ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

ASSESSMENT ON PRIMARY SESAME TRANSACTION CENTERS IN MAINTAINING ETHIOPIA COMMODITY EXCHANGE PURPOSES: THE CASE OF METEMA WOREDA

BY

MEKRU DENBI BALCHA

MAY, 2015

ADDIS ABABA, ETHIOPIA

ASSESSMENT ON PRIMARY SESAME TRANSACTION CENTERS IN MAINTAINING ETHIOPIA COMMODITY EXCHANGE PURPOSES: THE CASE OF METEMA WOREDA

MEKRU DENBI BALCHA

ID NO. SGS/0127/2006

THESIS SUBMITTED TO ST. MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF BUSINESS ADMINISTRATION

MAY, 2015

ADDIS ABABA, ETHIOPIA

ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

ASSESSMENT ON PRIMARY SESAME TRANSACTION CENTERS IN MAINTAINING ETHIOPIA COMMODITY EXCHANGE PURPOSES: THE CASE OF METEMA WOREDA

BY

MEKRU DENBI BALCHA

APPROVED BY THE BOARD OF EXAMINER

_____	_____
Dean, Graduate Studies	**Signature**
_____	_____
Advisor	**Signature**
_____	_____
External Examiner	**Signature**
_____	_____
Internal Examiner	**Signature**

Contents Page

ACKNOWLEDGEMENTS

At the top of all, I would like to thank the Almighty God for everything of His care, kindness, and love. Next, I would like to express my deepest gratitude for my advisor, Assistant Professor T. Giorgis Assefa, for his constructive, valuable and timely comments with full willingness and passion from the proposal to the accomplishment of this research. The help and guidance given by him greatly enhanced the quality of this thesis.

I also please to thank the staff of Metema Woreda Trade and Agricultural bureau for their support on providing necessary data and information. My special acknowledgement extended to smallholder farmers, traders and supervisors of Primary Transaction Centers for their unreserved support to realize this research.

I am also honorably grateful to my families, especially my wife Fanaye Wondemu and my kids Yoseph Mekru and Wongel Mekru for their patient, understanding and support throughout my graduate studies.

Last but not list, I would like to acknowledge all my friends who encouraged me from registration to the final thesis.

LIST OF ACRONYMS

ACDDCS	Agricultural Commodity Dependent Developing Countries
AMF	Association of Micro Finance
ECX	Ethiopia Commodity Exchange
FAO	Food and Agricultural Organization
GDP	Gross Domestic Product
GoE	Government of Ethiopia
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IWMI	International Water Management Institution
IMF	International Monitory Fund
MoFED	Ministry of Finance and Economic Development
OECD	Organization for Economic Co-operation and development
PTC	Primary Transaction Centers
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
UN HLTP	United Nations High Level Task Force on the Global Food Security
WFP	World Food Programme
WTO	World Trade Organization
ZAMACE	Zambia Agricultural Commodities Exchange

LIST OF TABLES

Table **Page**

ABSTRACT

Agricultural markets of the country are characterized by different inefficiencies that significantly affect the production and productivity of smallholder farmers. Primary Transaction Centers are established to overcome these agricultural marketing problems by serving as a main supplier to the Ethiopia Commodity Exchange. The new marketing benefits introduced by Ethiopia Commodity exchange are designed to reach to smallholder farmers through Primary Transaction Centers. This research, a descriptive study using the survey method, makes an assessment on the agricultural commodity transaction practices at the selected three Primary Transaction Centers in order to identify which benefits of ECX are availed for smallholder farmers to modernize agricultural markets and which are not yet implemented. From the research it has been found that, Primary Transaction Centers are not serving well to realize modern agricultural market i.e. transactions do not consider product quality as price determination factor and because of this farmers are not rewarded for their quality products. Secondly, ECX market information are not used as an input or Primary Transaction Centers do not have their own price discovery mechanism to disseminate market information to the market actors. Thirdly warehouses are not constructed to keep unsold farmers' products. In addition to these, price variability do not managed well and the market is so undetermined. All the above situations hinder the improvement of bargaining power of smallholder farmers to the required level. In the study, it is recommended that quality to be considered as pricing factor to enhance better quality production. Secondly, PTCs to disseminate market data for market actors on a daily basis to make the transaction based on information. Thirdly, to construct warehouse facilities at the Primary Transaction Centers to keep unsold farmers' products. Finally, to fix price variability range based on daily average prices.

Key words:-*Agricultural markets, Primary Transaction Centers, Ethiopia Commodity Exchange and smallholder farmers.*

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Agricultural sector plays important role for the development of world economy. In addition to providing agricultural products to the world market, it reduces unemployment by attracting huge labor force and is considered as major employer. Though it has undeniable and pervasive role in the world economy, most farmers involved in this sector are poor and lack even food self sufficiency. Globally, nearly 2.5 billion people are smallholder farmers and out of these one billion are living in the rural area supported by agriculture only, where poverty and deprivation are most severe, and earn less than US $ 1.25 a day (IFAD & UNEP 2013). Livelihoods of smallholder farmers become worse in the case of Asia and Sub-Saharan Africa. Despite many constraints associated with the agricultural practices of smallholder farmers; they feed nearly 80% of the population in Asia and Sub-Saharan Africa (IFAD, 2013).

Like all other developing countries; Ethiopia's economy mainly depends on Agriculture. The agriculture sector absorbs 85 percent of the total populations; contributes 43 percent of the Gross Domestic Product (GDP), and 80 percent of export value of the country. The agriculture is restrained by age-old production practice which is not well developed and structurally remained unchanged. Due to this reason 90 percent of agricultural outputs is contributed by smallholder farmers who hold at average 0.7 hectares per household (Bill & Melinda Gates Foundation, 2010).

Agricultural productivity serves as a means to reduce rural poverty by raising real income from farming. But productivity alone cannot reduce poverty or improve lives of farmers.There are some other factors that have to be considered to improve incomes of smallholder farmers. Among these factors proper agricultural market is the main one. Farmers need suitable market that can help them to transact their agricultural products in a reasonable price to sustain their productivity (Abro, Alemu & Hanjra, 2014).Agricultural markets in developing countries are more or less similar and constrained by different factors like poor communication and transportation facilities; limited or no access to commercial finance; without governing rules and

regulations. These constraints lead to variability of commodity price at different market as well as on different seasons; significant entry and mobility barriers; and highly personalized transaction (Barrett and Mutambatsere, 2005).

Ethiopia agricultural markets, according to (Gabre-Madhin, www.ecx.com.et) (as assessed on March 03/2015), characterized by high contract default, unreliable supply, price volatility, poor quality, unreliable trading partners, poor market information and unregulated actors. Therefore; to enhance the contribution of agriculture for economic development of the country, agricultural market has to be efficient enough by availing solution for the above marketing challenges. The market has to commit for free market principles and has to create reliable connection among buyers and sellers; assures efficient way to discover market prices; disseminates market information for all actors; and empowers farmers and incentivizes for better quality (Gabre-Madhin, www.ecx.com.et) (as assessed on March 03/2015). Commodity exchanges found as a solution to realize modern agricultural markets that benefits smallholder farmers and other market actors. Similarly GoE decided to establish Ethiopia Commodity Exchange to resolve agricultural marketing problems of the country (Proclamation 550, 2007).

Main exportable agricultural commodities including sesame decided to be traded at ECX(The Council of Ministers Regulation No. 178/2010).Ethiopia is one of the five top oilseed producers in the world and Sesame is one of the oil seed that exported to other countries and the main sources of foreign exchange. The demand of sesame in the international market increases from time to time. Because of this; the export volume shows steady increase and also diversified to different countries market (Sorsa, 2010).Considerable amount of sesame is contributed by small scale farmers of the country. Tigray, Amhara, Oromia and Benishangul are four main sesame producing regions (Meijerink, Bulte, & Alemu, 2013).

Sesame Primary Transaction Centers established under the Council of Ministers Regulation No. 178/2010 to facilitate the transaction between producers and suppliers. Many primary transaction centers become operational in sesame production woredas considering volume of production and proximity to smallholder farmers. Middle men or traders at Primary Transaction Centers are buying from smallholder farmers and then supplied to the nearest delivery center of Ethiopia Commodity Exchange.

1.2. Statement of the Problem

ECX was established to realize modern market for both buyers and sellers. Its objective is to bring well organized market that reliably connect buyers and sellers, discovers market price, providing market information to all, empower the farmers, incentivize better quality and eliminates contract risk. In addition to this the exchange provides standardize warehouses to manage arrival products. Contrary to the traditional markets; the exchange has rewarding mechanisms for quality products by facilitating transaction to be held based on clear quality parameters and quantity of the product.

One of the reasons of Ethiopian government to establish Ethiopian Commodity Exchange is to motivate farmers towards high yield and better quality. If farmers get reasonable and competitive price for their produces, they will start to produce as per the requirement of the market.

Though ECX was designed as one of the tools to enhance smallholder farmers' productivity, some relevant technical procedures hinder direct participation of these farmers. ECX formulates different directives that govern both buyers and sellers to realize its objectives. One of these directives is lot size of the product that specifies the minimum amount to be deposited in ECX warehouses. The lot size varies according to the product type; and basically considering capacity of means of transportations accustomed to use. Sesame depositors are required to bring fifty quintals or the multiplication of it to deposit at ECX warehouses. That means the smallest amount allowed to be deposited is fifty quintals.

Commercial sesame farmers do not have a problem to meet quantity requirements of ECX. But almost all smallholder farmers are unable to use ECX market directly. The average land owned by smallholder farmer is 0.7 hectare (Bill & Melinda Gates Foundation, 2010) and the average production of sesame per hectare is six and half quintals (Metema Woreda Agriculture Bureau's Annual Report, 2005). That means at average smallholder farmers are producing nearly four and half quintals per season. Therefore to resolve this problem; Council of Ministers Regulation No 178-2010 regulated the establishment of Sesame Primary Transaction Centers where smallholder farmers should sell their products. Sesame Primary Transaction Centers are established after ECX to address the issues of smallholder farmers and to fill the gap created between ECX

delivery acceptance procedure and farmers average production. It is designed to make a bridge between ECX and smallholder farmers.

Therefore; the principal concern of this research is to assess availed benefits at the Primary Transaction Centers that derived from ECX objectives to motivate small holder farmers.

1.3. Basic Research Questions

Do Primary Transaction Centers avail the required market facilities aligned with ECX for smallholder farmers to motivate them for high quality and high yield production? To address the above basic research question the following research questions are formulated.

1. What are the major market benefits of Primary Transaction Centers in comparison with traditional markets?
2. Do smallholder farmers get better price for better quality products?
3. How ECX price discovery helps smallholder farmers to negotiate with buyers?
4. What means do smallholder farmers availed to keep their product till they get better price?
5. How do buyers set price for products at Primary Transaction Centers?
6. What are the quality and quantity trends of products that arrived at Primary Transaction Centers?
7. How buyers those are supplier for ECX maintains quality of the product according to ECX requirements?

1.4. Objectives of the Study

The general objective of the study is to assess Primary Sesame Transaction Centers on the attainment of ECX purposes. The specific objectives are:

1. To evaluate availed benefits of Primary Transaction Centers that distinguishes them from traditional markets.
2. To analyze quality rewarding mechanisms of PTCs and to assess the motivation of farmers to produce better quality products.
3. To investigate utilization of ECX market information by smallholder farmers to enhance their bargaining power at primary markets.

4. To assess availability of warehouse facilities to keep farmers' products at PTCs till they get relatively better price rather than taking back to their home.
5. To examine factors considered by buyers for pricing of sesame at PTC.
6. To evaluate the trend of product quality and quantity that smallholders bring to transact at PTCs.
7. To investigate where the quality reward goes to.

1.5. Definition of Terms

Primary Transaction Centers	Places designated for sesame transaction by an appropriate regional organ. (Regulation 178/2010)

1.6. Significance of the Study

Commercial farmers and other farmers who have larger plots of sesame land have a chance to be served at ECX delivery locations simply because they can meet quantity requirements of ECX. These groups of farmer benefits directly from ECX facilities such as: they can keep their product at ECX warehouses for some period till they get better price; they can access up to date market information and the market trend to decide when to sell their product; since the transaction is based on quality, they get a price reward for better quality products.

But smallholder farmers who contribute significant amounts of sesame production cannot directly benefit from ECX facilities. Though the aggregate production amount of smallholder farmers is high, the amount per head farmers is too small to meet ECX requirements. Therefore; Sesame Primary Transaction Centers are designed to bridge the purpose of ECX to smallholder farmers. Unless these objectives are reasonably addressed by PTCs, the main objectives of ECX that is to empower farmers may not be realized. If farmers unable to negotiate with buyers and they are still selling their products at the mercy of buyers, quality and quantity of sesame produced by small scale farmers will significantly decline.

Therefore; this research will provide practical evidence for policy makers to understand the marketing situation at primary transaction centers and will also suggest ways and means of tackling the problem to benefit smallholder farmers from ECX objectives while transacting at PTCs.

1.7. Delimitation/ Scope of the Study

Sesame Primary Transaction Centers are organized in three regional states of the country i.e. Tigray, Amhara and Oromia. But the research questions raised in this paper are very wide to cover all sesame primary transaction centers with in such very short period of time and it also requires significant budget. Therefore; the research is scoped geographically to Metema Woreda without compromising the validity of research result based on the following facts:

1. Metema woreda is one of the major areas that produce huge amount of sesame seed and have five fully operational Primary Transaction Centers. Therefore; it was convenient to evaluate the effectiveness of PTCs in maintaining ECX purposes.
2. The major agricultural as well as marketing factors of this Woreda; like percentage of farmers, plot allocated per house hold, production per year etc.; are almost similar with the overall sesame farmers situations in the country. Therefore; the finding will reflects the actual situations in the country.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. The Role of Agriculture in the Growth and Development of the Ethiopian Economy

Agriculture is the main contributor for the national output, attracts majority of the labor force; and it is key components of growth and development in most developing countries. Developments of these countries cannot be feasible without considering agriculture as an integral part of the development plan. Agriculture is used as a means of generating capital, labor and raw materials for the development of industrialization in a country in addition to its food supply for sustainable growth by reducing cost of living (Diao, Hazell, Resnick and Thurlow, 2007).

Before the green revolution that took place in Asia, agricultures role for development was underestimated and considered as passive. But the green revolution during 1960s and 1970s proved that agriculture growth changes the lives of many smallholder farmers and it takes out large number of people from poverty. Since agriculture is labor intensive compared to the industrial sector; it creates employment opportunities for poorest populations. Therefore; the green revolution utilized agriculture as a means to transform the economy of those countries. The green revolution gave proper consideration for agricultural sector to change the economic structure as well as to improve income of poor farmers. When farmers start to accumulate extra money, they become source of capital and labor for other sectors. Hence agriculture during the green revolution serve as an engine to bring changes in nonagricultural sectors also by mobilizing huge capital and labor(Diao, et al., 2007).

Other group of authors contradicts the idea that agriculture triggers development to the countries' economy. They give emphasis on non agricultural sectors as a means to bring overall change in the country economy. They strongly believe that agriculture has low potential for growth. Even they explain to the extent that nonagricultural sector development changes the agriculture sector and they hesitate to accept the reverse scenario. Though they underlined the role played by agriculture for economic development, but in current globalization situation they argue agriculture's multiple functions for triggering development, reducing poverty and narrowing income disparities. On the contrary they try to challenge by providing some facts like still 75

percent of world poverty is in rural areas, environmental degradation is wide spread because of countries' focus to agriculture, and food insecurity remains problems of the world (Byerlee, Janvry, and Sadoulet, 2009).But according to the World Bank findings agriculture can be a main source of development for the agricultural-based countries. Agriculture can support economic development through improving assets of smallholder farmers, making smallholder farmers more productive and diversifying income sources (The World Bank, 2008).

Like all other developing countries; the Ethiopian economy is characterized as low level and mainly dependent on agricultural products. Agriculture creates about 85 percent employment opportunity, contributes around 43 percent of Gross Domestic Product and generates 80 percent of export value (Bill & Melinda Gates Foundation, 2010). Though Agriculture is an age-old production practice and absorbs lion share of country's labor force, it cannot provide food self sufficiency nor can it serve as a means for the developments of other sectors (MoFED, 2003). Since agriculture has dominant role in the Ethiopian economy and it is not yet well developed, 29.6 percent of the total population is found below poverty line. The amount of population that lives under poverty is not proportional for rural and urban citizens. 30.4 percent are living in rural and 25.7 percent are living in urban (Abro, et al, 2014).

Agriculture sector is vital to achieve country's vision to reach to middle income level by 2025. The Government of Ethiopia is striving to achieve this vision and allocating nearly 16 percent of public expenditure towards agricultural development and 8 to 10 percent growth per annum registered for the last decade. However; Ethiopian agricultural GDP per hectare is half of that of Kenya and also Morocco. Moreover; commercial farming is not yet developed and over 90 percent of agricultural outputs contributed by smallholder farmers (Bill & Melinda Gates Foundation, 2010).Any developmental change on agriculture will change the livelihood of farmers in particular and will bring the overall economic development of the country in general. Therefore; in the context of Ethiopia, it is not viable to consider other sectors to bring significant economic change without considering agricultural sector that absorbs large amount of the population (MoFED, 2003). It is also empirically supported that agricultural growth has strong impact on the rest of the economy, especially in the early stages of economic transformation (Diao, et al., 2007).

The agriculture sector of Ethiopia is not only unable to contribute for other economic sectors but also cannot cover basic needs of farmers. This is not because land allocated for agriculture is small or labor involved in the sector is inadequate. It is because of the structural problem that hinders the development of the sector (MoFED, 2003).Empirical research of (Abro, et al., 2014) provides evidence that enhanced agricultural productivity positively affects the lives of farmers. Similarly others (Mekonnen, Dorfman, and Fonsah, 2013) also support this idea and forward their view on agricultural productivity as a means to reduce rural poverty by raising real income from farming and keeping consistent food prices by improving the availability of food. But (Abro, et al., 2014) strongly comment that productivity alone cannot reduce poverty or improve lives of farmers. There are other factors to be considered and among these, proper agricultural market is the main factor. Farmers need suitable market that can help them to transact their agricultural products in a reasonable price to sustain their productivity (Abro, et al., 2014). Similarly MoFED findings also assert the integration of agricultural productivity and agricultural market are key factors for economic development of the country. It is obvious that Ethiopian farmers are consuming greater portion of their produce and some of them do not even produce sufficient food for their consumption. Literally farmers want to produce more to purchase other products that are required to their day-to-day life and also to buy inputs for their farm. But their productivity has to be enhanced by the demands of buyers of agricultural products. Not only the demand but access to market is also very crucial factor. If there is no demand or the marketing situation is not attractive, farmers will not be motivated to produce more than their consumption. Therefore; meaningful agricultural development cannot be realized without proper marketing strategy (MoFED, 2003).Other studies are also agreed on improved marketing as a main factor that influences the productivity of smallholder farmers in the developing countries (Jaffee, Henson, and Rios, 2011).

2.2. Agricultural Marketing in Ethiopia

Agricultural markets in developing countries are more or less similar and constrained by different factors like poor communication and transportation facilities; limited or no access to commercial finance; without governing rules and regulations. These constraints lead to variability of commodity price at different market as well as on different seasons; significant entry and mobility barriers; and highly personalized transaction (Barrett and Mutambatsere,

2005). Gabre-madhin also agrees on market characteristics of developing countries by considering Africa's situation. Africa agricultural markets are also characterized by weak integration and high transaction costs. It is attractive neither for traders nor smallholder farmers. Traders trade within limited short distanced areas; they are not sure of quality and quantity of the product; do not have sufficient capital as well as infrastructure to store the product for a relatively prolonged period till they get attractive price; there is no mechanisms to enforce contracts; the businesses are confined to family members, friends and the like. Since markets are not well organized the cost increases at every stage of trade. Lack of standardization and certification causes for redundant inspection and re-bagging and it also increases handling costs. The market arrangement is worse for farmers specially smallholder farmers because they are forced to sell their product without sufficient market information, connect with few traders, with little power to negotiate for a better price (Gabre-madhin, 2012).

Most of Agricultural Commodity Dependent Developing Countries (ACDDCs) generates significant part of their revenue from exporting very few agricultural commodities. In such countries the declining and the volatility of agricultural products have negative impact on smallholder farmers in particular and the country in general. Therefore; some of such countries striving to design an appropriate solution to protect the declining as well as the volatility of agricultural commodity prices that would help smallholder farmers to get the right profit from what they produce, and enhance both the quality and quantity of export agricultural commodities (Paul, 2011). Smallholder farmers are highly affected by lower price and also by price volatility that threatens their life standard and reduces their ability to cover the needs of their family members. Price volatility that occurs because of market fundamental through long period may not affect poor farmers. But price volatility that cannot be anticipated increases uncertainty and leads to incorrect decisions of smallholder farmers. (FAO, IFAD, IMF, OECD, UNCTAD, WFP, the World Bank, the WTO, IFPRI & the UN HLTF, 2011).

In addition to these; agricultural markets of developing countries are very inefficient that are caused by imperfect contract monitoring and enforcement, high transaction costs, and liquidity constraints. They are characterized by many intermediaries between producers and consumers; unorganized relationship between buyers and sellers; non standard and grade based transaction; one-to-one price negotiation; poor market information system; and informal business. Mostly

these markets are found in the rural area and assemble periodically. They are free from government regulations like tax and subsidies; and also lack proper transaction facilities (Barrett and Mutambatsere, 2005).

Governments of most developing countries deregulated their agricultural markets to enhance production and productivity. They were intervening in agricultural markets through different mechanisms mainly to stabilize farmers' income to attain minimum sustainable level. But it was found ineffective and reform becomes a must to change agricultural markets of developing countries. Though; the extent and type of reform varies across countries; almost all developing countries conduct reform to minimize or eliminate state intervention and to facilitate for market forces to enter in the agricultural markets (Giuliano and Scalise, 2009).The expectation of the reform was to improve price incentives for farmers through free market principles by reducing government intervention in the agricultural sector. Agricultural reforms realize removal of price controls, deregulation of agricultural marketing, closure of state owned enterprises that monopolized agricultural trade, and changes in the foreign exchange market to provide greater incentives for exports (Kherallah, Delgado, Gabre-Madhin, Minot, and Johnson, 2000).

African agricultural markets even after liberalization characterized by some factors that hamper the development of agricultural markets of the region. These are (Sitko and Jayne, 2011):

- High price volatility and significant market risks;
- Oligopolistic market behavior and market collusion;
- Without formal contracts and quality standards that causes for frequent payment and delivery default;
- Low levels of participation from smallholders on price decisions of their products; and
- High transaction costs throughout the system.

In a similar manner, the agricultural marketing situation of Kenya is not fair and attractive for smallholder farmers. Though; Kenya liberalizes the market during 1980s and 90s, the reform introduced new challenge (Mukhebi, Kundu, Okolla, Wambua, Ochieng and Fwamba, 2007) and could not deliver expected output for smallholder farmers (Kherallah, et al., 2000). After liberalization the Kenyan agricultural market was constrained by many factors. The market is characterized by long chain between farmers and consumers; poor access to market information;

individual smallholder farmers offered small but varied quality product; and the market is poorly structured and inefficient. This situation creates neither competitive nor transparent market for smallholder farmers. Equally, agricultural commodity buyers do not have sufficient information about the source, quality, quantity and the price. Since the market chain is long between farmers and consumers; it accommodates many middlemen that are taking margin at each stage that causes for price variation in space and time which significantly affects the whole consumers. Therefore; agriculture market in Kenya is not conducive for all main market actors i.e. smallholder farmers, agricultural commodity buyers and consumers. Above all farmers are highly affected and disadvantaged by this poor market structure. The market could not provide incentive for farmers to increase their productivity(Mukhebi, et al., 2007) and marketable agricultural commodities consumed by farm households rather than availing at the market when the selling prices are near or below the production costs (Gebremedhin, 2010).According to Mukhebi (2007) to change the inefficient agricultural marketing situations in Kenya, it requires to establish institutional arrangement which creates better conditions for poor smallholder farmers. The institutional arrangement has to bring changes by lowering transaction costs, providing market information, and improving market coordination (Mukhebi, et al., 2007).

Commercialization is believed to bring high productivity, greater specialization and higher income. It leads smallholder farmers to separate their production decision from their consumption decision (Tanguy, 2007) and production decisions based on market signals (Gebremedhin, Berhanu and Moti, 2010). But it should be underlined that policy measures only cannot bring desired outcome in agricultural markets. In addition to policy; infrastructure, information, and institution are market fundamentals (Quattri, 2012).

Like most developing countries; agriculture is the major sources of income for smallholder farmers in Ethiopia. Improving the livelihood of the country's huge number of smallholder farmers, categorized as low income and hand-to-mouth, will significantly change the overall economic situations of the country. Therefore; different policy measure were taken by the Government of Ethiopia to enhance production and productivity of farmers. Rural and Agricultural Development policy clearly underlines the importance of market orientation i.e. free market economy as one of a means to bring accelerated economic growth of the country at large and improves the income of farmers in particular (MoFED, 2003). Marketing of agricultural

products of the country, like the prevailing Agricultural practices, was not developed well to motivate smallholder farmers, who contribute significant amount of production, toward higher production. The Agricultural market was characterized by lack of transparency, competition, and market information that suppresses bargaining power of small scale producers and gives unfair opportunity for buyers. In addition to these; high transaction costs, risk of being cheated also affects the agricultural market that causes for poor quality products; low volume production and creates unreliable partnership among buyer and sellers (Gabre-madhin, www.ecx.com.et) (as assessed on March 03/2015). Though Agriculture has significant impact on the development of the country, the market of agricultural commodities were highly affected by volatility and declining prices and categorized as poorly organized that cannot support smallholder farmers. The Agriculture market were not rewarding for value addition and this causes for poor quality, less productivity and other negative impacts on the agricultural sector.

Agricultural market of the country was hampered by variable factors and was unable to motivate smallholder farmers for better production and productivity. Though the degree of vulnerability was different, other agricultural market actors i.e. traders and consumers were also affected by poorly organized market. According to Gebremedhin (www.ecx.com.et) (as assessed on March 03/2015)Ethiopia agricultural market was characterized by the following factors:

- High contract default- smallholder farmers do not have enforcing mechanisms to get equal price for similar products. Village traders who collect agricultural products from smallholder farmers fix the price of the product based on their previous relationship, and other non commodity factors. These traders even can reduce the price after they fix it based on different scenarios.
- Unreliable supply- village traders cannot be sure about the quantity of product they can collect from smallholder farmers. This uncertainty goes up to exporters and creates difficulty to meet the requirements of buying countries.
- Price volatility- significant and abrupt up and downs of the price of agricultural commodity happens by non market factors that affects both smallholder farmers and traders. Price escalation affects trader to set contract agreement with their buyers. Sometimes they are forced even to default the contract agreement. Price decreases frustrate smallholder farmers and affect their production decisions.

- Poor quality- the market did not have product quality parameters and rewarding mechanisms. Smallholder farmers did not incentivized by their better quality products. Therefore; they give less attention for the quality of the product.
- Unreliable trading partners- smallholder farmers did not get fair price for their products. Traders were trying to maximize their profit at the expense of smallholder farmers without considering the consequence. In the other side; traders also may not get promised quality and quantity of products from smallholder farmers. Since the market was not organized so as to benefit both parties in a win-win scenario, both traders and smallholder farmers did not recognize each other as partners.
- Poor information- farmers did not get reliable and up to date local and international market information to decide when and where to sell their products. They might get selling price of products at the nearby market from other farmers who sold their agricultural products at that market. But this information is not reliable and may not be used as an input to make sells decision because farmers may not sell their product in a similar price on the next marketing day.
- Unregulated actors- there was no market rule that govern both farmers and traders. Therefore; the market was operating without liability for defaults performed by either party.

To enhance the contribution of agriculture for economic development of the country, agricultural market has to be efficient enough by availing solution for the above marketing challenges. The market has to commit for free market principles and has to create reliable connection among buyers and sellers ;assures efficient way to discover market prices; disseminates market information for all actors; and empowers farmers and incentivizes for better quality (Gabre-Madhin, www.ecx.com.et) (as assessed on March 03/2015).

Market inefficiency and failure motivates government intervention in the market but not in the manner of regulating the market. The prevailing practice of governments of developing countries is towards market oriented liberalization to ‘get price right’ and more recently ‘getting institutions right’ (Barrett and Mutambatsere, 2005).

2.3. Agricultural Commodity Exchange

The idea of organized commodity exchange started in 1730 by grain traders of Japan. But this idea was well developed and successfully launched by Chicago Board of Trade (CBOT) and the London Metal Exchange in 1864 and 1877 respectively. For a long period of time commodity exchanges were serving for market efficiency of industrial products. But commodity exchanges become more important for African countries to manage volatile international market and fragmented local markets for their small range of export commodities. Many commodity exchanges were introduced in Asia and Latin America during 1990s and some of African countries follow to implement the exchange after liberalizing their economy. Most Commodity Exchanges in Africa limited their function to provide price information and others that involve in trading are unable to attract sizable trade volume (Rashid, Winter-Nelson and Garcia, 2010).Centralized trade of commodity exchanges facilitates title transfer, market transparency, and price discovery. In addition it reduces transaction costs, certifies product qualities and facilitates buyers and sellers to come to well identified trading centre. It also enhances the flow of market information; reduces short term price variability; and reduces price uncertainty (Rashid, et al., 2010);improving storage as well as access to trade finance (Onumah, 2010); create free and open auction system; reduce risk for financer; and trigger infrastructure development (Mukami, 2014). Onumah also defines commodity exchange as "*a market institution that provides a physical or virtual (electronic) venue which brings together buyers and sellers to trade usually through a group of registered brokers*" (Onumah, 2010: 4).

Three fundamental conditions have to be on place to realize the desired function and to robust commodity exchanges development. First, the commodities to be traded must have certain physical and market features to develop standards of the commodity. The commodity should be continuously produced and storable; should have certain characteristics to distinguish different quality products, and must have sufficient market participants. Second, the contract of commodities must suit to existing economic conditions and have to fulfill the expectations of both buyers and sellers. It should prevent manipulations and able to balance different interests. It must not favor some market participants over the others. Finally, the exchange must have conducive and supportive market and policy environments (Rashid, et al., 2010, Gabre-Madhin & Goggin, 2005).Lack of efficient storage facilities in the rural area, which is expected to be

fulfilled by the commodity exchanges, forces smallholder farmers to sell their products immediately after harvest. This causes high seasonal price variability in Africa (Onumah, 2010).

According to Gabre-Madhin & Goggin, (2005) and Onumah (2010) commodity exchanges can address African agricultural market constraints by availing the following economic benefits. Commodity exchanges save time and reduce transaction costs that associate with payment and delivery; connect buyers and sellers to transact based on reliable market information about quality, quantity and delivery location; increase market liquidity; create trust, order, and integrity in the market; create conducive environment for inventory financers by reducing uncertainty of contract performance; improve collection and dissemination of market information for all actors; and facilitate commodities to be used as collateral for loan by providing credible warehouse receipt system

Fragmented and disorganized markets enforce smallholder farmers to sell their product at a lower price than the actual market price. To overcome these problems and to provide stable, reliable, fair and transparent market, commodity exchanges become influential approach in African countries. Commodity exchanges are highly efficient platform for both buyers and sellers and significantly reduce transaction costs as well as market risks (Mukami, 2014). According to Paul (2011) among various agricultural marketing solutions an organized commodity exchange market is found the most viable one.

Like other developing countries that are facing agricultural marketing problems; Ethiopia agricultural market actors were also discouraged by the marketing situations which was constrained by many factors. It was characterized by high transaction costs; lack of market coordination, contract enforcement and quality grades; high contract risks, weak responsiveness to price; high price volatility; and narrow market channels which have negative impact on the livelihoods of smallholder farmers (Alemu & Meijerink, 2010). All these agricultural market constraints led the government of Ethiopia to declare its commitment to change marketing problems of the country by introducing liberalized marketing system to enhance productivity of smallholder farmers (MoFED, 2003). Commodity exchange is not always viable solution for all agricultural marketing problems. It requires analyzing specific country situation and if it is found as a solution for certain countries; it should also be tailored to the needs of the country.

According to Gabre-Madhin & Goggin (2005) there were eight factors that justify the establishment of commodity exchange in Ethiopia. These were:

1. Government commitment on commercialization of smallholders and quality-based production in the country's Rural Development Strategy;
2. Presence of a large and unorganized domestic agricultural market in the country;
3. Existence of large central market in Addis Ababa that facilitates commodity flow from physically dispersed surplus product areas to product deficit areas;
4. Existence of brokerage practice in the Addis Ababa market with well established rules and codes of conduct;
5. Emergence of market-oriented cooperatives and unions to bulk up produce and organize farmers' market participation;
6. Emergence of commercial farmers and larger-scale traders as a new market actors;
7. Establishment of a national warehouse receipts system; and
8. Conducive policy environment for agricultural market development.

Due to the above factors Gabre-Madhin & Goggin (2005) agreed on the viability of commodity exchange in Ethiopia economic situation. The Government of Ethiopia also realizes the market problem that market actors were experiencing and decided to establish organized agricultural market called Ethiopia Commodity Exchange as a solution for the problems associated with agricultural marketing (Proclamation 550, 2007). ECX becomes operational since 2008 to transact different agricultural products mainly Coffee, Sesame seed and White Pea Beans. It creates integrity, security and efficiency to the market by providing reliable end-to-end system, grading and storage facilities, risk free payment and goods delivery system. ECX protects the interests of both buyers and sellers. It becomes renewed market place for all market actors to transact based on assured quality, payment and delivery, to disseminate international and local market information, to avail grading and storage facility (Alemu & Meijerink, 2010), and to bear liability of quality and quantity deterioration of stored products(Gabre-Madhin, www.ecx.com.et) (as assessed on March 03/2015).

Some authors like Mheen-Sluijer (2010) disagree with the idea of 'ECX is market place for all actors'. He discussed about certain markets that ECX cannot meet the needs of some market actors by raising traceability issues. Since ECX cannot ensure traceability system, it is not

possible to identify the origin of the product back to the growers. Thus it is difficult to avail organic, fair trade and socially responsible production through ECX trading system (Mheen-Sluijer, 2010).

Ethiopia Commodity Exchange is a government-owned exchange, initially focused to trade maize, wheat, and beans, on voluntary basis but it was unable to attract a significant volume of these commodities. Since December 2008, the exchange has turned its focus to export commodities on a mandatory basis with the support of policies that discouraged export through other arrangements (Rashid, et al., 2010).The Ethiopia Commodity Exchange (ECX), which is owned by the Government of Ethiopia, is the most recent spot exchange in Africa. However, ECX is run by a board representing farmer cooperatives, the state-owned grain trading enterprise and trading members. The trading platform involves the use of open outcry but an electronic trading system is being developed and is expected to be launched in the near future. Different standard lot size for different products tailored to current average load per small trucks in rural Ethiopia and to ensure broad participation, including small-scale market players. ECX warehouses are established in the main production areas to accept and issue products (Onumah, 2010).

2.4. Sesame Transaction in Ethiopia Commodity Exchange

Sesame is one of the major export products of Ethiopia in terms of quantity and value (Abera, 2009) and it is second to Coffee in export earnings (Abera, 2009, Mheen-Sluijer, 2010). The country has different variety as well as different quality products for the wide range application of importing countries. Many smallholder farmers are involved in growing this product as a cash crop and contribute around 98 percent of the output (Abera, 2009) with productivity of seven quintals per hectare (Gelelcha, 2009, Zerhun, 2012). Amhara, Tigray, Oromia and Beneshangul Gumuz are major production areas and contribute 90 percent of the total production (Abera, 2009). Sesame is not as such locally consumed product in Ethiopia and almost all products are exported to buyers countries (Gelelcha, 2009,Mheen-Sluijer, 2010). Ethiopia is the sixth top world producer of sesame seed (Zerihun, 2012).

Sesame is used for wide range of applications such as for extraction of edible oil; for baking of confectionary, biscuits and other bakery products; for tahini and halva industries; for pharmaceuticals as ingredient for soap, cosmetics, lubricants and medicines (Abera, 2009).

Like other agricultural products marketing in Ethiopia, Sesame trading faced with various challenges and it was also characterized by long value chain, poor market information, absence of adequate warehouse facilities, poor quality product, improper price discovery and poor market infrastructure (Abera, 2009) which result for high transaction risk and high chain costs (Gelelcha, 2009). To alleviate such marketing problems, sesame becomes one of the products to be traded in ECX plat forms (Abera, 2009) to decrease transaction costs, to increase market transparency and to avail efficient market information for producers and traders (Meijerink, Bulte, and Alemu, 2013). ECX started sesame trade on voluntary basis in 2009 (Meijerink, et al.) and mandatory trade in 2010 (The Council of Ministers Regulation No. 178/2010).The regulation decreed buying sesame directly from farmers as an illegal act. Accordingly farmers must sell their sesame product at Primary Transaction Centers (PTCs) and traders must also buy at PTC. Accordingly smallholder farmers use their nearby primary transaction centers to sell their sesame for traders. Traders homogenize the product and transported to ECX warehouses.

2.5. Summary of Literature Review

Agriculture has significant impact on the development of countries economies especially of developing countries that are highly dependent on agricultural products. Empirical researches indicate that agricultural productivity has direct relationship with economic development of the country. Based on this facts, the Government of Ethiopia gives due attention for agriculture as a means to trigger economic development. To enhance agricultural productivities, the efficiency of agricultural marketing has to be improved and farmers should be motivated to produce more. Improving agricultural marketing means creating accessibility; availing market information; setting quality rewarding mechanisms; enhancing bargaining power of farmers that enable them to get fair price for their products and the like that motivates farmers to enhance their productivity. Like other developing countries Ethiopian agricultural market was also constrained by many factors that discouraged productivity of smallholder farmers. To resolve this sustained market problem, Ethiopian Government established Ethiopia Commodity Exchange, a market place where buyers and sellers come together to trade. Main exportable agricultural products of

the country i.e. coffee, sesame and white pea beans decided to be traded at ECX. Since ECX provides product grading service, warehousing facility, market information, and assured payment, it improves bargaining power as well as selling price of smallholder farmers which motivate them to produce more. But do you to some procedural problems minimum capacity allowed to be stored at ECX warehouses is 50 quintals for sesame. Since the productivity of sesame per hectare is nearly seven quintals, smallholder farmers are unable to attain the minimum quantity required. Therefore; they have a chance to sell their product at primary transaction centers only. That means; smallholder farmers cannot directly benefit from ECX facilities.

The above literatures reviewed emphasized the importance of commodity exchange to motivate farmers' productivity by providing different benefits. But in the Ethiopian context, almost all smallholder sesame farmers cannot directly access ECX benefits and they are limited to primary transaction centers.

Agricultural markets that enhance bargaining power of smallholder farmers plays significant role to improve quality and yield of the product. Since smallholder farmers have direct access only to the Primary Transaction Centers, changes that are associated with quality, production and productivity of agricultural products have direct relationship with the availed benefits to the Primary Transaction Centers that derived from the Exchange.

CHAPTER THREE

RESEARCH METHODOLOGY

This section of the research paper presents the methodology that was employed by the researcher to conduct the study, to select the sample, to collect and analyze data used to assess transaction of agricultural commodities at Primary Transaction Centers

3.1. Research Design

In line with the objective of the research, which is to make an assessment on transaction of agricultural commodities at Primary Transaction Centers, the researcher employed a descriptive type of study.

The research designed and followed mixed method; both qualitative and quantitative methods were applied to obtain relevant evidence that enabled to answer the research question. Multiple forms of data collecting mechanisms were employed to gather information from different sample groups. Quantitative data were collected through close-ended questionnaires that helped the researcher to gather relevant information from smallholder farmers. Similarly; qualitative data were generated using semi-structured interviews with Primary Transaction Center buyers (traders) and focal group discussion was also held with supervisors of Primary Transaction Centers. The researcher observation was also incorporated as qualitative data.

3.2. Population and Sampling Techniques

Source of information: The primary objective of the study is to assess the marketing situations of Primary Sesame Transaction Centers that are found in Metema Woreda. Smallholder farmers, traders and market supervisors are main actors at PTCs. Therefore; these three groups are selected as respondents of the survey.

Sesame farmers: according to Metema Woreda Bureau of Agriculture (Performance Report, 2006) a total of 12,376 smallholder sesame farmers were participating in sesame production at Metema Woreda

Sesame traders: according to Metema Woreda Bureau of Trade (performance report, 2006) 413 sesame traders are buying sesame in five Metema Worda PTCs.

Primary market supervisors: according to Metema Woreda Bureau of Trade (performance report, 2006) there are five Primary Transaction Centers in the Woreda and five supervisors are also assigned.

Sampling strategy: The researcher applied non-probability or purposive sampling for the selection of PTCs as well as respondents. Five Sesame Primary Transaction Centers are found in Metema Woreda i.e. Metema Yohannes, Shinfa, Kokit, Gendaweha and Tumet. From these primary Transaction Centers; three i.e. Metema Yohannes, Kokit, and Gendaweha were selected based on convenience sampling, proximity to shehedin town, capital of MetemaWoreda.

Sample size: Total population size and confidence interval of the research determines sample size which can properly represent the population to be analyzed (Manheim and rich, 1999). Accordingly; sample size of the population determined by using the following formula:

$n = N/1 + N (e^2)$ where; n= sample size

N= total population

e= confidence interval (margin of error)

Therefore; recommended sample size for this research was

$n = 12{,}794/1 + 12794 (e^2)$

Since both qualitative and quantitative data were collected for this research and most respondents were smallholder farmers, margin of error considered is 8.5%. Therefore;

$n = 12{,}794/1 + 12794 (0.085^2)$

n = 12,794/93.43665 = 137 respondents

A total of 105 smallholder farmers (35 from each primary markets), from the same Primary Transaction Centers 30 buyers (10 from each). One supervisor is assigned for each Primary Transaction Centers to control the overall operations at the market; therefore 3 supervisors from three PTCs participated in focal group discussion. One additional respondent is included and the respondent number became 138.

It was also assumed that there would be 90% response rate by the respondents for different reasons. Therefore contingency to compensate the failure of response rate was considered and 10% sample size which is 14 respondents added and the total sample size became 152. Thus; sample size of different group of respondents rearranged to meet the proposed sample size. Accordingly; smallholder farmers became 115, traders became 34 and supervisors remained as 3. Finally; all of 115 smallholder farmers responded the questionnaire without failure. From a total of 34 traders; four failures registered and 30 respondents participated in semi-structured interview and 3 PTCs supervisors took part in focal group discussion.

3.3. Type of Data and Tools/ Instruments of Data Collection

The source of data that required to carry out this research was primary data and a combination of data collection tools used for different participants. Questionnaire designed for sesame smallholder farmers to assess their negotiation power and any benefits they get from Primary Transaction Centers; semi-structured interview designed for sesame traders at Primary Transaction Centers to evaluate the benefit they availed for smallholder farmers that derived from ECX objectives; and focal group discussion designed for Primary Transaction Centers supervisors to assess the overall conditions of the markets.

3.4. Procedures of Data Collection

Procedure of data collection for questionnaire

- The questionnaire prepared from very simple (non-sensitive) to relatively complex (sensitive)
- Six data collectors, two for each primary markets, who have agricultural and marketing background were hired to collect data
- One day training program organized for data collectors to understand the nature of the questionnaire and to interact with respondents.
- English version questionnaire interpreted to Amharic language with similar dialect of the participants.
- The Amharic questionnaires pre-tested by 10 smallholder farmers at *shehedin*.

- The questionnaire corrected based on the pre-test feedback collected from pre-test respondents.
- Then the questionnaire was typed and distributed to the data collectors.
- During the data collection when questionnaires distributed to the respondents; data collectors clarified about the objectives of the data collection and it was conducted only on the consent of the participants.
- Data collectors made clear for participants that the questionnaires designed for academic purpose only and participants' personal information will be kept confidential.
- The questionnaire distributed and recollected in a very friendly manner; and data collectors were explaining the questionnaire to the participants understanding level without changing the main content.
- Data collectors were helping respondents by filling the questionnaire whenever participants found unable to fill.
- The researcher led overall activities of data collection that performed by data collectors and resolved any problem encountered during data collection.
- The researcher supervised all data collection activities in all three primary transaction centers.

Procedure of data collection for semi-structured interview

- The interview questions prepared from very simple (non-sensitive) to relatively complex (sensitive) issues.
- English version interview questions interpreted to Amharic language with similar dialect of the participants.
- Then the interview questions were typed and distributed to the data collectors
- The researcher conducted semi-structured interview with traders.
- During the data collection, the researcher clarified about the objectives of the data collection and it was conducted only on the consent of the participants
- The researcher made clear for participants that the questionnaires designed for academic purpose only and participants' personal information will be kept confidential.

- Procedure of data collection before, during and after interview sessions followed the same analogy as that of the questionnaire.

Procedure of data collection for focal group discussion-

- Focal group discussion organized with Primary Transaction Market supervisors to get clear idea about the overall marketing situations. Supervisors of the three market participated on focal group discussion and very important data are gathered. The researcher was moderator of focal group discussion.

3.5. Methods of Data Analysis

The data that were collected from smallholder farmers through questionnaires are analyzed by SPSS. Since the research designed to assess the effectiveness of Primary Transaction Centers in maintaining ECX purposes; only descriptive statistics were used to obtain the result from the collected data. The results of other data collection tools, semi-structured interviews and focal group discussion, are manually analyzed by the researcher.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1. Introduction

The intention of this study was to assess the effectiveness of Primary Transaction Centers in maintaining ECX purposes mainly focused on sesame. Since smallholder farmers have no or very limited access to sell their products through ECX platform; it is very essential to understand which benefits of ECX go to smallholder farmers through Primary Transaction Centers and which remain at the traders level. Therefore; the research focused on the existence of ECX facilities, which resolves main marketing problems of agricultural products, at the Primary Transaction Centers where smallholder farmers are selling their products.

Both quantitative and qualitative data are collected from three primary sesame transaction centers of Metema Woreda; i.e. Gendaweha, Kokit and Metema Yohannes. Quantitative data are collected from smallholder farmers through questionnaire using Likert Scale. These data are analyzed using SPSS software mainly of descriptive statistics. Qualitative data are also collected from Primary Transaction Market traders through semi-structured interview; from Trading Center Supervisors through focal group discussions; and also through researcher observations.

The effectiveness of Primary Transaction Centers evaluated based on core marketing components which are in place at ECX. Accordingly; the assessment tries to address the issue of convenience of the marketing place, availability of market information, availability of quality rewarding mechanisms, enhancement of production and productivity, existence of market transparency, reasonable pricing, trust among market actors and price variability.

4.2. Results of the Study

4.2.1. Demographic factors

In Metema woreda 10,278 male and 2,098 female a total of 12,376 smallholder farmers were participating in sesame production during 2014 (Metema Woreda Bureau of Agriculture 2006 performance report). Accordingly the survey includes both genders of sesame farmers as respondents. From 115 respondents of the survey who are smallholder farmers that participate in the production of sesame; 81.7% are male and the remaining 18.3% are female.

Similarly; different age groups are also considered to participate in the survey. Though four age groups, below 31 years, 31-45 years, 46-65 years and above 65 years were categorized as a respondent for the survey; there were no sesame smallholder farmers below age 31 in the three primary markets. The survey result indicates that age group between 31 to 45 years is found more dominant and constituted 63.5% of the total respondents. The next dominant group is age group between 46 to 65 years and it is 33% and age group above 65 years contributes 3.5%.

Table 4.1: Respondents' category by gender

Gender		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	94	81.7	81.7	81.7
	Female	21	18.3	18.3	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

Table 4.2: Respondents' age group

Age group		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	31-45	73	63.5	63.5	63.5
	46-65	38	33.0	33.0	96.5
	>65	4	3.5	3.5	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4.2.2. Land ownership and yield of sesame per household

According to Metema Woreda Bureau of Agriculture; a total of 109,649 hectares were allocated for sesame production in 2014 production year. Out of these; only 28,392 hectares were owned by smallholder farmers and the remaining hectares were possessed by the so called investors for mechanized farming. The survey conducted on smallholder sesame farmers to understand land

allocation for sesame production indicates that 92.2% smallholder farmers allocated four hectares and less for sesame production; and out of this 53% allocated two hectares and less. Significant numbers of smallholder farmers i.e. 25.2% were unable to allocate more than one hectare for sesame production in 2014 production year. The average land allocated for sesame production is 2.68 hectares per smallholder farmers.

Smallholder farmers of Metema Woreda produced 44,724 quintals of sesame in 2014 production year. The assessment made to understand sesame production per household indicates that 88.7% of smallholder farmers get 7 quintals and less in 2014 production year. Out of these more than half smallholder farmers i.e. 53% got only four quintals and below. Indeed; 26.1% of smallholder farmers were producing two quintals and below. According to this survey; the average production per smallholder farmers was 4.5 quintals.

Table 4.3: Land allocated for sesame production

Allocated land in Hectares		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	29	25.2	25.2	25.2
	1.5	3	2.6	2.6	27.8
	2.0	29	25.2	25.2	53.0
	2.5	3	2.6	2.6	55.7
	3.0	17	14.8	14.8	70.4
	3.5	10	8.7	8.7	79.1
	4.0	15	13.0	13.0	92.2
	5.0	7	6.1	6.1	98.3
	8.0	1	.9	.9	99.1
	20.0	1	.9	.9	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

Table 4.4: Sesame yield

Yield in quintals		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.0	6	5.2	5.2	5.2
	1.5	6	5.2	5.2	10.4
	2.0	18	15.7	15.7	26.1
	2.5	4	3.5	3.5	29.6
	3.0	11	9.6	9.6	39.1
	3.5	2	1.7	1.7	40.9
	4.0	16	13.9	13.9	54.8
	5.0	14	12.2	12.2	67.0
	5.5	1	.9	.9	67.8
	6.0	14	12.2	12.2	80.0
	6.5	1	.9	.9	80.9
	7.0	9	7.8	7.8	88.7
	7.5	1	.9	.9	89.6
	8.0	6	5.2	5.2	94.8
	9.0	3	2.6	2.6	97.4
	10.0	2	1.7	1.7	99.1
	18.0	1	.9	.9	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4.2.3. Convenience of PTC marketing place

1. Availability of storage facility at PTC

Smallholder farmers do not have standardized storages to keep their product after harvesting. Due to lack of standardized warehouses around smallholder farmers; post harvest management of sesame becomes very difficult at farmers level. Significant amounts of the product affected by

pests, moulds, moisture and other deteriorating factors. Therefore; smallholder farmers are looking for storage to keep their product safe before deciding to sell. In addition to their economic problems; smallholder farmers are also forced to sell their products immediately after harvest because of the absence of storage facility to keep their products safely. ECX solves storage problems of depositors by providing standardized warehouses in all delivery locations and also bears all liability associated with quality and quantity deteriorations. But in the case of PTCs all respondents assured the absence of warehouse to keep their products. 84.3% respondents of the survey strongly disagreed regarding the availability of storage facilities and 15.7% also disagreed. The mean value on the availability of storage facility is 1.16 which indicates absence of warehouse facilities at PTCs. Additionally; focal group discussion with primary market supervisors, interviews with primary market traders and observation of the researcher confirmed the absence of storage facilities at PTCs.

Table 4.5: Availability of storage facility at PTCs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	97	84.3	84.3	84.3
	Disagree	18	15.7	15.7	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

2. Convenience of the physical market for transaction

Convenience of the physical market where smallholder farmers are selling their produce was also surveyed. 62.6% of smallholder farmers strongly agreed and 36.5% of these respondents agreed on the convenience of PTCs to transact their products. The mean value for convenience of the physical market at PTCs was 4.62 which revealed that majority of smallholder farmers are comfortable with the physical markets.

Primary transaction markets are established relatively nearer to the farmers' village. Smallholder farmers can access to the markets using different means of transportation from trucks to carts and

animals. Traders' compartments are constructed in a u-shape by leaving sufficient area in the middle for easy in-and-out of sesame products. From 69 to 120 traders' compartments are observed in the three PTCs and there is one office in each Primary Transaction Centers for supervisors.

Table 4.6: Convenience of the physical market

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral		.9	.9	.9
	Agree	42	36.5	36.5	37.4
	Strongly agree	72	62.6	62.6	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

3. Transaction cost at PTCs

Smallholder farmers are discouraged to produce a particular product if the transaction cost associated with that product is high. The survey assessed whether smallholder farmers are expected to pay additional cost at Primary Transaction Centers or not. Accordingly; the survey result shows that 51.3% of respondent strongly agreed and 36.5% agreed on the existence of transaction costs at PTCs. But a total of 11.3% respondents declined on the existence of transaction costs at Primary Transaction Centers. Only 0.9% of respondents remained neutral for the questionnaire. The mean value which is 4.21 also indicates that most of sesame smallholder farmers experienced transaction costs at PTCs.

Focal group discussion with primary market supervisors also assured that smallholder farmers are paying loading-unloading fee as well as turn over tax which is 2% of the price of their product. Farmers are expected to pay the TOT amount at the gate before entering to PTCs.

Table 4.7: Availability of transaction costs at PTC's

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	8	7.0	7.0	7.0
	Disagree	5	4.3	4.3	11.3
	Neutral	1	.9	.9	12.2
	Agree	42	36.5	36.5	48.7
	Strongly agree	59	51.3	51.3	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4. Sell immediately after harvest

Most of smallholder farmers were selling their products immediately after harvest for so many reasons. Markets are flooded with sesame from October to December which is harvest season for sesame. The prices of sesame declined in the harvest season and get improved after that. Unless this condition is changed; only traders will benefit from price escalation in the lean season. ECX was exercising warehouse receipt financing that allows depositors to get credit facilities from different local banks. Depositors' products that are in ECX warehouses used as collateral. Therefore; depositors were keeping their products till they get better prices. The survey conducted to evaluate the existence of similar facilities at PTCs for smallholder farmers. If such facilities are availed for farmers; they may not be forced to sell their products immediately after harvest. The survey finding indicates34.8% of the respondent replied neutral. But 28.7% agreed and 18.3% strongly agreed that they are forced to sell their products immediately after harvest. Contrary to this; 4.3% strongly disagree and 13.9% disagree with 'forced to sell immediately after harvest'. The mean value 3.43 discovered that dominant numbers of respondents are neutral.

Focal group discussion with PTC supervisors revealed that smallholder farmers didn't access credit facilities against their product to cover their financial needs. Though there is no credit

facility for smallholder farmers; there is a growing tendency of farmers to keep the product to the lean season to get better prices.

Table 4.8: Sell immediately after harvest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	4.3	4.3	4.3
	Disagree	16	13.9	13.9	18.3
	Neutral	40	34.8	34.8	53.0
	Agree	33	28.7	28.7	81.7
	Strongly agree	21	18.3	18.3	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4.2.4. Availability of market information at PTC

1. PTCs provide market information

Market information is very important for smallholder farmers to decide when and where to sell their products. In addition to this; market information will allow farmers to observe the trend of the market so as to take necessary measures. Market information is one of a tool that enhances bargaining power of smallholder farmers. Otherwise; farmers may retrieve market information from unreliable sources which lead them to wrong decisions. One of the benefits ECX offer to market actors is up to date local and international market information. Accordingly; the survey result that indicates whether PTCs are providing market information or not, all respondents i.e.66.1% of strongly disagreed and 33.9% disagree that PTCs do not provide market information for smallholder farmers.

The researcher observes that some farmers are searching to discover the price of sesame for two and three days at PTCs before bringing the product to the market.

Table 4.9: PTCs provide market information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	76	66.1	66.1	66.1
	Disagree	39	33.9	33.9	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

2. Using ECX market information as an input to decide the price of sesame.

ECX market information is disseminated through different channels like TV, radio, IVR, and SMS to allow all market actors to transact based on sufficient market information. Smallholder farmers can also access this information to decide on the price of their products. The survey result regarding usage of ECX market information as an input to decide the price of sesame by smallholder farmers indicates 66.1% strongly disagreed and 33.9% disagreed. Which means; almost all smallholder farmers are not using ECX market information as an input to decide the price of their product.

Interviewed traders explained that all of them are using ECX market information system to decide purchasing prices exclusively for their own purpose. Therefore; they can make informed decision and be able to maximize their profit margin.

Table 4.10: Usage of ECX market information as an input to decide the price of sesame

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	76	66.1	66.1	66.1
	Disagree	39	33.9	33.9	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

3. ECX market information as an input for PTCs

ECX helps to discover prices of agricultural commodities by bringing national demand and supply at one center. If the primary markets are using these discovered prices as an input; both buyers and sellers can benefit out of it. The survey in this regard indicates 60.9% of respondents strongly disagreed the application of ECX market information as an input for PTCs and 29.6% also disagreed. The mean value of the survey which is 1.49 indicates that the Primary Transaction Centers did not use prices discovered by Ethiopia Commodity Exchange as an input for their transaction.

Market supervisors explained that very rarely they were posting ECX closing price as a reference for sellers and buyers. But these days; it is not experienced in any of the three markets. The researcher also could not find any market information on the notice boards of PTCs.

Table 4.11: ECX market information as an input for PTCs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	70	60.9	60.9	60.9
	Disagree	34	29.6	29.6	90.4
	Neutral	11	9.6	9.6	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4. Predictability of PTCs prices by smallholders

Smallholder farmers need to be certain about the price before bringing their product to the market. If farmers couldn't predict the price; they will lose their bargaining power and traders will get advantage to decide the price of products. From the survey of smallholder farmers who are responding for this questionnaire; 45.2% strongly disagreed and also 45.2% disagreed on the predictability of selling prices at Primary Transaction Centers. The mean value 1.70 clearly indicates that smallholder farmers cannot predict the prices of their product which transact at Primary Transaction Centers.

Table 4.12: Predictability of PTCs prices by smallholder farmers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	52	45.2	45.2	45.2
	Disagree	52	45.2	45.2	90.4
	Neutral	5	4.3	4.3	94.8
	Agree	6	5.2	5.2	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

5. Short time required to sell products at PTCs

Smallholder farmers who have sufficient market information and certain about the selling price could sell their product in a short period of time as long as they get the right price for their product. Otherwise; farmers required prolonged time to investigate the price and to sell the product. The survey result indicates that; 14.8 % of the respondents strongly disagreed and 45.2% disagreed. That means 60% of the respondents replied that it required them longer time to sell their products at Primary Transaction Centers.

Table 4.13: Short time required selling products at PTCs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	17	14.8	14.8	14.8
	Disagree	52	45.2	45.2	60.0
	Neutral	25	21.7	21.7	81.7
	Agree	21	18.3	18.3	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4.2.5. Availability of quality rewarding mechanisms at PTC

1. Knowledge about sesame quality

Sesame market has quality requirements to differentiate products based on their characteristics. Sometimes farmers especially smallholder farmers may not understand quality requirements of the market. Due to these; they lose associated price rewards. Therefore; farmers' knowledge and understanding of quality requirements of the market will give them leverage to negotiate with traders. This questionnaire is designed to survey farmers' knowledge about quality requirements of sesame with regard to market needs. The result shows that; all respondents of smallholder farmers replied that they have sufficient knowledge and understanding about quality requirements of the market.

Table 4.14: Quality knowledge of farmers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	32	27.8	27.8	27.8
	Strongly agree	83	72.2	72.2	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

2. Availability of certification service at PTCs

Farmers knowledge about quality of sesame will never bring them benefit unless the market is sensitive and rewarding for quality products. To realize quality rewarding mechanisms; the market has to implement some sort of certification service. Certification service does not necessarily mean complicated laboratory analysis. It can be visual inspection and grading of products based on pre-specified requirements. Unless some product standards are established at PTCs, the transaction cannot be based on known quality which is the feature of modern markets. Accordingly; questionnaire was prepared to assess availability of certification service at Primary Transaction Centers. The finding indicates; 67.8% of the respondents replied they strongly

disagreed on the availability of quality certification and similarly 29.6% respondents also disagreed.

Table 4.15: Product quality certification at PTCs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	78	67.8	67.8	67.8
	Disagree	34	29.6	29.6	97.4
	Neutral	3	2.6	2.6	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

3. Transactions are based on quality certification at PTCs

Transaction based on quality certification is a precondition for quality rewarding. If Primary Transaction Centers are transacting based on quality; quality becomes one of the rewarding mechanisms for smallholder farmers. The assessment made to understand whether smallholder farmers are transacting based on quality certification at Primary Transaction Centers verifies that 44.3% of respondents strongly disagreed and 40.0% disagreed on the existence of quality certification services to transaction sesame products at PTCs. The mean value of 1.85 also indicates that transaction at PTCs is performed without quality certification.

Though farmers are selling their products at PTCs without quality certification; the interview result indicates, traders are bulking sesame products purchased from different farmers and preparing to meet quality requirements of ECX.

Table 4.16: Transaction are based on quality at PTCs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	51	44.3	44.3	44.3
	Disagree	46	40.0	40.0	84.3
	Neutral	2	1.7	1.7	86.1
	Agree	16	13.9	13.9	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4. Better price for better quality at PTCs

Agricultural markets in Ethiopia were characterized as non-rewarding for quality products. Farmers were not getting better price for their quality produces. This led farmers to give less attention for the quality of their products and focuses on quantity only. Absence of quality rewarding system for agricultural products was identified as one of the core problems that agricultural products were facing in the market. The establishment of ECX well addressed this issue and all agricultural products that are traded in ECX are transacted based on their quality. But the survey that has been made to assess the existence of quality rewarding mechanisms at Primary Transaction Centers signifies that 36.5% of the respondents strongly disagreed and 47.8% disagreed. Only 4.3% of respondents agreed on the existence of better price for better quality.

Discussion with primary market supervisors ascertains the absence of price differentiation between different quality products. Traders purchased sesame products at equal price without distinguishing their quality. They set purchasing price based on inferior quality sesame products and applied for all other better quality sesames.

Table 4.17: Better price for better quality at PTCs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	42	36.5	36.5	36.5
	Disagree	55	47.8	47.8	84.3
	Neutral	5	4.3	4.3	88.7
	Agree	13	11.3	11.3	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

5. Farmers motivation to produce high quality sesame

When farmers get better price for better quality products; they will be motivated to produce high quality products. They will strive to attain the highest quality to get best prices. But the respondents reply does not indicate the market at Primary Transaction Centers motivate farmers to produce high quality products. 47.8% of respondents strongly disagreed and 40.9% of respondents disagreed on their motivation to produce high quality products. Only 9.6% of the respondents agreed that they are encouraged by the reward they get from the market to produce high quality products.

Table 4.18: The price encouraged farmers to produce high quality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	55	47.8	47.8	47.8
	Disagree	47	40.9	40.9	88.7
	Neutral	2	1.7	1.7	90.4
	Agree	11	9.6	9.6	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4.2.6. Quantity assurance mechanisms at PTCs

1. Availability of trusted weighing equipment at PTCs

In the traditional markets smallholder farmers were not sure about weights of their products. They simply accepted the weight which was measured and told by traders. When ECX established modernized market; it facilitated transaction to be performed based on known quality as well as quantity. Assured quantity develops the confidence of smallholder to transact their product in the market.

For the survey question regarding the availability of trusted weighing equipment at Primary transaction centers; 5.2% of respondents said strongly disagree, 20.0% disagree, 27.8% neutral, 39.1 agree, 7.8% strongly agree. The mean value of the above survey question is 3.24 which mean majorities of smallholder farmers are neutral about weighing balances that is availed by traders at Primary Transaction Centers.

But the researcher observation and focal group discussion with primary market supervisors assures balances used at PTCs are calibrated by the concerned authorized body and checked regularly by market supervisors.

Table 4.19: Availability of trusted weighing equipment at PTCs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	6	5.2	5.2	5.2
	Disagree	23	20.0	20.0	25.2
	Neutral	32	27.8	27.8	53.0
	Agree	45	39.1	39.1	92.2
	Strongly agree	9	7.8	7.8	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

2. Prices are negotiated before weighing at PTC

Unit price of agricultural products at ECX is not dependent on deposited quantity. Sellers and buyers first agreed on the unit price then the amount to be transacted will be decided. Therefore; the survey wants to assure the existence of similar practices at Primary Transaction Centers. The survey result indicates that 40.9% respondents agreed on 'prices are negotiated before weighing' and 59.1 strongly agreed.

Table 4.20: Prices are negotiated before weighing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	47	40.9	40.9	40.9
	Strongly agree	68	59.1	59.1	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

3. Transaction based on exact weight

Farmers' trust on the transaction maintains the sustainability of the business. The existence of trusted weighing equipment by itself cannot assure that the transaction performed is based on exact weights. According to the respondents of this survey; 2.6% strongly disagreed, 22.6% disagreed, 27.0% neutral, 39.1% agreed and 8.7% strongly agreed the transaction at PTCs are based on exact weight of products. The mean value of the survey is 3.29 which is neutral; that means smallholder farmers could not be sure about the existence of transaction based on exact weight at Primary Transaction Centers.

Table 4.21: Transaction based on exact weight

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.6	2.6	2.6
	Disagree	26	22.6	22.6	25.2
	Neutral	31	27.0	27.0	52.2
	Agree	45	39.1	39.1	91.3
	Strongly agree	10	8.7	8.7	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4. Right to refuse the amount that weighted by traders

In the traditional agricultural market; smallholder farmers were forced to accept the weight of their product even when they had a doubt on the correctness to maintain good relationship with traders. They were at the mercy of traders. The survey conducted to assess this situation revealed that 3.5% strongly disagreed on the right to refuse the amount that weighted by traders, 17.4% disagreed, 2.6% neutral, 34.8 agreed, 41.7% strongly agreed. The mean value 3.94 indicates that smallholder farmers have a right to refuse the amount weighted by traders whenever they have a doubt.

Table 4.22: Right to refuse the amount that weighted by traders

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	3.5	3.5	3.5
	Disagree	20	17.4	17.4	20.9
	Neutral	3	2.6	2.6	23.5
	Agree	40	34.8	34.8	58.3
	Strongly agree	48	41.7	41.7	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4.2.7. Market transparency of PTCs

1. Transaction based on auction

One of the means to realize market transparency is the establishment auction trading. According to Investing Answers definition; “an auction market is a market in which buyers indicate the highest price they are willing to pay and sellers indicate the lowest price they are willing to accept. A trade occurs when buyers and sellers agree on a price”. If the transaction is based on auction; smallholder farmers can easily discover the price of their agricultural produces. The survey conducted to evaluate the existence of auction as a means to transact agricultural products at Primary Transaction Centers; 80.0% strongly disagreed and 20.0% disagreed. That means; auction did not serve as a means of transacting agricultural products at PTCs.

Table 4.23: Transaction based on auction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	92	80.0	80.0	80.0
	Disagree	23	20.0	20.0	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

2. Availability of different options to sell

There are different options that can benefit smallholder farmers to transact their products. The survey result indicates; 81.7% strongly disagreed on the availability of different options to sell their products at PTCs; 16.5% disagreed and 1.7% neutral. The mean value of the survey is 1.20 which means strongly disagreed. This indicates that smallholder farmers do not have other options than directly selling their products at Primary Transaction Centers.

Table 4.24: Availability of different options to sell

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	94	81.7	81.7	81.7
	Disagree	19	16.5	16.5	98.3
	Neutral	2	1.7	1.7	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

3. Right to transact with all traders

In the traditional market; smallholder farmers were limited in their marketing relationship with one or very few traders. It is not simply because of farmers' preference to transact with few traders. Farmers were technically forced to sell for the same traders again and again. Otherwise;

they would be facing price reduction and other discouraging measures by traders. ECX resolves this issue and depositors have full right to sell their products for any buyers. Therefore; assessment conducted to check farmers' right to transact with different traders at PTCs. The situation in the Primary Transaction Centers with regard to smallholder farmers' right to transact their products with different traders indicates; 1.7% strongly disagreed, 32.2% disagreed, 1.7% neutral, 33.0% agreed, and 31.3% strongly agree. The mean value of the assessment is 3.60 which means the response tends to agree. Therefore; smallholder farmers have a right to sell their products for different traders at PTCs.

Table 4.25: The Right to transact with all traders

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.7	1.7	1.7
	Disagree	37	32.2	32.2	33.9
	Neutral	2	1.7	1.7	35.7
	Agree	38	33.0	33.0	68.7
	Strongly agree	36	31.3	31.3	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4. Long time relationships affect the prices of commodities

For many reasons as discussed above; smallholder farmers establish long time market relationship with traders. This relationship hinders smallholder farmers from searching better prices of their products. This study wants to discover any price difference offered by traders considering long time relationship with farmers. The survey in this regard i.e. indicates 7.0% of the respondent strongly disagreed, 42.6% disagreed, 8.7% neutral, 37.4% agreed and 4.3% strongly agreed. The mean value 2.90 shows the result tends to neutral.

Table 4.26: Long time relationships affect the prices of commodities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	8	7.0	7.0	7.0
	Disagree	49	42.6	42.6	49.6
	Neutral	10	8.7	8.7	58.3
	Agree	43	37.4	37.4	95.7
	Strongly agree	5	4.3	4.3	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

5. The right to compare prices offered from different traders

In the free market economy; sellers can have a right to sell to anyone willing to pay them better price. In principle; smallholder farmers have also a right to compare prices and sell to whom they want to sell. But what about the existing market practices in PTCs? Are smallholder farmers influenced to sell their product without analyzing the market price? Smallholder farmers replied their experience on the right to compare different prices offered for the product from different traders. Accordingly; 2.6% respondents replied disagree, 55.7% agree and 41.7% strongly agree. The mean value of the response for this questionnaire is 4.37 which indicate most smallholder farmers are assured of the right to compare prices of traders before deciding to sell their products.

Table 4.27: The right to compare prices offered by different traders

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	2.6	2.6	2.6
	Agree	64	55.7	55.7	58.3
	Strongly agree	48	41.7	41.7	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4.2.8. Prices of agricultural products at PTCs

1. Getting reasonable price

Smallholder farmers are expecting to get reasonable price for their agricultural products that enable them to cover their production cost, government tax and also different family expenses. Otherwise farmers may not be motivated to produce that specific product and may shift to others. The survey indicates that only 1.7% of the respondents agreed that they are getting reasonable price for their sesame products. The remaining replied strongly disagreed, 62.6%, and disagreed, 35.7%. The mean value 1.41 indicates most smallholder farmers are not getting reasonable price for their product at PTCs.

Table 4.28: Getting reasonable price

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	72	62.6	62.6	62.6
	Disagree	41	35.7	35.7	98.3
	Agree	2	1.7	1.7	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

2. Farmers have decisive role on price decision

In the traditional market traders had decision power over farmers. Farmers were highly dominated and the transaction was laid on the mercy of traders. But the establishment of ECX enhances bargaining power of depositors to have equal decision power as buyers. The situation at PTCs has to be assessed to understand who dominates the transaction of sesame. The respondents of these questionnaires, who are smallholder farmers, replied on their price decision role; 51.3% of them strongly disagreed, 28.7% of them disagreed, 12.2% of them neutral, and 7.8% of them agreed. 1.77 mean value of this survey also indicates that significant parts of smallholder farmers didn't have influential role on price decision of their products.

Table 4.29: Farmers have decisive role on price decision

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	59	51.3	51.3	51.3
	Disagree	33	28.7	28.7	80.0
	Neutral	14	12.2	12.2	92.2
	Agree	9	7.8	7.8	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

3. Price encouraged farmers to produce more

Farmers will be encouraged to produce more for the next production year if the market offered them reasonable price for their products. If the price couldn't cover cost of production, government taxes and some family expenses; farmers cannot motivate to produce that specific product. Therefore; it is important to assess how far the marketing situation at PTCs encouraged farmers to produce more. But the finding indicates that 59.1% of respondents expressed their strong disagreement about the price encouraged them to produce more. 37.4% disagreed and only 2% of the smallholder farmers agreed on the price encouragement to produce more.

Table 4.30: Price encouraged farmers to produce more

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	68	59.1	59.1	59.1
	Disagree	43	37.4	37.4	96.5
	Neutral	2	1.7	1.7	98.3
	Agree	2	1.7	1.7	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4. Quality and quantity as price deciding factors

The price of agricultural products commonly depends on quality and quantity of the product. Unit price mainly depends on quality and total price on quantity. The same is true to transact products at ECX platform. What about Primary Transaction Centers? Do they consider quality and quantity as a decisive factor for commodity price? This was the question raised to farmers, but 13.9% of smallholder farmers replied strongly disagreed, 21.7% disagreed, 40.0% neutral, and 24.3% agreed. The mean value the survey i.e. 2.75 tends to neutral. That means most smallholders are not sure about factors that affect the price of their product at primary transaction centers.

Table 4.31: Quality and quantity as price deciding factors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	16	13.9	13.9	13.9
	Disagree	25	21.7	21.7	35.7
	Neutral	46	40.0	40.0	75.7
	Agree	28	24.3	24.3	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4.2.9. Trust among market actors

1. Farmers trust on quality and quantity that offered by traders

Contract default was identified as one of the characteristics of traditional market. Farmers were not trusting quality and quantity of the product that was affirmed by traders. The scenario at PTCs a little bit different from traditional markets. The survey indicates nearly half of the respondents distrusted quality and quantity approved by traders; whereas equal amount trusted quality and quantity of the product issued by traders at PTCs.

Table 4.32: Trust on quality and quantity of the product that declared by traders

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	27	23.5	23.5	23.5
	Disagree	23	20.0	20.0	43.5
	Neutral	12	10.4	10.4	53.9
	Agree	36	31.3	31.3	85.2
	Strongly agree	17	14.8	14.8	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

2. Farmers fear mischievous practices of traders

Smallholder farmers were facing different mischievous characteristics of some traders while selling their products. This practice is completely resolved by ECX. The transaction of money and agricultural products performed through ECX and buyers and sellers do not have direct relationship. ECX is liable to cover any default caused by either party. The survey conducted to assess the situation of PTCs shows 29.6% of respondents strongly agreed and 43.5% also agreed on fear of mischievous practices of traders while transacting their products at PTCs.

Table 4.33: Farmers fear mischievous practices of traders

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.6	2.6	2.6
	Disagree	16	13.9	13.9	16.5
	Neutral	12	10.4	10.4	27.0
	Agree	50	43.5	43.5	70.4
	Strongly agree	34	29.6	29.6	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

3. Traders offer similar price for a product

Different traders cannot offer similar price for one product unless there is illegal price fixation agreement between buyers. If buyers are offering similar price for a product; that means there is no competition between them which is expected to be in the free market economy. Similar products have got different prices from different buyers at ECX platforms. But the survey conducted indicates; most of the time traders offered similar price for a product at Primary Transaction Centers. 30.4% of respondents strongly agreed and 37.4% agreed that different traders offered them similar prices. The mean value is 3.76 which tend to agree that also supports the above finding.

Table 4.34: Traders offer similar price for a product

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.6	2.6	2.6
	Disagree	20	17.4	17.4	20.0
	Neutral	14	12.2	12.2	32.2
	Agree	43	37.4	37.4	69.6
	Strongly agree	35	30.4	30.4	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4. Payment made immediately after trade

One of the main reasons ECX established to support agricultural marketing is payment defaults experienced at traditional markets. Most traders were collecting agricultural products without immediate payment after trade. They were reimbursing farmers' money after selling and making profits. Literally; most of traders were doing business with smallholder farmers' money. But this is totally changed at ECX and sellers will get their selling price in their account in the next day after trade. The survey result demonstrates that all respondents replied the payment was made immediately after delivery at PTCs.

Table 4.35: Payment made immediately after trade

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	52	45.2	45.2	45.2
	Strongly agree	63	54.8	54.8	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

5. **Traders get higher profit margins than producers**

Profit sharing depends on bargaining power of buyer and seller. The one that have sufficient market information will benefit more than the other. In the traditional markets traders were getting lion share of the profit. But this is not true in ECX plat form. Both buyer and sellers get international and local market information that helps them to make buying or selling decisions. Since both have sufficient market information; profit generated from the product reasonably distributed between buyers and sellers. The survey conducted to assess existing practices at PTCs prevailed 47.0% strongly agreed and 36.5% agreed that traders get higher profit margins than producers.

Table 4.36: Traders get higher profit margins than producers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	7	6.1	6.1	6.1
	Neutral	12	10.4	10.4	16.5
	Agree	42	36.5	36.5	53.0
	Strongly agree	54	47.0	47.0	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4.2.10. Price variability

1. **Smallholder farmers can predict the price of sesame**

When markets are predictable; farmers can estimate the price of their product and can also understand trend of the price. But when price is variable the situation will be difficult for farmers to make selling decision. To resolve the issue of price variability at ECX; the price allowed to vary between +/- 5% based on closing price of last trading date. Therefore sellers and buyers can estimate easily what will be the price of the product in the next trading date. Thus; what measure PTCs take to avoid price variability so that farmers can predict the price of their product before coming to the market? The survey result showed that smallholder farmers cannot predict the

price of their product before coming to the market. According to the survey finding 63.5% strongly disagreed and 31.3% disagreed on price predictability at PTCs.

Table 4.37: Smallholder farmers can predict the price of sesame

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	73	63.5	63.5	63.5
	Disagree	36	31.3	31.3	94.8
	Neutral	2	1.7	1.7	96.5
	Agree	4	3.5	3.5	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

2. Farmers can make production decision based on prevailing market facts

In the predictable market situations, smallholder farmers can decide the type and amount of product to be produced in the next season based on prevailing situations. But this is not possible when there is price variability in the market. In this situation; farmers follows their intuition to make decision. Therefore; what is the situation in PTCs that supports smallholders to make production decision. Based on the survey findings almost all respondents replied that they cannot decide to produce or not to produce sesame for next season based on prevailing marketing facts.

Table 4.38: Farmers can make production decision based on prevailing market facts

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	67	58.3	58.3	58.3
	Disagree	44	38.3	38.3	96.5
	Neutral	3	2.6	2.6	99.1
	Agree	1	.9	.9	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

3. Significant price variability did not occur within short period of time

Sometimes significant price variability can be observed within very short period of time. This situation creates difficulties on farmers to make selling decision. The survey result indicates 59.1% strongly disagreed and 39.1% disagreed with price variability was not observed in a short period of time. A total of 98.2% experienced significant price variability that occurred within short period of time

Table 4.39: Significant price variability did not occur within short period of time

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	68	59.1	59.1	59.1
	Disagree	45	39.1	39.1	98.3
	Neutral	1	.9	.9	99.1
	Strongly agree	1	.9	.9	100.0
	Total	115	100.0	100.0	

Source: Own survey, 2015

4.3. Discussion of Results

The purpose of this discussion is to make in-depth analysis of survey results against the objectives of the study; so that it will help policy makers and readers to understand the roll of Primary Transaction Centers to realize the purpose of ECX.

4.3.1. Convenience of PTCs

Physical markets of primary transaction centers are convenient for farmers. They are situated near farmers' village with sufficient infrastructures. But, they don't have warehouse facilities where smallholders can keep their unsold products till they get better price. Farmers were forced either to sell products on the offered price or take it back home. In addition to these; farmers are expected to pay turn over taxes and loading unloading fees which create inconvenience on farmers.

4.3.2. Availability of market information at PTCs

Primary Transaction Centers did not provide its own market information nor re-disseminate ECX market information for market actors. Therefore; buyers and sellers at PTCs need to search relevant market information from other sources. Though ECX disseminates market information through different medias; smallholder farmers were not accustomed to use this information as an input to enhance their bargaining power. But traders, at the Primary Transaction Centers, consistently using ECX market information to decide buying prices of the commodity which also gave them leverage to negotiate with non informed smallholder farmers. Since farmers did not have market information; they are unable to predict the price of the product and required them longer time to sell their products at primary markets.

4.3.3. Enhancement of product quality

Trading of agricultural products at Primary Transaction Centers was not based on product quality. There was no a well defined product quality requirement as well as quality certification services at PTCs. Traders were not ready to pay premium price for better quality products. Though smallholder farmers clearly understand what quality product mean, they are not motivated to supply best quality products to the market because the market did not reward for the better quality products.

4.3.4. Improved product quantity

Weighting balances that used to measure quantity of agricultural products at Primary Transaction Centers were calibrated to provide accurate measurement services. One of the main duties of Supervisors at PTC was to check correctness of all balances in the market. Though balances are calibrated and inspected regularly; smallholder farmers could not trust the weight declared by traders. But farmers have a right to refuse the weight and request for reweighing with other balance. In addition to these; unit price is negotiated prior to measuring weight of the product. That means the unit price is not affected by the quantity of the product.

4.3.5. Market transparency

The transaction performed based on one-to-one deal and there was no option to sell based on auction. Farmers could not understand the price of similar product in the other corners of the market. The market was not transparent enough to make sells decision. Therefore; farmers were forced to compare price of the product through different negotiation with different traders. In PTCs farmers are not technically forced to sell their products to similar traders. They have a right to transact with any trader at PTCs.

4.3.6. Prices of agricultural products

Smallholder farmers felt they did not get reasonable price for their produces. The price highly depended on the wills of traders and smallholder farmers are still at the mercy of traders. Farmers' position did not change yet to the strong price negotiator and remained as price receiver. Therefore; the price of sesame could not encourage smallholder farmers to produce more.

4.3.7. Trust among market actors

Significant numbers of smallholder farmers couldn't trust quality and quantity offered by traders. They believed some mischievous practices were performed in the market by traders. Traders were offering similar price for a product which makes farmers to become suspicious about illegal price fixation by traders. Though farmers were collecting selling prices immediately after trade; they felt that huge amount of the profit margin remained on the hands of traders. Therefore; the market was not trustful for farmers to transact with confidence.

4.3.8. Management of price variability

Smallholder farmers could not predict the price of the product in advance to make sells decision. PTCs did not introduce means of managing high price volatility. Due to significant price variability through time; farmers could not able to decide the type and amount of product they should produce in the next season based on prevailing marketing realities.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The main objective of the study was to make critical assessment on availed modern marketing facilities by Primary Sesame Transaction Centers that derived from Ethiopia Commodity Exchange.

Research data are collected focusing on three Primary Transaction Centers from smallholder farmers, traders, market supervisors and also from researcher observations to analyze the effectiveness of primary markets to realize modern market principles of ECX. The questionnaires, interviews and focal group discussion were designed to get data on availed marketing facilities by Primary Transaction Centers that enable the researcher to address the following research questions:

1. What are the major market benefits of Primary Transaction Centers in comparison with traditional markets?
2. Do smallholder farmers get better price for better quality products?
3. How ECX price discovery helps smallholder farmers to negotiate with buyers?
4. What means do smallholder farmers availed to keep their product till they get better price?
5. How do buyers set price for products at Primary Transaction Centers?
6. What are the quality and quantity trends of products that arrived at Primary Transaction Centers?
7. How buyers those are supplier for ECX maintains quality of the product according to ECX requirements?

Accordingly; the major findings of the study are:

5.1.1. Benefits of Primary Transaction Centers in comparison with traditional markets

- Unlike the traditional markets, the physical markets at PTCs were convenient for smallholder farmers. They are relatively nearer to the villages of smallholder farmers;

convenient to use different means of transportations; and significant number of buyers of the product found at one center.

- Unlike traditional markets, PTCs provided calibrated balances (scales) to make transaction based on known quantity. This allowed smallholder farmers to sell their products based on exact weight.
- Though farmers got selling price immediately after sales, they could not trust the marketing situation of PTCs. Farmers had fear of mischievous practices of some traders like price fixation.

5.1.2. Price interdependency on quality

- Though farmers clearly understand quality requirements of the product and did not have knowhow problem to produce high quality products; Primary Transaction Centers did not give due consideration for quality. Because of this; farmers did not get proper reward for better quality products and different quality sesames are purchased with similar price. Thus, smallholder farmers did not motivated by the market situation to produce high quality products.

5.1.3. Price discovery mechanisms to enhance negotiation power of smallholder farmers

- Primary Transaction Centers did not provide market information for buyers and sellers so that transaction could not be performed based on local information. Though PTCs could not generate and disseminate their own market information, almost all traders got market information from Ethiopia Commodity Exchange sources. But, the study indicates that smallholder farmers did not retrieve information from ECX. This situation significantly privileged traders who had sufficient market information to negotiate with smallholder farmers who didn't have information about the price of the product.
- Primary Transaction Centers were not transparent enough to discover price of the product. It is smallholder farmers who were expected to search for the price through negotiation with different traders.

5.1.4. Means availed for smallholder farmers to keep their product till they get better price

- The warehouse facility that is very important for smallholder farmers to keep unsold products was not available at Primary Transaction Centers. Warehouse facility enhances bargaining power of smallholder farmers by allowing them to keep their unsold products rather than selling at cheaper price or taking back home. The prevailing practice shows that smallholder farmers were preferred to sell at cheaper price than taking back home. Hence bargaining power of smallholder farmers is significantly affected by the absence of warehouse facilities at PTCs.

5.1.5. Factors considered by buyers to set price of commodity at Primary Transaction Centers

- Traders mainly focused on ECX market information to decide price of commodity. They did not consider quality as a means to determine price of commodity. Therefore, Different quality products get similar price at PTCs.

5.1.6. Quality and quantity trends of products that arrived at Primary Transaction Centers

- Farmers were not motivated to produce more or high quality products. The market situation influenced them to look for other products that can be sold in traditional agricultural markets than Primary Transaction Centers.

5.1.7. Traders mechanisms to maintains quality of the product according to ECX requirements

- Traders of PTCs did not want to differentiate products according to ECX quality requirements. They simply bought products in a fixed price and prepared by themselves to meet quality requirements of ECX. Therefore, the reward generated by quality totally absorbed by traders.

All seven research objectives are addressed by the survey. As discussed above; weakness and strength of PTCs toward realizing modern agricultural markets are identified. These will give

some hint for policy makers where to intervene and improve PTC markets so as to enhance incomes of smallholder farmers by improving their bargaining power.

5.2 Conclusion

Agriculture is the main source of export earnings for the country and also absorbs very large number of workforces. It will continue to be the leading sector in Ethiopia and similarly smallholder farmers will also continue to be huge producers of agricultural products. Therefore; proper attention is required to enhance production and productivity of smallholder farmers which in turn will bring economic growth in the country. Agricultural marketing was found as a main problem area that significantly affects income of smallholder farmers. To modernize agricultural markets of the country, the Government of Ethiopia establishes commodity exchange to address marketing problems of the traditional markets. But, smallholder farmers cannot access modern market benefits directly from ECX. Primary Transaction Centers are the only means to connect Ethiopia Commodity Exchange with smallholder farmers. To make these farmers beneficiary from the modern market that is introduced by ECX, Primary Transaction Centers have to organize to accommodate new agricultural markets concepts.

The principal objective of this study was to identify and analyze the effectiveness of Primary Sesame Transaction Centers in maintaining ECX purposes. Sesame is one of major export products that are transacted through Ethiopia Commodity Exchange. Metema woreda is a well known sesame production area where the livelihood of many households depends on sesame products. In this Woreda; five Primary Transaction Centers have been established for the transaction of sesame. Smallholder farmers are selling their products to traders in these markets and traders collect and deposit in *Gendaweha* ECX warehouses.

As per the findings of this research; Primary Transaction Centers are creating suitable environments for market actors by availing different privileges like bringing buyers and sellers at one center to negotiate; providing calibrated balances for accurate measurement of agricultural products; and organizing office in each markets to supervise overall conditions. Though these markets address some marketing issues like that of ECX; major purposes of ECX are not yet addressed by PTCs. Primary Transaction Centers could not provide warehouse facilities and market information systems; could not realize quality rewarding transaction and reasonable

price; could not introduce price discovery mechanisms and transparency; could not enhance bargaining power of smallholder farmers and trust on the market; could not manage price variability to the acceptable level. Therefore; Primary Transaction Centers were found to be less effective in maintaining the purpose of ECX.

5.3 Recommendations

Primary Transaction Centers are proper markets to channel the purpose of ECX to smallholder farmers. But the assessment indicates that PTCs are less effective to maintain the purpose of ECX. Thus PTCs have to:

- Establish warehouse service to keep unsold farmers' products so that it will enhance bargaining power of smallholder farmers.
- Provide market information for buyers and sellers based on local transaction or using ECX market information that disseminates through different media to avoid asymmetric information which mainly affects negotiation power of smallholders.
- Establish quality based transaction by developing some quality characteristics which can easily be evaluateded or using existing ECX quality parameters to realize better price for better quality product..
- Assure price discovering mechanisms by introducing different methods like auction trading and the like
- Develop trust between market actors and manage price variability to an acceptable level by setting variability limit.

REFERENCES

Abera, H. (2009, May). Analysis of Sesame production, supply, demand, and marketing issues in Ethiopia. Economic Analysis work process: Addis Ababa

Abro, A.Z., Alemu, A.B.and Hanjra, A.M. (2014).Polices for Agricultural Productivity Growth and Poverty Reduction in Rural Ethiopia. Addis Ababa: Addis Ababa University, Collage of Development Studies.

Alemu, D. and Meijerink, G.(2010, June).The Ethiopian Commodity Exchange (ECX): An Overview. Addis Ababa: Public Private Partnership.

Barrett, B.C. and Mutambatsere, E. (2005,June). Agricultural markets in developing countries. London: Palgrave Macmillan, forthcoming.

Bill & Melinda Gates Foundation.(2010, July).Accelerating Ethiopian Agriculture Development for Growth, Food Security, and Equity. IFPRI, ILRI, IWMI and AMI

Byerlee, D., Janvry, D.A. and Sadoult, E.(2009). Agriculture for Development: Toward a New Paradigm. Barkley: University of California.

Diao, X., Hazell, p., Resnick, D and Thurlow, J. (2007). The Role of Agriculture in Development Implications for Sub-Saharan Africa. Washington, D.C: Library of Congress Cataloging.

FAO, IFAD, IMF,OECD, UNCTAD, WFP, the World Bank, the WTO, IFPRI and the UN HLTF. (2011, June).Price Volatility in Food and Agricultural Markets: Policy Responses

Gebremedhin, Berhanu and Moti, J. (2010).Commercialization of Smallholders: Is Market Participation Enough? Cape Town

Gabre-Madhin, Z.E. and Goggin, I. (2005, December). Does Ethiopia Need a Commodity Exchange? An Integrated Approach to Market Development. EDRI-ESSP Policy Working Paper No. 4. Addis Ababa: Ethiopian Development Research Institute.

Gabre-Madhin, E. (2012). A Market for Abdu, Creating a Commodity Exchange in Ethiopia. Addis Ababa: IFPRI

Gabre-Madhin, www.ecx.com.et (as assessed on March 03/2015)

Gelelcha.(2009). Sesame trade arrangements costs and risks in Ethiopia. Addis Ababa

Giuliano, P. andScalise, D. (2009). The Political Economy of Agricultural Market Reforms in Developing Countries. The B.E. Journal of Economic Analysis & Policy Contributions, Volume 9, Issue 1, Article 33, 1-5.

IFAD. (2013). Investing in Smallholder Family Agriculture for Global Food Security and Nutrition. Policy brief 3.IFAD

IFAD & UNEP.(2013). Smallholders, Food Security and the Environment. Roma: IFAD

Jaffee, S., Henson, s. and Rios, D.L. (2011, June). MAKING THE GRADE: Smallholder Farmers, Emerging Standards, and Development Assistance Programs in Africa.A Research Program Synthesis. Washington, D.C: The World Bank

Kherallah, M., Delgado, C., Gabre-Madhin, E., Minot, N. and Johnson, M. (2000, October). The Road Half Traveled: Agricultural Market Reform In Sub-Saharan Africa. Washington, D.C: IFPRI

Manheim, J.B and Rich, (1999).Sampling techniques and sample size determination. Kigali

Mheen-Sluijer, j. (2010, June).Ethiopian commodity exchange and contract farming arrangements: Complementing institutions. Wageningen.

Meijerink, G., Bulte, E. and Alemu, D. (2013).The Interaction of Formal and Informal Institutions in Development: The Ethiopian Commodity Exchange and Social Capital in Sesame Markets. The Netherlands: Wageningen.

Mekonnen, K.D., Dorfman, H.J. and Fonsah, G.E. (2013, February).Productivity and Efficiency of Small Scale Agriculture in Ethiopia. Florida.

MetemaWoreda Bureau of Agriculture.(2006). Annual Performance Report. Metema.

MetemaWoreda Bureau of Trade.(2006). Annual Performance Report. Metema.

MoFED.(2003, April).Rural Development Policy and Strategies. Addis Ababa: Economic Policy and Planning Department.

Mukami, K.(2014, September).How commodity exchanges can help Africa's fragmented farmers. Johannesburg: Norton Rose Fulbright.

Mukhebi, A.W., Kundu J., Okolla A., Wambua M., Ochieng W. and Fwamba G. (2007).Linking Farmers to Markets through Modern Information and Communication Technologies in Kenya.Nairobi.

Onumah, G. (2010). Promoting Agricultural Commodity Exchanges in Ghana and Nigeria: A Review Report.UNCTAD

Paul, I. (2011). An Assessment of the Opportunities and Challenges of the Ethiopian Commodity Exchange. Journal of Sustainable Development in Africa, Volume 13, No.1, 44-45.

Proclamation 550.(2007).A Proclamation to Provide for the Establishment of the Ethiopia Commodity Exchange. Addis Ababa: Federal Negarit Gazeta

Quattri M. (2012, February). Price Volatility and Farm Income Stabilization. Modeling Outcomes and Assessing Market and Policy Based Responses. On trade efficiency in the Ethiopian agricultural markets. Manchester: University of Manchester.

Rashid, S., Winter-Nelson, A and Garcia, P. (2010, November). Purpose and Potential for Commodity Exchanges in African Economies. IFPRI

Sitko, J.N., and Jayne, T.S. (2011, June).Constraints to the Development of Commodity Exchanges in Africa: A Case Study of ZAMACE. Lusaka: Food Security Research Project.

Sorsa.(2010, June).Sesame Markets in Ethiopia: a baseline survey. Addis Ababa

Tanguy. (2007, October).Smallholders' Commercialization through cooperatives: A diagnostic for Ethiopia. Addis Ababa: IFPRI

The Council of ministers.(2010). Sesame and white pea beans transaction, Regulation No.178/2010.Addis Ababa: Federal Negarit Gazeta No 25.

The World Bank.(2008). World Development Report.Agriculture for Development.Washington, D.C: The World Bank.

Zerihun J. (2012). Sesame (Sesame indicum L.) Crop Production in Ethiopia: Trends, Challenges, and Future Prospects. Science. Technology& Arts Research Journal.ISSN: 2226-7522, 1-7.

.

Appendix A: Questionnaire for Smallholder Farmers

Instructions: please consider that the below questionnaires are prepared to make research on sesame market at primary transaction centers for the accomplishment of MBA. All your personal information will be kept confidential and only the aggregate data will be used for the analysis.

Part One: Personal Information

(Please put x or √ mark on the space that describes you and fill others)

1. Sex: a. Male ☐ b. Female ☐
2. Age 18-30 ☐ 31-45 ☐ 46-65 ☐ Above 65 ☐
3. Allocated land for sesame production in hectare _____
4. This year yield of sesame product_____
5. Name of PTC _____

Part Two: Questions on marketing of sesame at primary transaction centers

(Please indicate your degree of agreement or disagreement with the following statements by using x or √ mark)

No	Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
	Convenience of PTCs					
1	There are storage facility to keep unsold products at PTC					
2	The physical market is convenient for transaction					
3	There is transaction cost at PTCs					
4	I am forced to sell immediately after harvest					

	Availability of market information at PTCs	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
1	PTC provides necessary market information					
2	I am using ECX market information as an input to decide price of sesame					
3	ECX market information is an input for PTC					
4	I am certain about the would be price whenever decide to sell my product					
5	It doesn't take longer time to sell my product					
	Quality improvement	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
1	I know what makes sesame better quality					
2	There is certification service at PTC					
3	The transaction at PTC is based on known quality					
4	I am getting better price for better quality product					
5	I am encouraged to produce high quality sesame					
	Trust on measured quantity at PTCs	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
1	There are trusted weighing equipments at PTC					
2	Price fixed before weighing at PTC					
3	I sold my product based on exact weight					
4	I can refuse the amount of the product that weighted by traders					

	Market transparency at PTCs	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
1	The transaction is based on auction					
2	I have different options to sell my product					
3	I have a chance to transact with all traders					
4	Long time relationships affect the prices of commodities					
5	I can compare different price offered for the product from different traders					
	Dependency of product price	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
1	I am getting reasonable price for my product					
2	I have power to decide on the price of my product					
3	The price encourages me to produce more					
4	Both quality & quantity considered as price deciding factors					
	Trust among market actors	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
1	I trust quality and quantity of the product that given by traders					
2	I have a fear of mischievous practices of traders					
3	Traders offer fixed price for similar sesame products					
4	I get the payment immediately after selling my product					
5	I feel traders get higher profit margins than producers					

	Price variability	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
1	I can be sure about the area of the price of sesame					
2	I can decide the type and amount of product that will be produced in the next year based on current price of the product					
3	There is no significant price variability in a short period					

Appendix B: Semi-structured Interview for PTC Traders

Instructions: please be informed that the below interview is prepared to make research on sesame market at primary transaction centers for the accomplishment of MBA. All your personal information will be kept confidential and only the aggregate data will be used for the analysis.

Part One: Personal Information

(Please put x or √ mark on the space that describes you and fill others)

6. Sex: a. Male ☐ b. Female ☐
7. Age 18-30 ☐ 31-45 ☐ 46-65 ☐ Above 65 ☐
8. Name of PTC _____

Part Two: Interview questions on marketing of sesame at primary transaction centers

1. How do you set buying price of sesame?
2. How do you differentiate quality of sesame?
3. Do you pay different price for different quality of sesame?
4. What factors do you consider for pricing?
5. Who has more power during bargaining, traders or farmers?
6. When do you made payment for sesame you bought from farmers?
7. Do you have permanent clients?
8. How do you correlate ECX price with PTC?
9. How do you assure correctness of your balance for farmers?
10. Are you willing to buy products from farmers who negotiated with other traders before they come to you?
11. Does the price of sesame vary among trader?

DECLARATION

I, the undersigned, declare that this thesis is my original work prepared under the guidance of my advisor Assistant Professor T. Giorgis Assefa. All sources of materials used for the writing of this thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institutions for the purpose of earning any degree.

_____ _____

Name Signature

St. Mary's University

Addis Ababa

May, 2015

ENDORSEMENT

This thesis titled "**Assessment on Primary Sesame Transaction Centers in Maintaining Ethiopia Commodity Exchange Purposes: The Case of Metema Woreda**" has been submitted to St. Mary's University, School of Graduate Studies for MBA program with my approval as a university advisor.

_____ _____

Advisor Signature

St. Mary's University

Addis Ababa

May, 2015