**ADDIS ABABA UNIVERSITY**

***SCHOOL OF GRADUATE STUIDIES***

***DEPARTMENT OF MANAGEMENT***

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# Trading in Commodity Exchange and Challenges of Participants: The Case of Ethiopian Commodity Exchange

**By**

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**A Thesis Submitted to the School of Graduate Studies of Addis Ababa University in Partial Fulfillment of the Requirements for Degree of Masters of Business Administration in Finance**

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***SCHOOL OF GRADUATE STUDIES***

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# Declaration

I declare that the thesis entitled on trading in commodity exchange and challenges of participants: the case of Ethiopian commodity exchange is my original work and has not been presented in Addis Ababa University and all source of materials used for the thesis have been duly acknowledged.

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# Certification

This is to certify that this study on the topic entitled "trading in commodity exchange and challenges of participants: the case of Ethiopian commodity exchange" is a bona fide work of Gebrekiros Gebremedhin Berhe, ID NO.GSR/0453/02 who carried out under my guidance/supervision and this work is original in nature and is suitable for submission for the award of masters of business administration.

Advisors Name: VENKATI PONNALA (PhD)

Signature----------

Date----------

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# Acronyms

| | |
|---|---|
| ECX | Ethiopian Commodity Exchange |
| ICT | Information communication Technology |
| KACE | Kenyan Agricultural Commodity Exchange |
| SMS | Mobile Phone Short Message Service |
| SPSS | Statistical Package for Social Studies |
| TV | Television |
| UNCTAD | United Nations Conference on Trade and Development |
| UNDP | United Nations Development Program |
| USAID | United States Agency for International Development |
| WRS | Warehouse Receipt System |

## Abstract

*The Ethiopian Commodity Exchange was established to revolutionize Ethiopian agriculture and transform the economy through a dynamic, efficient and transparent marketing system. Properly implemented and regulated, commodity exchanges can contribute greatly to the achievement of a country's economic and developmental goals and strengthen the bargaining power of participants. Hence the overall objective of this study is to assess the trading practices and identify the challenges of participants of the Ethiopian commodity exchange. And the variables that were assessed and identified were trading practice, warehouse and quality grading, liquidity and market information system. A survey questionnaires and interviews were prepared to collect a primary data, secondary data from the books and documents of the ECX and other sources were also used to augment the primary data. The data was collected from a sample of 80 Ethiopian commodity exchange participants or members selected through random sampling. And the survey was collected through cross-sectional survey. And the data was analyzed through descriptive analysis and binary regression model by using of SPSS version 16.The result shows Ethiopian commodity exchange was practicing an open outcry trading system and spot contract. The binary regression model result verified that time of participation, limited membership seat, membership seat fee and occupation was found to be highly significant with the choice of membership category. Apart from this according to the descriptive analysis lack of adequate warehouses, grading and sampling system, higher penalty cost for not withdrawing commodities from the warehouses on time, availability of in store credit, higher membership seat fee and transaction cost, were found to be some of constraints that hinder participants from the smooth functioning of transactions in the exchange.*


**Key words: ECX, ECX participants**

# CHAPTER ONE

# 1. INTRODUCTION

## 1.1 Background of the Study

In the era of globalization, how the economy and commodity market exchange is organized and coordinated is increasingly became a fundamental concern of all nations across the world. More specifically, linking of buyers and sellers in to commodity market for the effective and efficient accomplishment of transactions among the participants is the most challenging task. In response to this and following market liberalization and increasingly affordable information technology since 1990, commodity exchanges have mushroomed around the world.

Commodity derivative exchanges provide a platform where traders and investors from various parts of the world can participate in the hedging and price discovery of any listed commodity (Bose, 2009). Instruments (contracts) traded on commodity exchanges include futures, options and other derivatives. Trading in these instruments began with floor trading, also called open outcry systems. In open outcry systems, traders assembled in a pit in the exchange and traded commodities by indicating their bids or offers to others in the pits. Commodity futures markets help with price discovery and provide a way to hedge for producers and buyers of commodities (Thomas, 2008).

The Ethiopian Commodity Exchange was established in 2008 to revolutionize Ethiopian agriculture and transform the economy through a dynamic, efficient and transparent marketing system that serves all and essentially turns commodity into assets. And properly implemented and regulated, commodity exchanges can contribute greatly to the achievement of a country‟s

economic and developmental goals and strengthen the bargaining power of weak groups such as small farmers.

Despite its establishment there were not adequate studies that identified the trading practices and challenges of the participants of the commodity exchange. As findings of Tollens, (2006) revealed that market information and commodity exchanges can be powerful instruments to inform participants about market conditions and prices, to find willing buyers, to empower them by making the transactions more equal and fair, to inform them about the optimal timing of buying and selling, to induce them to store optimally and to plan ahead, making better informed optimal production and marketing decisions. This thus helps to break the vicious poverty trap, inducing resilience and better coping mechanisms, and reducing inequality in the markets.

The main purpose of the this study is to assess what the trading practice looks like and to identify the constraints of the participants that arise from market information, storage (warehouse), quality grade (standard), regulation, and liquidity, of the Ethiopian commodity exchange.

## 1.2 Statement of the Problem

Some of the research findings in the area verified that how commodity exchange market can be coordinated efficiently, at minimum transaction costs, among the myriad of actors in the rural economy, the diverse and spatially dispersed producers and consumers, in such a way as to enhance livelihoods and lead to the optimal allocation of resources was not given higher concern in most developing countries.

According to Mukhebi *( 2004)* high contract default, unreliable supply, volatile prices, poor information, unregulated actors, unreliable trading partners are taken as the major initiatives to establish commodity exchange and as interest in commodities has risen the range of available products has developed to meet the needs of new and existing investors.

The Ethiopian commodity exchange is young established with bright vision and mission to contribute to the economic development of the country in general and to the individual participants at the grass root level. In a country like Ethiopia where a predominantly agrarian society dominates, agriculture is the backbone of the countries development endeavor. Despite this agricultural product marketing were not given much attention and were not getting its real value for the last consecutive decades.

Gebremedhin and Ian Goggin (2005) found that producers of agricultural products and the country at large were facing different challenges due to ineffective use of commodity exchange. Despite its implementation commodity exchange progress in most developing countries were found to be an area of difference.

Researches regarding to the Ethiopian commodity exchange participants are very limited and the challenges of the participants is not fully articulated and described yet. This research is therefore an attempt to fill the research gap of the Ethiopian commodity exchange participants.

## 1.3 Objectives of the Study

### 1.3.1 General objective

The overall objective of the study is to assess the trading practices and identify the challenges of participants of the Ethiopian commodity exchange.

### 1.3.2 Specific objectives

- To assess the trading practices of the Ethiopian Commodity Exchange
- To describe the regulation system of the exchange
- To identify the challenges of Ethiopian Commodity Exchange participants
- To provide relevant recommendation that could significantly contribute for ensuring commodity exchange system for participants in Ethiopia

## 1.4 Research Questions

The following questions were answered in this study among others include:

1. What does the ECX trading practice looks like?
2. Does the ECX or authority effectively regulate the exchange?
3. What are the major constraints/challenges of the ECX member participants?
4. What possible and viable recommendation could be forwarded to ensure the smooth functioning of the exchange?

## 1.5 Significance of the Study

The growth of Ethiopian commodity exchange was impressive in the last two years. Despite this only little attention was given to variables which influence Ethiopian commodity exchange participant‟s success. Thus study was assessed the trading practice and identified the challenges of participants of the Ethiopian commodity exchanges that hindered the smooth functioning of the exchange.

Hence, such studies are beyond doubt important for the success of lately emerged Ethiopian commodity exchange. Policy makers and planners can also draw lessons on the issue under consideration for better success in the field. Besides adding a brick to the body of knowledge on the subject, the output of the study could also be informative for development practitioners and donors interested to operate and strengthen Ethiopian commodity exchange. Furthermore the findings of this study may also serve as a spillover for further research in the area.

## 1.6 Delimitation and Limitation of the Study

At the study period there were other commodity exchanges in the regional parts of country. But to make the study narrow and manageable the scope of the research will be delimited to the Addis Ababa city commodity exchange participants.

Due to time, manageability of data and budget constraint the researcher was delimited its sample size in to 80 respondents. And these may have limitation on the results of the study.

## 1.7 Organization of the Paper

The research paper was organized into five chapters. The first chapter provided a general introduction, statement of the problem, the research objective, why the topic was worth to be

conducted and scope and limitation of the study. The second chapter dealt with review of literature pertinent to the research. The third chapter covered the research methodology (research design, source of data, sample, sample size, sampling technique, and data collection instruments and data analysis) while the fourth chapter portray major findings of the research. Finally the conclusion and priorities ahead were presented in chapter five.

# CHAPTER TWO

# 2. REVIEW OF RELATED LITERATURE

## 2.1. Theoretical Literature

### 2.1.1 A Glimpse of Commodity Exchange

Organized commodity exchanges have a long history. Grain traders in Japan began experimenting with the idea in 1730, and the Chicago Board of Trade (CBOT) and the London Metal Exchange successfully launched their operations in 1864 and 1877, respectively. For more than a century, commodity exchanges remained largely confined to industrialized nations. However, with market liberalization and increasingly affordable information technology since 1990, commodity exchanges have mushroomed around the world (UNCTAD, 2007).

Rashid, et al (2010) growing interest in commodity exchange from government and donors in Africa is a clear reflection of need for commodity risk management. Because international markets remain volatile and domestic markets are thin and fragmented, risk management is critical for commodity sector development.

There have been many donor-supported initiatives to establish commodity exchanges in developing countries, but very few have succeeded. In Africa, five countries launched agricultural commodity exchanges shortly after market liberalization in the 1990s, but only South Africa succeeded in making its exchange sustainable. Despite the initial stage of success, Zambia and Zimbabwe suspended their operations following unusual price hikes and subsequent government intervention.

Other exchanges established in the 1990s include the Kenyan Agricultural Commodity Exchange (KACE) which no longer support actual trades but exist with donor support and the Uganda Commodity Exchange (UCE) which does coordinate trades but not been able to attract sufficient trade volumes to be self sustaining. Since 2004, more and more countries have been launching exchanges-notable ones include Malawi in 2004, Nigeria in 2006, the Ethiopian Commodity Exchange (ECX) in 2008 and the new Zambian exchange, ZAMACE, established in 2007( ibid).

ECX is an institution established by specific legislation and owned by the government. According to Proclamation No. 550/2007, ECX is a wholly State owned market institution, which commenced operation with a government authorized capital of 250 million Birr having its own legal personality. As a government owned entity, it is supervised by the Ministry of Agriculture and Rural Development and regulated by the Ethiopia Commodity Exchange Authority (ECX, 2008). It was funded by a consortium of financing partners including UNDP, the World Bank, American development agency USAID, Canadian Development Agency and the World Food Program (Alemu et al, 2010).

ECX is state owned Public-Private Partnership enterprise. The Government of Ethiopia is the owner of the ECX, while the ECX offers the sale of Membership seats, which are privately owned, permanently and freely transferable rights to the stream of earnings from trading on the Exchange.

It is established as a demutualized corporate entity with clear separation of ownership, membership, and management. Thus, owners cannot have trading stake, members cannot have ownership stake, and the management can be neither drawn from the owners nor from the

members. There is a joint Board of Directors drawn from relevant public institutions (state) and ECX members (private) **(**ECX, 2008).

It is anticipated that ECX will reward quality to producers; reduce transaction costs of market participation thus increasing returns to market activity; enable quick capital turnaround thus increasing market volumes, and reduce risk related to counterparty default and prices, thus increasing market participation; increase information and transparency for all market actors, thus empowering smallholders and other disadvantaged actors **(**Alemu et al, 2010).

### 2.1.2. Definition and Concepts of Commodity Exchange

According to UNCTAD (2005) commodity exchanges are defined in many different ways. For many observers in developed countries, a commodity exchange is a platform for the trade in futures contracts (standardized contracts for delivery of commodities at some time in the future) any other form of trade would not classify.

In addition to the above commodity exchange is defined as a market in which multiple buyers and sellers trade commodity-linked contracts on the basis of rules and procedures laid down by the exchange. And in an increasing number of developing countries, such exchanges typically act as a platform for trade in futures contracts, or for standardized contracts for future delivery.

Parvez (2009) defined as an auction market where contracts on commodities are available for purchase or sale at an agreed price and for delivery on a specified date. Or it is an association or a company or any other body corporate organizing futures trading in commodities for which license has been granted by regulating authority.

And according Gabremedhin and Gogggin ( 2005),a commodity exchange is defined as central market place where sellers and buyers meet to transact in an organized fashion ,with a certain clearly specified and transparent "rules of the game ".In its wider sense a commodity exchange is any organized market place where trade is funneled through a single ,well defined mechanism

### 2.1.3. Contracts of Commodity Exchange

Commodity exchange is an exchange where various commodities and derivatives products are traded. Most commodity markets across the world trade in agricultural products and other raw materials (such as wheat, barley, sugar, maize, cotton, cocoa, coffee, milk products, pork bellies, oil, metals) and contracts based on them. These contracts can include spots, forwards, futures and options on futures.

Commodity exchanges usually trade futures contracts on commodities, such as trading contracts to receive something and it protects the farmer (seller) from price drops and the buyer from price rises. Speculators also buy and sell the futures contracts to make a profit and provide liquidity to the system (Meijerink etal, 2010).

#### 2.1.3.1. Spot Contract

A spot contract is an agreement between a buyer and a seller at time zero, when the seller of the asset agrees to deliver it immediately for cash and the buyer agrees to pay in cash for that asset. Thus, the unique feature of a spot contract is the immediate and simultaneous exchange of cash for securities, or what is often called delivery versus payment **(**Ross et al., 2002).

### 2.1.3.2. Forward Contract

A forward contract is a legally binding agreement between two parties calling for the sale of an asset or product in the future at a price agreed upon today. The terms of the contract call for one party to deliver the goods to the other on a certain date in the future, called the settlement date. The other party pays the previously agreed-upon forward price and takes the goods. Forward contracts can be bought and sold.

The buyer of a forward contract has the obligation to take delivery and pay for the goods; the seller has the obligation to make delivery and accept payment. The buyer of a forward contract benefits if prices increase because the buyer will have locked in a lower price. Similarly, the seller wins if prices fall because a higher selling price has been locked in. Note that one party to a forward contract can win only at the expense of the other, so a forward contract is a zero-sum game (Ross et al., 2002).

### 2.1.3.3. Future Trading Contract

According to Sahadevan K.G. (2002) Futures contracts are an improved variant of forward contracts. They are agreements to purchase or sell a given quantity of a commodity at a predetermined price, with settlement expected to take place at a future date. The futures contracts as against forwards are standardized in terms of quality and quantity, and place and date of delivery of the commodity.

Parvez (2009) cited in the literature futures market contract in commodity exchange are largely used as risk management or hedging mechanism on either physical commodity itself or open positions in commodity stock. This purchase or sale of commodities must be made through a

broker or trading member who must be a member of the exchange and the trade should be done under the terms and conditions of the exchanges.

Due to the bulky nature of the underlying assets, physical settlement in commodity derivatives creates the need for warehousing, the quality of the asset underlying a contract can vary largely and this becomes an important issue to be managed. Participants of a commodities exchange are not free from risk.

In futures contracts, inexperienced investors may face price risk as all futures prices respond to many factors. Such factors may include unexpected high inflation, general strikes, natural calamities, reports on economic forecasts, politics and even on rumors and many other internal and external matters. The factors that can influence commodities prices may occur any time.

In addition to the above Frank.Faboziand and Franco Modiliani (1996) stated that the basic economic function of future markets is to provide an opportunity for market participants to hedge against the risk of adverse price movements. Future contracts products created by exchange .to create a particular future contract; an exchange must obtain approval from the commodity future trading commission, government regulatory agency.

### 2.1.4 Commodity Exchange Actors

In modern commodity exchange system the number of exchange market actors who participate in the exchange is very limited as compared to the number of people who wish to trade in the exchange. This is due to the limited capacity of the trading floor to accommodate large number of traders on one hand and other limitations that involve market and marketing infrastructure and the degree of complexity of monitoring and regulatory requirements of the system on the

other. Moreover, increasing the number of members that directly participate in the commodity exchange market would complicate the healthy function of the market system.

In countries where commodity exchange market is available different producers, processors, wholesalers and retailers as well as consumers trade through intermediary members that are granted recognition from the commodity exchange authorities. In the commodity system of Ethiopia, there are different types of membership of which the main are of two types trading and intermediary member .trading members are those members that can trade (buy and /or sell) only for themselves. Intermediary members on the other hand are members that can trade for themselves as well as on behalf of other market participants who have not got the chance to be members of the commodity exchange (ECX, 2008).

Commodity exchange actors can be defined as any person recognized by the authority who engage in the business of buying and selling exchange trade contracts for others or for his own account. According to Gebremedhin (2007**)** there are three types of actors or participants in an Exchange. First, there are those interested in the physical commodity itself, such as producers, processors, or consumers. These actors either have a product they want to sell, or they wish to buy a product for a particular purpose. Typically, these actors are least willing to take risk and actively seek to reduce their risk to as little as possible so, if they can, they prefer to pass on their risk to someone else in the market.

Both brokers and dealers, as market intermediaries, play an important role in the market by offering options to trade. Through their actions, they ensure that prices do not vary much across markets. When prices diverge, dealers buy goods in cheaper markets and sell in more expensive markets, thus connecting sellers and buyers across these markets.

Second, there are those who are interested in arbitrage, which is taking advantage of the opportunity to buy at one price and sell at another to make a profit. These actors, such as

dealers and brokers, are interested in taking calculated risks involving the sale and purchase of commodities.

A third category of market participant involves those who are even less interested in the physical commodity, and even more willing to take risks based on their predictions or informed guesses about the direction of the market. These actors are speculators, who profit from information they have about future prices. Well-informed speculators can predict future prices better than other traders in the market. They provide the market with signals about the future based on their ability to judge market trends and are willing to take a risk on their judgment. Unlike the arbitrageurs in the second category, speculators only exist where there is uncertainty over time, leading to a given degree of price volatility in the market.

Tse et al, (2001) a floor trader is an Exchange member or employee of a member, who executes trades by being personally present in the trading ring or pit. The floor trader has no place in electronic trading systems.

### 2.1.5. Functions of Commodity Exchange

The purpose of a commodity exchange is to provide an organized marketplace in which members can freely buy and sell various commodities in which they have an interest. The exchange itself does not operate for profit. It merely provides the facilities and ground rules for its members to trade in commodity futures and spots and for non-members also to trade by dealing through a member broker and paying a brokerage commission (Lerner, 2000).

In addition commodity exchange reduces transaction costs by offering services at lower cost than that which participants in the commodity sectors would incur if they were acting outside an

institutional framework. These can include – but are not limited to – the costs associated with finding a suitable buyer or seller, negotiating the terms and conditions of a contract, securing finance to fund the transaction, managing credit, cash and product transfers, and arbitrating disputes between contractual counterparties. Therefore, by reducing the costs incurred by the parties to a potential transaction, a commodity exchange can stimulate trade.

Moreover, properly functioning commodity exchanges can promote more efficient production, storage, marketing and agro-processing operations, and improved overall agriculture sector performance (Newman S, 2008). And Gideon O.E, 2003) describes commodity exchanges can be an important part of interventions to address the identified constraints because of the following economic benefits:

**A)** Exchange trading generally saves time and cost of transacting as well as reduces risks faced by counterparties, who are assured of a fair deal (arising from competitive trading), guaranteed payment for what is sold and delivery of what is paid for.

**B)** The system creates a means by which sellers and buyers are brought together to trade on the basis of reliable information on the quality, quantity and location of commodities to be traded. This reduces the cost of sourcing produce for traders and processors, while lowering the cost of accessing markets for farmers, especially for premium quality produce. It avoids the high-cost and time-intensive process of physical sampling of goods before purchase, which is predominant in the informal agricultural trade in the country. This is because the quality and quantity of the traded product is assured, thus making „sight-unseen" trade possible, implying sellers can sell to buyers in a wider geographical area than their immediate location.

**C)** Guarantee of delivery by the exchange, based on the guarantee by warehouse operators, reduces the risk of non-performance of trade contracts. Sellers are also assured of payment for the commodity sold, with systems being in place to minimize the risk of default by buyers, especially when the market moves against them. The greater security in trade transactions provided, leads to significantly lower cost (including time lost) associated with contract enforcement, especially where litigation is time consuming and expensive.

**D)** Increased availability of inventory finance is also likely to boost non-traditional exports by reducing uncertainty regarding contract performance faced by importers. This will be through enabling exporters to stockpile using inventory finance, thereby assuring more regular supply and to guarantee delivery on schedule of commodities of known quality and quantity.

**E)** Exchange trading improves collection and dissemination of market information to all players. Prices on the exchange, discovered through a transparent process, are widely disseminated. Brokers, who are expected to facilitate trade and provide market advice to their clients, receive and analyses price-sensitive market information, thereby assisting buyers and sellers in making trade decisions.

**F)** The exchange represents a transparent and often reliable means by which lenders can liquidate collateralized commodities in the event of default by the borrower. Therefore it facilitates access to commodity finance.

**G)** As the exchange matures from a spot market into offering various risk management instruments, including futures and options contracts, lenders will use such instruments to hedge price risks. By so doing, they will reduce credit risks, leading to lower cost of borrowing. The formal market in commodities will also attract investors intending to profit from price

movements. Their involvement will bring added liquidity to the market to the benefit of all players.

### 2.1.6. Commodity Exchanges and Regulation

**Regulation**: Commodity exchanges typically institute and robustly enforce relevant procedures, rules, regulations and guidelines to regulate the conduct of members, brokers and transactors. They are often able to take disciplinary action against parties in the event of non-compliance with the rules and procedures. They also tend to establish formal systems for quick and low cost resolution of trade disputes (Gideon O.E, 2003)

Government has two important role to play - an oversight role by which the government disciplining those who try to manipulate the markets for their own benefit, and ensuring the sanctity of contracts; and secondly, an enabling role by which the government providing the necessary legal and regulatory framework for the smooth functioning of the system.

The regulatory intervention should be most active at the time of the establishment of the exchange and of contracts. If the contracts are well formulated, and delivery modalities provide effective line of defense against attempts at manipulation, government has to only act as a watchdog intervening only when necessary. The goal of regulatory agency is not only to regulate but also to inculcate the culture of self-regulation among the participants. This in turn, over a period of time, will give way for more self-regulation supported by the advisory role of state regulation (Sahadevan, 2002)

As it was stated in UNCTAD (2005) intermediaries play a role in the market on behalf of end users; the activities of these intermediaries need to be overseen to ensure that they fulfill obligations. When either of these thresholds is crossed, there is a requirement upon the

exchange to act as a self-regulatory of activities taking place in its markets, and for Government to provide an overall framework for oversight.

### 2.1.7. Trading System of Commodity Exchanges

A movement towards electronic trading has taken place in recent years. This has been driven by technological advances and by the advantages in speed, cost, transparency and functionality that such trade typically offers over the established "open outcry" form of trading, which brings traders together on a trading floor. And in addition Computer technology has the potential to increase the efficiency, transparency, and liquidity of the commodity markets by increasing the speed of transactions and lowering transaction costs.

Electronic trading typically brings a number of other potential advantages. These include limiting informational asymmetries between trading interests, allowing potentially longer trading hours, and increasing access to markets regardless of one"s geographical location (Thomas, 2008).

It was also explained by Gbremedhin et al (2005) that trading on a commodity exchange is like a continuous two-way auction, in which offers to buy are going on simultaneously with offers to sell. This is possible because the graded product needs no description with a standardized contract and because there is sufficient volume of both buy and sell orders.

#### 2.1.7.1. Clearing and Settlement of Services

A clearing and settlement system that assures payment to sellers as well as minimizes overexposure of counterparties is essential. Financial institutions which are members of the exchange usually offer clearing services. Reliable and timely dissemination of such market

information as would ensure informed decisions by various parties, local and regional, who intend to trade. Informed decisions are critical to market efficiency (Gideon, 2003).

Clearing is the process of determination of obligations, after which the obligations are discharged by settlement. Settlement is a two-way process that involves legal transfer of the title to funds and securities/other assets on the settlement date. The clearing bank services are a highly time critical activity as delays directly impact the members/exchange. Banks can play an important role in settlement of obligations in the overall ecosystem including exchanges, members, clients, custodians, etc. This is highly transactional nature of the business. Dedicated infrastructure, trained manpower, and use of technology are the key parameters to doing this business (Sahadevan, 2002).

And the banking settlement system plays a crucial role in the overall risk management of the exchange mechanism, wherein daily settlement of trades/obligations, ability to manage fund flows in volatile days, coordination with exchanges and members, etc contribute towards effective functioning of the exchange mechanism. Apart from clearing services, banks also provide fund and non-fund based facilities to the members of the exchange for managing their working capital requirements and, thus, earn revenues through float funds, interest earned on overdrafts/loans, commission income, etc.

All members of an exchange are required to clear their trades through the clearing house at the end of each trading session, and to deposit with the clearing house a sum of money (based on clearinghouse margin requirements) sufficient to cover the member‟s debit balance (Lerner,2000).

### 2.1.7.2. Price Determination

Prices of commodity exchange are determined solely by the interaction of supply and demand conditions. If there are more buyers than sellers, prices will be forced up. If there are more sellers than buyers, prices will be forced down. Buy and sell orders, which originate from all sources and are channeled to the exchange trading floor for execution, are actually what determine prices. These orders to buy and sell are translated into actual purchases and sales on the exchange trading floor, and according to regulation this must be done by public outcry across the trading ring or pit and not by private negotiation. The prices at which transactions are made are recorded and immediately released for distribution over a vast telecommunications network (Lerner, 2000).

As cited in Chicago Mercantile Commodity Exchange trading futures contracts, it is essential that you know how to make a reasonable estimate of what will happen to prices in the future. Of course, no one can know for certain what prices will be, but it pays to have an educated opinion as to whether prices will rise or fall (www.cme.com.retrived 5th April 2011).

### 2.1.7.3. Market Information System

According to Gebremedhin and Goggin (20005) the core attribute of an exchange, is to enhances market transparency through generating and disseminating information. Through its own functioning, the exchange creates market information about the underlying supply and demand conditions in the economy. Thus, contrary to popular perception, commodity exchange does not require an external market information system as a pre-requisite to its proper functioning.

a market information system is a service that involves the collection on a regular basis of information on prices and, in some cases, quantities of widely traded agricultural products from rural assembly markets, wholesale and retail markets, as appropriate, and dissemination of this information on a timely and regular basis through various media to farmers, traders, government officials, policy-makers and others including consumers.

Market information helps potential buyers and sellers to make market decisions and gives them the assurance that the market is transparent and can handle their market needs. Once the market is established, market information is disseminated by word of mouth, as market user‟s travel to and from the market to other locations. As the market evolves, market information is also often carried by newspapers that are distributed within the market‟s catchment area; today such information can also be disseminated by radio, TV telephone links and via the web (Ibid).

### 2.1.7.4. Warehouse and Quality Grading System

Warehouse can be defined as a place in which goods or merchandise are stored; a storehouse. And the development of warehousing has positive knock-on effects up and down the supply chain. The warehouse receipt system (WRS) provides a platform for the introduction of other institutional innovations, notably grading, contracting and exchange trading. It facilitates public procurement as national and international agencies can simplify their activities by dealing in paper such as warehouse receipts, rather than trade directly in physical commodities.

WRS is also a valuable instrument for financing agricultural commodity chains, especially in countries where the shortage of alternative forms of collateral constitutes one of the most important obstacles in access to finance. Warehouse receipts are issued by warehouse operators as evidence that specified commodities of stated quantity and quality have been deposited at

particular locations by named depositors. The warehouse operator holds the stored commodity by way of safe custody; implying he is legally liable to make good any value lost through theft or damage by fire and other catastrophes but has no legal or beneficial interest in it (Gideon ,2010).

The quality of warehouse and storage management skills tends to be highly variable in most developing countries. Improving professional skills in the warehousing industry is necessary if storage losses are to be kept at a minimum. Similar training and capacity building is required to enable traders and processing companies to utilize the WRS in cost-effectively managing their inventories (ibid).

According to Gebremedhin & Goggin (2005) transferable warehouse system is highly complementary to the functions of the exchange. The receipts system goes hand in hand with a commodity exchange in that: Grades and standards are essential to warehouse operations as well as to a commodity exchange with standardized contracts; Price transparency is achieved because receipts indicate a specific grade, which generates price information that can also be used on the exchange; Risk is transferred by selling receipts on the exchange; and, Integrity and order: the legal enforcement of quality and of the transferability of the receipt is vital for both the warehouse receipts system and the functioning of the exchange.

### 2.1.7.5. Membership

In a deregulated market, membership is voluntary. Any individual or business organization that is engaged in the marketing of commodities may become a member of an exchange: traders, brokers, cooperatives, processors, state enterprises, etc. A key function of the exchange is therefore to ensure compliance of all of its members. An exchange is itself registered with and

supervised by government agencies established to oversee its activities in line with the law in place (UNCTAD, 2005).

The exchange‟s regulations and directives usually make it mandatory for members to make use of standard contracts prepared by the exchange to which they belong. Thus, members are required to strictly adhere to the terms and conditions laid down in the contracts, to keep appropriate records of their transactions; and to submit to be bound by the disciplinary rules of the exchange (Gideon, 2010).

## 2.1.8. Overview of the Ethiopian Commodity Exchange

The Ethiopian Commodity Exchange (ECX) is designed to be a marketplace where buyers and sellers meet to trade, assured of quality, delivery and payment. It will manage a system of daily clearing and settling of contracts. It will enhance market efficiency by operating a trading system where buyers and sellers use standardized contracts. Market transparency will be achieved by disseminating market information in real time to all market players (ECX, 2008).

As Mheen-Sluijer etal (2010) explained, trading takes place on a physical trading floor located in Addis Ababa, where buyers and sellers participate in "open outcry" bidding. Market prices are constantly changing throughout trading hours. The ECX uses several ways to transmit these prices in real time to producers and consumers directly. Once a deal is made, the ECX credits the seller‟s account and transfers title of the commodity to the buyer. The buyer then needs to collect its goods within 10 days from the warehouse where the product was deposited.

Once the product is deposited in the ECX warehouse, the ECX samples, grades, weighs and certifies the product according to ECX established and Products are stored in the ECX

warehouse, and an Electronic Warehouse Receipt is issued to the depositor or his/her representative (ibid).

It aims to provide a trading ground for sesame, haricot beans, maize, wheat and coffee. The ECX is supposed to guarantee: market integrity: guaranteeing the product grade and quantity and operating a system of daily clearing and settling of contracts; efficient coordination of buyers-sellers and standardized contracts; market transparency: disseminating market information in real time to all market players; and managed risk (Getahun, 2010)).

ECX Members are the core actors of the market. Membership is acquired through the purchase of a Membership Seat, provided other requirements are met. A Membership Seat is a permanent and transferable right to trade on the Exchange. Members are required to follow the Rules of the Exchange and thus maintain the integrity of the ECX marketplace (Alemu et al, 2009).

## 2.2. Empirical Literature

Sarkar and Tozzi (1998), suggest that although open outcry systems were more effective to trade highly active contracts, electronic trading has the potential to enhance operational efficiency and reduce costs. In contrary to the above Tse and Zabotina (2001) found that electronic trading systems reduce spreads while open outcry systems have higher market quality due to smaller variance of pricing error and higher information content. Information content is measured by studying the bid-ask spreads in response to trades. In addition according Robin Thomas (2008) Electronic trading leads to reduced price movement, then it would lead to lower volatility and hence lower risk in the market.

Adebusuyi‟s (2004) finding reveals that communications and transportation infrastructure is critical to a functioning exchange and outstanding constraints, and challenges to the stabilization of commodity prices were identified to include the small scale nature of production and low

level of further processing, poor performance of state and public institutions, poor infrastructure which made production uncompetitive and inadequate market information as well as poor access to productive assets. And as per his finding one of the major factors influencing the fluctuation of commodity prices is cyclical income fluctuations in the consuming countries

Shahidur et al (2010) found that Countries with successful exchanges have far more developed communications and/or transportation infrastructure than countries with less successful exchanges and the researchers added that the real challenge in African commodity exchange is not the development of grades but the enforcement of contracts that use those goods.

Celeste Aida (2010) also found inadequate market information, a weak system to enforce contracts, lack of standards and grades and the inexistence of the necessary institutions that support proper market functioning are some of the constraints of coffee market in Ethiopia.

According to Shahidur et al (2010), erratic price behaviors that are inconsistent with transaction costs could undermine a commodity exchange by making risk unacceptably high. Prices can also vary significantly across space due to inadequate infrastructure or information asymmetry, both of which are important sources of market failures. The non-competitive situations resulting from market failures can make it difficult to identify how to structure contracts to be traded on an exchange.

According to Gideon (2010) quality of warehouse and storage management skills tends to be highly variable in most African countries. Improving professional skills in the warehousing industry is necessary if storage losses are to be kept at a minimum. Similar training and capacity building is required to enable traders and processing companies to utilize the WRS in cost-effectively managing their inventories.

According to the study made by Alemu et al (2010) limited availability of international market information in terms of prices and production levels, which is reflected in poor linkage / transmission of price trends with the national market, is expected to be another challenge considerably affecting the competitiveness of the Ethiopian sesame in the international market and this is expected to create disincentives for sesame exporters to engage in the sesame market through ECX.

And the researchers added that exporters in Ethiopia face several quality problems in terms of quality grading and sampling representation commodities and adulteration especially by mixing sesame seed of different origin and the Ethiopian Quality and Standard Authority (EQSA)s", quality grading and certification which has been reported to take a long time as well as prone to corruption.

In addition Celeste Aida (2010) found that Internet and telecommunications in the ECX are still quite deficient (sometimes non- existent) to disseminate information to the participants. And as it is explained by Francesconi ( 2009) his study "Lack of capital, remoteness, poorly developed roads and telephone lines are only some of the barriers that keep farm households far away from markets, and therefore from the potential benefits of the ECX".

As the findings of Mukhebi (1998) Kenyan Agricultural Commodity Exchange faces several constraints that impede the KACE from the successful accomplishment are ;first, poor quality of produce that farmers deliver combined with the fact that most small-scale farmers find it difficult to deliver in bulk which is ideal for an exchange; and secondly, most of the commodities in Kenya are heavily regulated by boards and are grown and marketed in an environment of struggling cooperatives, which are inefficient, mismanaged and have

cumbersome internal bureaucracies. And the other major factor identified in the study was intervention of Kenyan government, in grain markets distorts prices and discourages increased private sector participation in commodity markets.

In addition to the above Gabremedhin and Ian Goggin, (2005**)** before the establishment of the ECX found that the Ethiopian grain markets faced some constraints such as; lack of sufficient market coordination between buyers and sellers, the lack of market information, the lack of trust among market actors, the lack of contract enforcement, and the lack of grades and standards, implies that buyers and sellers operate within narrow market channels, that is, only those channels for which they can obtain information and in which they have a few trusted trading partners .and their concluding showed that establishing of a commodity exchange will eliminate constraints that the Ethiopian commodity market faced.

Tollens (2006) in his study cited that the absence of easily accessible market information for farmers or small traders leads to lack of market transparency, low bargaining power of the buyers and sellers, low and highly variable prices due to market inefficiency, coexistence of surplus and deficit areas due to weak spatial integration of markets, high risks, low produce quality and high losses, high transaction costs and insufficient production to satisfy consumer demand.

Another important finding made by Ian Goggin (2007) showed that no perceived need for market transparency in the market ,Lack of credit, Lack of understanding of the exchange concept ,New concept-particularly for small-scale operators, including farmers, resistance to change and non-performance on contracts are considered in the study as the main constraints for the successful accomplishment of commodity exchanges.

Gideon O.E (2010) found that **"**Liquidity in the agricultural trade can be enhanced if lenders aversion to the provision of inventory finance is addressed through the development of credible warehouse system which allows stored commodities to be used as collateral for loan".

# CHAPTER THREE

# 3. RESEARCH METHODLOGY

The study employed both quantitative and qualitative research tool in order to produce a richer and more factual report. To assess the trading practice and pinpoint out challenges of the participants in the Ethiopian commodity exchange the study employed a survey questionnaire which comprises of both closed and open ended questionnaires. Besides key informant interview and on spot observation of the trading practice at ECX was made to augment the data collected through the aforementioned data sources. In this study challenge of commodity exchange participants was identified in terms of market information, quality standard and warehousing, liquidity, regulation and trading practice. To this end, cross-sectional survey method was employed.

## 3.1 Source of Data

The source of data for this study comprises of both primary and secondary sources. Primary data source was collected through employing questionnaire and key informant interviews in order to assess trading practices and to identify the main challenges of the Ethiopian commodity exchange participants. To support the collected primary data sources direct observation was also conducted. In addition to this, Secondary source of data was also used for the study inter alias include data from ECX, published and unpublished materials and electronic sources.

## 3.2 Sample Size and Sampling procedure

From the total study population of 498 ECX participants, which were categorized as full members and limited members of the Ethiopian commodity exchange, engaged in buying, selling and exporting of commodities in Addis Ababa city 80 participants were selected as a sample. The study employed standard statistical formula to determine the sample size of the

study. Based on a single proportion formula, the sample size was 165 but due to manageability of the data and the time available, the researcher prefers to take only samples of 80 member participants. The sample was selected through a two-stage stratified random sampling technique using proportional size allocation, which in this case was the major unit of analysis. The sampling frame, list of the commodity exchange participants or actors, was taken from the Ethiopian commodity exchange found in Addis Ababa city. The Ethiopian commodity exchange participants included in the sample were those commodity actors which were the legal members of the Ethiopian commodity exchange.

Furthermore, key informant interview was held with knowledgeable informants, who among others include warehouses operation officers, membership relation, quality grading officers, member participants and others were the potential informants.

Since the sampling frame consists of heterogeneous membership type categories, the appropriate sampling technique for the research was found to be stratified sampling technique. Sample size of each stratum was decided based on proportional sampling method. Selections of key informants were carried out in consultation with concerned bodies of the Ethiopian commodity exchange coordination office.

## 3.3 Data Collection Instruments

Appropriate questionnaires were prepared and used for the survey. Respondents were told what the research was all about in the language that they can understand. Respondents in this study were speakers of *Amharic*. Therefore, the questionnaire was translated into the language that they can understand. Doing so was very important for respondents to easily understand the questionnaire and express their ideas comfortably. Pilot test of the questionnaire was carried out at Humera commodity exchange. Feedback obtained from the pilot test was used to refine the questionnaire. Out of the total 80 questionnaires administered, 73 were found filled appropriately and considered for analysis.

## 3.4 Data Analysis

The Data collected through the aforementioned research tools were organized in a way suitable for analysis using computer soft ware. A descriptive method of data analysis was employed using Statistical Package for Social Studies (SPSS). To this end version 16 SPSS software was used to analyze the data collected through different instruments and t-test was also used to test whether the dependent variables have differences on the constraining variable. Besides binary logistic regression was used to sort out the relative strength of explanatory variables which are expected to influence the decision and status of participants" membership category (limited and full membership categories).

### 3.4.1 Binary Logistic Regression Model specification

Binary regression model is amongst the most popular categories of econometric techniques employed to identify determinants of a given dummy dependent variable, which in this case is status of membership participation category. In so many cases, logistic regression is preferred

to the others due to its link to other models and allows bringing out patterns in the data that might be obscured. As a result, logits are considered as „first aid bandages" that can help wrapping various factors in a meaningful form. And this study employed Binary Logistic Regression model so as to investigate determinants of membership participation category. Specification of the model is depicted below. Norusis, (1994) pointed out that in logistic regression model, we directly estimate the probability of an event occurring. For the case of a single independent variable, the model can be written as:

$$\text{Prob (event)} = \frac{e^{B_o + B_1X}}{1 + e^{B_o + B_1X}} \quad \text{---------- (1)}$$

Or equivalently,

$$\text{Prob (event)} = \frac{1}{1 + e^{-(B_o + B_1X)}} \quad \text{---------- (2)}$$

Where, $B_o$ and $B_1$ are coefficients to be estimated from data

X is the independent variable

e is the base of the natural logarithms, approximately 2.718.

For more than one independent variable the model can be written as

$$\text{Prob (event)} = \frac{e^{Z}}{1 + e^{Z}} \quad \text{---------- (3)}$$

Or equivalently,

$$\text{Prob (event)} = \frac{1}{1 + e^{-Z}} \quad \text{---------- (4)}$$

Where ,Z is the linear combination of independent variables written as

$$Z = B_o + B_1X_1 + B_2X_2 + \ldots + B_pX_p \text{ ---------- (5)}$$

The probability of an event not occurring is estimated as: Prob (no event) = 1- Prob (event)

Rearrangement of the equation facilitates the understanding and interpretation of the coefficients of the logistic regression model. The model can be re-written in terms of the log odds of an event occurring, which is called logit. The odds of an event occurring are defined as the ratio of the probability that it will occur to the probability that it will not (ibid).

$$\text{Log}\left(\frac{\text{Prob (event)}}{\text{Prob (no event)}}\right) = B_0 + B_1X_1 + \ldots + B_pX_p \text{ ---------- } (6)$$

From equation 6, the logistic coefficients can be interpreted as the change in the log odds associated with a unit change in the independent variable. Since it is easier to think of odds rather than log odds, the above equation can be re-written in terms of odds as:

$$\frac{\text{Prob (event)}}{\text{Prob (no event)}} = e^{B_o + B_1X_1 + \ldots + B_pX_p} = e^{B_o}\, e^{B_1X_1} \ldots e^{B_pX_p} \text{ ---------- } (7)$$

Then e raised to the power $B_i$ is the factor by which the odds change when the $i^{th}$ independent variable increases by one unit. If $B_i$ is positive, the factor will be greater than 1, which means that the odds are increased. If $B_i$ is negative, the factor will be less than 1, which means that the odds are decreased. When $B_i$ is zero, the factor equals 1, which leaves the odds unchanged.

# CHAPTER FOUR

# 4. RESULTS AND DISCUSSION

The study employed both quantitative and qualitative research tool in order to produce a richer and more factual report. To describe the trading practice and identify challenges of the participants in the Ethiopian commodity exchange, the study employed a survey questionnaire. To this end, a total of 80 respondents were considered.

## 4.1 Brief Description of the Study Population

As depicted below in table 1, about 85% of the respondents were male and only 15% were females. This shows that the major participation in the Ethiopian commodity exchange was dominated by male participants. With regard to the age category of the respondents, 56.2% of the respondent‟s age was found to be within the range of 31-65 age groups, which is believed to be highly committed age group and old age, while the rest of the participants (42.5%) were found to be youngsters.

As the table1 below reveals the majority of the respondents‟ educational status (67.1 %`) was found attaining tertiary level educational background whereas only 24.7% and 8.2% of the respondents had secondary level and primary level educational backgrounds respectively. Besides the result of the survey portrayed below reveled, as the level of the participant‟s educational status increases, the level of accessing market information through internet and SMS was also found increasing.

Regarding the occupation of participants, majority of the respondents (75.3%) were found to be full time merchants. As results of the key informant interviewee verifies, full time merchants are relatively committed and give their time and resource to the business activities than those par

timers. The rest of the respondents 13.7 % and 11% were government employees and students respectively. This implies that respondents were participating in the Ethiopian commodity exchange as par timers. A t-test analysis for equality of means between full member and limited participant verifies that the dependent variable have no such significant difference with regard to the variables under consideration.

**Table 1: Socio-Demographic Characteristics of ECX Participants**

| | | Frequency | Percent | t-test for Equality of Means between Full and Limited participants |
|---|---|---|---|---|
| sex | Male | 62 | 84.9 | Sig. |
| | Female | 11 | 15.1 | |
| | Total | 73 | 100.0 | |
| Age | 15-30 year | 31 | 42.5 | |
| | 31-65 year | 41 | 56.2 | |
| | >65 year | 1 | 1.4 | |
| | Total | 73 | 100.0 | |
| Educational status | Primary level | 6 | 8.2 | |
| | Secondary level | 18 | 24.7 | |
| | Tertiary | 49 | 67.1 | .667 |
| | Total | 73 | 100.0 | |
| Occupation | Merchant | 55 | 75.3 | .364 |
| | Student | 8 | 11 | |
| | Government employee | 10 | 13.7 | |
| | Total | 73 | 100.0 | |
| Trend of ECX membership participation | | | | .000*** |

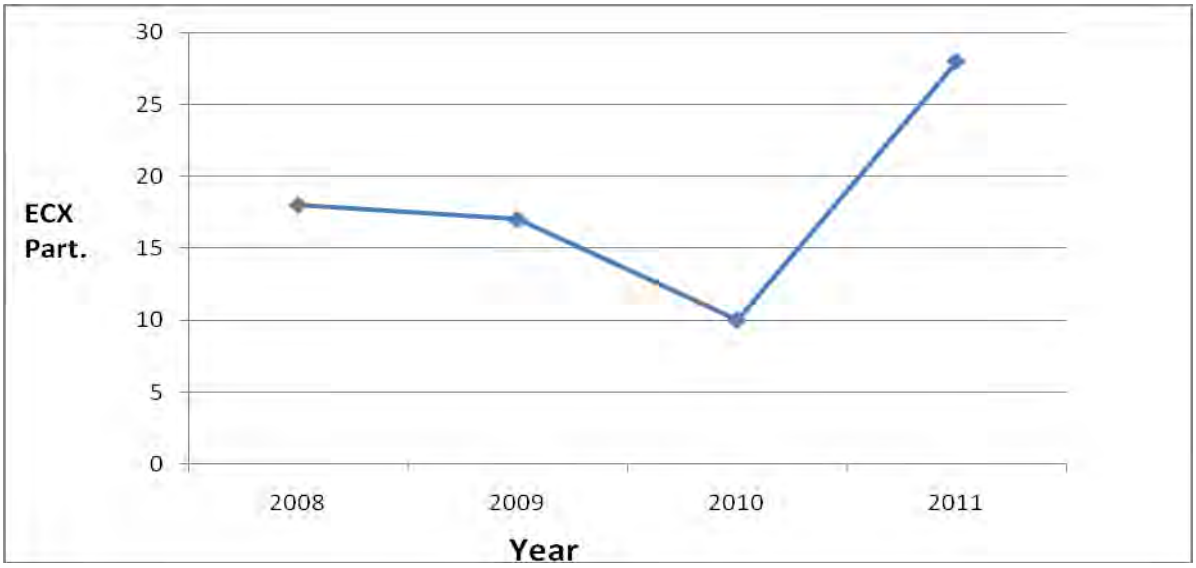
**** Significant at 1%, ** Significant at 5% *Significant at 10%*

*Source: own survey, 2011*

## 4.2. Trend and Membership categories of ECX Participants

As results of the study indicate, about 24.7% of the respondents were replied as they were started participating in the Ethiopian commodity exchange since its establishment in 2008.Whereas, 23.3 % of the respondents joined the commodity exchange after 1 year of its establishment (2009). The remaining 38.4% and 13.7% of the respondents were replied as they were start 2011 and 2010 respectively. As the figure depicted below reveals the trend of ECX membership participation was found to be inconsistent, more specifically in 2009 and 2010 the figure indicated a downward trend. Results of the t-test analysis also verify the existence of a significant difference between full member participant and limited membership participant at 1% level of significance with regard to the variable under consideration. And as results of key informant interviewee verifies, the trend is highly associated with the misconception related to lack of awareness and limited promotion of ECX and well organized system that can attract the participant to the exchange system. In 2011 the number of ECX participants was started showing a positive progress.

Figure 1- Trend of ECX membership participation




Source: Own source, 2011

**Table 2: The Distribution of Membership Categories of ECX Participants**

| | | Frequency | Percent |
|---|---|---|---|
| Membership category | Full trading member | 9 | 12.3 |
| | Full intermediary member | 27 | 37 |
| | Limited trading member | 12 | 16.4 |
| | Limited intermediary member | 25 | 34.3 |
| | Total | 73 | 100.0 |
| Desired membership category | Full trading member | 30 | 41.1 |
| | Full intermediary member | 41 | 56.2 |
| | Limited intermediary member | 2 | 2.7 |
| | Total | 73 | 100.0 |

Source: Own source, 2011

With regard to membership category, a relatively higher percent of the respondents 37% and 34.3% replied as they are full intermediary members and limited intermediary members respectively. While 16.4% and 12.3% were found to be limited trading members and full trading members of the exchange.

A perusal of the analysis with regard to best membership category, a considerable percent of the respondents (56.2%) indicated full intermediary membership as the best compared with others. The opportunity associated with the membership including buying and selling all types of commodities for their own account and for others was the reason for the participant to designate it as best membership category. On the other hand, about 41.1% of the respondents" replied that their best membership category is full trading membership as this membership gives them the advantage to buy and sell all types of commodities for themselves. From the aforementioned result and analysis, it was found out that majority of the limited membership participant (94.6%) were found participating in a membership which they were not interested to

participate. This according to the key informant interviewee leads to lower level of participant"s engagement and performance in the Ethiopian commodity exchange.

## 4.3. Practice and Challenges of the Ethiopian Commodity Exchange

### 4.3.1. Trading Practice

As results of on spot observation and document analysis revealed, the ECX was applying open outcry trading system. Although electronic trading is practically preferred and employed all over the world as a means of facilitating the exchange system, the system is not yet considered here in ECX as a means due to poor ICT infrastructure and awareness problem of the ECX participants. According to results of key informant interviewees, price movement, ICT related problems, lower seeped of transactions were found to be the major problems associated with the open outcry trading system. Consistent with this, findings of Thomas (2008) revealed that electronic trading leads to reduced price movement, lower volatility, lower risk in the market and higher liquidity by increasing the speed of transactions and lowering transaction costs. But according to the information obtained from ECX participant the existing exchange system is operating in good position although much have been left to be accomplished to make it more functional.

Although ample literatures confirmed the immense role of commodity exchange in reducing transaction cost, results of this study revealed the otherwise. According to the findings of this study, about 68.5% of the respondents replied as participating in the Ethiopian commodity exchange increased the transaction costs than the traditional trading system. Costs for warehousing, quality grading, warehouse related services, ECX, intermediary among others were mentioned as the probable reason for high transaction cost. Unlike the aforementioned result, 30.1% of the respondents who participate in ECX were verified that as participating in

ECX reduced their transaction cost while insignificant number of respondents (1.4%) replied as transaction cost in ECX and the traditional trading system were the same. In contrary to the findings of this study, findings of Gebremedhin, et al (2005) verified that commodity exchange plays a pivotal role in reducing transaction costs by offering services at lower cost than that which participants in the commodity sectors would incur if they were acting outside an institutional framework.

With regard to the contractual agreement, on spot observation and document analysis result reveled that Ethiopian commodity exchange were practically employing spot contract agreement system. As results of key informant interviewee revealed this trading agreement system was not such encouraging and promising due to problems associated with price fluctuation. As results of the finding portrayed below in table 3 verifies, about 56.2% of the respondents replied that the ECX membership seat fee is expensive and unfair while 42.4% revealed the membership seat fee is fair and easy to afford. According to information obtained from key informant interview verified the membership seat fee was decided by the members bid agreement not by the ECX.

**Table 3: Trading practice**

| Characteristics | Response | No of respondents | Percent |
|---|---|---|---|
| Membership seat fee | Expensive | 41 | 56.2 |
| | Cheap | 1 | 1.4 |
| | Fair | 31 | 42.4 |
| | Total | 72 | 100.0 |
| membership requirement | Encouraging | 47 | 64.4 |
| | Discouraging | 26 | 35.6 |
| | Total | 73 | 100.0 |
| Transaction costs | reduced transaction cost | 22 | 30.1 |
| | increased transaction cost | 50 | 68.5 |
| | no difference | 1 | 1.4 |
| | Total | 73 | 100.0 |

Source: Own source, 2011

### 4.3.2. Market Information System

As depicted in table 4, below about 41% of the respondents confirmed that the available information communication technology of the Ethiopian commodity exchange facilities were satisfactory. In contrary to this a relatively higher percent of the respondents (59 %) of the survey result shows that the information communication technology of the Ethiopian commodity exchange was not providing satisfactory service. Consistent with this, key informant interviewee also confirmed the limited and unsatisfactory service of ECX with regard to the point of discussion. Although much has been left to be done in this regard, a positive momentum has been seen in the use ICT in the exchange system. Consistent with these findings of the study by Tollens (2006) revealed that with full application and development of ICT, the commodity exchange market information system will have lower transaction costs and improve

market efficiency, and thereby enhance smallholder farmer access to markets and lower market risks.

Despite this, the vast majority of the respondents confirmed as they are getting market related information from the ECX. According to these respondents the Ethiopian commodity exchange disseminates prevailing market prices, commodity volumes and market conditions and also price trend data through the use of different market information communication systems.

**Table 4: Market information System dissemination of ECX**

| | Response | No of respondents | Percent |
|---|---|---|---|
| ICT facility of ECX | satisfactory | 30 | 41 |
| | No | 43 | 59 |
| | Total | 73 | 100.0 |
| Use of News paper and Magazine sources | Yes | 17 | 23.3 |
| | No | 56 | 76.7 |
| | Total | 73 | 100.0 |
| Use of Mass media | Yes | 26 | 35.6 |
| | No | 47 | 64.4 |
| | Total | 73 | 100.0 |
| SMS users | Yes | 43 | 58.9 |
| | No | 30 | 41.1 |
| | Total | 73 | 100.0 |
| Internet data base system users | Yes | 38 | 52.8 |
| | No | 34 | 47.2 |
| | Total | 72 | 100.0 |
| ICT network condition for internet and SMS user | Good | 29 | 49 |
| | No | 30 | 51 |
| | Total | 59 | 100 |
| Actual price at the time of sale or buy usually the same as compared to the local market | Yes | 21 | 28.8 |
| | No | 52 | 71.2 |
| | Total | 73 | 100.0 |

Source: Own source, 2011

In terms of access to market information, survey results of the study revealed that a considerable percent of the respondents (76.7% and 64.4%) revealed as they are not using magazines and mass Medias a source of market information respectively. while only 23.3 % and 35.6% of the study participants replied as they are using magazine and mass media respectively. This was also confirmed by key informant interviewee. As results of the key informant interviewee verifies the Ethiopian commodity exchange disseminates market related information to participants through magazines, news papers and mass media. According to the survey results about 58.9% and 52.8%of the respondents revealed that they were accessing SMS and internet data base system respectively. Consistent with these findings of Shahidur et al (2010) found out that Communications and transportation infrastructure is critical to a functioning exchange. In line with key informant interviewee also argue that presence of a reliable and functioning system for transportation and distribution, that facilitate a credible delivery system, is a pre requisite for successful commodity exchange system establishment.

As results of the finding depicted below in table 4 verified, about 51% of the respondents who use SMS and internet were found not satisfied with the network of ECX. In contrary to this 49% of the survey participants were satisfied with network of the SMS and internet of the ECX. Consistent with this finding of a study conducted by Celeste Aida Molina Fernandez (2010) revealed that internet and telecommunication services in the ECX are still poor and quite deficient (sometimes non- existent) to disseminate information to the participants.

As the results of the study in table 4, revealed 28.8% of the respondents replied that the actual price at the time of sale and buy were similar with the information they have in the local and foreign markets.

As results of this study revealed that a considerable percent of respondents (71.2%) verified that they were not satisfied with buying and selling of commodities related to the actual price and information they have in the local and foreign market. According to information obtained from key informant interviewee price fluctuations were mentioned as the probable reason for the aforementioned difference.

### 4.3.3. Warehousing and Quality Grading

According to the key informant interview and secondary data analysis result, Ethiopian commodity exchange has 35 privately and 16 government owned warehouses in 16 different parts of the country. As results of the aforementioned source confirmed these warehouses are not adequate enough to accommodate all the requests of participant"s commodities. In line with this, survey results of the study verify that about 69.9% of the respondents responded as ECX did not have adequate storage service which accommodates request of the participant"s commodities. Whereas, 30.1% of the respondents revealed that the Ethiopian commodity exchange have adequate warehouse to accommodate commodities in case of request from the participants.

Likewise findings of this study depicted below in table 5, indicated that a relatively higher percent of the respondents (61.6%) responded as the Ethiopian commodity exchange recording and management system of the warehouse was not as such satisfactory while 38.4% of the respondents were found satisfied with the recording and management system. As findings by Gideon O.E. (2010) indicated a professional skill in the warehousing is necessary if storage losses are to be kept at a minimum.

Concerning the warehouses storage costs, about 68.5% of the respondent replied as it were fair and affordable while 31.5% of the respondents replied as it were not fair and affordable. Likewise findings portrayed in table 5 revealed that about 23.3% of the respondents replied as the penalty cost for the delay made to withdraw the commodity on time from the warehouse was fair and affordable. In contrary to the above findings, majority (72.6%) of the respondents revealed that the penalty cost for the delay made to withdraw the commodity on time from the warehouses was very much higher. consistent with this, key informant interviewee was also said that the penalty cost for not withdrawal on time from the warehouses was 2% of the price of the commodity (2% of the price of 1 quintal) and added that because they were transacting in millions of birr 2% of penalty was much higher.

**Table 5: warehouse and quality grading System ECX**

| | Response | No of respondents | percentage | t-test for Equality of Means between Full and Limited participants Sig. |
|---|---|---|---|---|
| Adequacy of warehouses | Adequate | 22 | 30.1 | .223 |
| | No | 51 | 69.9 | |
| | Total | 73 | 100.0 | |
| Recording and management system of the warehouse | Yes | 28 | 38.4 | .597 |
| | No | 45 | 61.6 | |
| | Total | 73 | 100 | |
| Warehouse storage cost | fair and affordable | 50 | 68.5 | .540 |
| | Expensive | 23 | 31.5 | |
| | Total | 73 | 100.0 | |
| Penalty cost for the delay to withdraw | Low | 3 | 4.1 | .733 |
| | Fair | 17 | 23.3 | |
| | High | 53 | 72.6 | |
| | Total | 73 | 100.0 | |
| Time given to store and transfer commodities | Enough | 34 | 46.6 | .095* |
| | No | 39 | 53.4 | |
| | Total | 73 | 100.0 | |
| Warehouse security | Secured | 50 | 68.5 | .907 |
| | No | 23 | 31.5 | |
| | Total | 73 | 100.0 | |
| Presence of quality control specialist | Yes | 45 | 61.6 | .298 |
| | No | 28 | 38.4 | |
| | Total | 73 | 100 | |
| Grading and sampling system | Satisfactory | 24 | 32.9 | .552 |
| | No | 49 | 67.1 | |
| | Total | 73 | 100.0 | |
| Reasons for unsatisfactory quality grading and sampling system | Bias | 27 | 37.0 | .651 |
| | lack of knowledge | 25 | 34.2 | |
| | Corruption | 15 | 20.5 | |
| | Lack of measuring equipment | 6 | 8.2 | |
| | Total | 73 | 100.0 | |

**** Significant at 1%, ** Significant at 5% *Significant at 10%*

Source: Own source, 2011

The table 5, above indicated that 46.6% of the study participants replied the time given to store and transfer commodities were adequate enough. In contrary to the aforementioned result, 53.4% of the respondents revealed that the time given to store and transfer the commodities are not adequate enough. This, according to key informant interviewee, is highly associated with the absence of the warehouse in the vicinity. According to the information obtained from this source, the Ethiopian commodity exchange warehouses were found out of Addis Ababa and the infrastructure development /transportation was not much developed.

As depicted in the above table 5, of study, a relatively higher percent of the respondents (68.5%) believed the security of the warehouse in case of risky casualties like theft and fire were secured. According to the key informant interview the exchanges were insured by the insurance companies, if anything happens to the stored commodities. According to this source the exchange will take the risk for stored commodities, not the participants. But 31.5 % of the respondents were found not confident enough in the warehouse for risky causalities like theft and fire. According to Gideon E. Onumah (2010) finding shows network of secure, well-run warehouses which are accessible to various depositors is essential prerequisite for a successful accomplishment of commodity exchange. The research result of the paper concurs" with above researchers result.

As the finding of the research found the relatively higher percentage of the respondents (61.6%) revealed the Ethiopian commodity exchange warehouses were equipped with quality control specialist. In line with this, key informant interview also confirmed that the ECX warehouses have well equipped grading laboratories and quality control specialist. On the other hand a considerable percent of the respondents (38.4%) replied as the exchange lacks well equipped quality control specialists although they are a pre requisite for successful commodity exchange.

Even if the ECX have grading laboratories and quality control specialist, about 67.1% of the respondents as depicted above indicated that the members were not satisfied with the grading and sampling of commodities conducted in the warehouses. As results of the study portrayed in the above table indicated 37 % of the respondents responded as the grading and sampling specialists of the ECX warehouses were made bias while quality grading and taking samples of the commodities. Consistent with this, 20.5% of the respondents showed that the exchange was prone to corruption. And the other 34.2% verified there was lack of knowledge in sampling and grading. In contrary to this, key informant interview indicated that the exchange was free from bias and corruption and added that the quality and sampling system of the exchange is done through coding; the specialist did not know whose commodity is while giving quality grading and taking sample of the commodities of the participants. In addition the interviewee verified that the main problem of the Ethiopian commodity exchange participants were lack of awareness in quality grading and sampling system of the exchange.

A research conducted by Alemu et al (2010) showed that exporters in Ethiopia face several quality problems in terms of quality grading, sampling representation of commodities and adulteration especially by mixing sesame seed of different origin. As per the finding, this has lead to difficulty in setting prices for certain quality grades. Quality grading of the Ethiopian Quality and Standard Authority (EQSA) takes a long time as well as prone to corruption. More over the result of the research match with above scholars result.

A t-test analysis for equality of means between full and limited participant of ECX for the aforementioned warehouse and quality grading variables revealed that adequacy of warehouses, recording and management system, storage cost, penalty cost for the delay to withdraw,

security, presence of quality control specialist, grading and sampling system and reasons for unsatisfactory quality grading were not found as such significant. Unlike the aforementioned variables, the two variables under consideration, full and limited participant, have shown a significant difference with regard to the time given to store and transfer commodities,

### 4.3.4 Liquidity

As result of the study verified in table 6, about 82.2% of the respondents replied that credit was not easily available and the requirements to take credit were difficult to apply and time consuming to the participants. Whereas 17.8% of the respondents replied that credits were easily available if needed by the participants**.** Inconsistent with this majority of the respondents confirmed source credit were banks and the interest rate that the participants paid for the aforementioned financial institution was fair and affordable.

The result of the study revealed 74% of the respondents replied that the Ethiopian commodity exchange did not provide fully articulated and managed warehouse receipt system or in store credit for the participants. Besides, key informant"s interview verified that the exchange did not fully applied WRS. Only United bank of Ethiopia was started to provide in store credit for the member participants and this was not enough. In contrary to this (26%) of the respondents verified the exchange was provided in store credits. Furthermore, according to Gideon O. E. (2010) **"**Liquidity in the agricultural trade can be enhanced if lenders aversion to the provision of inventory finance is addressed through the development of credible warehouse system which allows stored commodities to be used as collateral for loan". And the finding of the research was found coinciding with Gideon"s" result.

**Table 6: liquidity Characteristics of ECX**

| | | No of respondents | Percent |
|---|---|---|---|
| Credit availability | Easily available | 13 | 17.8 |
| | Not available | 60 | 82.2 |
| | Total | 73 | 100.0 |
| Availability of in store credit | Yes | 19 | 26 |
| | No | 54 | 74 |
| | Total | 73 | 100.0 |
| Matching up of each buy and sell transaction | Yes | 66 | 90.4 |
| | No | 7 | 9.6 |
| | Total | 73 | 100.0 |
| Ability to manage funds flows in volatile days | Yes | 58 | 79.5 |
| | No | 15 | 20.5 |
| | Total | 73 | 100.0 |
| Coordination of exchanges and members | Yes | 61 | 83.6 |
| | No | 12 | 16.4 |
| | Total | 73 | 100.0 |
| Availability of Adequately equipped ECX clearing and settlement system | Yes | 60 | 82.2 |
| | No | 13 | 17.8 |
| | Total | 73 | 100.0 |

As the above table 6, shows more than 90.4%of the respondents revealed the Ethiopian commodity exchange clearing and settlement system was well equipped in providing effective and efficient services for the participants in assuring payment to the seller, matching up each buy and sell transaction, and integrating the market place of the exchange. In line with this, key informant interview verified that ECX is well equipped and adequate enough to provide the clearing and settlement service.

In connection with the above findings 79.5%show that the ECX banking settlement provided responsible service for the members in order to manage their fund flows in volatile days and

83.6% of the respondents revealed that the banking system of the exchange was good in coordinating members and the exchange for the effective transaction and in providing service for the participants to manage their working capital. In addition to this the results portrayed in the above table 6, indicated that about 82.2% of the respondents were satisfied with the infrastructure, technology and trained manpower of the ECX banking settlement. Consistent with this, key informant interview also confirmed as the ECX were working with seven banks which provided a liquidity (banking settlements) and day to day transaction service for the members.

## 4.4 Regulation

As results of regulation related analysis of the study depicted in the table 7, verified about 78.57% of the respondents confirmed the sole control of dishonest and irresponsible practice in the exchange process by the ECX authority. In contrary to the aforementioned result, 21.43% of the respondents replied that the authority did not control the irresponsible and dishonest act of the exchange. In addition, according to the results of the study 75.71% of the respondents verified that dishonest or irresponsible practice by counterparties, intermediaries or banks effectively controlled by the exchange authority and the remaining percentage (24.29%) were not satisfied with the controlling of dishonest and irresponsible practice by the counter parties, intermediaries or banks. This also confirmed by key informant interview. According to information obtained from key informant interview, all the illegal acts of the participants and the exchange are controlled or supervised by the ECX authority.

As results of the analysis revealed 81.69% of the respondents were confident enough in the Ethiopian commodity exchange in enforcing contracts that were made among the participants

while only 18.31%were portrayed the ECX did not enforce contracts that were made by the participants in the exchange. In contrary to findings of this study, findings of Shahidur etal (2010) verifies that the real challenge in African commodity exchange is not the development of grades but the enforcement of contracts that use those goods.

Concerning the arbitration mechanism of ECX, about 70.42%of the respondents were satisfied with the Arbitration mechanism for dispute settlement of the Ethiopian commodity exchange. In the other side 29.58% of the study result was verified that the Ethiopian commodity exchange did not provided arbitration mechanism for dispute settlements.

**Table 7: Regulation of ECX**

| Do the regulations made to the following to protect the members is satisfactory? | Response | No of respondents | Percent |
|---|---|---|---|
| Dishonest or irresponsible practice by the exchange | Yes | 53 | 75.71 |
| | No | 17 | 24.29 |
| | Total | 70 | 100.00 |
| Dishonest or irresponsible practice by counterparties , intermediaries or banks | Yes | 55 | 78.5.7 |
| | No | 15 | 21.43 |
| | Total | 70 | 100.00 |
| Enforcing contract | Yes | 58 | 81.69 |
| | No | 13 | 18.31 |
| | Total | 71 | 100.00 |
| Arbitration mechanism for dispute settlement | Yes | 50 | 70.42 |
| | No | 21 | 29.58 |
| | Total | 71 | 100.00 |
| ECX regulators market price truly reflect the information known about the market | Yes | 56 | 80.00 |
| | No | 14 | 20.00 |
| | Total | 70 | 100.00 |
| ECX regulator Constrains speculative excess | Yes | 57 | 80.28 |
| | No | 14 | 19.72 |
| | Total | 71 | 100.00 |

As the table 7, above verified 80% of respondents said that the ECX was committed in regulating the market to truly reflect the market price information known about the market. And 20% of the study respondents revealed that the ECX did not regulate the market to truly reflect the market price information known about the market.

As in table 7, depicted majority (80.28%) of the respondents portrayed that the ECX authority regulates the speculative excess of the member participants. In contrary to this, 19.72% the respondents replied that the ECX authority did not control the speculative excess of the member participants. The key informant interview verified that the regulator was used 5% up and down price ceiling in order to control the exchange market.

## 4.5 Determinants of membership participation category

### 4.5.1. Results of the Binomial Logit Model

Analysis carried out on the membership category revealed that a significant proportion of ECX participants were found to be participating in a category in which they are not interested. Hence the need to exert extra efforts so as to make them participate in their interest is incontestable. But any effort intended to achieve the aforementioned objective needs to sort out the relative strength of the expected influencing variables. To this end, binary logistic regression was used to pinpoint the variables that really matters and hence, needs to be considered in future intervention. Multi-collinearity test is made prior to the logistic regression (annex 1) to validate the use of the explanatory variables. The pair wise correlation result indicates that there exists no problem of multi-collinearity.

As portrayed in *table 8* , Hosmer and Lemeshow chi-square test statistics of this research was found to be significant (with p-value of greater than 0.05), ascertaining that the model is pretty fit in terms of predicting and describing the data adequately. Consistent with the goodness of fit, the classification table confirms that binary logistic regression model managed to predict about 89 percent of the response correctly.

A range of socio-economic and institutional variables was found to have influence on ECX participant"s decision to participate in different categories. The relative strength and direction of effect of the variables on the status of participation through their estimated coefficient are described as follows.

Table 8; Binary Logistic Regression Result for Determinants of membership category

| *Dependent Variable: membership status* | | | | | | |
|---|---|---|---|---|---|---|
| ***Variables in the Equation*** | | ***B*** | ***S.E.*** | ***Wald*** | ***Sig. Level*** | **Exp(B)** |
| Education | | -.402 | .356 | 1.277 | .258 | .669 |
| Occupation | | -1.991 | 1.109 | 3.223 | .073* | .137 |
| Time of participation | | -1.679 | .470 | 12.748 | .000*** | .186 |
| Credit availability | | -1.261 | .876 | 2.073 | .150 | .283 |
| best membership category | | -.318 | .674 | .222 | .637 | .728 |
| Limited membership seat | | -2.492 | .878 | 8.057 | .005*** | .083 |
| Membership requirement | | -.476 | .825 | .333 | .564 | .621 |
| Membership seat fee | | -1.606 | .836 | 3.691 | .055* | .201 |
| Constant | | | 2.923 | | .000 | |
| R-square (Pseudo $R^2$) | | 0.8915 | | | | |
| Hosmer & Lemeshow Chi-square ($\chi^2$) | Value | 4.096 | | | | |
| | p-value | 0.848 | | | | |

**** Significant at 1%, ** Significant at 5% *Significant at 10%*

Enormous literatures and findings verified as education status of commodity exchange participant is a key variable in the overall participation. In light of this it was hypothesized that those participants who have secured tertiary level of education have better chance of being full participant than the otherwise might be. Contrary to the expectation, results of the binary logistic regression model analysis revealed as it is not a significant variable even at the higher level significance. However the relationship between the two variables was found to be positive as hypothesized. This suggests that the probability of educated ECX participants to be full member participant were found to be higher as compared to those who have low level of education.

Concerning the occupational status of participants, it was hypothesized that those participants who committed their time and resource for the business activity (full timer merchants) have a better chance of being full members than those of par timers. As expected the coefficient for the variable, occupational status of the participant, was found significant at 10% level of significance. It indicates that as the participants devote their time and resource in the exchange activity they have higher chance to become a full member than those of the participants who consider participating in the exchange as par timers.

Similarly the coefficient for time of participation was found to be a statistically significant determinant of member participant in the exchange at level of significance of **1**%, which shows as the participants started to participate in the exchange earlier by one year they have a higher chance of being a full members than the others. It was expected that members who started to participate in the ECX earlier have better chance of becoming a full member participants than the otherwise might be.

It was hypothesized that the higher the credit availability the higher will be the participants entering in to full membership participation. This was due to the chance that credit availability increases the financial strength of participants because membership is acquired through bid agreements. Likewise the result of the model verified that credit availability was found to be anon significant variable. However the relationship between the two variables was found to be positive as hypothesized. This indicates that the probability of getting a higher credit by the participants were found to have a chance to be full membership participants as compared to those who have low level access of credit.

The other determinant variable in the logistic regression analysis was limited membership seat. And it was expected that the higher the full membership seat the then participant‟s chance of participating in full membership category will be higher than in limited membership. In line with this the result of the regression model revealed that the variable was positive and highly significant at 1% which indicates limited membership seat has its own impact on member participates to participate in to the full membership participation. In other way the higher the membership seat the better the participants will participate in full membership categories than the other.

On the other hand the other variable which determines the membership category was the membership requirement. And it was hypothesized that the membership criteria‟s are expected to have an impact on the participant‟s membership category choice. As the results of the regression analysis revealed that membership requirement was found to be insignificant to the choice of membership categories: means that membership requirement criteria was not as such pre -request to participate in to the full membership category. However the relationship between

the two variables was found to be positive as hypothesized. This suggests that the probability of membership requirement criteria of ECX have positive relation to be full member participant.

It was known that the ECX membership seat was sold to the participants through bid agreements. Even though it was a bid, the participants were complaining about the membership seat fee as higher. And the expectation of the study was the higher membership seat fee the lower the participation in to the full membership categories. In consistent with this the logistic regression model result verified that the variable had positive and high level significant at 1%.this indicates that membership seat fee is highly determinant factor to participate in to the full membership category. The higher the membership seat fee the lower the participation of members in to full member category or the higher the fee the higher the participants will shift to participate in to limited membership category.

# CHAPTER FIVE

# 5. CONCLUSION AND RECOMMENDATION

## 5.1. Conclusion

The Ethiopian Commodity Exchange was established to revolutionize Ethiopian agriculture and transform the economy through a dynamic, efficient and transparent marketing system. Properly implemented and regulated, commodity exchanges can contribute greatly to the achievement of a country‟s economic and developmental goals and strengthen the bargaining power of farmers and other participant‟s.

Practically the exchange is employing open outcry trading system and spot contracts. To this end, ECX and the authority was found playing an important role in enforcing of contracts, in controlling dishonest or irresponsible practice by counterparties, intermediaries, banks constraining speculative excess and arbitration mechanisms for dispute settlements.

In addition to the above as the finding of the study found the bank clearing and settlement of the exchange was adequately equipped with technology ,infrastructure and man power in matching up of each buy and sell transaction ,coordination of members and the exchange.

As a perusal of the overall analysis revealed that higher transaction cost, price fluctuation, difficulty of network access, lack of adequate warehouses that accommodate ECX participants request ; poor recording and management system of the warehouses; higher penalty cost imposed for the participants for not withdrawing their commodity from the warehouses, in efficient and inadequate in store credit; expensive membership seat fee and exposed and non transparent quality grading and sampling system of the exchange, bias, corruption were found to be amongst the fore front bottlenecks/constraints to the development and success of ECX.

According to the results of binary logistic regression model occupation, time of participation, limited membership seat and membership seat fee were found to be highly significant variables and were found to be the most determines factors the hinder ECX participants to participate in to the full membership category.

## 5.2. Recommendation

Even if ECX is not evolved in to a mature and competent commodity exchange, results of the finding revealed that it was gaining a promising progress and positive momentum towards achieving its intended goal. In light of this and other important findings of the study, the following priority areas are forwarded for consideration for future intervention endeavor

- As results of the finding revealed most of the participants/members were participated in the membership that they did not want to participate. So ECX need to consider and overlook the membership criteria to allow limited members to participate in the membership that they want to participate. And should increase its full membership seat in order to accommodate higher number of participants which were participating in the limited membership.
- Membership seat fee paid by the member participants was very high and if this continued the purpose of its establishment will be in question. With the current trend the exchange membership will be dominated by richer families excluding farmers and other middle income participants. So ECX authority and the exchange should evaluate the financial membership criteria effectively and should adjust it to include all the participants from all parts of the region without income discrimination.

- The ECX currently used spot contracts due to these participants /members of the ECX were faced a price fluctuation in buying and selling of commodities. So as to minimize the aforementioned problem, ECX should try to apply a future contracts/derivative in addition to that of spot contract to reduce price risk. Futures contract market in commodity exchange is largely used as risk management or hedging mechanism.
- The exchange system was carried out using open outcry trading however it should use electronic trading in addition to the open outcry. Since electronic trading system reduced price movement, it would lead to lower volatility, lower risk in the market and higher liquidity by increasing the speed of transactions and lowering transaction costs, limiting informational asymmetries between trading interests, and increasing access to markets regardless of one"s geographical location.
- ECX warehouses were not adequate for the accommodation of the request of the member participant"s commodities; the ECX should build or rent adequate warehouses. In addition to this the exchange should have trained man powers warehouse operators, and it should give training to the operators and participants in handling commodities and capacity building in order to keep storage losses at minimum.
- As most of warehouses were found in the regional areas of the countries or out of Addis Ababa, ECX should evaluate effectively and efficiently the time given to the member participants to store and transfer their commodities. Since the penalty cost for not with drawing of the commodities from the warehouses was much higher, it should apply reasonable penalty cost for not withdrawing commodities on time.

- One of the important obstacles in participating in the ECX was quality grading and sampling system. The quality grading specialists of the exchange should treat all participants equally (without bias) and should be free from corruption. In addition to this training and capacity building should be given for the quality grading specialists in order to upgrade their knowledge and skill.
- The warehouse credit system (in store credit) of the exchange was inefficient and practically nonexistent. For the higher liquidity of the exchange it should apply in store credit by all licensed banks of the exchange and should give a higher concern and commitment in effectively and efficiently using of WRS.
- As results of the study verified, starting time of participation were found to be the most determinant factor to participate in to full membership category. Thus reconsidering the preset waiting time by ECX is incontestable, if ECX wants to increase the number of full member category participant, which is by far considered as a key for successful exchange in the existing system.

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# Annexes

## Annex 1: Pair-wise Correlation Results

| | Education | Occupation | Time | Credit | Best M. | M. seat | Seat fee | Requirement |
|---|---|---|---|---|---|---|---|---|
| Education | 1.0000 | | | | | | | |
| Occupation | -0.0232 | 1.0000 | | | | | | |
| Time | -0.1061 | -0.1607 | 1.0000 | | | | | |
| Credit | 0.1077 | -0.0408 | 0.0735 | 1.0000 | | | | |
| Best m. | -0.0327 | -0.2741 | 0.0017 | -0.0007 | 1.0000 | | | |
| M. seat | -0.1584 | 0.1519 | 0.2624 | 0.0308 | 0.0486 | 1.0000 | | |
| Seat fee | 0.1368 | -0.0570 | 0.2048 | 0.0735 | 0.0265 | 0.2714 | 1.0000 | |
| Requirement | -0.1004 | 0.0391 | -0.0212 | 0.1330 | -0.0575 | 0.1210 | -0.2535 | 1.0000 |

Where education = participants education status

Occupation = major occupation of the participant

Time = time of participation of participants

Credit = credit availability of the member

Best M. = best membership category

M. seat = limited membership seat

Seat fee = membership seat fee of the participant

Requirement = membership requirement

## Annex-2. Questionnaire (English version)

***Addis Ababa University***

***Faculty of Business and Economics***

*Survey questionnaire for ECX participants*[1]

*Dear respondent*

*The researcher is a student of Addis Ababa University, participating in graduate program in MBA program. As a partial requirement for the completion of the MBA program, the researcher is undertaking a research on Trading in commodity exchange and challenges of the participants: the case of ECX.*

*The overall objective of this questionnaire is to gather first hand information on the aforementioned issue at the grass root level. I would like to assure you that the information you are going to provide will be exclusively used for academic purpose and will remain confidential. Therefore you are kindly requested to respond to the questions freely and to the best of your knowledge.*

✍ *'Thank you in advance for your cooperation'* ✍

***NOTE please use ✓mark or circle your answer***

### I. General Information

*Enumerator name ……Date of interview……Questionnaire Code No……*

### 1. Demographic information

| Respondents Identification code | Sex[1] | Age[2] | Educational[3] Status | Major [4] occupation |
|---|---|---|---|---|
| | | | | |

*Sex* *1= male* *2 = Female*

*Age* *1 = 15 – 30* *2 = 31 – 65* *3 = > 65*

[1] ECX participant means any person recognized as a member by the authority who engages in the business of buying and selling exchange trade contracts for others or for his/her Owen account.

*Educational status 1= Illiterate 2=Read and write 3= Primary level 4=Secondary level 5= Tertiary*

*Major occupation 1=Marchent 2= 3=government employee 4= other, specify*

1. When did you started to participate in ECX?

   1. 2000 2. 2001 3. 2002 4. 2003

## II. MARKET INFORMATION RELATED QUESTIONS

2. Do you have access to market related information?

   1. Yes 2. No

3. If your answer to question No. 2 is yes from which source do you get the information?

   1. Information Kiosks
   2. Mobile phone short message service (SMS)
   3. Internet based data base system
   4. Mass media
   5. News paper and magazine
   6. Others, please specify----------

4. If your answer to question No. 3 is SMS and internet based data base system, are You satisfied with the network?

   1. Yes 2. No

5. Do you quickly understand and interpret the information displayed by the ECX?

   1. Yes 2. No

6. How often do you go to ECX with domestic commodity market prices, quality, and quantity information?

   1. Always 2. Occasionally 3. Rarely 4. Never

7. is the actual price at the time of sale or buy usually the same as the information you have in the local market?

   1. Yes 2.No

8. If your answer to question no 7 is no why do you think are the probable reasons? ----------
---
---

| 9 | Do you satisfy with the following major characteristics of market information that ECX have/providing? | **Yes** | **No** |
|---|---|---|---|
| 9.1 | Accuracy of markets information | | |
| 9.2 | Time lines of markets information | | |
| 9.3 | Accessibility of markets information that ECX have | | |
| 9.4 | ICT facility | | |

**III. Warehousing and Grading related questions**

10. Do you think that these warehouses are adequate enough to accommodate all the requests from ECX participants?

1. YES 2.NO

11. Do the quality of the service of the warehouse satisfactory?

1. YES 2. NO

12. Do the warehouse storage cost fair and affordable?

1. YES 2. NO

13. How do you evaluate the penalty cost for the delay made to withdraw the commodity on time from the warehouse?

1. Low 2. Fair 3.High

14. Do you think that the time given to store and transfer your commodity is adequate enough?

1. Yes 2. No

15. Are you satisfied with the recording and management system of the warehouse?

1. Yes 2. No

16. Do you feel that the warehouse is secured for risky casualties like theft and fire?

1. Yes 2. No

17. If your answer for question No.16 is no who will bear the risk and responsibility?

1. ECX 2.Seller/buyer 3. Warehouse owners 4.others

18. Is the warehouse operation independent from government intervention?

1. Yes 2.No

19. Have you ever been forced to sell the commodity you have in the warehouse in relation to problems associated with the warehouse system?

1. YES 2. NO

20. If your answer to question No. 19 is yes, what was the problem?

_____

_____

_____

21. Is the warehouse equipped with grading laboratory?

1. Yes 2. No

22. Does the warehouse operate with quality control specialist?

1. Yes 2.No

23. Are you satisfied with the grading and sampling system of the exchange?

1. YES 2. NO

24. If your answer to question no 23 is no what do you think is the problem?

1. Bias 2.Lack of knowledge 3. Lack of accurate measuring equipment 4.other

25. What do you think should be done to improve services at the warehouse for effective and efficient commodity exchange?

1._____

2._____

3._____

**IV. LIQUIDITY RELATED QUESTIONS**

26. From which source did you get credit?

1. Government 2.Microfinance institution 3.Banks 4. Friends or relatives

27. How do you describe the interest rate that you pay for the aforementioned financial institution?

1. Low 2.Fair 3. High

28. How do you describe the credit availability if needed?

1. Easley available 2. Not available

29. Do you get in store credit (warehouse receipt) if you need?

1. YES 2.NO

30. If your answer to question no 29, is yes from which source do you get?

1. ECX 2.Warehouse owner 3.Private institution and individuals 4. Government institution

31. If your answer to question no 29 is no what do you think are the reasons for not providing of such service ?----------

---

| 32 | Do the ECX clearing and settlement provide satisfactory service of the following? | **Yes** | **No** |
|---|---|---|---|
| 32.1 | Assures payment to seller | | |
| 32.2 | Matching up of each buy and sell transaction | | |
| 32.3 | Protecting the integrity of the market place | | |
| 33 | Do the banking settlement systems of the ECX provide the following service? | | |
| 33.1 | Ability to manage fund flows in volatile days | | |
| 33.2 | Coordination of exchanges and members | | |
| 33.3 | Service for members in managing their working capital management | | |
| 34 | Do the ECX clearing and settlement system equipped adequately by the following? | | |
| 34.1 | Infrastructure | | |
| 34.2 | Trained manpower | | |
| 34.3 | Technology | | |

**VI.TRADING PRACTICES RELATED QUESTIONS**

35. In which categories of membership did you participate?

1. Full trading member 2. Full intermediary member
3. Limited trading member 4. Limited intermediary member

36. Which membership category do you think is the best?

1. Full trading member 2. Full intermediary member
3. Limited trading member 4. Limited intermediary member

36. (a) why you think That is the best? ----------

---

37. What are the major factors that affect you in participating full membership of ECX?

1. Limited membership seat 2.shortage of capital 3.other, reason please specify

38. What do you think the membership seat fee of the ECX?

1. Expensive 2.Cheap 3. Fair

39. The membership requirement of the ECX is

1. Encouraging 2. Discouraging

40. What type of exchange trading contract do you use currently?

1. Organized spot trading 2. Future contract trading
3. Forward contract trading 4. Others

41. If your answer to 40 is organized spot trading how do you hedge against price fluctuations and risk? ----------

---

42. How do you describe Ethiopian commodity exchange in terms of transaction costs?

1. Reduced transaction cost 2.Increased transaction cost
3. No difference with the traditional trading system
4. Others, specify----------

42(a) if your answer is increased transaction cost what you think are the reasons----------

---

**V. REGULATION RELATED QUESTIONS**

| 43 | Do the regulations made to the following to protect the members is satisfactory? | **Yes** | **No** |
|---|---|---|---|
| 43.1 | Dishonest or irresponsible practice by the exchange | | |
| 43.2 | Dishonest or irresponsible practice by counterparties , intermediaries or banks | | |
| 43.3 | in enforcing contract | | |
| 43.4 | Arbitration mechanism for dispute settlement | | |
| 44 | Do the ECX regulators ensure the following major characteristics of the exchange markets? | | |
| 44.1 | The market price truly reflect the information known about the market | | |
| 44.2 | Constrains speculative excess | | |
| 44.3 | Free and transparent dissemination of data | | |
| 44.4 | Reducing risk of default to acceptable level | | |
| 44.5 | Ensuring the system as whole is sufficiently flexible to withstand with shocks | | |

# Annex-2- Questionnaire (Amharic version)

**አዲስ አበባ ዩኒቨርሲቲ**
**የቢዝነስ እና ኢኮኖሚክስ ፋኩልቲ**
**ለኢትዮጵያ ምርት ገበያ ተሳታፊዎች የተዘጋጀ ማጠይቅ**

ወድ የኢትዮጵያ ምርት ገበያ አባላት
የዚህ ጥናት አጥኚ በአዲስ አበባ ዩኒቨርሲቲ በንግድ አስተዳደር የሁለተኛ ዲግሪ (MBA) ትምህርት በማታተል ላይ ይገኛል፡፡ እናም እንደመሚቅያ ተሚው ይህን ጥናት "የግብይት አሰራር እና የተሳታፊዎች ተግዳሮቶች በኢትዮጵያ ምርት ገበያ" በሚል ርእስ በማዛጅድ ላይ ይገኛል፡፡

የዚህ ማጠይቅ ዋነኛ ዓላማ የጥናቱን ርእስ የተመለከቱ የመጀመርያ ደረጃ መረጃ ከዋና ተሳታፊዎች ማግኘት ነው፡ በመሆኑም የምትሰጡኝ መረጃ ለትምህርት ተግባር የሚውል እና ሚስጥርነቱም የተጠበቀ መሆኑን ላረጋግጥላችሁ እወዳለሁ፡፡ ስለዚህ በነፃነት እና የምታውቁትን ያህል እንድትመልስሉኝ በአክብሮት እጠይቃለሁ፡፡

✍ ለትብብራችሁ በቅድምያ አመሰግናለሁ ✍

መልስ ሲሰጡ የ √ምልክት ማጠቃም ወይም **ማክበብ** ይችላሉ

## I. አጠቃላይ መረጃ

| የመላሾች መለያ ኮድ | ፆታ[1] | እድሜ[2] | የትምህርት ደረጃ[3] | ዋናው ስራዎ [4] |
|---|---|---|---|---|
| | | | | |

ፆታ 1= ወንድ 2 =ሴት
እድሜ 1= 15-30 2 = 31-65 3= 65 በላይ
የትምህርት ደረጃ 1= ያልተማረ 2= መቆፍና ማንበብ 3= አንደኛ ደረጃ
4=ሁለተኛ ደረጃ 5= ኮሌጅና ዩኒቨርስቲ
ዋናወስራዎ 1=ነጋዴ 2 =ተማሪ 3= የመንግስት ሰራተኛ 4=.ሌላ

**1.** በኢትዮጵያ ምርት ገበያ መሳተፍ የጀመሩት መቼ ነው?

1. 2000 ዓ.ም 2. 2001 ዓ.ም 3. 2002 ዓ.ም 4. 200 ዓ.ም

## II. የገበያ መረጃን የተመለከቱ ጥያቄዎች

**2.** ገበያን የተመለከቱ መረጃዎች ማግኘት ይችላሉ?

1.አዎ 2.አናገኝም

**3.** ለጥያቄ ቁጥር 2. መልስዎ አዎ ከሆነ የሚጃዎቹ ምንጮች የትኞቹ ናቸው?

1. በተዘጋጀው የሚጃ ሞዴከል (ደልከ) 2. አጭር የጣይል መልእክት 3.ኢንተርኔት
4.መጣናኛ ብዙሃን 5.ጋዜጣ እና መፅሄት 6.ሌላ ከሆነ ያብራሩ----------
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**4.** ለጥያቄ ቁጥር 3. መልስዎ አጭር የጣይል መልእክትና ኢንተርኔት ከሆነ ባለው ኔትዎርክ ደስተኛ ነዎት? 1.አዎ 2.አይደለሁም

**5.** በምርት ገበያው የሚራጩ መረጃዎች በቀላሉ ተረድተው መተንተን ይችላሉን?

1.አዎ 2.በጣም 3.አይገባኝም

**6.** የአገር ወስጥ የምርት ገበያ ዋጋ፤ ጥራትና ብዛት የተመለከቱ መረጃዎች በመያዝ ወደ ኢትዮጵያ ምርት ገበያ በየስንት ግዜው ይሄዳሉ?

1. ዘወትር 2. አልፎ አልፎ 3.በዙ አይደለም 4.ሄጀ አላወቅም

**7.** ሲገዙና ሲሸጡ ያለው የዋጋ ተመን እና እርስዎ ከአከባቢዎ ገበያ የሚገኙት ዋጋ ተመሳሳይ ነው?

1.አዎ 2.አይደለም

**8.** ለጥያቄ ቁጥር 7. መልስዎ አይደለም ከሆነ ምክንያቱ ምንድነው ብለው ያስባሉ?

1. ----------

2. ----------

| **9.** | **ከሚከተሉት የኢትዮጵያ ምርት ገበያ ከሚጠቡው ዋና ዋና የገበያ ሚጃዎች ወይም አገልግሎቶች በየትኞቹ ረክተዋል?** | **አዎ** | **አይደለም** |
|---|---|---|---|
| 9.1 | በገበያ ሚጃው ትክክለኛነት | | |
| 9.2 | ግዝያዊ ሚጃ በማግኘት | | |
| 9.3 | እንደፈለጉት የገበያ ሚጃ የማግኘት | | |
| 9.4 | ሚጃና መናኛ ቴክኖሎጂ አወታር | | |

## III. መጋዝንና የጥራት ደረጃን የተመለከቱ ጥያቄዎች

**10.** ያሉት መጋዝኖች ከተሳታፊዎች ለሚቡርቡ ጥያቄዎችን ለሚተናገድ በቂ ናቸው ብለው ያስባሉ?

1.አዎ በቂ ናቸው 2.በቂ አይደሉም

**11.** በመጋዝኖች የሚቡርበው የአገልግሎት ጥራት አርኪ ነው?

1.አዎ 2.አይደለም

**12.** የመጋዝኖቹ የማከማቹ ወጪ ተመጣጣኝ እና አቅምን ያገናዘበ ነው?

1.አዎ 2.አይደለም

**13.** ከመጋዘኖቹ ምርቱን በግዜው ባለማንሳት የሚከለውን ቅጣት እንዴት ይገመግመታል?

1.ዝቅተኛ ነው 2.ተመጣጣኝ ነው 3.ከፍተኛ ነው

**14.** ምርትን ለማከማቸትና ለማከፋፈል የሚጠው ግዜ በቂ ነው ብለው ያስባሉ?

1.አዎ 2.አይደለም

**15.** በመጋዝኖቹ መዝገብ አያያዝና አስተዳደር ስርዓት ረክተዋልን?

1.አዎ 2.አልረካሁም

**16.** መጋዝኖቹ ከስርቆት እና ቃጠሎ ከመሳሰሉ ስጋቶች የተጠበቀ ነው ብለው ያስባሉ?

1.አዎ 2.አይደለም

**17.** ለጥያቄ 16 መልስዎ አይደለም ከሆነ ለሚደርሱ አደጋዎች ሃላፊነቱን የሚወስደው ማነው?

1. የኢትዮጵያ ምርት ገበያ 2. ሻጭ እና ገዢ 3.የመጋዝኑ ባለቤት 4.ሌላ

**18.** የመጋዝኖቹ አገልግሎት አሰጣጥ ከመንግስት ጣልቃ ገቢነት ነፃ ነውን?

1.አዎ 2.አይደለም

**19.** ከመጋዘኑ አሰራር ስርዓት ጋር በተያያዙ ችግሮች የተነሳ በመጋዘኑ የሚኝ ምርትዎን ለማሻጥ ተገደው ያወቃሉ?

1.አዎ 2.አላወቅም

**20.** ለጥያቄ ቁጥር 19 መልስዎ አዎ ከሆነ ችግሮቹ ምንምን ናቸው?

1. ----------
2. ----------
3. ----------

**21.** መጋዘኖቹ በተደራጀ ቤተ-መከራ የተሟሉ ናቸው?

1.አዎ 2.አይደሉም

**22.** መጋዘኖቹ የጥራት ቁጥጥር ባለሞያ አላቸው?

1.አዎ 2.አይደለም

**23.** በምርት ገበያው የደረጃ አሰጣጥ እና ናሙና አወሳሰድ ስርአት ረክተዋል?

1.አዎ 2.አልረካሁም

**24.** ለጥያቄ ቁጥር 23 መልስዎ አልረካሁም ከሆነ ችግሩ ምንደነው ብለው ያስባሉ?

1.ሜዳላት 2.የእወቀት ማነስ 3.የትክክለኛ መለኪያ መሳርያ እጥረት 4.ሌላ

**25.** ምርት ገበያው ቀልጣፉ እና ውጠታማ እንዲሆን በመጋዘኖቹ ላይ ማሻሻል ያለባቸው ነገሮች ካሉ ይዘርዝሩ? 1. ----------

2. ----------
3. ----------

## IV. ብድርን የተመለከቱ ጥያቄዎች

**26.** የብድር አገልግሎት የሚገኙት ከየትኛው ምንጭ ነው?

1.ከመንግስት 2.ጥቃቅንና አነስተኛ ተቋማት 3.ባንኮች 4.ከጓደኛ/ከዘመድ

**27.** ለሚገኙት ብድር የሚከፍሉት ወለድ እንዴት ይገልፀታል?

1.ዝቅተኛ ነው 2.ተመጣጣኝ ነው 3.ከፍተኛ ነው

**28.** የብድር አቅርቦቱን እንዴት ያዩታል?

1.በቀላሉ ይገኛል 2.አይገኝም

**29.** ምርትዎ በመጋዝን ወስጥ እያለ ወይም የመጋዝን ደረሰኝ በማዝ ብድር ማግኘት ያችላሉን?

1.አዎ እችላለሁ 2.አልችልም

**30.** ለጥያቄ ቁጥር 29. መልስዎ አዎ ከሆነ ከየትኛው የብድር ምንጭ ነው የሚገኙት?

1. የኢትዮጵያ ምርት ገበያ 2. የመጋዘኑ ባለቤት
3. የግልተቋማትና ግለሰቦች 4. ከመንግስት ተቋማት

| | | | |
|---|---|---|---|
| **31.** | የኢትዮጵያ የምርት ገበያው የምርት ርክክብ እና ክፍያ የሚከተሉት አገልግሎቶች በአርኪ ሁኔታ ያቀርባልን? | አዎ | አይደለም |
| 31.1 | ለሻጩየክፍያ ዋስትና ይሰጣል | | |
| 31.2 | ርክክብ በገዢ እና ሻጭ በየግዜው እንዲካየድ ያደርጋል | | |
| 31.3 | የገበያ ትስስር እንዲጠክር ያደርጋል | | |
| **32.** | የኢትዮጵያ ምርት ገበያ የባንክ ክፍያ ስርዓትን የሚከተሉት አገልግሎቶች ያቀርባልን? | | |
| 32.1 | ባልተረጋጉ የገበያ ቀኖች የሚፈጠው የገንዘብ ፍሰት የመቆጣጠር ብቃት | | |
| 32.2 | የምርት ገበያውና የአባሎች ትስስር እንዲኖር ያደርጋል | | |
| 32.3 | አባላት የራሳቸው ገቢ እና ወጪ አንዲቆጣጠሩ ያደርጋል | | |
| **33.** | የኢትጵያ ምርት ገበያ ምርት ርክክብና ክፍያ በሚከተሉት በበቂ ሁኔታ የተሟሏ ነወን? | | |
| 33.1 | መሰረተ ልማት | | |
| 33.2 | የሰለጠነ የሰው ሃይል | | |
| 33.3 | ቴክኖሎጂ | | |

## V. የግብይት አሰራርን የተመለከቱ ጥያቄዎች

**34.** እርሰዎ የሚነተፉት በየትኛው የአባልነት ዓይነት ነው?

1.ሙሉ ተገበያይ አባል 2.ሙሉ አገናኝ አባል 3.ውሱን ተገበያይ አባል 4.ውሱን አገናኝ አባል

**35.** (ሀ) እርስዎ የተሻለ የአባልነት ዓይነት ነው ብለው የሚያስቡት የትኛዉ ነው?

1.ሙሉ ተገበያይ አባል 2.ሙሉ አገናኝ አባል 3.ውሱን ተገበያይ አባል 4.ውሱን አገናኝ አባል

34. (ለ) የሚጠቅ አባልነት ዓይነት ለምን የተሻለ ሆነ?

1. ----------

2. ----------

**36.** ምርት ገበያው የሚያስከፍለዉ የአባልነት የወንበር ክፍያ እንዴት ይገልፀታል?

1.ከፍተኛ ነው 2.ዝቅተኛ ነው 3.ተመጣጣኝ ነው 4.ሌላ

**37.** የምርት ገበያው የአባልነት ሚሬርት እንዴት ያዩታል?

1. ለተሳታፊዎች አበረታች ነው 2. አበረታች አይደለም

**38.** በሙሉ አባል እንዳይሳተፉ የሚረጉ ምክንያቶች የትኛው ነው ብለው ያስባሊ?

1.ወሱን ወንበር መኖሩ 2.የካፒታል እጥረት 3.ለላ----------

**39.** በአሁኑ ግዜ የሚከፈሙት የግብይት ወል ሰነድ የትኛው ነው?

1.የተደራጀ የእጅ በእጅ ሽያጭ 2.የወደፊትየወል ሰነድ ግብይት 3.ሌላ

**40.** ለጥያቄ ቁጥር 37 ሚልስዎ የተደራጀ የእጅ በእጅ ሽያጭ ከሆነ የሚከሰተው የዋጋ አለሚጋጋት እንዴት ይከላከሉታል?

1. ----------

2. ----------

**41.** የኢትዮያ ምርት ገበያ የግብይት ወጪ እንዴት ያዩታል?

1. የግብይት ውጤው ቀንሰዋል 2. የግብይት ውጤው ጨምረዋል
3.ከልማዊ ግብይት ልዩነት የለውም 4.ሌላ

## VI. ቁጥጥርን የተመለከቱ ጥያቄዎች

| **42.** | **በምርት ገበያው አባላትን ለመከላከል ተብሎ የሚደረገው ቁጥጥር ከሚከተሉት የትኞቹ አርኪ ናቸው ብለው ያስባሉ?** | **አዎ** | **አይደለም** |
|---|---|---|---|
| 42.1 | በምርት ገበያው የሚ፟ሙ ታማኝነት ና እምነት የጎደለው ስራ መቆጣጠር | | |
| 42.2 | በሌላ ወገን፡ በአገናኞችና በባንኮች የሚ፟ም ታማኝነት ና እምነት የጎደለው ስራ መቆጣጠር | | |
| 42.3 | ወሎችን የሚከ፟ም ስራ | | |
| 42.4 | አለመግባባትን ለመፍታት የሚወሰዱ የግልግል ዳኝነት መንገዶች | | |
| **43.** | የኢትዮጵያ ምርት ገበያ ተቆጣጣሪዎች የሚከተሉትን ዋነኛ የምርት ገበያ መለጫዎች | | |
| 43.1 | የዋጋ ተጫኑ በትክክል የገበያ ሚጃን እዲያሳይ ከሚገ አንፃር | | |
| 43.2 | ያለ አግባብ ጥቅም እንዳይገኝ ከመቆጣጠር አንፃር | | |