands.

Certification schemes have emerged as one approach to try and raise the economic, social and environmental standards of coffee production and trading (consumers International, 2005). Over the last ten years it has become the hot agenda in the coffee sector by addressing important concepts for the coffee growers and consumers such as improving the wellbeing of growers (and their workers) supplying certified products and offering some assurances to consumers that the products they consume are safe and have been produced according to certain ethical standards. But at this moment, there seems to be no consensus on whether certification has positive impact or benefits at the farm level. It is considered by some as an adequate tool to promote sustainability while other actors in the coffee sector are less optimistic on the net benefits that certification offers at the farm level (Oya et al., 2017)

Though coffee is grown both by small holder farmers and commercial farms, a large part of existing studies on the certification area were concentrated on the impacts of certifications on smallholder coffee farmers' livelihoods. Most of these studies of sustainable certification schemes

were conducted on Latin America (eg; Dorr, 2009; Ruben, 2011; Rijn, 2008; and Trimarchi, 2015) and some on Africa (eg: Ruben and Hoebink, 2015; and Chiputwa, Spielman, and Quim, 2014).

Despite the rapid development of the SCCS concept and their adoption globally, only few coffee plantations in Ethiopia are certified for some schemes. The adoption of SCCS in Ethiopia is low-it currently only represents 5% of coffee exported and this figure has not grown significantly over the last eight years (Minten et al., 2015). For instance, the certified commercial coffee farms in Organic, Bird Friendly, UTZ, RA, Café Practices and/or 4C in Ethiopia are not more than 9% of the number of commercial coffee farms holding 30 hectares and above. Currently, more than 176 commercial coffee farms are operating in the country (see Appendix 3). Though, assessing the reasons for non-certified coffee farms for not joining the certification schemes is beyond the scope of this study, it is an important area for further study in order to rectify the obstacles and barriers preventing coffee farms from joining certifications, which can help the country's coffee sector to come on board and reply to the current certification requirements globally.

Furthermore, there are few studies on the impact of certification in Ethiopia and all of them focus on smallholder farmers for Fairtrade and Organic Certifications and yet almost most of these studies have concentrated on the economic side of small coffee farmers (eg: Jena et al., 2012; Stellmacher and Grote, 2011 ; Ruben, 2015). Hence, research is still missing, in general, for the two other sides of certification (social and environment) and, in particular, for the major certification schemes applied in the large commercial coffee farms like RA, UTZ, CP, and others. At large, there is no available study concerning the certification benefits over the three acknowledged pillars of sustainability-economic, social, and environmental in the commercial coffee farms adhering to the various certification programmes in Ethiopia.

Therefore, it is unclear if actually the certification benefits over the three pillars of sustainability could be realized at the level of commercial coffee farms as a result of the practices of SCCS. As the main interest is to understand the certification benefits in the large commercial farms, this study focuses on the certified commercial coffee farms operating in southwestern Ethiopia, one of the major coffee growing and supplying areas in the country (ECX, 2008). Hence, this research was designed to assess whether the implementation of SCCS offer the benefits over the three pillars of sustainability-economic, social and environmental at the level of certified commercial coffee farms in southwestern Ethiopia.

### **1.3 Research Questions**

Based on the problem statement of the study and the topic of interest, the following research questions were formulated for obtaining solution:

- What are the major important reasons of commercial coffee farms for joining into the certification programmes in southwestern Ethiopia?
- What are the major important reasons of certified commercial coffee farms for staying into the certification programmes in southwestern Ethiopia?
- What are the underlying factors that could influence the level of certification benefits over the three acknowledged pillars of sustainability-economic, social, and environment in certified commercial coffee farms in southwestern Ethiopia?

### **1.4. Objective of the Study**

The general objective of the study is to assess the effect of SCCS practices on the certification benefits over the three pillars of sustainability: - economic, social and environment at the level of certified commercial coffee farms in south western Ethiopia.

The specific objectives of the study are:

- To identify the drivers of commercial coffee farms for joining into the coffee certification schemes in southwestern Ethiopia
- To identify the motives of certified commercial coffee farms for staying into the certification schemes in southwestern Ethiopia
- To assess the effect of sustainable coffee certification schemes practices over the three pillars of sustainability-economic, social, and environmental benefits at the level of certified commercial coffee farms in southwestern Ethiopia.

### **1.5 Scope of the Study**

#### **Geographical Scope**

The study covers sample selected certified commercial coffee farms operating in the southwestern Ethiopia, the region where most commercial coffee farms are operating. The study area is mostly located in the three regional states in southwest part of Ethiopia- Oromia region (Jimma zone), Southern region (Sheka, Keffa, and Benchi Maji Zone), and Gambella region (Mezhenger Zone). South western Ethiopia is one of the major coffee growing areas in the country ( See map of the study area in Appendix 5). According to the list obtained from the Ethiopian Coffee Growers and Exporters

Association, more than 80% of the country's commercial coffee growers are operating in south western Ethiopia (See Appendix 3).

### **Subject Scope**

The study focuses on the benefits of certifications related to the three pillars of sustainability-economic, social and environment. It was conducted to investigate if the certification schemes could actually deliver the three acknowledged benefits to the certified commercial coffee farms.

## **1.6 Significance of the Study**

On the one hand, there is lack of research on the effect of SCCS on the coffee certification benefits over the three pillars of sustainability at the level of commercial coffee farms, on the other hand, the number of certified commercial coffee farms are very small in Ethiopia, though coffee certification and the importance of economic, social and environmental issues have increased considerably in the global coffee sector mainly due to the pressure from the international market side. To this extent, the study will establish understanding of the relationship between the SCCS practices and coffee certification benefits over the three pillars of sustainability-economic, social and environment.

Thus, this study is believed to have some important contributions over the following areas:

- The study would be beneficial to the coffee growers in improving their compliance to the various standards of the coffee certification schemes in order to achieve more and significant benefits over the three pillars of sustainability-economic, social and environmental. It would also encourage the non-certified coffee farms in order to adopt the certification schemes.
- The study would provide information to the governing body or policy makers the necessity of formulating policy, guidelines, advocacy and capacity building towards coffee certification in Ethiopia in order to support and facilitate the joining and implementation of the various SCCS by the coffee growers considering coffee certification has become today the core issue in the global coffee sector while the certification practices in Ethiopia, particularly in the commercial coffee farms, is yet at the low stage.
- The mere fact that the study was conducted on the topic of the effect of SCCS on the coffee certification benefits over the three pillars of sustainability-economic, social and environmental at the level of certified commercial coffee farms in southwestern Ethiopia, which is probably the first attempt, would contribute to the body of knowledge.
- The study could also be used for other researchers as an initiation for further study and a secondary source of data for conducting a detailed and comprehensive study on similar area to generate more refined and valuable findings.

## **1.7 Limitations of the Study**

- This study focuses on the generic effects of various coffee certifications as perceived by the respondents. But it would be more important, if the study focuses on the net benefits (advantages and disadvantages) brought by each individual certification program at the level of commercial coffee farms.
- Other sustainable coffee certification schemes variables may affect the certification benefits over the three dimension of sustainability. However, in light of the nonexistence of research work on the area, the variables selected for the study were limited to farming system, marketing dimension, working and living condition, and environmental protection which were drawn from the standards of various certification programs as summarized in the literature review.
- The study has been limited to the perception of the respondents for analysis of the outcome of the objectives of the study since the effort to acquire documented data regarding costs, sales prices and premium and other issues related to certification practices was not successful due to non-availability updated documents or lack of willingness to provide such records for the research.
- Finally, the time available for completion of the study and financial requirement were considered as a limitation to the study due to the vast geographical coverage of the study.

## **1.8 Organization of the Paper**

This paper is organized into five chapters. Chapter one provides introduction which states background, problem statement, research questions, objectives, significance, scope and limitation of the study. Chapter two states the theoretical and empirical reviews of the literature, summary and research gap as well as conceptual framework relevant to the study. Chapter three outlines the research methodology including variables used in the study. The fourth chapter presents data analysis, results and discussion of the study. The last chapter presents summary of findings, conclusion and recommendations. Also recommendations for future research are included in the last chapter.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

Many studies confirm that coffee is one of the world's largest traded commodities, produced largely in developing countries and consumed mainly in developed countries. Between 1997 and 2001, coffee prices were dropped below the costs of production in many producing countries (FAO, 2004) with drastic implications for rural livelihoods. Furthermore, prices reached record low levels, 49 US cents per pound, during 2001 to 2003 and left many producers in very difficult conditions. However, the price declines that occurred on certified coffee beans were not as sharp as that occurred on conventional coffee beans (Vira, Wildburger and Mansourian, 2015). The slump in world coffee prices led many organizations to focus attention on the adverse impacts on coffee producers. By 2003, the idea of sustainable coffee was starting to become a common topic at conferences, in research and in policy discussions (Giovannucci and Koekoek, 2003), which has come up with new opportunities to coffee producers who faced difficult prices and production conditions that otherwise kept them in poverty. In fact, prices have since then improved but are still exposed to high volatility.

The sustainable coffee principle mainly encompasses the environmental, social and economic issues taking place in the coffee sector. Over the last two decades a number of certification schemes for coffee have come to exist largely owing to the increasing concern of consumers towards sustainability issues. The most common coffee certification programmes are organic, fairtrade, Rainforest alliance, Café Practices, UTZ, Bird Friendly, and 4Cs certification or verification.

Though there are several types of certification programmes that have different characteristics depending on their objectives, in general, all certification programs share the following four features (Guhl, 2009):

1. The certification gives economic incentives to the farmers because distributors pay premiums for certified coffee and the farmers receive more income for their product.
2. What is certified is the way the coffee was produced. Every certification program creates clear processes for farmers to follow in order to satisfy certification criteria. If these criteria are satisfied during the production process, the coffee can be sold as certified.
3. The fulfillment of the certification criteria has to be verified by an inspector from an independent certification agency. The farmer (or, in some cases, an association of farmers) pays for an inspection visit. During this visit, the inspector reviews that the farm is following the certification requirements and the certification seal can be used.
4. The certification is a voluntary process, and farmers decide if they want to participate in the process.

Nevertheless, for producers or farmers, the financial advantages, particularly in the form of higher prices, are not always evidence, while the additional costs of certification eligibility are considerable (ICC, 2014). Because, on the one hand, some certifications are not totally guarantee premium payments for the sale of certified coffee, and, on the other hand, some costs like registration fees, inspection charges, and internal control system development are involved in the certification.

Despite the rapid development of the certification concept in the international coffee trade and its adoption by leading stakeholders in importing countries, there are still a number of unclear issues related to certification. According to the ICC (2014), matters relating to the certification impact on coffee yields and quality must still be clarified. Similarly, the contribution it makes to reduce falling prices needs to be further investigated. In addition, production of certified coffee generally exceeds demand, with many certified producers unable to sell all their coffee as certified. It therefore remains to be seen whether the certified sector has sufficient capacity to expand beyond a niche market.

## **2.2 International Coffee Certification**

Certification schemes have emerged as one approach to try and raise the economic, social and environmental standards of coffee production and trading. There are presently different certification schemes operating for coffee:

### **2.2.1 Organic Certification**

Organic is the first sustainability certification in agriculture. It was introduced to the coffee sector in 1990 by the United States. A grower or processor of organic coffee may be certified by a public or private certification company if, among others, the following standards and procedures are met (Ponte, 2004): (1) coffee is grown without the use of synthetic agro-chemicals for three years prior to certifications; (2) farmers and processors keep detailed records of methods and materials used in coffee production and management plans; and (3) a third party certifier annually inspects all methods and materials.

Organic certification requires the elimination of chemical fertilizers and pesticides as well as practices to conserve or enhance soil structure. Products that are certified organic have been grown without the use of genetically modified organisms (GMOs), synthetic chemicals, fertilizers, antibiotics, or hormones. Accredited certification agencies monitor organic standards on production, processing and handling. Organic certification is certification of land, not a specific crop. Once land is certified other crops grown on that land can also be marketed as organic provided such crop is handled correctly and kept separate from non-organic produce. Willer and Kilcher (2009) states,

worldwide, 32 million hectares are managed organically (i.e. about 0.8% of total agricultural land) and in 2007, the total organic sales were estimated at USD 46 billion.

Many farms in developing countries including Ethiopia are already organic by default because farmers use no agrochemicals. However, in order to be termed as organic, the farm has to go through the process of organic certification.

Giovannucci and Pierrot (2010) indicates South America was the largest exporter of organic coffee to the world market in 2008 with market share of 46%, followed by Central America and Mexico (31%), Asia (14%), and Africa (9%). Organic is the most important certification for African producers who supply nearly 10% of the global market. Ethiopia is Africa's dominant source for organic certified coffee to the world market.

### **2.2.2 Fairtrade Certification**

Fairtrade labeled coffee was first introduced in 1988 and is still the best known certified coffee among consumers in Europe, North America and Japan. There are two different Fairtrade labeling or certifying organizations. One is Fairtrade Labelling Organizations International (FLO) and the other is Fair Trade USA, the later resigned from the former in early 2012. Fairtrade addresses the trading system, ensuring that producers receive a minimum price for their coffee plus a premium for investment in community projects. Some environmental protection standards are also included.

Fairtrade is defined as “an alternative approach to conventional trade that aims to improve the livelihoods and wellbeing of small producers by improving their market access, strengthening their organizations, paying them a fair price with a fixed minimum and providing continuity in trade relationships” (Giovannucci and ponte, 2005).

Fairtrade certification offers producers a minimum price for coffee; if the market price exceeds this minimum, the market price is paid. Under FLO, Fairtrade certification is only available to democratically-organized cooperatives of small producer, not individually owned farms, estates, or farms that use hired labor. Fairtrade is the only initiative that is open only to small-scale coffee producers with certification grant to the producer cooperatives (Raynolds et al., 2004). Another unique aspect of Fairtrade is both producing and importing companies are monitored for compliance with basic standards issued by the FLO. As per the FLO standard, Fairtrade certified coffee importers are required to comply with the following:-

- must buy certified coffee directly from FLO-registered producer association on the basis of multi-annual contracts
- must pay an FLO-determined minimum price and a social premium to the producer organization, plus an extra premium for organic coffee

- must offer pre-financing for 60% of the contract value upon request from the producer organization.

In 2009, the largest Fairtrade labeled coffee came to the world market (ITC, 2011) from Central America and Mexico (43%), followed by South America (42%), Asia (10%) and Africa (5%). Ethiopia and Tanzania are the most important origins of Fairtrade certified coffee from Africa. Major markets of Fairtrade certified coffee include the United States, the United Kingdom, Germany, France and the Netherlands. In summary the key objectives of the standards are to (Fairtrade Foundation, 2009a):

- ensure a guaranteed Fairtrade minimum price which is agreed with producers
- provide an additional Fairtrade premium which can be invested in projects that enhance social, economic and environmental development – often referred to as the social premium
- enable pre-financing in the form of credit for producers who require it
- emphasise the idea of partnership between trade partners
- facilitate mutually beneficial long-term trading relationships
- set clear minimum and progressive criteria to ensure that the conditions for the production and trade of a product are socially and economically fair and environmentally responsible.

### **2.2.3 Rainforest Alliance Certification**

The Rainforest Alliance/Sustainable Agriculture Network (SAN/RA) was launched in 1987 which is a member-based initiative operating in the food and agriculture sector across 43 countries (Potts et al., 2014). Rainforest Alliance coffee certification is a standard set and managed jointly by the RA and SAN, a group partner organization (Rainforest Alliance). The SAN is promoting the environmental and social sustainability of agricultural activities through the development of good practices standards, certification and training of rural producers throughout the world. The standards established by the SAN give much emphasis on protection of workers and wildlife, conservation of natural resources and supports the financial viability of farms. The vision of RA is based on the concept of sustainability, recognizing that the wellbeing of societies and ecosystem is intertwined and dependent on the development that is environmentally sound, socially equitable and economically viable (SFCI, 2009).

Certification of farms for the RA Certification is carried out by Sustainable Farm Certification International (SFCI)-an independent international certification company. However, local NGOs are also authorized by this certification body to provide audit services for farmers and agricultural companies in their respective countries. Inspection bodies are also required to offer their knowledge and experience to help continually refine and develop Sustainable Agriculture Standards. Farms that

meet the SAN's requirements and binding rules are recognized with the RA certified seal. The first Rainforest Alliance certified coffee was introduced in 1993.

Rainforest Alliance distinguishes itself from organic in that its standards are based on integrated pest management which allows for some limited, strictly controlled, use of agrochemicals (Consumers International, 2005). For instance, while RA certification requires vegetation buffers to stop pollution from pulp run off into rivers, this is not demanded by organic schemes; likewise requirements for a minimum number of tree varieties and percentage of shade cover are not necessarily specified in organic (Daviron and Ponte, 2005). The objectives of RA certification are therefore different from Organic agricultural certification, and it is tougher on certain environmental sustainability criteria than organic. Rainforest Alliance Certification also focuses on other aspect of the farming system, including good social and labour conditions (Giovannucci, 2005).

Rainforest Alliance differs from Fairtrade in its emphasis on how farms are managed, rather than how products are traded. Jaffee (2007) comments that many in the Fairtrade movement view Rainforest Alliance Certification as an inferior, competing standard. However, (Raynolds et al., 2007) note that "RA social standards prioritize worker protection and are narrower, yet more rigorous in this area, than Fairtrade's producer empowerment oriented standards". In sum, the RA tries to cover environmental and social issues but no minimum price is guaranteed (contrary to the existing Fairtrade criteria). But producers can use the certification to negotiate a better price for their coffee, generally an additional 5 to 10 cents per pound. Unlike Fairtrade certification, the RA certification is also applicable on large scale plantations.

There are ten principles in the Sustainable Agriculture Standard set by RA/SAN, each of which is based on specific criteria that promote good environmental, labor and agronomic practices. These are (SAN, 2011):-

- Social and Environmental Management system
- Ecosystem conservation
- Wildlife protection
- Water conservation
- Working conditions
- Occupational health
- Community relations
- Integrated crop management
- Soil conservation
- Integrated waste management

### 2.2.4 Bird-Friendly Certification

Bird friendly Coffee certification requires organic production and shade cover to provide certified coffee as a viable supplemental habitat for migratory birds and other forest dwelling wildlife which is more focused on environmental aspects. The Smithsonian Migratory Bird Center (SMBC) based in United States has developed a certification system for the production of shade grown organic coffee that awards a “Bird Friendly” label. SMBC certifies farms that are already certified as organic or that can be simultaneously certified as organic on the basis of guidelines covering a number of criteria, the most important of which are shown in Table 2.1 below.

Table 2.1: Certification criteria of Bird-Friendly

Concept	Criteria
Height of canopy	≥12 meters for the canopy of the stratum made by the “backbone” species
Foliage cover	≥40%, measured during dry season after pruning
Floristic diversity of trees and wood shrubs	≥10 woody species (in addition to the backbone species). At least 10 of these should represent 1% or more of all individuals sampled, and be dispersed throughout the coffee holding.
Total floristic	The sum of all woody and herbaceous species counted in the sampling.
Structural diversity	The “architecture” or profile of the coffee farm should show evidence of some layers or strata—preferably three: 1. The layer formed by the backbone species and other trees of that size; 2. The stratum of taller, emergent species, comprised of native trees of the natural forest; 3. The stratum beneath the principal canopy (that of the backbone species), made up of shrubs and small trees or plants, like <i>Musa</i> spp. and citrus. The emergent and understory strata each should ideally account for 20% of the total foliage volume present. The remaining 60% of the foliage volume should be that of the principal canopy (backbone species and trees of the same height as the backbone species).
Leaf litter	Should be present; no minimum percentage required, but, together with living ground cover, soil needs protecting (as with organic criteria)
Weeds/herbs/forb	Should be present; no minimum percentage required.
Living fences	Where appropriate and feasible, should be present.
Buffer zones along waterways	Should exist and be composed of native vegetation. Along streams they should measure ≥5 meters wide (one each side); for rivers they should be ≥10 meters wide.
Visual characterization	Should qualify at least for the category “Traditional polyculture” (the more diverse category of the polyculture systems)
Organic certification	Must have current organic certification by a USDA-accredited certification agency.

Source: Rice, 2010

The Bird Friendly coffee certification began in 1998 and the certification lasts for three years. So, Producers must be recertified every three years to ensure they continue to meet these requirements and can truly call themselves Bird Friendly. Rice (2010) indicates the majority of Bird Friendly certified coffee is consumed in US, followed by Japan and Canada.

## 2.2.5 UTZ Certification

UTZ was launched in 2002 as UTZ Kaphe, meaning “Good Coffee” in the Mayan language of Guatemala (Emma et al., 2012). In March 2007, its name and logo was changed to UTZ certified “Good Inside”.

UTZ certified is a multi-stakeholder initiative operating across 33 countries and the largest sustainability program in the world coffee (Potts et al., 2014). It was initially founded by a Guatemalan coffee grower and a Dutch coffee roaster, which has instantly grown to an independent, nongovernmental, not for profit organization working on sustainability farming for responsible coffee production and sourcing in the world. The audit of the certification is conducted by third party auditors once per a year. Like RA certification, there is no minimum price set by UTZ, but producers can use the certification to negotiate a better price for their coffee.

In addition to farms, a separate chain of custody certification is also required by UTZ to guarantee the traceability of all certified products. In general, the UTZ certification program gives more emphasis on the transparency and traceability in the supply chain and efficient farm management such as soil erosion prevention, minimizing water use and pollution, responsible use of chemicals, and habitat protection.

The UTZ certification program is based on the UTZ certification code of conduct consisting a set of social and environmental criteria and grouped into four major categories as shown in Table 2.2.

Table 2.2: UTZ certified code of conduct

<p><b>Farm Management</b></p>	<ul style="list-style-type: none"> <li>• <i>Measures to optimize the yield</i></li> <li>• <i>An Internal Management System for groups, with responsibilities including:</i> <ul style="list-style-type: none"> <li>▪ <i>Transparency on the premium and how it is divided</i></li> <li>▪ <i>Ensuring group members have access to inputs such as training and materials</i></li> <li>▪ <i>Arranging annual internal inspections</i></li> </ul> </li> <li>• <i>Record keeping</i></li> <li>• <i>Risk assessments</i></li> <li>• <i>Training and awareness raising</i></li> <li>• <i>Recording of volumes in the UTZ Certified traceability system</i></li> </ul>
<p><b>Farming Practices</b></p>	<ul style="list-style-type: none"> <li>• <i>Choice of suitable planting variety</i></li> <li>• <i>Farm maintenance</i></li> <li>• <i>Soil fertility management</i></li> </ul>

	<ul style="list-style-type: none"> <li>• <i>Diversification of production, to support ecological diversity and economic resilience</i></li> <li>• <i>Integrated pest management</i></li> <li>• <i>Responsible and appropriate choice and use of pesticides and fertilizers, and records of application</i></li> <li>• <i>Irrigation</i></li> <li>• <i>Product handling during and after the harvest</i></li> </ul>
<b><i>Social and Living Condition</i></b>	<ul style="list-style-type: none"> <li>• <i>Application of national laws and ILO conventions regarding wages and working hours, including the living wage concept for individual farms</i></li> <li>• <i>No forced labor or child labor</i></li> <li>• <i>Freedom of association and collective bargaining</i></li> <li>• <i>Safe and healthy working conditions, including:</i> <ul style="list-style-type: none"> <li>▪ <i>Protective clothing for work with chemicals</i></li> <li>▪ <i>Safety training of workers in their own language</i></li> </ul> </li> <li>• <i>Gender equality</i></li> <li>• <i>No discrimination</i></li> <li>• <i>Freedom of cultural expression</i></li> <li>• <i>Access to education for children</i></li> <li>• <i>Access to decent housing, clean drinking water and health care for workers and their families</i></li> </ul>
<b><i>Environment</i></b>	<ul style="list-style-type: none"> <li>• <i>Efficient use of water and energy</i></li> <li>• <i>Waste management</i></li> <li>• <i>Promotion of ecological diversity</i></li> <li>• <i>Protection of nature</i></li> <li>• <i>No deforestation of primary forests</i></li> <li>• <i>Respect for protected areas</i></li> <li>• <i>Protection of endangered species</i></li> <li>• <i>Reduction and prevention of soil erosion</i></li> <li>• <i>Measures to adapt to climate change</i></li> </ul>

Source: UTZ code of conduct, 2015

In 2012, UTZ registered the largest sales volume relative to all other voluntary sustainability standards active in the coffee sector, with 187,634 mt sold coffee as certified or verified (standard complaint) which accounts for 17% of total certified coffee production or 9% of total global production (Potts et al., 2014). Potts et al., (2014) also indicates the largest source of about 61% came from Latin America (Brazil, Colombia, Peru and Honduras) and during same period the amount sourced from Ethiopia was only 568 tones.

### **2.2.6 C.A.F.E Practices Certification**

Coffee and Farmer Equity (C.A.F.E.) practices is a private standard established by the Starbucks Company that evaluates, recognizes and rewards producers of high quality sustainably grown coffee for Starbucks stores. C.F.A.E Practices includes guidelines in four key areas: - quality, economic accountability and transparency, social responsibility, and environmental leadership.

As briefed by CERES, a German based third party verifier for C.A.F.E practices, there are some “Zero Tolerance” criteria such as payment of minimum wage, no child labor, traceability, which must be complied by the coffee grower in order to be part of the program. Some of the essential criteria of the C.A.F.E practices standard are shown in Table 2.3.

Table 2.3: C.A.F.E practices standard

<b><i>Economic Accountability</i></b>	<ul style="list-style-type: none"> <li>▪ <i>Including traceability of the coffee back to the farmer</i></li> </ul>
<b><i>Social Responsibility</i></b>	<ul style="list-style-type: none"> <li>▪ <i>Payment of minimum wage, compliance with national Laws on overtime payment</i></li> <li>▪ <i>Freedom of association and collective bargaining</i></li> <li>▪ <i>Vacation and sick leave program</i></li> <li>▪ <i>No child labour, discrimination, forced labour</i></li> <li>▪ <i>Decent housing conditions for workers living onsite</i></li> <li>▪ <i>Access to education, medical care</i></li> <li>▪ <i>Safe pesticide handling</i></li> </ul>
<b><i>Environmental Leadership-Farm</i></b>	<ul style="list-style-type: none"> <li>▪ <i>Watercourse and water quality protection</i></li> <li>▪ <i>Controlling soil erosion</i></li> <li>▪ <i>Improving soil fertility</i></li> <li>▪ <i>Shade cover</i></li> <li>▪ <i>Wildlife conservation, natural conservation areas</i></li> <li>▪ <i>Ecological pest and disease management</i></li> <li>▪ <i>Management and monitoring practices</i></li> </ul>
<b><i>Environmental Leadership-Processing</i></b>	<ul style="list-style-type: none"> <li>▪ <i>Minimize water consumption (wet mill)</i></li> <li>▪ <i>Minimize water pollution</i></li> <li>▪ <i>Water recycling</i></li> <li>▪ <i>Minimize energy use</i></li> </ul>

Source: CERES, 2014

### **2.2.7 Common Code for the Coffee Community (CCCC or 4C) Certification**

The Common Code for the Coffee Community or 4C Association consists coffee farmers, trade and industry and civil society from around the world work together for more sustainability in the entire coffee sector. The 4C Association was conceived in 2003 and officially established in 2006 to continuously improve the social, environmental and economic conditions for the people making their living from coffee.

The scope of the 4C Code of Conduct covers the three dimensions of sustainability (4C):-

- Society: Decent working and living conditions for farmers and their families as well as employees.
- Environment: Protection of primary forest and conservation of natural resources such as water, soil, biodiversity and energy.

- **Economy:** Economic viability is the basis for social welfare and sustainability. This includes reasonable earnings for all actors in the coffee chain, free market access and sustainable livelihoods.

Through third-party independent verifiers, producer groups (4C Units) are evaluated on their performance and progress in implementing the 4C Code of Conduct. No one in the coffee chain can participate in the 4C certification, if he/she exercises any of the unacceptable practices stated in the code of conduct.

### **2.2.8 AAA Program**

The AAA program was launched in 2003 in partnership with the NGO, Rainforest Alliance. AAA program stands for Quality, Sustainability and Productivity. The program is a company based certification for Nestle Nespresso like C.A.F.E Practices for Starbucks. Nespresso recently has a partnership with RA, while Starbucks has a partnership with Fairtrade to source more coffee for their respective companies.

AAA Program shares many of the same goals and principles as other responsible sourcing programs like UTZ, RA, CP, etc. However, in addition to sustainability criteria, the AAA Program adds quality and productivity dimensions to sustainability. The program's name was inspired by the AA standard, a hallmark of coffee quality found in Kenya and other high quality coffee sources. Nespresso added the third A to represent environmental, social and economic standards. Today, each A stands for the program's three driving principles (Nestle, 2016):

#### **First A: Quality**

The program helps coffee farmers to achieve and maintain best agricultural practices, including post-harvesting practices and traceability.

#### **Second A: Sustainability**

The AAA Program integrates a broad range of ecological considerations, such as water and soil conservation, deforestation prevention and wildlife preservation. Social standards include occupational safety, fair treatment of workers and the prohibition of child labour.

#### **Third A: Productivity**

Productivity is an essential ingredient for economically viable and sustainable coffee farming. The AAA Program provides farmers with technical support and training in best practices to increase productivity and reduce costs.

At the end of 2015, the AAA program counted over 70,000 farmers in 12 coffee growing countries namely Brazil, Colombia, Cost Rica, Ethiopia, Guatemala, India, Indonesia, Kenya, Mexico, Nicaragua, Peru and South Sudan (Nestle, 2016).

Generally, sustainability certification and verification schemes are not evenly distributed across consumer markets. Organic coffee is more important in Germany, Canada, Australia, Italy and the United States. Fairtrade is dominant in the United Kingdom and France and now in the United States. Rainforest Alliance is a leader in Japan and also important in Western Europe. UTZ certified coffee is dominant in the Netherlands and holds a strong position in several northern European Markets. These all sustainable approaches drive improvements in social, environmental and economic conditions for coffee farmers and farming communities.

### **2.3 The Need for Sustainable Coffee Certification**

Coffee is the most valuable agricultural crop in the world and cultivated in many developing countries in Central and South America (eg. Brazil, Colombia, Honduras, Guatemala, Mexico), Asia (eg. Vietnam, Indonesia, India) and Africa (eg. Ethiopia). Today about 25 million families are directly dependent on coffee and over 100 million people are indirectly involved and dependent in the coffee value chain. A huge majority of farmers are small holders and coffee is their main source of income. Coffee is also a labour intensive crop with women comprise half of the productive workforce (Panhuisen and Pirrot, 2014). On the other hand, coffee producers have been experiencing different climate change which has impact on trade terms and price volatility. To protect the livelihoods of people dependent on coffee is the joint responsibility of all stakeholders across the value chain

The increase in public awareness on the agricultural practices has led a number of farming systems, including coffee farming into a production that is sustainable and responsible. Production activities are categorized as sustainable if the three pillars of sustainability can be met namely environmentally friendly, socially responsible and economically traceable, safe and valuable. Certain standards in particular offer further benefits like traceability and process management that can help to prepare producers to better compete in modern agricultural trade. The importance of preserving the environment along with the effort to respect social rights in all coffee supply chain of production, processing and distribution drives the coffee production to be produced in a sustainable and responsible manner. Table 2.4 below presents an overview of the main social, economic and environmental challenges for smallholders and commercial coffee plantations with which most of the coffee certification schemes are dealt with.

Table 2.4: Overview of the social, economic and environmental issues at the producer level

Smallholder level	Estate /Commercial farms level
Food insecurity Malnutrition Poor access to education and healthcare Gender inequality Ageing farmer communities Migration & young people leaving coffee -farming	Labour abuse Limited access to clean water Poor living conditions Discrimination Gender inequality Sexual harassment
Green bean price volatility Low productivity Lack of farm credit Lack of market information Lack of direct market access Rising cost of living Ageing coffee trees Land tenure uncertainty Limited access to insurance instruments Poor services through farmer organisations No living income Taxation	Green bean price volatility High casualization of labour Un- and under-employment Low formal minimum wages No living wage Lack of income diversification (especially for temporary workers) Taxation Partial freedom of association Limited collective bargaining
Conversion of primary forest habitat – deforestation - loss of biodiversity and habitat destruction – soil erosion and degradation – agrochemical use and run- off – degradation of water quality and supply – limited waste water management – eutrophication - coffee pests and tree diseases – mono-culture sun cropping	

Source: Panhuysen and Pierrot, 2014

Coffee production requires the participation of growers (or the supply chain) in various combinations of social, environmental, and economic standards. Coffees fitting such categories and that are independently certified or verified by an accredited third party have been collectively termed as "sustainable coffees", (Wikipedia, 2015).

Sustainability certification is generally seen as a promising tool to improve environmental, social and economic activities along global value chains of commodities (Bethge, 2014). Besides a direct economic benefit to many coffee growers, sustainable coffees provide additional intended benefits or positive externalities at the producer level in the field that go beyond a market advantage (Giovannuce and Koekoek, 2003). These include:

- Improved natural resource management and biodiversity conservation
- Crop resilience to weather and climactic risk

- On-farm diversification and fewer external input costs reduce financial exposure
- Community or organizational development and increased use of rural labor
- Fewer health risks due to misuse of agrochemicals

The implementation of the various certification schemes in the coffee sector to address the environmental, social and economic issues is regarded as one way to overcome many of the unsustainable aspects of coffee production. Thus certification is a means for coffee farmers to upgrade their production system and improve productivity, reduce costs and increase quality, all of which can in general lead to financial benefits.

## **2.4 Market Trend of Certified Coffee**

Certification initiatives for sustainable coffee have been around for more than 20 years, and the past decade has seen a rapid increase in the development of new schemes and main stream uptake of sustainable coffees (Potts et al., 2014). The coffee sector indeed has the highest presence of sustainability standards among major agricultural commodity sectors in regards to both supply and demand (Bruestle and Deugd, 2010), both continue to grow across all voluntary sustainability standards active within the sector. The various certification schemes advise farmers on how to implement better farming practices, establish protocols for dealing with environmental and social issues, implement auditing and third part verification on these issues, and communicate with consumers about the coffee on the three pillars of sustainability at the end of trade chains to give them the necessary assurance.

Since 2008, standard-compliant coffee (under AAA, 4C Association, C.A.F.E. Practices, Fairtrade, Organic, Rainforest Alliance and UTZ) has grown to 40 per cent of global production, up from 15 per cent of production in 2008. Sales have grown to 12 per cent of exports, up from 7 per cent of exports in 2008. Moreover, Standard-compliant coffee production grew 26 per cent per annum from 2008 to 2012 (Potts et al., 2014)

According to Potts et al. (2014), premiums for standard compliant sales have been reported at 1 to 30 percent over the 2011–2012 period with highest premiums were observed for Fairtrade/Organic certified coffee, and lowest premiums were observed for 4C-compliant coffee, as well Ethiopia is the second organic coffee producer next to Peru.

The growth of both production and sales of sustainable coffee—across all initiatives—has continued at a rapid pace, well above the global production and sales growth of conventional coffee (Reinecke et al., 2011). Current trends suggest not only that sustainable coffee is here to stay, but that conformity with one standard or another will soon become a requirement for market entry.

The large part or almost two thirds of the coffee supplied to markets as certified or verified coffee is coming from the more organized and developed Latin American coffee producers. Panhuysen and Pierrot (2014) states, in Colombia, more than 60% of the total production is either certified or verified as sustainable. Peru has over 30% of sustainable coffee production. Brazil’s 40% standard compliant coffee production relies heavily on 4C verification. Contrary to Latin American, Africa is inadequately represented as supplier to sustainable markets. Panhuysen and Pierot also highlights the volume of certified and verified coffee reached 40% of the global coffee production in 2013 out of which only 15% sold as certified or verified. This shows there is a growing gap between the volumes of standard compliant coffee available at producer level and the volume actually procured or sold as standard complaint coffee with buyer. This simply means, so far, demand for sustainable coffee is less than the volume produced as certified or verified coffee. When standard complaint coffee is produced but not sold as a sustainable product, the potential benefits of preferential market access, more direct commercial relations and premiums may not be available to the producers and could limit opportunities for entry of new producers not yet certified or verified. Table 2.5 below also illustrates an increasing imbalance between supply and demand of standard complaint coffee in 2013.

Table 2.5 Volume of certified and verified coffee available and sold in 2013

Certified or verified	Available for Market in mt	Sold in mt	Sold vs Available in %
Fairtrade	440,000	145,000	33%
Organic	248,000	133,000	54%
RA	455,000	168,000	37%
UTZ	727,000	224,000	31%
4C	2,280,000	450,000	20%
CP		170,000	
AAA		55,000	

Source: Panhuysen and Pierrot, 2014

The world coffee market is dominated almost by the ten largest coffee roasters –Nestle, Mondelez, DE Master Blenders 1753, Smuckers, Strauss, Starbucks, Tchibo, UCC coffee, Lavazza and Keurig Green Mountain. These large roasters tend to rely heavily upon coffee trading companies to obtain their supplies of green coffee. The green coffee trading companies are large players and include Neumann Gruppe (Germany), Volcafe (Switzerland) and ECOM (Switzerland), which 50% of the world’s green coffee beans are traded by them (Panhuysen and Van Reenen, 2012). The green coffee trading companies are the closest to the coffee farmers and have to secure the required volumes of quality produces and certified coffee to their clients (mainly to the top ten roasters). These green coffee trading companies are actively involved in the design and implementation of training programmes to improve and protect the economic, social and environmental conditions at the beginning of the coffee chain, at farmer level.

All of the top ten coffee roasters have developed strategic alliance with a number of international sustainable coffee certification schemes, like FLO, RA and UTZ or developed their own private coffee standard systems like C.A.F.E Practices for Starbucks and AAA for Nestle Nespresso as part of their overall corporate strategies. The decision of the 10 roasters and 3 traders have a significant impact on the investments in, and overall demand for, sustainable coffee. Given the pledges of the top ten coffee roasters to make the coffee sector more sustainable there is room for growth. Table 2.6 below shows the total volume of coffee purchased by each roaster company, the volume of certified/verified coffee purchased, the certification schemes they dealt with in 2013 and their future commitments toward standard compliant coffee.

Table 2.6: Volume of certified/verified coffee procured by the top ten coffee roaster companies in 2013 and their future commitment

Coffee Roaster Company	Total volume coffee purchased or market share in 2013 in mt	Volume of certified/verified coffee purchased in 2013 in mt	Certification schemes dealt with in 2013	Future commitment towards purchasing standard compliant coffee
Nestle	860,000	30%	FLO, AAA, 4C	
Mondelez	500,000	44%	RA, 4C	
D.E.Master B.	360,000	25%	UTZ	
Smuckers	300,000	-	-	10% by 2016
Strauss	230,000	2%	4C	
Starbucks	180,000	95%	FLO, Org, CP	100% by 2015
TChibo	180,000	30%	RA, FLO, ORG, 4C	Future 100%
UCC	177,000	14%	FLO, RA, UTZ, 4C	
Lavazza	150,000	1%	RA	
Keurig	98,000	31%	FT, RA	100% by 2020

Source: Panhuysen and Pierrot, 2014

## 2.5 Certification of Coffee in Ethiopia: Experiences and Challenges

Ethiopia is known to be the birth place of coffee Arabica. 63% of coffee production comes from Oromia region, followed by South region (35%) and Gambella and Benishangul Gumuz region (2%) (ECEA, 2013). While reliable recent statistics are lacking, 85% of the coffee is produced by smallholder coffee farmers on farms smaller than 3 hectare of land and 15% of coffee is produced by large scale growers or commercial coffee plantations (JARC, 2016). The coffee, in Ethiopia, is produced under four types of production systems including forest, semi-forest, garden, and plantation coffee. Forest coffee is grown in the wild under natural forest cover. Semi-forest coffee is also grown in forest but limited handling is done by farmers like annual weeding. Garden coffee production is exercised in the vicinity of farmer's residences. Plantation coffee is grown by commercial growers

using modern production practices such as irrigation, modern input use, mulching, stumping, and pruning.

Coffee is still the backbone of the economy of Ethiopia. It has always been the country's most important cash crop and the largest export commodity. By its very nature, coffee is highly labour intensive production activities. The coffee supply chain connecting coffee farmers and consumers in Ethiopia involves cooperatives, intermediary traders (small and large product collectors/cooperatives), suppliers (those who deliver coffee to market centers), processors, roasters, distributors, exporters, agents, importers, retailers and a lot of other actors. Very significant part of the population drives its livelihood from coffee. Coffee thus have a significant impact on the socio-economy life of the people and economic development of the country. Originally, all coffee farming in Ethiopia was done in the shade of trees, which provided natural habitat for many animals but gradually the shade grown techniques has been replaced with sun cultivation techniques to increase yields, which in turn destroyed vast forests and biodiversity. Though coffee is the most worldwide traded cash crop with new markets emerging, many coffee-dependent developing countries such as Ethiopia are struggling with production and marketing of their coffee. The volatility price of coffee markets and climate change in combination with poor production infrastructure and services have sunk the majority of coffee producers in developing countries in low-input-low-output cycles and structural poverty (Jena et al., 2012).

In the last two decades, coffee certification has become a more and more important tool globally for encouraging environmental and social responsibility in the coffee production and trade. Generally, certification is a voluntary and market driven approach by which products are assessed and confirmed as conforming to stated requirements. It is based on the idea that consumers are willing to purchase a relatively more expensive certified product, which adheres to certain environmental and /or social criteria. Similarly, producers can choose to continue producing according to the standards which in turn complies with the three pillars of sustainability-economic, social and environment. Certification is an instrument to add value to a product. It addresses a growing worldwide demand for healthier and more socially- and environmentally-friendly products and is based on the idea that consumers are motivated to pay a price premium for products that meet certain precisely defined and assured standards (Wissel et al., 2010).

In Ethiopia, the adoption of socio-economic and environmental concerned certification standards is new and a recent phenomenon compared to other countries particularly in Latin America (Stellmacher and Grote, 2011). Some of the most common sustainable certification types found in Ethiopia are Organic, Fairtrade, UTZ, Rainforest Alliance, Bird Friendly, Café Practices, and 4C verification which have been implemented since 2002. Certification for smallholder coffee farmers in

Ethiopia is mainly undertaken through their respective primary coffee cooperatives, and smallholder coffee farmers participate in certification through cooperatives.

Despite the rapid development of SCCS concept and their adoption globally, only few coffee plantations in Ethiopia are certified for certain schemes. The adoption of SCCS in Ethiopia is low-it currently only represents 5% of coffee exported and this figure has not grown significantly over the last eight years (Minten et al., 2015). For instance, the certified commercial coffee farms in Organic, Bird Friendly, UTZ, RA, Café Practices and/or 4C in Ethiopia are not more than 9% of the number of commercial coffee farms holding 30 hectares and above. There is no study available on the impact of certification over the three pillars of sustainability-economic, social and environment- in the certified commercial coffee farms of Ethiopia adhering to the various coffee certification schemes. Also, there is still a lack of empirical local studies and evidence that can quantify and substantiate the welfare impact of certification in general and double and triple certification in particular on small holder coffee farmers' livelihoods in Ethiopia (Hoebink et al., 2014). In general, certification schemes are not actively promoted nor well understood by those who are certified. Hoebink et al.(2014) indicates there is a low level of awareness of certification schemes and much confusion among member of certified coffee cooperatives about what certification is.

On the other hand, many more coffee farmers in Ethiopia have not yet joined the certification programmes regardless of coffee certification is the top agenda in the global coffee sector. Though it needs a study to know as to why these coffee farmers are still not joining the certification programmes, most of coffee farmers did not fully understand the intention and objectives of a respective program. There is, in general, a low level of awareness of certification schemes between coffee growers. Besides, the multiple number of certification programmes available for adoption and implementation at farm level lead to extra cost and confusion as to which program is more beneficial.

## **2.6 Empirical Literature**

Some empirical researches have been carried out in the last years to assess the impact of certification on the coffee growers in developing countries. Most of these studies assess the impact of certification on smallholder farmers' livelihoods in the coffee sector of developing countries. There are more studies looking at Organic and Fairtrade certification than looking at Rainforest Alliance, UTZ, C.A.F.E. Practices. Most of the studies of sustainable certification schemes were conducted on Latin America (eg; Dorr, 2009; Ruben, 2011; Rijn, 2008; and Trimarchi, 2015) and some on Africa (eg: (Ruben and Hoebink, 2015; Chiputwa et al., 2014). Although there are few studies on Certification in Ethiopia, almost all of them focus on smallholder farmers for Fairtrade and Organic Certifications.

The study conducted by Chiputwa et al. (2014) on food standards, certification, and poverty among coffee farmers in Uganda and find that Fairtrade certification increases household living standards by 30% and reduces the prevalence and depth rooted poverty. According to their study, no significant impacts are found for Organic and UTZ certifications.

Ruben and Hoebink (2015) conducted the study on the impact of coffee certification of Fairtrade and UTZ in East Africa (Uganda, Kenya and Ethiopia) on farmers, families and cooperatives and the outcomes of the study are rather mixed, positive or negative or no significant effects due to certification.

The study made on the forest coffee certification in Ethiopia by Stellmacher and Grote (2011) also illustrates the practical difficulties of certification that farmers prefer to go for higher coffee yields by removing forests and cutting trees irrespective of certifications. Additionally the study reveals certification is not actively promoted nor understood by those who are certified.

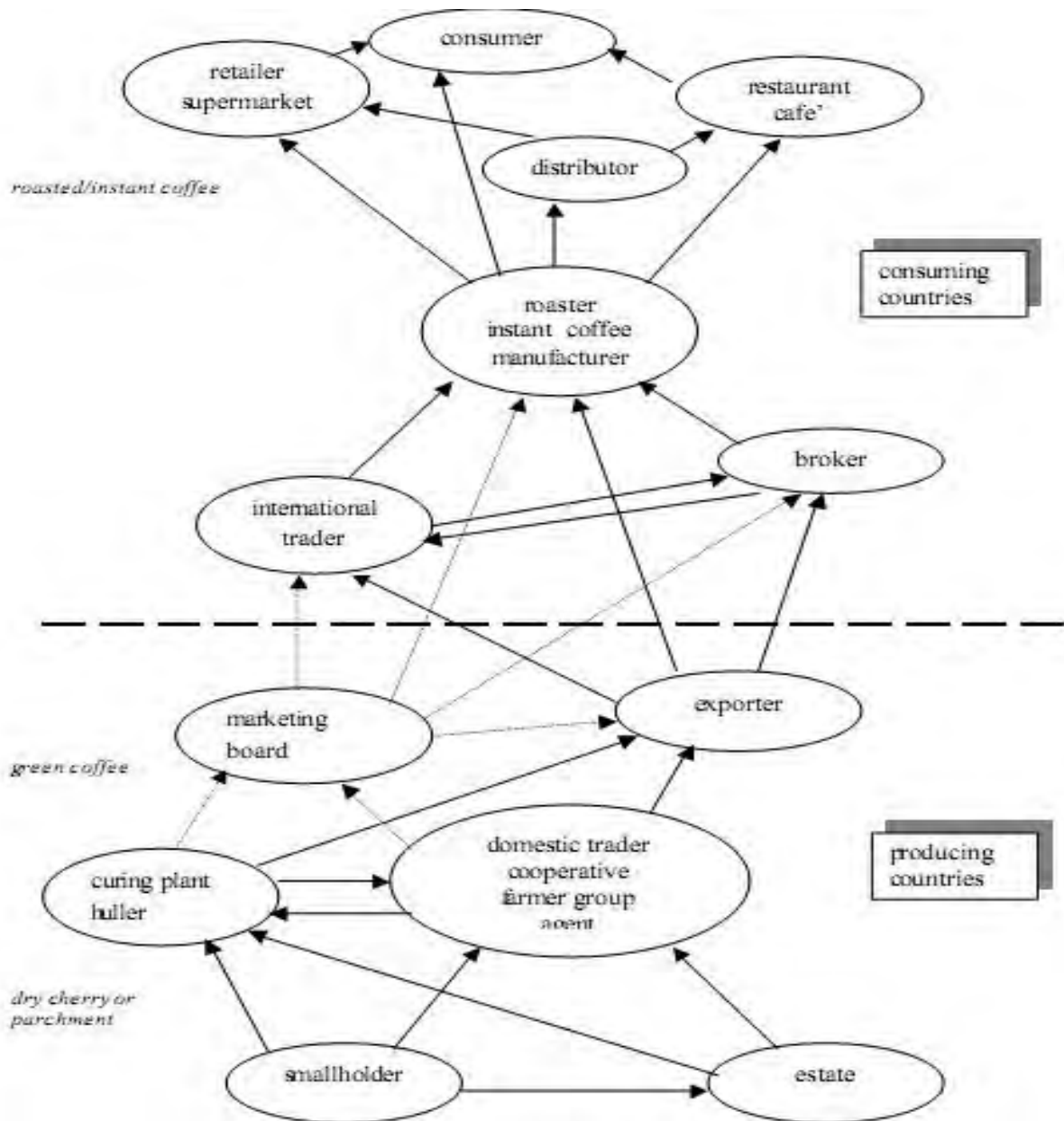
The study conducted by Jena et al. (2012) on the impact of coffee certificate on small scale producers' livelihoods: a case study from the Jimma zone, Ethiopia shows the certification of coffee cooperatives has in total a low impact on small scale coffee producers' livelihoods mainly due to low productivity, insignificance price premium, and poor access to credit and information from the cooperative.

## **2.7 Summary of Literature**

Coffee is the second most traded commodities in the world after oil, produced in morethan 70 developing countries and consumed mainly in developed countries. It is primarily important for rural livelihoods since morethan 70% of the production worldwide is on farms lessthan 10ha in size (Consumer International, 2005). Coffee trade was regulated by the International Coffee Agreements (ICA) from 1962 untill 1989 which regulated a set of production and consumption quotas and governed quality standards (Bacon, 2005).

In accordance to ICA, the coffee supply was restricted and prices were kept at a high level which resulted in stable coffee market. However, the ICA disappeared in 1990s (Zehner, 2002) due to the domination of the free market economy in many producing countries and the end of the cold war and as a consequence a crises emerged in the coffee sector. Since then price volatility has increased considerably and there was a power shift in the coffee supply chain from producers to roasters and other major actors resulted in a decrease in the producer's share from 20% in 1989 to 13% in 1995 (Ponte, 2002). Coffee goes a longway from bean to cup and many actors take part in the supply chain which are growers, processors, traders, roasters, distributors, and conumers (see figure 2.1).

Figure 2.1: General structure of the global coffee marketing chain



Source: Ponte, 2002

The decrease in coffee prices thus affected all the three pillars of sustainable developments, economic, social and environmental sustainability which in turn believed the reason for why several certifications schemes and code of conducts have been developed in the coffee sector.

The implementation of certification schemes have been seen as one way to overcome many of the unsustainable economic, social and environmental aspect of commodity production like coffee. Certification can be understood as a process of ‘decommodification’ ( a move away from bulk commodities to differentiated products) , by which a homogenous product- a commodity can be

differentiated into a range of products, which can in theory therefore lead to a restriction of supply relative to demand.

Certification is one of the available tools in the market to ensure the application of principles for sustainable production of commodities, like coffee. It comprises a set of principles addressing social and economic concerns of farmers and communities including environmental requirements. The number of certification schemes has multiplied in recent years as new schemes such as Rainforest Alliance, UTZ certified and Starbucks's CAFÉ Practices have entered the market alongside the more established Fairtrade and organic certification schemes. Birds-friendly, AAA, and the 4C are also among the many certification schemes applied on coffee.

Although, no two certification schemes are the same, their concerns increasingly overlap. None of the schemes focus on solely social or economic or environmental factors which in fact adds confusion for producers, consumers and as well as others in the supply chain as to which specific scheme is more important or has more cost benefit.

Although, the sustainability standards are voluntary and not required by law, they are increasingly becoming *de facto* requirements for certain buyers. Like many agricultural commodities, coffee is being seriously affected by such concerns, now embodied in trade standards, for sustainability and quality. The costs and benefits to producers of these standards are not yet clear. It is clear however, that if these standards are to have a significant positive impact on producers and the industry, then they need to be better understood so they can be better managed.

The coffee certification process is comparable for all certification schemes, with the existence of different requirements covering a range of areas related to social, environmental and economic issues. The coffee farmers need to comply with the determined requirements, and compliance is verified by independent auditors, through regular audits. The overall certification process could be described as follows:

- The coffee growers indicate that they wish to become certified. At this stage they themselves can perform a pre-assessment based on the requirement's check lists available on the webpage of the certification schemes;
- The coffee growers need to implement an internal control systems (ICS) as part of the schemes' requirements;
- Once the ICS is in place, they should go through an internal audit to check their readiness to become certified. If the internal audit result is positive, the coffee grower can call a third party for the official audit/certification or a pre-audit;
- The growers can opt to have a third party pre-audit, to check how far they are from meeting the requirements and what needs to be improved. This is an optional step.

- The hired external auditor will evaluate whether the coffee grower is compliant or not,
- After the visit the auditor submits its findings to the certification scheme with either a recommendation for granting the certification or with a list of improvements that should be implemented before the organisation gets certified. In the latter case, the organisation will be given a certain amount of time to adequate its practices to the requirements and a second visit by the auditor will be scheduled.
- It is important to note that in the first year, the coffee growers do not need comply with all requirements. Some requirements are necessary from the first year on (e.g. requirements referring to child labour). However, the schemes have a phasing system that allows time for the organisations to adjust to all the requirements.
- Training requirements also varies per certification scheme, with some schemes have different requirements for the 1st, 2nd and 3rd year.

Apart from two private company standards that are active and important, namely those used by Starbucks (CAFÉ Practices) and Nespresso (AAA), the major standards are publicly managed and much more widely used by roasters and retailers. These include: Fairtrade, Organic, Utz Certified, and RA. The 4C Association, verification-based (not certification), is another fast-growing sustainability initiative. Each scheme differs in its strength of market share in different countries. Organic and Fairtrade have dominant market positions in most of the countries, but Utz and RA have become stronger in several markets in relatively short periods, eg in Netherland and Japan respectively.

## **2.8 Research Gap**

Previous research has been conducted regarding certification programs around the world mainly focused on the assessment of the impact of certifications on the economic side at the level of small holder farmers. Certification bodies have also produced numerous efforts to assess the real short and long term impacts of their programs, but results have been contradictory and, therefore, quality research is still needed.

An important study performed by Blackman and Rivera (2010) reviews the evidence collected through different researches on the impact of various sustainable certification of agricultural products. In the case of coffee they found 26 researches of which only six, (Arnould et al., 2009; Blackman and Naranjo, 2010; Bolwig et al., 2009; Fort and Ruben, 2008; Lyngbaek, 2001; and Seguara and Arias, 2008), construct a reasonably credible counterfactual for the impact study. All these studies attempt to identify certification impacts by comparing certified and matched non certified entities using cross-sectional data, but no one compare certified and non-certified entities both before and after

certification (Blackman and Rivera, 2010). The analysis of the results shows that farm level studies of coffee certification do not provide compelling evidence that certification has positive socioeconomic or environmental impacts. From the six valuable studies it is not possible to draw strong conclusion since the results of the researches are mixed. In fact, two – (Arnould et al., 2009; and Bolwig et al., 2009) - find that certification has significant socioeconomic benefits, and one – (Blackman and Naranjo, 2010)-finds that certification has a significant environmental impact, while the other three did not register any significant impact.

In general there is strong focus from other researchers on the Fairtrade certification, followed by organic ones, hence adequate research is required for RA, Utz, 4C, CAFÉ Practices of Starbucks and AAA of Nespresso, Nestle. Another important element is that most of the previous studies on the topic have focused on socio-economic impacts of smallholder coffee farmers but there is almost lack of rich and complete studies on the outcomes of certifications on the three pillars sustainability in the coffee sector.

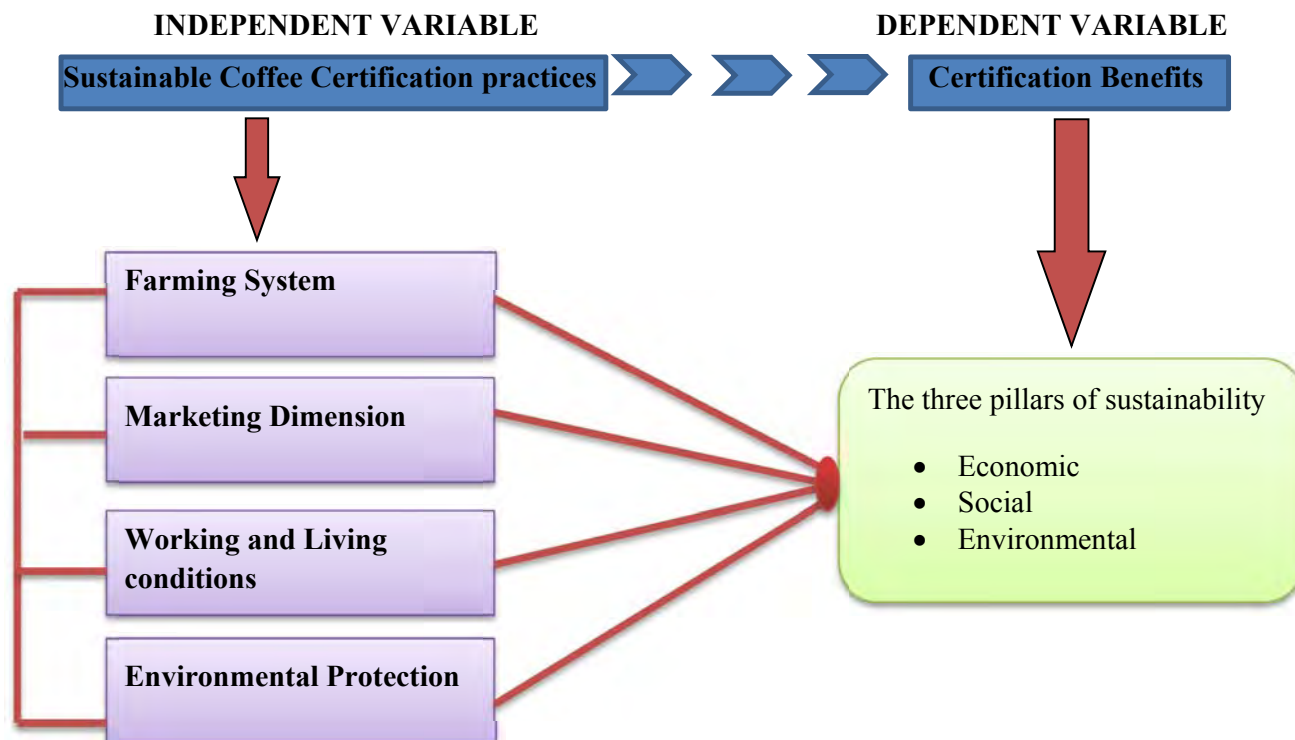
In the case of Ethiopia, though there are few studies on the impact of certification, all of them focus on smallholder farmers largely on Fairtrade and Organic certifications and yet almost most of these studies have concentrated on the economic side of small coffee farmers (eg: Jena et al., 2012; Stellmacher and Grote, 2011 ; Ruben, 2015). Hence, research is still missing, in general, for the two other pillars (social and environment) and, in particular, for the major certification schemes applied in the large commercial coffee farms like RA, UTZ, CP, and others. At large, there is no available study concerning the certification benefits over the three acknowledged pillars of sustainability-economic, social, and environment in the commercial coffee farms adhering to the various certification programmes in Ethiopia.

## **2.9 Conceptual Framework for the Research**

For this study, the conceptual framework shown in Figure 2.2 was developed based on reviewed literatures. In this study the dependent variable is certification benefits consisting the three pillars of sustainability-economic, social and environmental benefits, while the independent variables are the sustainable coffee certification practices including farming system, marketing dimension, working and living conditions and environmental protection. The practice of farming system in line with coffee certification focusing on sound farming practices and farm management would lead to revenue growth which in turn lead to economic benefits which is one of the three pillars of sustainability. The effectiveness of marketing dimension by way of coffee certification is also related to economic benefits. The practice of working and living condition by keeping social wellbeing of workers and

their family living on the farm is related to social benefits. The practice of environmental protection comprising protection of primary forest and conservation of natural resources is related to environmental benefits. In addition the framework considers age and work experience as control variables.

Figure 2.2: Conceptual framework of the study



Source: Adapted based on the reviewed literatures

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter describes the methodology that was used in conducting the study. It states the research design, sample and sampling procedures, data source, data collection instruments and its reliability, and data analysis method.

#### **3.2 Research Design**

The study aimed at assessing whether the benefits over the three dimension of sustainability-economic, social and environment, have been realized as a result of the adoption and implementation of coffee certifications at the level of certified commercial coffee farms. The study employed a descriptive survey research design because it involved an investigation of people's opinion. Sekaran and Bougie (2000) defined descriptive research as a process of collecting data in order to test hypotheses or to answer questions concerning the current status of the subject in the study. The descriptive research design enables to generalize the findings to a larger population.

#### **3.3 Sampling Procedures and Sample Size**

At the time of this study, a total of 16 certified commercial coffee farms were operating in southwestern part of the country and the lists of certified commercial coffee farms were obtained from certifiers' country representatives and also from their respective websites (See Appendix (4)). A sample size of 7 certified commercial coffee farms was drawn by simple random sampling which covers 44% of the total population (see Appendix 2 for background of sample selected companies). For a homogenous population this much sample size is believed to be representative (Cohen et al., 2000). 148 respondents were selected from all the 7 sample selected certified commercial coffee farms by purposive sampling considering their familiarity with various certification schemes and ability to provide sufficient information for the study. The selection of the respondents from each sample selected companies was carried out in consultation with the certification or production unit/department head of the respective companies. Those selected respondents were serving in the production /farm operation, certification, quality/processing, and marketing/sales departments of the sample selected commercial coffee farms because it is believed that these working areas are involving directly or indirectly in the application of the various coffee certifications.

### 3.4 Data Sources and Data Collection Method

The cross sectional quantitative study was conducted to determine the benefits obtained from the implementation of various coffee certification schemes in the commercial coffee farms. Data was collected from primary sources. Primary data was collected through questionnaires prepared on a five point lickert scale and distributed to selected respondents. The questionnaires were developed based on the literature review and sought to obtain the respondents’ opinion on the benefits of certification over the three pillars of sustainability-economic, social, and environment at the level of certified commercial coffee farms in south western Ethiopia. The questionnaires were pretested to check their appropriateness for gathering all the required information by demonstrating pilot data collection in Addis Ababa on five respondents before conducting formal data collection at the farm site.

### 3.5 Reliability Test

Cronbach’s alpha was used to evaluate the reliability of the questionnaire. The coefficient was calculated taking into consideration all the research questions of the dependent and independent variables which are 38 questions. Table 3.1 shows analysis of the reliability statistics. Note that all observations were valid (valid cases =135) and cronbach’s alpha coefficient was 0.896 which is above the minimum coefficient acceptable in the literature, i.e. 0.7. So the result suggests evidences of reliability in the research instruments used in this study.

Table 3.1: Analysis of reliability of the questionnaire through Cronbach’s alpha

		Number of Respondents	%
Cases	Valid	135	100.0
	Excluded	0	.0
	Total	135	100.0
Cronbach's Alpha		No of Items	
.896		38	

Source: Survey result, 2016

### 3.6 Measurement of Variables

By definition and design, all coffee certification programmes are expected to have three dimensions namely economic, social and environment. Depending on who is interested to purchase what coffee, each of these programmes emphasizes one or more of these three “pillars” of sustainability. (IFCC, 2005).

Thus, the study assessed variables that are affecting the certification benefits over the three pillars of sustainability based on the literature review. Accordingly, four key independent variables were identified and measured. These are farming system, marketing dimension, working and living

condition and environmental protection which are the practices of SCCS. Hence, the dependent variable of the study is certification benefits including the three pillars of sustainability-economic, social, and environment.

A 5 point likert scale with respondents' answers ranging from "strongly disagree" to "strongly agree" was used to collect information so as to measure the variables. The measurement of each variable is explained as below.

### **Dependent Variable -Certification benefits**

Dependent variable (certification benefits) was measured by the respondents' perception responded for the questions raised to them over the certification benefits containing the three acknowledged pillars of sustainability. The dependent variable, certification benefits, is measured by:

- Economic (revenue growth),
- Social (social wellbeing of workers and their family), and
- Environmental conditions (protection of primary forest and conservation of natural resource)

### **Independent variables-Sustainable Coffee Certification Schemes Practices**

Four independent variables were selected for this study including farming system, marketing dimension, working and living conditions and environmental protection each of which was measured by their respective indicators as mentioned below.

#### **a) Farming system**

The effect of farming system over the certification benefits was measured on 7 core indicators: farming practices and farm management, quality of product, productivity, renovation of old coffee trees, expansion of certified coffee land, training to upgrade skill and record keeping for product traceability issue. The improvements over these indicators as a result of the practice of coffee certification would definitely lead to revenue growth which in turn lead to economic benefits.

#### **b) Marketing dimension**

The effect of marketing dimension over the certification benefits was measured also by 7 key indicators: buyer's preference for certified product, demand of certified coffee, higher price, premium, access to market information, stable commercial relationship and increasing sales outlets which all of these are related to economic consequence.

#### **c) Working and living condition**

The effect of working and living condition was measured by 10 indicators: respect of minimum legal wage, working hour, no forced or child labor, education previlage, free association, no

discrimination, health care, provision of safe water, provision of sanitary facilities and use of protective equipment, all of which are related to social issues.

**d) Environmental Protection**

The effect of environmental protection was measured by 9 key indicators: biodiversity promotion, protection of forest, coffee shade management, absence of wildlife hunting, water conservation, treatment of residual water, soil content or quality analysis, absence of soil erosion, and waste management, all which are related to environmental issues.

Table 3.2: Operationalization of variables

<b>Variables</b>	<b>Definition</b>	<b>Measurement</b>	<b>Expected sign on dependent variable</b>
Certification benefits	It refers to the overall satisfaction of respondents on the certification benefits over the three pillars of sustainability namely, economic (revenue growth), social (social wellbeing) and environment (protection of natural resources)	Likert scale using five points 1=strongly disagree to 5= strongly agree	+/-
Farming System	It refers to the effect of certification on farming practices and management, quality of product, productivity, renovation, expansion of certified coffee, training to upgrade skill and record keeping for product traceability	Same as above	+/-
Marketing Dimension	It refers to the effect of certification on preference, demand, premium, and price for certified coffee, access to information, stable relationship, and alternative sales outlets	Same as above	-/+
Working and Living Conditions	It refers to the effect of certification on minimum legal wage, working hour, child labour, education, free association, discrimination, health care, safe water, sanitary and providing protective device for workers	Same as above	+
Environmental Protection	It refers to the effect of certification on biodiversity, protection and conservation of natural resources and waste management	Same as above	+

Source: Developed based on literatures

### **3.7 Data Analysis Method**

Collected data using questionnaires were analyzed using statistical package for social scientists (SPSS version 21). The methods of analysis employed for the study were descriptive statistics, Spearman rank-order correlation and Chi-Square test. The descriptive statistics was used to quantitatively describe the important features of the variables using mean, standard deviations, and histogram. The correlation analysis was used to identify the relationship between the independent and dependent variables. The Chi-Square analysis was also used to indicate the association and effect of the independent variables with/ on the dependent variable.

### **3.8 Ethical Considerations**

The purpose of the study was communicated to the participants prior to the study and data collection was carried out only after obtaining the respondent's full consent for voluntary participation. Respondents were told not to disclose their names. They were also informed that data collected for the study in this regard would never be used for any purpose other than for academic purpose. Hence, the study has been conducted with highest level of ethical considerations throughout the research.

## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND DISCUSSION

#### 4.1 Introduction

The chapter presents the result of the survey organizing into six sections. The first section presents introduction. The second section presents the response rate of the respondents, the third section discusses the descriptive information about respondents' profile, the fourth section discusses the drivers and motivations toward certification programmes, the fifth section presents descriptive and inferential analysis in relation to the main objective of the study, and the sixth section presents other strategies to enhance certification benefits.

#### 4.2 Survey Response Rate

A questionnaire (as contained in Annex 1 of this study) was developed and distributed to all 148 targeted respondents identified from the seven sample selected certified commercial coffee farms. Those who filled and returned the questionnaire were 135 respondents making a response rate of 91.2% as shown in the table below. Table 4.1 given below shows survey response rate.

Table 4.1: Survey response rate

Unit	Study Sample Size	Questionnaire distributed	Completed and returned questionnaire	Distributed but not returned questionnaire
No.	148	148	135	13
%		100%	91.2%	8.8%

Source: Primary data, 2016

#### 4.3 Profile of Respondents

To describe the demographic profile of the respondents participated in this study; cross tabulations were run to capture their academic level, number of years worked for the particular farm, work station, and training provided on coffee certifications. The findings are indicated in Table 4.2 below.

Table 4.2: Characteristics of respondents

Characteristics of respondents	No. of Respondents	Percentages
<b>Academic Level</b>	<b>Total=135</b>	<b>Total=100%</b>
Certificate	1	0.7
Diploma	30	22.2
Bachelor's Degree	93	68.9
Master's Degree	10	7.4
PhD Degree	1	0.7

<b>Length of Experience</b>	<b>Total=135</b>	<b>Total=100%</b>
less than 3 years	23	17.0
3-5 years	21	15.6
6-10 years	35	25.9
over 10 years	56	41.5

<b>Activity Area</b>	<b>Total=135</b>	<b>Total=100%</b>
Production/farm operation	112	83.0
Marketing/Sales	8	5.9
Certification	6	4.4
Quality/Processing	9	6.7

<b>Training taken on certification programmes</b>	<b>Total=135</b>	<b>Total=100%</b>
Yes	111	82.2
No	24	17.8

Source: Primary data, 2016

#### **a) Academic level of respondents**

As shown in Table 4.2 above, a significant part of the respondents who answered the questionnaire were holders of Bachelor's degree (68.9%), followed by Diploma (22.2%) and Master's degree (7.4%). One respondent was holder of PhD (.7%) and another one attended certificate level (0.7%). The academic level of the respondents shows that most of the respondents were highly qualified.

#### **b) Number of years served in the particular farm**

As indicated in Table 4.2 above, 41.5% of the respondents indicated they had served the farm for over 10 years. 25.9% of the respondents indicated they had worked in the farm for a period between 6 to 10 years. 15.6% of the respondents indicated they had worked for a period between 3 to 5 years while 17% indicated they had worked in the farm for less than 3 years. This implies that the majority of the respondents had been working in the farm for a considerable number of years to distinguish the change observed as a result of the adoption and implementation of coffee certification.

#### **c) Activity area/Work station**

From the result of Table 4.2 above, majority of the respondents were currently based in the production/farm operation departments represented by 83% of the respondents. The remaining respondents indicated that their work stations were at the Marketing/Sales (5.9%), Certification (4.4%) and Processing/Quality (6.7%) departments where their duties were directly or indirectly related with coffee handling or trading in line with coffee certification guidelines. It is assumed that

the application of coffee certification is mostly exercised by these four departments and as such most of the respondents had vast knowledge and experience on the coffee certification schemes.

#### d) Training on coffee certification programs

The respondents were required to indicate whether they had ever been trained on coffee certification. As shown in Table 4.2 above, the majority of the respondents (82.2%) indicated that they were provided with training on certification. This implies that majority of the respondents were familiar with certification and aware of its outcome.

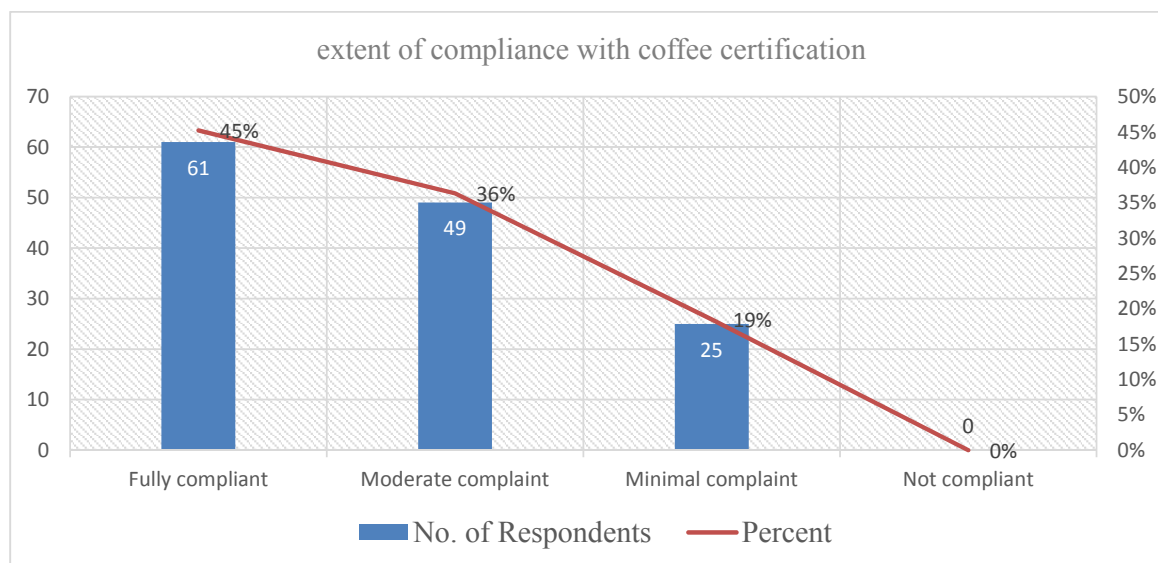
### 4.4 Drivers and Motivations towards Certification Programmes

This section analyses the drivers and motivations of commercial coffee farms towards certification programs in line with the specific objectives of this study. First, analysis will focus on the extent of compliance of certified commercial coffee farms with the implementation of SCCS. Second, the focus will be on the drivers of commercial coffee farms to enter into a certification programs. Third, the focus will be on the motives of certified commercial coffee farms to be part of the certification programs.

#### 4.4.1 Extent of Compliance with the Implementation of Coffee Certification

The study sought to determine the extent to which the certified commercial farms have complied with the implementation of certification programmes. Figure 4.1 below reveals extent of compliance to coffee certification.

Figure 4.1: Extent of compliance with coffee certifications



Source: Primary data, 2016

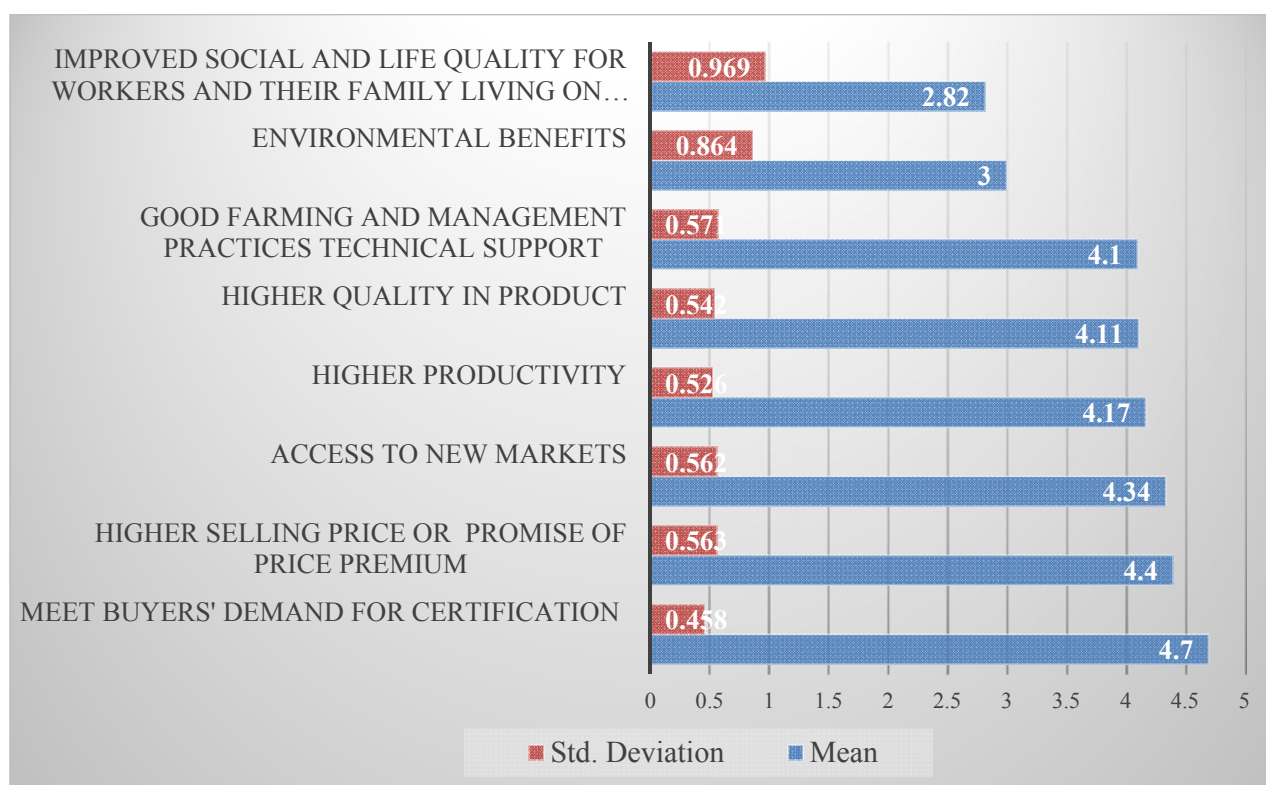
From the findings in the figure above (Figure 4.1), the majority of the respondents (45%) indicated their farms have fully complied to the standards of various coffee certifications, 36% of the

respondents indicated that their farms are moderately compliant to various coffee certifications and 19% of the respondents indicated that their farms are minimal compliant to the various coffee certifications.

#### 4.4.2 Reasons for Joining the Certification Programmes

The study sought to determine the major reasons why the certified commercial coffee farms joined the certification programs. The findings are presented in Figure 4.2 below by bar chart using descriptive statistics of mean and standard deviation. All the 135 respondents rated their responses based on the likert scale using five points (strongly disagree to strongly agree) for each of the eight determinants shown in Figure 4.2 below.

Figure 4.2: Reasons for joining certification programmes by certified farms



Source: Survey result, 2016

From the findings in the Figure 4.2 above, most of the survey respondents strongly believed that one of the major reasons for the commercial coffee farms to join the certification programmes is to meet buyers' prerequisite of certification during negotiation of coffee transaction as indicated by a mean response of 4.70.

Most of the respondents also agreed that, apart from the pressure from buyers for farms to provide certification, commercial coffee farms approached certification programs with the

expectations of appreciating higher market opportunities, like getting higher selling price or premium price promise (with a mean response of 4.40), and access to new and better markets ( with a mean response of 4.34).

Other important factors agreed by most of survey respondents as to what drives commercial coffee farms to join certification programs are the expectation of improved farming operation via higher productivity (with a mean response of 4.17), higher quality in product (4.11), and good farming and management practices technical support (with a mean response of 4.10).

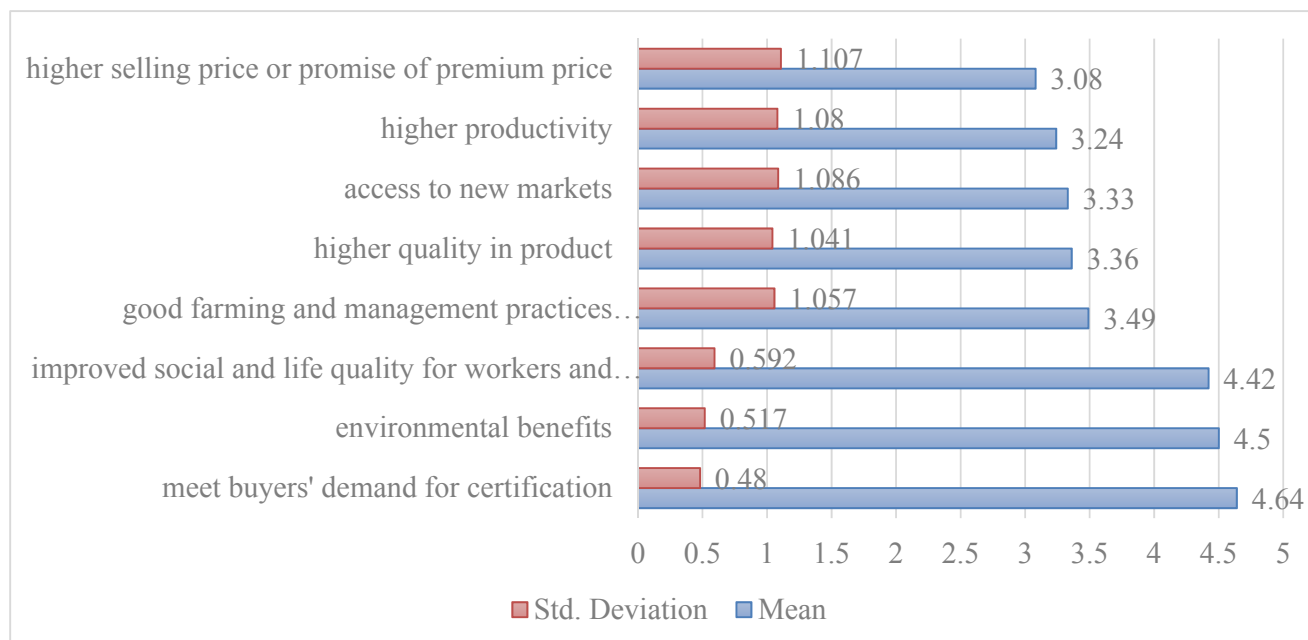
However; little attention was given by most of the respondents for non-economic reasons (i.e.; social and environmental benefits) for the commercial coffee farms to join the certification programmes with a mean response of 3.00 for environmental benefits and 2.82 for improved social and life quality for workers and their family living on the farm site.

Hence, economic incentives (i.e. market opportunities and improved farming operation) are the main determinant and important reasons of commercial coffee farms to enter into a certification program. Social and environmental factors were not the significant factors for commercial coffee farms to join a certification program as compared to the economic drivers.

#### 4.4.3 Reasons for Staying into Certification Programmes

The study sought also to determine the major reasons why the commercial coffee farms remain part of the certification programmes after joining the programmes. The findings are presented in Figure 4.3 below by bar chart using descriptive statistics of mean and standard deviation.

Figure 4.3: Reasons for staying in the certification programmes after joining the programmes



Source: Survey result, 2016

All the 135 respondents rated their responses based on the likert scale using five points (strongly disagree to strongly agree) for each of the eight determinants shown in Figure 4.3 above. The drivers identified for joining certification programs, presented in the previous section 4.4.2, change significantly when analyzing the reasons convincing commercial coffee farms to stay into the certification programs after joining the programmes.

From the finding in the Figure 4.3 above, most of the survey respondents strongly believed that meeting buyers' demand for certification as a prerequisite for concluding sales contract is still the major reason for commercial coffee farms to stay into the certification programs as indicated by a mean response of 4.64, the only factor that has high level of agreement of respondents for both reasons, for joining and staying in to the certification programs.

The other two main factors strongly believed by most of the survey respondents for the commercial coffee farms to stay into the certification programmes are environmental benefits (with a mean response of 4.50) and improved social and life quality for workers and their family living on the farm site (with a mean response of 4.42). From the result, it is evident how the commercial coffee farms are highly satisfied in the environment and social benefits as a result of the adoption of coffee certification.

Others but less important factors agreed by most of the survey respondents as to what motivates commercial coffee farms to stay into the certification programs as compared to environment and social factors are the satisfaction from increased farming operation via good farming and management practices technical support (with a mean 3.49), higher quality in product (with a mean 3.36) and higher productivity (with a mean 3.24). Also less attention was given by most of the respondents for reasons access to new markets with a mean response rate of 3.33 and higher selling price or promise of premium price with a mean response of 3.08 for staying into the certification programmes.

Overall, it is interesting to notice the expectations of commercial coffee farms where in terms of environment and social benefits significantly increasing and in terms of higher selling price or premium price significantly declining after joining the certification programmes. This result is consistent with a previous finding from Colombia small holder coffee farmers by (Trimarchi, 2015), which shows economic motivation hence is the main determinant and transversal reason to enter into a certification programmes and, except for Organic certified farmers, the main drivers of Fairtrade and Rainforest Alliance certified small farmers toward certification changed to social and environmental motivations after joining the programmes.

Table 4.3 below compares the differences between before and after joining the certification programmes on each of the major determinant or reason using descriptive statistics by paired samples t-test.

Table 4.3: Paired sample t-test for comparing before and after joining certification program

Determinants	Mean After	Mean Before	Paired Samples t Test	df	Sig. (2-tailed)
meet buyers' demand for certification	4.64	4.70	-1.337	134	.183
higher selling price or premium price promise	3.08	4.40	-12.100	134	.000
access to new and better markets	3.33	4.34	-10.237	134	.000
good farming and management practices technical support	3.49	4.10	-5.955	134	.000
higher productivity	3.24	4.17	-9.506	134	.000
better quality in product	3.36	4.11	-7.470	134	.000
improved social and life quality for workers and their family living on farm site	4.42	2.82	16.683	134	.000
environmental benefits	4.50	3.00	16.231	134	.000
Valid Number =135					

Source: Survey result, 2016

From the findings in the Table 4.3 above, there is no significant difference on the determinant to meet buyers' demand for certification before and after joining the certification programmes as indicated by t-value -1.337 since  $p$  value is greater than 5%, which is 18.3%. This implies that the determinant to meet buyers' demand for certification is still the major reason both for joining and staying into the certification programmes.

There is significant difference on the expectation of commercial coffee farms after joining the certification programmes on the determinants of higher selling price or premium price promise, access to new and better markets, higher productivity, better quality in product, and good farming and management practices technical support as indicated by t-values -12.100, -10.237, -9.506, -7.470 and -5.955 respectively with  $p$  value less than 5%. These are economic reasons and the expectation of commercial coffee farms for these factors were significantly declining after joining the certification programmes.

On the contrary, the expectation of commercial coffee farms for the determinants of non-economic reasons (social and environmental dimensions) such as improved social and life quality for workers and their family living on farm site and environmental benefits were significantly and positively increasing as indicated by t-values 16.683 and 16.231,  $p$  value less than 5%.

To sum up, from the result of Table 4.3 above, after joining the certification programs, economic related reasons created by certification look to have particularly low importance, and social and environmental benefits obtained from certification have high importance when comparing the expectation and satisfaction factors before and after entering the certification programs. This does not mean that commercial coffee farms do not acknowledge the economic benefits created by certification, rather that they experienced a shift in drivers from economic to social and environmental benefits.

In Ethiopia, until recently small number of commercial coffee farms, not more than 9% of the total commercial coffee farms in the country, have joined the various certification programmes. Many of the commercial coffee farms have not yet joined the programmes despite sustainability certification have been widely applied in the global coffee industry and yet the most pressing issue. Though, the reason for not yet joining the programmes by these farms may need its own further study and beyond the focus of this study, the successful engagement with certification can help in nurturing sustainable development on the three pillars namely economic, social and environment in the certified commercial coffee farms.

#### 4.5 Factors Influencing Certification Benefits

The components of SCCS practices considered in this study are farming system practices, marketing dimension, working and living conditions, and environmental protection practices. In this section the factors that could influence the certification benefits over the three acknowledged pillars of sustainability;- economic, social, environment have been examined using descriptive statistics, Spearman’s Rank-Order correlation, and Chi-Square test statistics.

##### 4.5.1 Sustainable Coffee Certification Schemes Practices- Descriptive Statistics

Table 4.4: Descriptive statistics of the variables

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Farming system	135	2.14	5.00	4.0360	.47564
Marketing dimension	135	2.43	4.86	3.8751	.45122
Working and living conditions	135	3.30	5.00	4.2985	.43981
Environmental protection	135	3.00	5.00	4.2675	.43061
Certification Benefits	135	3.20	5.00	4.3541	.39771

Source: Survey result 2016

##### a). Farming System Practice

To assess the coffee certification impact on the farming system practice in the certified commercial coffee farms in south western Ethiopia, respondents were asked on seven indicators and most of the respondents agreed with the given statements with overall mean 4.036 as indicated in Table 4.4 above.

This high level of agreement indicates that the implementation of coffee certification has improved farming practices and farm management, certification has increased quality and productivity of coffee production, renovation of coffee plantation has been carried out on the certified farms to avoid a low level of production resulted from old coffee trees, there is a practice of expansion of land dedicated to certified coffee production on their farms, training given in line with certification is fostering good agricultural practices, and certified coffee is kept separate from non-certified coffee to ensure traceability all along processing and handling stages of coffee. In general, the majority of the respondents agreed that the implementation of coffee certification has enhanced the practice of farming system in the certified commercial coffee farms in south western Ethiopia, which such improvements have the potential to lead the certified commercial coffee farms to operate in economically viable and profitable environment.

#### **b). The Marketing Dimension of Certification**

To assess the marketing dimension of the coffee certification in the certified commercial coffee farms in south western Ethiopia, seven questions were asked and most of the respondents agreed on the given statements with overall mean value 3.875 as presented in Table 4.4 above. This high level of agreements indicates buyers prefer to purchase more certified coffee than non-certified coffee, higher selling prices and premium are achieved for certified coffee as compared to non-certified coffee, portion of certified coffees are sold as conventional coffee instead all certified coffees are sold as certified coffee, certification has created better access to more markets and pricing information and created stable commercial relationship with buyers on long term basis. Also most of the respondents indicated that holding multiple certifications is more beneficial than having a single certification. To this extent, except one farm, the rest six sample selected farms have more than two coffee certifications. However, some respondents commented that the certification costs like charges for annual certifications, costs associated with implementing the requirements of certifications including improving internal control system and seeking technical assistance are often beyond the reach of many coffee growers. Hence, the implementation of coffee certification has been seen by most of certified farms as one way to supply the coffee to the international markets since the demand for certified products globally has been grown rapidly.

#### **c). Working and Living Conditions**

Ten questions were raised to the respondents on the working and living conditions and for most respondents the requirements of sustainable coffee certification schemes concerning working and living conditions were sufficiently complied by the farms as indicated by overall mean level of agreement 4.298 in Table 4.4 above. Such social benefits include the provision of fair employment

(respect the minimum wage and maximum working hours by the farms, absence of child and forced labour, prevention of discrimination in any form, workers can take part in collective bargaining freely) and the provision of health and education (safe water, sanitation service, safety equipment, and access to primary health care and school for children living on the farm sites).

#### **d). Environmental Protection Practice**

There is also high level of respondents' agreement (mean 4.267 as indicated in Table 4.4 above) on nine questions raised concerning the practice of environmental protection in the certified coffee farms in south western Ethiopia as a result of the implementation of coffee certification schemes. The high level of respondents' agreement indicates coffee certification schemes have played a key role in keeping biodiversity, protecting wildlife, planting trees for coffee shade, preserving natural resources close to the farm site, and treatment of water and soil in the certified commercial coffee farms in south western Ethiopia.

#### **e). Certification Benefits-Dependent Variable**

The perception of the respondents on the coffee certification benefits over the three pillars of sustainability has a high level of agreement with a mean 4.354 as indicated in Table 4.4 above. In general most of the respondents agreed that owning certification increases organizational concerns for social issues, natural environment and economic performance. On the other hand, most of the respondents agreed coffee certification process is time consuming and costly and administering and implementation requires support of experts. This infers that coffee certification schemes offers economic, social and environmental benefits at the certified farm level though the costs associated to implement the schemes cannot be preventable.

Results from previous studies are mixed and contradictory on the effects of sustainable certification on socioeconomic or environmental impacts which the vast and majority of studies were organic and/ or Fairtrade at the level of small holder farms, hence research is still missing for other important programmes such RA, UTZ, 4C, CP or AAA Nespresso at the level of commercial coffee farms. Arnould et al.( 2009) finds that certification has significant socioeconomic benefits. Blackman and Naranjo (2012) finds that certification has a significant environmental impact. Fort and Ruben (2008) did not register any significant impact of certification. Trimarchi (2015) shows certification programmes have significant positive impacts on the socioeconomic life and environmental condition of smallholder producers.

#### 4.5.2 The Relationship between Sustainable Coffee Certification Schemes and Certification Benefits

Spearman's rank-order correlation and Chi-Square test analysis were employed for the study to determine the relationship between the independent and dependent variables since the data for both variables are ordinal level of measurement.

##### 4.5.2.1 Spearman's Rank-order Correlation Analysis

Table 4.5: Spearman correlation analysis

Variables	Certification Benefits	Farming System	Marketing Dimension	Working and Living Conditions	Environmental Protection
Certification Benefits	1				
	135				
Farming System	.500**	1			
	135	135			
Marketing Dimension	.439**	.319**	1		
	135	135	135		
Working and living conditions	.622**	.429**	.482**	1	
	135	135	135	135	
Environmental Protection	.548**	.461**	.335**	.636**	1
	135	135	135	135	135

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS correlation result 2016

Table 4.5 above shows the results of Spearman's rank-order correlation analysis among the variables. As shown in the above table, there is a significant correlation between the four independent variables namely, farming system, marketing dimension, working and living condition and environmental protection and the dependent variable i.e. certification benefits consisting the three pillars of sustainability - economic, social and environment. The correlations between dependent and independent variables and between each independent variables are statically significant and positive as indicated by double asterisk (\*\*) for two-tailed test, at  $p$  value < 1%.

- There is a strong positive correlation between the farming system practices and certification benefits with a correlation coefficient of 0.5 at 99% confidence level. The correlation is statistically significant since it has a p-value < 1%.
- There is a moderate positive correlation between the marketing dimension of certification and certification benefits with a correlation coefficient of 0.439 at a precision level of 99%. The correlation is statistically significant since it has a p-value < 1%.

- There is a strong positive correlation between working and living conditions and certification benefits with a correlation coefficient of 0.622 at 99% confidence level. The correlation is statistically significant since it has a p-value < 1%.
- There is also a strong positive correlation between environmental protection practices and certification benefits with a correlation coefficient of 0.548 at 99% confidence level. The correlation is statistically significant since it has a p-value < 1%.

#### 4.5.2.2 Chi-Square Test Results

Chi-Square test was made for each independent variable against dependent variable by combining items under each variable and the result is shown in the Table 4.6 below.

Table 4.6: Chi-Square test results

	Chi-Square test results			Accept/ Reject
	Value	df	Sig.(2 sided)	
Farming system *Certification benefits	<b>24.454</b>	6	<b>.000</b>	Accept
Marketing dimension*Certification benefits	11.611	6	.071	Reject
Working and Living conditions * Certification benefits	<b>43.055</b>	4	<b>.000</b>	Accept
Environmental protection *Certifications benefits	<b>29.050</b>	4	<b>.000</b>	Accept

Source: SPSS Chi-Square test results 2016

From the results presented in Table 4.6 above:-

- There is a significant association between farming system practice and certification benefits since the Chi-Square value has a corresponding  $p$ - value less than 5% ( $p=0.000$ ). This result implies that the farming system practice because of the implementation of sustainable coffee certification schemes has a significant effect on the certification benefits over the three pillars of sustainability-economic, social and environmental benefits, at the level of certified commercial coffee farms in south western Ethiopia.
- There is no significant association between the marketing dimension of certification and certification benefits since the Chi-Square value has a corresponding  $p$ - value greater than 5%, which is 7.1%. Thus, the marketing dimension of certification has no effect on certification benefits.
- There is a significant association between working and living conditions practice and certification benefits since the Chi-Square value has a corresponding  $p$ - value less than 5% ( $p=0.000$ ). This result implies that the working and living conditions practice because of the sustainable coffee certification schemes has a significant effect on the certification benefits

over the three pillars of sustainability-economic, social and environmental benefits at the level of certified commercial coffee farms in south western Ethiopia.

- There is a significant association between environmental protection practice and certification benefits since the Chi-Square value has a corresponding  $p$ - value less than 5% ( $p=0.000$ ). This result implies that the environmental protection practice because of the sustainable coffee certification schemes has a significant effect on the certification benefits over the three pillars of sustainability-economic, social and environmental benefits at the level of certified commercial coffee farms in south western Ethiopia.

#### **4.6 Other Strategies to Enhance Certification Benefits**

Besides the statements presented under the likert scale using five points, the respondents were also asked to comment how they view the various coffee certification schemes. Only 27 respondents gave additional comments or suggestions while the majority did not show interest to give additional comments regarding their personal opinion related to the certification schemes.

Most of the additional comments or suggestions from the respondents relating to coffee certifications are about lack of policy at national level, lack of national certifying body, alignment with standards, and harmonization of standards.

##### **a) Lack of Policy at National Level**

The respondents believed that there must be certification policy at national level in order to support and facilitate the implementation of various certification schemes in the country due to the rapid growth and trend of coffee certifications. This will also help other farms, not yet joined the programmes, to respond to the programmes.

##### **b) Lack of National Certifying Bodies**

So far, unlike some African countries, example Kenya, coffee certification activities in Ethiopia are conducted by foreign certification bodies or branches of foreign certification bodies. But stakeholders across the coffee sector have to come together and discuss on how to have accredited national certification bodies so as to reduce high transaction costs of existing certification system, which is probably the greatest challenge to join certification schemes particularly for small and medium coffee farms.

##### **c) Alignment with Standards**

Those respondents who gave additional comments believed that in order to achieve more benefits from the certification schemes, fully complied and successfully engagement with the standards of specific certification scheme is very important.

#### **d) Harmonization of Standards**

Those respondents who gave additional comments also suggested that harmonization of standards of various certifications are required to reduce costs and time to adopt and implement multiple certification schemes.

Numbers of coffee certification programmes initiated by private sectors have been imposed to coffee growers. Currently, there are about eight coffee certification schemes i.e. organic, fairtrade, birds-friendly, UTZ, RA, 4C, CP and AAA operating globally. Even though certification schemes operate in similar ways and have a key objective to promote sustainable practices in the coffee supply chain, they differ in their specific focus and requirements. These differences in requirement confuse both coffee growers/suppliers and consumers as to which specific certification is better. Multiple-certifications might be beneficial, as it provides with access to different market channels, but total costs of certifications may increase as investments are made for adapting specific requirements of each certification in addition to cost of regular audit. This can affect the attractiveness of schemes to coffee growers for joining or staying in them. Therefore, harmonization of various certification standards (alignment of various certification standards) should be advisable from an economic view point. This requires the collaboration of all stakeholders working along the coffee sector such as coffee growers, traders, private sectors, donors, NGOs, governments, buyers, above all very high commitment of the certifying bodies and International standard policy makers to work towards the promotion of recognized standards within the market place and standard harmonization. This could take different forms, for example better alignment of requirements, recognition of chain of custodies, joint auditing and/ or joint invoicing of payments to schemes. This enables multiple certified coffee growers to organize, example one audit instead of entertaining audit per each schemes.

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

The purpose of this study is to assess the effect of the practices of sustainable coffee certification schemes on the certification benefits over the three pillars of sustainability-economic, social and environmental- at the level of certified commercial coffee farms in southwestern Ethiopia. This chapter presents summary of the findings, conclusion drawn from the study and recommendations on the major findings and for further study.

#### **5.2 Summary of Findings**

- ❖ The study finds that among the four variables considered in the study, the practice of farming system, working and living conditions and environmental protection in line with the requirements of the various sustainable coffee certification schemes have significant effect on the three pillars of sustainability-economic, social and environmental at the level of certified commercial coffee farms in southwestern Ethiopia. But no significant effect was observed for the marketing dimension of certification in transferring the benefits from certification over the three pillars of sustainability at the level of certified commercial coffee farms in southwestern Ethiopia.
  
- ❖ The study also finds that, apart from the pressure from buyers for farms to provide certification, most of the certified commercial coffee farms in southwestern Ethiopia joined the certification schemes initially in anticipation of only economic incentives like achieving higher selling prices and premium prices through certification. Less attention was given for non-economic reasons (social and environmental issues) for joining the certification schemes due to low level of awareness about certification. But after joining the certification, this expectation tends to shift from economic reasons to non-economic reasons (social and environmental issues) for staying into or to be part of the certification programmes. In fact, it was noted that the expectations of commercial coffee farms where in terms of environment and social benefits significantly increasing and in terms of higher selling price or premium price significantly declining after joining the certification programmes. In general, from the descriptive analysis, most of the respondents were optimistic with high level of agreement that coffee certification offered the benefits over the three pillars of sustainability -economic, social and environmental. However, certification is not actively promoted or well understood by those who are attracted for joining the program.

- ❖ Certification is considered as a tool to address a growing worldwide demand for healthier and more socially and environmentally friendly products in the international markets. To this effect, it is critical for coffee growers to have multiple certifications than only holding a single certification because multiple certifications can serve as a base for market diversification or source of different market channels for certified coffee. Nevertheless, certification can only be one tool in this regard. However, some respondents commented that the certification costs like charges for annual certifications, costs associated with implementing the requirements of certifications including improving internal control system and seeking technical assistance are often beyond the reach of many coffee growers. Therefore, the relatively high costs and technical support needed for the implementation challenge the broader adoption of multiple certification and, on the other hand the existing various certification schemes for a single coffee bean create confusion both on the growers and consumers as to which scheme is more important.
  
- ❖ It seems today coffee certification is no more an option but necessity. However, the number of certified commercial coffee farms are very few in Ethiopia regardless of the rapid growth and necessity of coffee certification globally. As also revealed in this study, out of the estimated 176 commercial coffee farms currently operating in the country, the number of certified farms are not more than 9%. Many more commercial coffee farms have not yet joined any of the certification scheme.

### **5.3 Conclusion**

Recognizing the importance of coffee to the economies of many countries and the challenges faced by the coffee sector from global economic crisis, impacts of climate change, speculation, rising production costs, and volatile coffee prices, the ground for sustainable coffee development has been discussed by many scholars in the field and promoted largely. The threat of global warming has brought sustainability business practices to the forefront. Production activities are categorized as sustainable if the three pillars of sustainability can be met namely environmentally friendly, socially responsible and economically traceable, safe and valuable. All sustainability standards refer to the three acknowledged pillars of sustainability-economic, social and environmental.

One way to address the three elements of sustainability is through certification and verification schemes. Certification is a procedure whereby an accredited third party provides written assurance that a product or process conforms to certain standards, which are prepared with reference to the economic viability of the farmers, preservation of the environment and social responsibility. The

granting of the written assurance or “certificate” is based on the inspection report, possibly complemented by other sources of information. There are presently eight certification schemes operating for coffee globally:- Organic, Fairtrade, UTZ, Rainforest Alliance, Bird Friendly, C.A.F.E practices, AAA and 4C. Coffee certifications are increasingly required by buyers and consumers in the main markets of North America, Europe and Japan.

Although certification is a new and recent phenomenon in Ethiopia, various types of coffee certifications such as Fairtrade, Organic, UTZ, RA, 4C, CP and Bird Friendly have been implemented since 2002. However, the number of certified commercial coffee farms in Ethiopia are not more than 9% of the commercial coffee farms operating currently in the country. By definition and design, all coffee certification programmes are expected to have three dimensions namely Economic, Environmental and Social but evidences that certification can achieve these benefits is not always clear-cut. Most of the previous studies on the impact of certification have focused on the economic side of the programmes for Organic and Fairtrade certifications, with discordant results; and yet almost all of the studies have concentrated on small holder coffee producers. Thus, research is still missing for certified commercial coffee farms and for other certifications like UTZ, RA, CP and 4C. This study, therefore, focused on whether in practice the certification schemes could deliver benefits on each sustainability pillar: economic, social, and environmental at the level of certified commercial coffee farms in southwestern Ethiopia. The study result reveals that certified commercial coffee farms in general can be benefited from certification schemes on the three pillars of sustainability-economic, social and environmental benefits. The study finds that the practice of farming system, working and living conditions and environmental protection carried out in line with the standard requirements of the various certification schemes will have significant effect on the three pillars of sustainability.

#### **5.4 Recommendations**

On the basis of the findings of the study, the following recommendations are forwarded;

- ❖ First, successful engagement with the certification programmes and effective adherence to standards of various certification schemes by the certified commercial coffee farms are highly recommended in order to achieve the benefits from certification at higher level. Hence, the management of the certified coffee farms should pay more attention on the practice of farming system, working and living conditions and environmental protection in line with the standards of already implemented certification schemes in order to improve the benefits to be realized from certification on the three acknowledged pillars of sustainability- economic, social and environmental issues.

- ❖ Second, certifications' key benefits are not necessarily only economic reasons in the first instance as also revealed in this study. The certified coffee farms should not target only the financial incentive like premium and high selling prices for joining or staying in the certification schemes. Because the overall benefits from certifications may far outweigh the financial benefits. Subjective evidence suggests that farmers who engage with certification most successfully are those who are not driven by price premium but who consider the developmental, or indeed environmental or health (social) benefits (Emma and James, 2012). Therefore, the certifying bodies as well as the government should actively promote the necessity and benefits of certification in the coffee sector and render extensive training to the coffee farms in this regard so as to increase acceptance and awareness of certification and guarantee a minimum level of knowledge of the certification standards in the coffee farms.
- ❖ Third, harmonization of the various coffee certification schemes existing or coming to exist for a single coffee bean or alignment of their standards should be advisable from an economic view point in order for the coffee growers to reduce related costs and time to implement the multiple certification schemes and improve accessibility. This requires the collaboration of all stakeholders working along the coffee sector including governments, coffee growers, traders, private sectors, donors, NGOs, buyers, above all very high commitment of the certifying bodies, accreditation bodies, and International standard policy makers to work towards the promotion of recognized standards and standard harmonization to support these efforts.
- ❖ Fourth, the need to have sustainable coffee certification policy at national level by the government is required in order to facilitate and support the sustainable coffee certification system in the country. In addition, stakeholders across the coffee sector in the country should come together and discuss on how to have accredited national certification bodies, like in some African countries eg, Kenya, so this will enable to reduce the high transaction costs incurred for foreign certification bodies and encourages non-certified coffee farms to join the certification program.

## **5.5 Recommendations for Further Study**

Based on the conclusions from this study, the following areas have been identified where further research would be advisable.

- Studying major determinants for non-certified commercial coffee farms for not joining the various certification schemes is beyond the scope of this study but it would be an important area for future research.
- It would be more important, if future research focuses on the net benefits of individual certification program at the level of commercial coffee farms by comparing certified farms against non-certified farms.

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## Appendix (1)-Questionnaire

Kindly tick [ ✓ ] your answer in the appropriate box or respond by writing if required.

### PART ONE: Profile of Respondents

1. Age:

- Under 20 years old [ ]      20 to 29 years old [ ]      30 to 39 years old [ ]  
40 to 49 years old [ ]      50 to 59 years old [ ]  
60 and over 60 years old [ ]

2. Gender:

- Male [ ]      Female [ ]

3. Academic Level

- Certificate [ ]      Diploma [ ]      Bachelor's Degree [ ]  
Master's /PhD [ ]      other [ ] specify \_\_\_\_\_

4. How long have you worked for the organization?

- Less than 3 years [ ]      3 to 5 years [ ]      5 to 10 years [ ]  
Over 10 years [ ]

### PART TWO: General Information of Certified Farm

5. Name of coffee plantation \_\_\_\_\_

6. Your work station

- Production [ ]      Marketing/Sales [ ]

Certification [ ]

Others [ ] specify \_\_\_\_\_

7. Your position in the organization /works station

- Junior Officer [ ]      Supervisory [ ]      Middle Mgt [ ]

Top Mgt [ ]

Other [ ] specify \_\_\_\_\_

8. How old is your organization as commercial coffee grower? \_\_\_\_\_

9. Has your organization implemented coffee certification?

- Yes [ ]      No [ ]      I do not know [ ]

If you answered “No” or “I do not know”, for question no. 9 above, this is the end of the questionnaire for you and I thank you for your support.

10. If your answer for question no. 9 is “yes”, please tick the type of the certificate and the duration of the certificate since its implementation

<u>Type of Coffee Certificate</u>		<u>Duration of the certificate</u>			
UTZ	[ ]	1 year [ ]	2 years [ ]	3 years [ ]	>=4years [ ]
Rainforest Alliance	[ ]	1 year [ ]	2 years [ ]	3 years [ ]	>=4years [ ]
Café Practices	[ ]	1 year [ ]	2 years [ ]	3 years [ ]	>=4years [ ]
4C	[ ]	1 year [ ]	2 years [ ]	3 years [ ]	>=4years [ ]
Bird-Friendly	[ ]	1 year [ ]	2 years [ ]	3 years [ ]	>=4years [ ]
Organic	[ ]	1 year [ ]	2 years [ ]	3 years [ ]	>=4years [ ]
Fairtrade	[ ]	1 year [ ]	2 years [ ]	3 years [ ]	>=4years [ ]

11. Have you ever been trained on coffee certification?

Yes [ ] No [ ]

12. Have you ever participated in any of a workshop regarding coffee certification?

Yes [ ] No [ ]

13. Please state 2015/16 crop year coffee area and production as requested below in (a) and (b),  
(you may jump over this question, if you are not sure of it)

	<u>Total Coffee</u>	<u>Certified Coffee</u>
a) Coffee plantation Area in hectare	_____	_____
b) Annual Production in Quintal	_____	_____

**PART THREE:- Perception on the Sustainable Coffee Certification**

What is your overall perception with respect to coffee certification process, owning the certificate and its benefits?

Kindly rate how strongly you agree to disagree with each of the following statements by circling the appropriate number in the box.

Use scale of 1 to 5 where 1 is strongly disagree (SD), 2 is disagree (D), 3 is neutral (N), 4 is agree (A) and 5 is strongly agree (SA)

<b>Item</b>	<b>SD (1)</b>	<b>D (2)</b>	<b>N (3)</b>	<b>A (4)</b>	<b>SA (5)</b>
1. Coffee certification process is time consuming and costly	1	2	3	4	5
2. Administering and implementation certification guidelines requires support of experts	1	2	3	4	5
3. Owning certification increases organizational economic performance (eg. sustainable livelihoods or higher income)	1	2	3	4	5
4. Owning certification increases organizational concerns for the natural environment (eg. Primary forest protection and conservation of natural resources)	1	2	3	4	5
5. Owning certification increases organizational concerns for social issues (eg. Social welfare for workers and their family)	1	2	3	4	5

#### **PART FOUR: Independent Variable**

Kindly rate how strongly you agree to disagree with each of the following statements by circling the appropriate number in the box.

Use scale of 1 to 5 where 1 is strongly disagree (SD), 2 is disagree (D), 3 is neutral (N), 4 is agree (A) and 5 is strongly agree (SA)

<b>A. Farming System</b>	<b>SD (1)</b>	<b>D (2)</b>	<b>N (3)</b>	<b>A (4)</b>	<b>SA (5)</b>
6. Certification has improved <b>farming practices and farm management</b> that would enable the farm to be economically viable and profitable in the long term	1	2	3	4	5
7. Implementation of coffee certification has enhanced the <b>quality</b> of coffee	1	2	3	4	5
8. Implementation of coffee certification has improved coffee <b>productivity</b>	1	2	3	4	5

9. <b>Renovating</b> through stumping or planting new coffee plants is carried out whenever there are old trees on certified coffee plots that keep a steady level of low production	1	2	3	4	5
10. The farm has engaged in the <b>expansion</b> of certified coffee land in the last three years.	1	2	3	4	5
<b>11. Training</b> given in line with certification is fostering good agricultural practices	1	2	3	4	5
12. Certified coffee is kept separate from non certified coffee throughout all processing and handling stages and <b>records are kept to ensure traceability</b> of certified coffee	1	2	3	4	5
<b>B. Marketing Dimension</b>	<b>SD (1)</b>	<b>D (2)</b>	<b>N (3)</b>	<b>A (4)</b>	<b>SA (5)</b>
13. Buyers prefer to purchase <b>more certified coffee</b> than non certified coffee	1	2	3	4	5
14. Buyers are willing <b>to pay more</b> for certified coffee than non certified coffee	1	2	3	4	5
15. Certified coffees are sold at <b>premium prices</b>	1	2	3	4	5
16. No portion of certified coffee is sold as conventional coffee and all certified coffee are sold as <b>certified coffee</b> .	1	2	3	4	5
17. Certification has created better access to <b>more markets and pricing information</b>	1	2	3	4	5
18. Certification creates <b>stable commercial relationships</b> with buyers on long-term basis	1	2	3	4	5
19. <b>Multiple certifications</b> can be more beneficial than single certification in providing different sales channels for the coffee supplied to export market.	1	2	3	4	5
<b>C. Working and living conditions</b>	<b>SD (1)</b>	<b>D (2)</b>	<b>N (3)</b>	<b>A (4)</b>	<b>SA (5)</b>
20. The farm guarantee <b>minimum legal wage</b> for workers	1	2	3	4	5
21. The farm respects <b>maximum working hours</b> of workers	1	2	3	4	5
22. Being certified, <b>Child and forced labor</b> are absent in your farm	1	2	3	4	5
23. Children living on site and of school going age <b>go to school</b>	1	2	3	4	5

24. Workers are not subject to <b>discrimination</b> in hiring, remuneration, access to training, or opportunities, basis of gender, race, ethnicity, religion, or other	1	2	3	4	5
25. Workers can freely establish and join <b>worker's Associations</b> and take part in collective bargaining on working conditions	1	2	3	4	5
26. Workers and their family living on-site have access to primary <b>health care</b>	1	2	3	4	5
27. Workers have access to <b>safe drinking water</b> at work	1	2	3	4	5
28. Workers have access to <b>sanitary facilities</b> at work	1	2	3	4	5
29. Workers who handled hazardous activities are provided with <b>protective devices</b> for safety at work	1	2	3	4	5
<b>D. Environmental protection</b>	<b>SD (1)</b>	<b>D (2)</b>	<b>N (3)</b>	<b>A (4)</b>	<b>SA (5)</b>
30. The farm promotes <b>biodiversity</b> conservation both in terms of plants and animals	1	2	3	4	5
31. There is no or degradation of <b>forest</b> on the farm	1	2	3	4	5
32. As part of <b>reforestation</b> effort, the farm is engaging actively in planting trees so as to keep particularly nonproductive area with forest and to provide shade for coffee	1	2	3	4	5
33. There is no practice of <b>wildlife hunting</b> on the farm	1	2	3	4	5
34. <b>Water</b> bodies in the farm are properly protected from contamination	1	2	3	4	5
<b>35.</b> Residual or <b>waste water</b> from coffee berries processing is never released to the field and rather it is treated properly	1	2	3	4	5
36. <b>Soil quality</b> is properly maintained by the farm by using both organic matters and non organic (agro chemical) fertilizers	1	2	3	4	5
37. There is no <b>soil erosion</b> on the farm	1	2	3	4	5
38. There is environmentally friendly <b>waste management</b> practices on the farm	1	2	3	4	5

**PART SIX: Reasons for joining and staying to/in the certification Program**

39. To what extent do you agree with the following statements on the reasons for the certified commercial coffee farms joining the certification schemes?

Use scale 1 to 5 where 1 is strongly disagree (SD), 2 is disagree (D), 3 is neutral (N), 4 is agree (A) and 5 is strongly agree (SA)

<b>REASONS FOR JOINING THE CERTIFICATION PROGRAM</b>	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
meet buyers' demand for certification	1	2	3	4	5
higher selling price or promise of price premium	1	2	3	4	5
Access to new markets	1	2	3	4	5
Good farming and management practices technical support	1	2	3	4	5
Higher productivity	1	2	3	4	5
Higher quality in product	1	2	3	4	5
Improved social and life quality for workers and their family living on the farm site					
Environmental benefits	1	2	3	4	5

40. To what extent do you agree with the following statements on the reasons for certified commercial coffee farms are staying in the certification schemes?

Use scale 1 to 5 where 1 is strongly disagree (SD), 2 is disagree (D), 3 is neutral (N), 4 is agree (A) and 5 is strongly agree (SA)

<b>REASONS FOR STAYING IN THE CERTIFICATION PROGRAM</b>	<b>SD</b>	<b>D</b>	<b>N</b>	<b>A</b>	<b>SA</b>
meet buyers' demand for certification	1	2	3	4	5
higher selling price or promise of price premium	1	2	3	4	5
Access to new markets	1	2	3	4	5
Good farming and management practices technical support	1	2	3	4	5
Higher productivity	1	2	3	4	5
Higher quality in product	1	2	3	4	5
Improved social and life quality for workers and their family living on the farm site					
Environmental benefits	1	2	3	4	5



## **Appendix (2)-Background information on sample selected farms**

South western part of the country, the region selected for this study, is the major coffee growing area in Ethiopia. All the seven sample selected certified commercial coffee farms namely Limmu Coffee farm, Bebeka Coffee Estate SC., Ethio Agric-CEFT Plc, Tepi Green Coffee Estate SC., Green coffee Agro Industry plc, Bazen Agricultural and Industrial Development plc, and Limmu Kossa Agro Industry plc are owned by private investors.

The Limmu coffee farm head office, being situated in jimma town, Jimma Zone, Oromia region, about 356 km to the southwest of Addis Ababa, currently manages six coffee farms namely Gomma 1, Gomma 2, Kossaa, Gummer, Suntu and Cheleleki, which are found within 45km to 80km from jimma town. The first two farms are located in Gomma Woreda while Kossa and Gummer farms are located in Limmu Kossa Wereda. Suntu farm is found stretched within two neighbouring Weredas:-Limmu Kossa and Limmu Seka Weredas, The sixth farm, Cheleleki, is located in the Chora Boter Wereda. The Limmu farm has been in the coffee growing business for about four decades and owns about 7,731 hectares of land covered with coffee trees. All the farms have been certified by UTZ, RA, 4C and CP coffee certifications. In addition, Gummer coffee farm has also Organic Korean Certification. Each certification has been implemented by the farm for over three years since its adoption.

Bebeka coffee farm is located in the Southern region, in the Bench Maji Zone, South Bench and Guraferda Weredas, about 595km to the South West of Addis Ababa. The farm is in the coffee growing business for about 37 years with 5,241 hectares today covered with coffee trees. The farm is certified for UTZ, RA, 4C and Organic Korea certifications which all are operational for over three years.

Ethio Agri-CEFT, situated its head office in Addis Ababa, was established in 1997 and has four coffee farms namely Gummer, Duyena, Beha and Ayehu. Gumer and Duyena farms are located in Southern region, in Sheka zone, Anderacha woreda, some 643km and 651km to the south west of Addis Ababa respectively. Baha farm is also located in Southern region, in Keffa zone, Sheka Woreda about 520km to the southwest of Addis Ababa. However, Ayehu farm was not considered in this study since it is located outside the sample selected area, in Amhara region, North West of Addis Ababa. The total farm area under coffee trees is about 2,464 hectares which has been certified by UTZ, RA, CP and Organic Korea certifications. All certifications are in use for over three to five years.

Tepi coffee farm was established about 29 years ago. The plantation rests in two regional states, with 70% in Gambella region, in Mezhenjer zone, Godere Woreda and the rest in Southern region, in Keffa zone, Yieke woreda. The head office is located in Tepi town about 608km to the south west of

Addis Ababa. The area under coffee tree is over 6,000 hectares of which over 4,500 hectares has been certified with UTZ, RA and CP for the last three years.

Green coffee farm, established in 1998, is located in Southern region, in Keffa zone, Gimbo and chenna woreda about 540 km to the south west of Addis Ababa. It has 2,000 hectares of land dedicated for coffee which has been certified with UTZ, RA, CP, BF, and organic for the last three years.

Bazen coffee farm, being in coffee growing business for the last 15 years, is located in Oromia region, in Jimma zone, Shebbe woreda, some 380 km to the southwest of Addis Ababa. It has 477 hectares of land under coffee trees certified with UTZ for the last three years.

Limmu Kossa coffee farm was established 15 years ago. It is located in Oromia region, in Jimma zone, Limmu kossa woreda, about 415 km to the southwest of Addis Ababa. It has a farm size of 400 hectares covered with coffee trees and certified with UTZ, RA and Organic for the last three years.

In general, except Bazen coffee farm which has UTZ, single certification, the rest six farms are certified by multiple certifications with UTZ and RA mainly common to all. And most of the certifications are in operation in each farm for over 3 years. Table 3.1 below summarizes types of certifications implemented by the sample selected farms.

Type of Certificates implemented by sample selected commercial coffee farms

Sr.no.	Farm Name	Type of certificates implemented	Duration since the adoption of the certificates
1	Limmu	UTZ, RA, CP, 4C, OR Korea	Over 3 to 4 years
2	Bebeka	UTZ, RA, 4C, OR Korea	Over 3 to 4 years
3	Ethio Agri-CEFT	UTZ, RA, CP, OR Korea	Over 3 to 5 years
4	Tepi	UTZ, RA, CP	3 years
5	Green	UTZ, RA, CP, BF, OR	3 years
6	Bazen	UTZ	3 years
7	Limmu Kossa	UTZ, RA, OR	3 years

Source: Survey result, 2016

### Appendix (3)-List of Commercial coffee farms

The list in the Table below shows commercial coffee growers operating in the country which were about 176 in number at the time of conducting this research. However, the actual number of commercial coffee growers may be greater than this number since the list shows only member of Ethiopian Coffee Growers and Exporters only. According to this list, more than 80% of the country's commercial coffee growers are operating in southwestern Ethiopia.

S.N		ADDRESS				AREA HA
		REGION	ZONE	WOREDA	KEBELE	
1	Abdurehman Nuru coffee plantation	SNNP	Keffa	Decha	Ola	70
2	Ahmed Ababula coffee plantation	Oromia	Jimma	Manna	Kercha	115
3	Alfoz PLC(Farm 1)	Oromia	Jimma	Manna	Urgllia	107
4	Alfoz PLC(Farm 2)	SNNP	Keffa	Gewata	Medabo	278
5	Amaro Gayo	SNNP	-	Amaro kela	Derba Menena	70
6	Apenic Agro Processing PLC	SNNP	Keffa	Gembo Gewat	Bonga	40
7	Assefa Belay	Oromia	Jimma	Manna	Yebbu	154
8	Assefa Dukamo	SNNP	Keffa	Tello	Shada	162
9	Ayetu Agriculture & trading PLC	Oromia	Jimma	Gera	Kecho	250
10	Bagersh Agro PLC (Farm No. 1)	SNNP	Keffa	Tello	shuta	114
11	Bagersh Agro PLC (Farm . 2)	Oromia	Guji	Shakiso	Sawna	295
12	Belay Welasha coffee Plantation	SNNP	Sheka	Anderacha	Gecha	170
13	Berhan Agriculture and commercial PLC	SNNP	Bench maji	Guraferda	Ojemeta	650
14	Betino Coffee Agro Industry PLC	SNNP	Keffa	Tello	Bega	220
15	Betetwork Alemu Agriculture Development	SNNP	Bench maji	Guraferda	Biftu	520
16	Bezuayehu Shone Coffee Plantation PLC	Oromia	Jimma	Limmu kossa	Kila Gebissa	200
17	Biniyam Sebsibe Coffee Plantation Development	SNNP	Keffa	Beta	Woditi	276
18	Desessa Agricultural development & Agro Industry PLC	Oromia	Jimma	Limmu Genet	Gale	200

19	Diamond Enterprise	SNNP	Keffa	Gouta	Gomifula	200
20	Dimtu Coffee Industry PLC	Oromia	Guji	Oda Sakiso	Kara	151
21	Epherta Intergrated Agricultural development PLC (Bagresh No. 3)	SNNP	Bench maji	Mizan Aman	Mizan Teferi	250
22	Ethiopia Aasfri Coffee Plantation	Oromia	kelem Wollega	Anfilo	Dulcha	50
23	Ethio Rute International PLC	SNNP	Keffa	Decha	Yeba	250
24	Fahem General Trading PLC	Oromia	Jimma	Limmu Seka	Chak	200
25	Galle Kemisse Agro Industry PLC (Bagersh Farm No. 4)	Oromia	Jimma	Limmu kossa	Gale Kemisse	126
26	Gashaw kenfe	SNNP	Bench maji	Guraferda	Biftu	500
27	Genet Seifu Coffee Development	Oromia	Jimma	Limmu kossa	Wollensu	102
28	Gezahegn Adgeh Agricultural Development	SNNP	Bench maji	Guraferda	Berhane	531
29	Guji Highland Coffee Plantation	Oromia	Guji	Oda Sahkiso	Dembi Odo	150
30	Haider Abamecha Coffee Plantation	Oromia	Jimma	Limmu kossa	Galle Kamise	232
31	Home land Organic Coffee Agro industry	SNNP	Keffa	Gimbo	Yeyebto	500
32	Hussine Ambo Coffee Plantation	Oromia	West Arisi	Nonsobo	Tula Gola	90
33	Ibrahim Hussein Coffee Exporter	Oromia	Jimma	Limmu kossa	Burka Gudina	105
34	Ismail Hassen Coffee Development	Oromia	Guji	Oda Sahkiso	Taro	151
35	Jermititi Coffee Producer & Exporter PLC	Oromia	Guji	Oda Sahkiso	Jermititi	84
36	J.J Agro Industry PLC	Oromia	Jimma			136
37	Kayon Mountain Coffee Farm PLC	Oromia	Guji	Shakiso	odo Shakiso	200
38	Kebede Debessa Mena	Oromia	Illubabor	Garba Doma	Ale	300
39	Kebena Kossa Coffee Development	Oromia	Jimma	Limmu kossa	kossa Gesha	1200
40	Kebire Elke PLC	Oromia	Illubabor	Alege	Wayu	200
41	Kemale Abafogi coffee + Spices development	SNNP	Keffa	Gebo	Wekalt Woraba	35
42	Kemal Musa PLC	SNNP	Bench maji	Guraferda	Biftu	551
43	Kreho Agricultural Development	SNNP	Sidamo	Aroresa		200
44	Ketemi PLC	Oromia	Jimma	Limmu kossa	kossa Gesha	80
45	Lema Edeto and Sons PLC	Oromia	Jimma	Limmu kossa	Muto Gundib	128

46	Limu Kosa Agro Industry PLC	Oromia	Jimma	Limmu kossa	Kossa	320
47	Maji Agro Forest PLC	SNNP	Bench maji	Bero	Bero kale	500
48	Marko PLC	SNNP	Keffa	Chna	Dukera	206
49	Metad Agricultural Development PLC	Oromia	Negale	H/Wamana	Various	264
50	Moges Yimer Beyene Coffee	SNNP	Bench maji	Guraferda	Ferka	800
51	Mormora Coffee Plantation	Oromia	Guji	Shakiso	Reji	200
52	Mordo Coffee	Oromia	Guji	Shakiso	Reji	245
53	Negussi Tadesse	SNNP	Keffa	Gimbo	Dakete	50
54	Negash Haile	Oromia	Jimma	Ambaye	03	200
55	Pishon Agribusiness Pvt Ltd Co	SNNP	Sidamo Zone	Abaya Bonessa	Bukito	250
56	Seka Agro Processing PLC	SNNP	Bench maji	Guraferda	kufa	200
57	Shagual Trading	SNNP	Bench maji	D/Bench	Sheka	1080
58	Selkom Coffee Plantation Development	Oromia	Jimma	Limmu kossa	kossa	100
59	Shemeket Debaba Mumecha	Oromia	Jimma	Limmu kossa		120
60	Siraj Negowo Coffee Plantation	Oromia	Illubabor	Didu lalo	Dewa Haro	500
61	Tade GG Highland Forest coffee PLC	Oromia	Guji	Oda Sakiso	Suke Kuto	250
62	Tegna Tula Liyu Coffee	SNNP	Keffa	Ginba	Tega	500
63	Tepi Farmers Union	SNNP	Sheka	Yeti	Tepi	11471
64	Tefri & Sons	SNNP	Swth Omo	Jinka		136
65	Tolemariam Jebat Coffee Plantation	Oromiya	East Welega	Leka Dubeha	Kara Negso	200
66	Wato Coffee plantation	Oromiya	East Welega	Leka Dubeha	Fetema	110
67	Yasmin Coffee plantation PLC	Oromiya	Kelem	Anfilo	Yeti	100
68	Yeti Agro Industry PLC	Oromiya	Kelem Wellega	Anfilo	Yeti	200
69	Yidnekachew Debassa	Oromiya	Jimma	Limu Kossa	Welene	120
70	Zelalem Eshetu	SNNP	kaffa	Telo	Shada	264
71	Zemesi Ethiopia	Oromiya	Guji	Shakiso		10
72	Yehwalashet Yegzu Coffee plantation	Oromiya	Kelem Wellega	Anfilo		50

73	Yukro Agro Industry PLC	Oromiya	Jimma	Gera	Sedi lola	146
74	Yenenshe Ayle Coffee plantation	SNNP	keffa	Gimbo	Dakiti	50
75	Siyed Dantewe Coffee Plantation	SNNP	keffa	Gimbo	Weka Araba	459
76	Engda Mekonnen Coffee plantation	SNNP	keffa	Gimbo	Kayakelo	30
77	Gezaheg G/mdehin Coffee Plantation	SNNP	keffa	Gimbo	Weka Araba	63
78	Mulatu Bezunhe Coffee plantation	SNNP	keffa	Gimbo	Yabkcha Wellga	115
79	Zenabu Abamecha Coffee plantation	SNNP	keffa	Gimbo	Tula	92
80	Habtamu Abebe Coffee plantation	SNNP	keffa	Gimbo	Yeybto	97
81	Habtamu Argawe Coffee Plantation	SNNP	keffa	Gimbo	Michet	73
82	Melswe Asefaw Coffee plantation	SNNP	keffa	Gimbo	Yeybto	200
83	Kefle Abasemle Coffee plantation	SNNP	keffa	Gimbo	Shombo Kicho	52
84	Fesiha W/yohanse coffee plantation	SNNP	keffa	Gimbo	kicho	47
85	Derbow Ashebre coffee plantation	SNNP	keffa	Gimbo	Qja Arab	267
86	Seifu Tefri coffee plantation	SNNP	keffa	Gimbo	Selam	200
87	Taye Tekle coffee plantation	SNNP	keffa	Gimbo	Shomba Gerawa	32
88	Suleyman Mohammed Coffee plantation	SNNP	keffa	Chena	Dukra Wesh	140
89	Mengistu Mamo Coffee plantation	SNNP	keffa	Chena	Dukra Wesh	72
90	Habtamu Abebe Coffee plantation(FARM 2)	SNNP	keffa	Chena	Dukra Wesh	206
91	Degfa Haile Coffee plantation	SNNP	keffa	Chena	Shenshda	71
92	Bekle Asefaw coffee plantation	SNNP	keffa	Chena	Shenshda	30
93	Abebe G/yes Coffee plantation	SNNP	keffa	Chena	Yaga	47
94	Melswe Asefawe Coffee plantation(Farm 2)	SNNP	keffa	Decha	Malgawi	387
95	Mesfin Tekle Coffee plantation	SNNP	keffa	Decha	Modiyo	100
96	Adane W/Michael Coffee plantation	SNNP	keffa	Decha	Shahe	500
97	Epherm Mulugeta Coffee plantation	SNNP	keffa	Decha	Gunjira Shola	368
98	Mesfin Ketase Coffee plantation	SNNP	keffa	Decha	Yeba	289
99	Hayal Kassa Coffee plantation	SNNP	keffa	Decha	Yeba	217

100	Werku Kocheto Coffee plantation	SNNP	keffa	Decha	Garmuja	104
101	Engineer Zelalem W/Amanuel Coffee plantation	SNNP	keffa	Decha	Shashe Chocha	500
102	Mekonnen Ambo Coffee Plantation	SNNP	keffa	Decha	Shapa	139
103	Elias Tadesse Coffee plantation	SNNP	keffa	Decha	Dacha	81
104	H/Gerbil Hika Coffee plantation	SNNP	keffa	Telo	Bega	172
105	Bagersh Agro Keffa Plantation	SNNP	keffa	Telo	Shupa	114
106	Gezaw Alemayehu Coffee plantation	SNNP	keffa	Telo	Bega	180
107	Tibebu Tamerat Coffee plantation	SNNP	keffa	Telo	Bega Sheda	161
108	Tarkegn Tadesse Coffee plantation	SNNP	keffa	Telo	Bega	219
109	Mesfin Kitase Coffee plantation	SNNP	keffa	Telo	Bega	62
110	Tesfa Girma Coffee plantation	SNNP	keffa	Cheta	Qeye	83
111	Kidane W/Michael Coffee plantation	SNNP	keffa	Cheta	Kola Genet	100
112	Assefa Welde Coffee plantation	SNNP	keffa	Gesha	Abeta	37
113	Tibebu Shenkute Coffee plantation	SNNP	keffa	Gesha	kicho	30
114	Degfa Seme Coffee plantation(Farm 2)	SNNP	keffa	Gewata	Medabo	172
115	Addisu Beyene Coffee plantation	SNNP	keffa	Gewata	Wediyo	228
116	Woerku W/Mariam Coffee plantation	SNNP	keffa	Gewata	Emecho	55
117	Taseow Abate Coffee plantation	SNNP	keffa	Gewata	Achiwa	96
118	Alemu Ariti Coffee plantation	SNNP	keffa	Gewata	Bera	60
119	Seifu Tefri coffee plantation	SNNP	keffa	Gewata	Wediyo	100
120	Getachow Mulugeta Coffee Plantation	SNNP	keffa	Gewata	Boginda	438
121	Solomon Alemu coffee plantation	SNNP	keffa	Bitu	Tugan Dacha	451
122	Alemayehu G/Mariam Coffee plantation	SNNP	Bench Maji	Guraferda	Biftu	276
123	Alemaz W/tensaye coffee plantation	Oromiya	Jimma	Limmu Kossa	Kossa	60
124	Denbi Fwafate Agriculture	SNNP	Sheka	Yeki	Achani	500
125	Gahi Berhe Agro Industry	SNNP	Sheka	Yeki	Achani	200
126	Kunedisa Ferki	SNNP	Bench Maji	D.Bench	Kiti	50

127	Lebel PLC	Oromiya	Jimma	Limmu Kossa	Kossa	400
128	Tesfaye Ibro Agriculture Development	SNNP	Sheka	Yeki	Achana	160
129	Abera Yimer Agriculture Development	Oromiya	Jimma	Limmu Kossa	Kossa	71
130	Kebede Demese Agro Industry	Oromiya	Jimma	Limmu Kossa	Ambuye	120
131	Mulunhe Kaka Coffee plantation	Oromiya	Kelem Wellega	Anfilo	Wabita	300
132	Zeyneba Anebse Coffee plantation	SNNP	keffa	Gewata	Konda	80
133	Shemlese Demse C offee plantation	SNNP	Bench Maji	Guraferda	Etafa	138
134	Buraya Wabi	Oromiya	Jimma	Limmu Kossa	Wollenso	146
135	Gembi Agricultural Development	Oromiya	East Welega	Gembi	Debso Kore	470
136	Gesha Coffee Estate Plc	SNNP	Bench Maji	Mentshash	Shewa Debab	471
137	Sabanesh Trading plc	SNNP	Kefa	Bitu	Tuga	1000
138	Habtamu Sela Coffee Plantation	SNNP	Kefa	Bitu	Amsha Mechta	149
139	Assemamawe w/mariam Coffee Plantation	SNNP	Kefa	Bitu	Tuga Dacha	101
140	Abate Abarago Coffee Plantation	SNNP	Kefa	Bitu	Ganiti	46
141	Girma Eshetu coffee Platation	SNNP	Kefa	Bitu	Amsha Mechta	232
142	Tesm Maregne Coffee Platation	SNNP	Kefa	Bitu	Degakela	122
143	Kassahun Kebde Coffee Plantation	SNNP	Kefa	Bitu	Dacha Tuba	123
144	Family Land Agro Industry Plc	SNNP	Kefa	Bitu	Wediti	300
145	Wodyfrawe Endeshawe Coffee Plantation	SNNP	Kefa	Bitu	Wediti	400
146	Tsegaye G/mdehen Coffee Plantation	SNNP	Kefa	Bitu	Dega kela	42
147	Uaffee Bayanne Coffee Plantation	Oromia	Jimma	Limu Kossa	Galle Kinna	71
148	Fayiseel A/Macca Coffee Plantation	Oromia	Jimma	Limu Kossa	Niko Gundub	300
149	Akmal Buur Coffee Plantation	Oromia	Jimma	Limu Kossa	Galle Tirtira	200
150	Abdulnassir Hayidar Coffee Plantation	Oromia	Jimma	Limu Kossa	Galle Tirtira	154
151	Abdurahman Abdusallam Coffee Plantation	Oromia	Jimma	Limu Kossa	Wallen Suu	150
152	Nego Gemechu Coffee Plantation	Oromia	Jimma	Limu Kossa	Wallen Suu	26
153	Rashid Jemal Coffee Plantation	Oromia	Jimma	Limu Kossa	Wallen Suu	102

154	Fatiya Sherif Coffee Plantation	Oromia	Jimma	Limu Kossa	Eindu Skokore	130
155	Teferi Ayinishet Coffee Plantation	Oromia	Jimma	Limu Kossa	Wabe Kotocha	75
156	Anteneh Andergo Coffee Plantation	Oromia	Jimma	Limu Kossa	Wabe Kotocha	35
157	Nasir H/Mohammed Coffee Plantation	Oromia	Jimma	Limu Kossa	Gudo Bakaree	40
158	Burqa Limmu Agro Industry	Oromia	Jimma	Limu Kossa	Miko Gundo	60
159	SDFC Plc	Oromia	Jimma	Limu Kossa	Miko Gundo	5000
160	Gizachew Gasesee Coffee Plantation	Oromia	Jimma	Limu Kossa	Kamisse	40
161	Betelihem Seifu Coffee Plantation	Oromia	Jimma	Limu Kossa	Cecka Muka	300
162	Mohammed Kabir Adam Coffee Plantation	Oromia	Jimma	Gecra Kesso	Aumma Kesso	500
163	Teyiuni Abba Joobir Coffee Plantation	Oromia	Jimma	Gecra	Loya Sedi	141
164	Nassir Aba Joobir Coffee Plantation	Oromia	Jimma	Gecra	Loya Sedi	136
165	Piter Umran Coffee Plantation	Oromia	Jimma	Gecra	Ganji	200
166	Trakon Plc	Oromia	Jimma	Gecra	Ganji	200
167	Kammal Awal Coffee Plantation	Oromia	Jimma	Sokrru	Aballi	140
168	Addis Tegeny Coffee Plantation	Oromia	Jimma	Sokrru	Akko Abbu	150
169	Hussein Abdurhman Coffee Plantation	Oromia	Jimma	Sokrru	Keryuu Ganji	200
170	M.R.K.P Abdugafal Coffee Plantation	Oromia	Jimma	S/chekorsa	Gibee Bonsa	61
171	Bazan Plc	Oromia	Jimma	S/chekorsa	Olmee	650
172	Jamal Abbagaro Coffee Plantation	Oromia	Jimma	S/chekorsa	Sagalfa Gennefa	35
173	Abdu Raziz Abba Mecca Coffee Plantation	Oromia	Jimma	S/chekorsa	Quotca Sutara	160
174	Bebeka Coffee Estate S.C	SNNP	Bench Maji			5500
175	Limmu Coffee Farm	Oromia	Jimma			7000
176	Ethio Agri-ceft	South/ North				3000

Source: Ethiopian Coffee Growers and Exporters Association

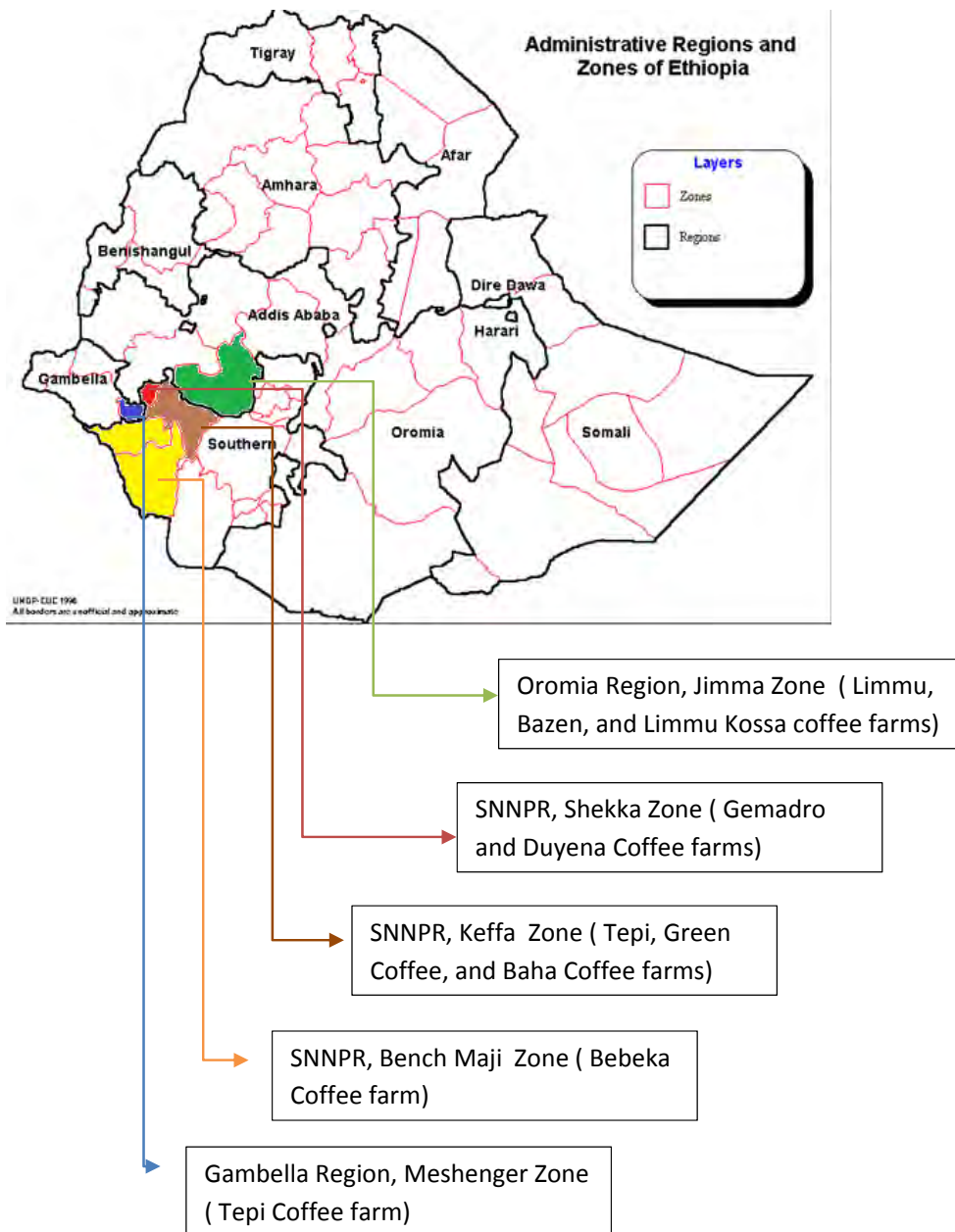
## Appendix (4)-List of certified coffee farms

The following certified commercial coffee farms listed in Table below were operating in southwestern Ethiopia at the time of conducting the research. They were 16 in number and this gives not more than 9% of the total estimated commercial coffee farms as the total list presented in Appendix 3 of this research paper and operating throughout the country. Seven of them held a single certificate while the remaining were double certified or multiple certified. All the 16 farms were certified for UTZ followed by RA and CP by seven farms, Organic by 5 farms, 4C by 3 farms and BF by 1 farm. The list of certified farms was obtained from certifying bodies' country representatives or from their respective websites.

Sr.no	Name of commercial coffee farm	Location	Type of Certification					
			Organic	UTZ	RA	CP	4C	BF
1	Limmu Kossa agro industry plc	South west	x	x	x			
2	Bazen Agricultureal & industrial dev.plc	South west		x				
3	Tepi Green coffee estate sh.co.	South west		x	x	x		
4	Kemmal Mussa Organic coffee and spice farm	South west		x				
5	Fahem General trading plc	South west		x		x		
6	Mohammed lalo import export	South west		x				
7	limmu coffee farm	South west	x	x	x	x	x	
8	Ethio Agriceft plc	South west	x	x	x	x		
9	Bebeka Coffee estate sh.co.	South west	x	x	x		x	
10	Green coffee industry	South west	x	x	x	x		x
11	Legu Trading plc	South west		x				
12	Ibrahim Hussien coffee producer and exporter	South west		x				
13	Dedessa agriculture and agro industry	South west		x				
14	Mullage Plc	South west		x		x	x	
15	Mordocofe Plc	South west		x	x	x		
16	Moges yimer coffee and spice production enterprise	South west		x				
	NB: Number of commercial farms certified		5	16	7	7	3	1
	NB: There were no Fairtrade and AAA certifications at the level of commercial coffee farms							

Source: From the certifying bodies' country representatives or from their respective websites

## Appendix (5)- Map of the Study Area



Source: UNDP CUC 1994