Journal of Sustainable Development in Africa (Volume 13, No.1, 2011)
*ISSN: 1520-5509*
*Clarion University of Pennsylvania, Clarion, Pennsylvania*

# AN ASSESSMENT OF THE OPPORTUNITIES AND CHALLENGES OF THE ETHIOPIAN COMMODITY EXCHANGE

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**ABSTRACT**
An attempt is made in this study to assess the opportunities and challenges of Ethiopian Commodity Exchange (ECX). It also provides an overview in regard to the evolution of the commodity exchanges in developing countries. The study also analyses the types of trading in the commodity exchanges like spot trading, future trading, and the concept of derivatives. The benefits of commodity exchanges like hedging, price discovery, efficient production, and marketing will contribute to sustainable agricultural development. The finding of the study shows that the major challenges faced by the ECX appear to be the limited awareness regarding the operation and benefits of the commodity exchange, limited capacity in terms of skills and infrastructure in particular telecommunications, and unfamiliarity with future contracts. The other important challenges of ECX are low level of coordination, refusal of traditional brokers to accept the new system, limitations in the provision of facilities especially internet services, problems related with laboratories like insufficient sewerage system, disruption of power supply that affect service delivery to customers, and conflicts due to poor contractual agreement among suppliers and transporters.
**Keywords**: Commodity Futures; Derivatives; Price Discovery; Market Risk; Hedging

## BACKGROUND

Production of agricultural commodities play a major economic role in many developing countries, especially in the least developed ones. An estimated 75% of the world's poverty is in rural areas, and a large part of them are engaged to some extent in commodity production. Over the past few decades, the market for agricultural commodities has shown a pattern of long-term fall in prices and short-term price instability. Such declining and volatile prices are unfavorable for commodity producing countries, and it will have adverse effect on Agricultural Commodity Dependent Developing Countries (ACDDCs). ACDDCs often depend on revenue gained from exporting only one or two specific agricultural commodities, so declining and volatile prices are harmful to both individual producers and governments, both of which face shrinking returns and high risk. Volatile and falling agricultural commodity prices can also aggravate the ratio of debt to exports, undermining debt sustainability (Department for International Development, 2004). Hence, designing an appropriate mechanism to protect declining and volatile agricultural commodity prices would help rural farmers to get the right profit from what they produce, and enhance both the quality and quantity of exports. Among such methods organized commodity exchange market is the most viable one.

Even though Ethiopia Commodity Exchange (ECX) is at its infant stage, it is one of the exchange markets available in developing countries. Currently, Ethiopia is following a development policy of Agricultural Development Lead Industrialization (ADLI). This policy of the government encourages both farmers and private investors to produce market oriented commodities so as to have industrial development in the long run. However, such a vision can only be achieved when there is an appropriate marketing system, regulations, and policies.

The government has organized Ethiopian Commodity Exchange authority through proclamation in order to eliminate market related problems and to facilitate transparent, efficient, and innovative marketing system to protect the interests of both producers and consumers. ECX's model is the first of its kind in Africa with its end-to-end integrated system of central trading, warehousing, product grade certification, clearing, settlement, delivery, and market information dissemination (MoFED, 2009). Furthermore, ECX started live trading on April 24, 2008. It provides a market place where buyers and sellers can come together to trade and be assured of quality, delivery, and payment. The exchange is a private-public undertaking with capital investment from its main promoter, Government of Ethiopia, and membership seats privately owned by trading and intermediary members. The Exchange is jointly governed by a private-public board of directors and managed professionally by an internationally recruited team.

## STATEMENT OF THE PROBLEM

It is well known that Ethiopia follows Agricultural Development Led Industrialization (ADLI) policy. In order to attain such a development goal, there should be surplus market oriented production as well as efficient and effective marketing system that will enable farmers or other producers to gain the actual profit from what they produce. However, most of the Ethiopian farmers do not receive the right profit due to inaccurate information about market price, middle men, low bargaining power, low product grading, and quality standards. This has resulted in loss of motivation for the farmers to produce surplus which leads to low household income and the export earnings of the country (MoFED, 2009). Ethiopia's agricultural markets are characterized by high transaction costs resulting in only one-third of the output reaching the market. Buyers and sellers tend to trade only with those they know to avoid the risk of being cheated. Trade is done on the basis of visual inspection because there is no assurance of product quantity and quality, which drives up marketing costs, leading to high consumer prices. Small scale farmers, who produce 95 percent of Ethiopia's output, come to nearest market with little information and are at the mercy of merchants they know and are unable to negotiate better prices or reduce their market risk (ECX,2008).

Major constraints to such market performance or failure can be identified as either linked to weak infrastructure or to missing institutions. In terms of infrastructure, major concerns are the weak access for smallholder farmers to roads, as well as limited telecommunications and storage infrastructure. These weaknesses contribute to the high cost of transport as well as of other physical marketing costs, such as storage, handling, etc. Thus, marketing costs amount to some 40 to 60 percent of the final price, about 70 percent of which is due to transport. However, beyond the infrastructural issues, studies also point to the significance of transaction costs which are equally or more constraining to trade. These costs, distinct from physical marketing costs are related to conducting or coordinating market transactions between actors, such as the costs involved in searching for and screening a trading partner, obtaining information on prices, qualities and quantities of goods, negotiating a contract, monitoring contract performance, and enforcing contracts. In the Ethiopian context, the presence of high transaction costs evidenced by the lack of sufficient market coordination between buyers and sellers, the lack of market information, trust among market actors, contract enforcement, and 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. Ethiopian market behavior reveals that market actors conduct business across short distances, with few partners, in few markets, and with limited storage, implying that opportunities for expanding market activity, otherwise known as arbitrage across space (transporting significant distances to market goods) and across time (storing for significant periods), are limited (Eleni, 2003). It is pointed out that such a scenario reduces the responsiveness of the market to changes in supply and demand and leads to the collapse of market prices, significantly compromising rural incomes and leading to disincentives to further technology adoption by farmers. In recognition of this, the Government of Ethiopia has organized Ethiopian Commodity Exchange through proclamation number 550/99 in order to eliminate market related problems and to facilitate, transparent, efficient and innovative marketing system to protect the interests of both producers and consumers. ECX's model is the first of its kind in Africa with its end-to-end integrated system of central trading, warehousing, product grade certification, clearing, settlement, delivery, and market information dissemination (MoFED, 2009).

## OBJECTIVES OF THE STUDY

- To assess the rationale for the establishment of a commodity exchange in Ethiopia
- To review the operations of the commodity exchange in Ethiopia
- To identify challenges and opportunities of the Ethiopian commodity exchange

### Methodology

The study has relied completely on secondary sources. The sources of data are mainly from the International Food Policy Research Institute, Ethiopian Commodity Exchange Information Bulletin and United Nations Council for Trade and Development (UNCTAD). The method followed throughout this paper is qualitative and descriptive in nature.

## REVIEW OF RELATED LITERATURE

*Theoretical Framework*

A fundamental concern of all societies is how the economy is organized and how market exchange is coordinated. There are costs of using the market mechanism, which may be reduced or eliminated by certain types of coordination in the market. There are two kinds of costs, the costs of discovering what the relevant prices are and the cost that may be saved by making a single long-term contract for the supply of goods and services instead of short-term successive contracts. This fundamental concern for economic order has led to major historical debates, extending to the present in different guises, on the role of central planning versus the free market economy. While advocates of the socialist-type central planning had long cited the complexity of economic activity as an argument against what Karl Marx described as the anarchy of the marketplace. Some economists argued forcefully that it was precisely the complexity of the economy that rendered it beyond human comprehension and therefore unable to be perfectly planned, arguing that only by the competitive forces of the free-market regime could the decentralized elements of the economy be appropriately utilized. Thus, price signals and the pursuit of profit lead the vast and varied lines of activity to be self-coordinating. How then do they achieve this “self-coordinating” market order? On the one hand, information seems to be at the heart of the institutional problem of order. The transmission of information on prices, quantities supplied, quantities demanded, actors and their actions, product quality and attributes, and processes is the key to market coordination. An important body of economic literature has focused on the problems of imperfect, asymmetric, or incomplete information, which in turn lead to decision-making with bounded rationality, missing markets and risks as well as high transaction costs.

On the other hand, contracts and the costs associated with negotiating and enforcing contracts are also at the heart of the problem of economic order. Even the simplest exchange involves a form of contract where each party is abandoning rights over the things that he sells in order to acquire rights over the things he buys. Thus, all exchange is trading in promises, which is futile unless there is some reasonable assurance that the promises will be kept. Extending this concept it has been argued that the inability of societies to develop effective, low-cost enforcement of contracts is the most important source of both historical stagnation and contemporary under-development in the third world.

*Evolution of Commodity Exchanges*

The commodity exchange is a development of the fairs and open-air markets of the middle ages. The Chicago Board of Trade, opened in 1848, was the first commodity exchange in the United States and is the largest today. The main rationale for the establishment of this exchange was the reduction of transaction costs and organizing a physical market place where buyers and sellers could be sure of finding a ready market (Koranchelian, 2005). The liberalization of trade and reduction of government support to the agricultural sector created fertile ground for the creation of new commodity exchanges and the further development of existing ones. Recently there is new wave in the evolution of commodity exchanges, driven by technology rather than policy developments. Technology has made it possible to offer new products at a lower cost (UNCTAD, 2008).

*Overview of Existing Commodity Exchanges in Developing Countries*

There are a number of commodity exchanges in developing nations which are distinct in their mode of operation regarding the commodities exchanged. Most of them have been engaged in agricultural primary products and they are at their infant stage as compared to those that exist in developed nations. Africa`s most active and important commodity exchange is the South African Futures Exchange (SAFEX). It was informally launched in 1987 and has evolved into one of the leading emerging markets. SAFEX only traded in financial futures and gold futures for a long time but the creation of the Agricultural Markets Division in 2002 led to the introduction of a range of agricultural future contracts for commodities such as white and yellow maize, bread milling wheat, and sunflower seeds. The Kenya Commodity Exchange (KACE) was set up in Nairobi in 1997, to provide the basic services of a commodity exchange. The products chiefly traded are agricultural, like cereals, dairy products and cotton. The Nairobi Coffee Exchange was set up in 1998 and equipped with an electronic trading system. The Exchange is intended to become the hub for coffee trading in Eastern Africa.

China’s first commodity exchange was established in 1990 and at least forty exchanges had appeared by 1993, as China accelerated the transformation from centrally planned to a market-oriented economy. The main commodities traded are agricultural staples such as wheat, corn, and soybeans, which have long been considered strategically important by the Chinese government, both for economic development and political stability. The country has faced serious regulatory problems, resulting in a fast-changing structure. In late 1994, a drastic decision was taken; more than half of China's exchanges were closed down or reverted to being wholesale markets, while only 15 restructured exchanges received formal government approval. At the beginning of 1999, the China Securities Regulatory Committee began a nationwide consolidation process which resulted in three commodity exchanges emerging; the Dalian Commodity Exchange (DCE), the Zhengzhou Commodity Exchange and the Shanghai Futures Exchange, formed in 1999 after the merger of three exchanges: Shanghai Metal, Commodity, and Cereals & Oils Exchanges. It currently trades three contracts: aluminum, copper, and natural rubber.

Commodity futures markets have a long history in India. The first organized futures market, for various types of cotton, appeared in 1921. In the 1940s, trading in forward and futures contracts as well as options was either outlawed or rendered impossible through price controls. This situation remained until 1952, when the Government passed the Forward Contracts Regulation Act, which to this date controls all transferable forward contracts and futures. During the 1960s, the Indian Government either banned or suspended futures trading in several commodities. In the late 1970s, the government policy was relaxed and made recommendations to revive futures trading in a wide range of commodities. With the full convertibility of the Indian Rupee, the ongoing process of economic liberalization and the Indian economy’s opening to the world market; the role of futures market(s) in India is being reconsidered. Two of the better-known commodity exchanges are the Bombay Oilseeds and Oils Exchange, founded in 1950 and the International Peppers Futures Exchange founded in 1997.

*Types of Trading in Commodity Exchange*

In Cash or Spot trading the seller delivers the commodity to the buyer immediately after transaction however sometimes at a specified later date. Sellers are usually the producers and dealers, where as the buyers are usually processors and exporters. There are two types of futures contract those which provide physical delivery of a particular commodity and those which require cash settlement. This kind of trading is called futures because it requires delivery of standard quantity of a commodity during a stated month in the future. Buyer of the futures contract is obligated to accept delivery at the agreed-upon price at a specified place during the stated month. However, settlement of a contract by actual delivery is rare because most contracts are liquidated before the maturity date or before the contract expires. In futures contract a buyer will make a profit when the price goes up and will be able to sell the contract for more than what he paid for it. The buyer will incur a loss if the price has fallen. On the other hand the seller of the futures contract is obligated to accept delivery at the agreed-upon price at a specified place during the stated month. However, settlement of a contract by actual delivery is also rare that most contracts are liquidated before the maturity date. A derivative is thus essentially an agreement to trade between a future buyer and a future seller in contrast to a spot transaction, which is an agreement to trade on the spot or during an immediate period. Most derivatives however simple or complex, can be classified into four types: Forward Contract, which is an agreement to buy or sell a good at a specified price on a specified future date; Futures Contract which is a standardized forward contract executed through an organized exchange; Swap Contract which is an agreement to exchange future cash flows; Option Contract which grants its holder the right, but not the obligation to buy or sell something at a specified price on or before a specified date. Whatever the form, derivatives are variations of a price guarantee.

*Beneficiaries of Commodity Exchange*

Here the main focus is on whom the people are, using the commodity exchange marketplace. Most of them are manufacturers**,** producers**,** dealers, and processors*.* They use an exchange because it provides a fast, efficient, low cost marketing for commodities, worldwide price information; and a way to limit the risk of losing money due to price changes. Investors use an exchange to make profit from price changes in commodities or to protect themselves from losses caused by fluctuations in the value of certain kinds of investments; and the trader is the one who buys and sells a commodity. In addition to members of the exchange, brokers represent the traders and in exchange receive a commission for their services, are among the major users of the commodity exchange market place.

*Benefits of Commodity Exchange*

A well organized and managed commodity exchange market has the following benefits. An exchange reduces transaction costs by facilitating contact between buyers and sellers and enables centralized grading of products ensuring that contracts are enforceable. It provides mechanism for price discovery which simplifies transactions with standard contracts and transmits information about prices and volumes. An exchange provides a mechanism for increasing market liquidity enabling transfer of price risk and creates trust, order, and integrity in the market, (Eleni, Ian Goggin, 2005) A Commodity Exchange is fundamentally designed to provide service and add value to all market actors. A Commodity Exchange adds value to the market by addressing two types of risk namely contract performance risk and the risk of contract default on physical delivery or payment. Market risk is the risk of adverse unforeseen price movements or changes in supply and demand in the future. The presence of both of the above types of risk is welfare-reducing to society. The way that a Commodity Exchange addresses the problem of contract performance risk is by ensuring that products that are traded are as standardized as possible, the products are receipted and certified, that market information is disseminated to all, and payment and delivery are guaranteed to both parties of the transaction (buyer and seller) through a clearing and settlement system. With regard to market risk, the way that a Commodity Exchange addresses the problem of the uncertainty brought about by time is by enabling market actors to lock in or hedge the value of their trading positions. Hedging is a way to eliminate the market risk and involves the notion of offsetting which actually involves two transactions. Offsetting means that in order to hedge the market risk, a market actor will balance one transaction (such as a purchase or a sale) in the spot market followed by another transaction in the opposite direction in the futures market.

*Contribution of Commodity Exchange for Agricultural Development*

Agricultural commodity futures are market-based instruments for managing risks and they help in orderly establishment of efficient agricultural markets. Future markets are used to hedge commodity price risks. They also serve as a low cost, highly efficient and transparent mechanism for discovering prices in the future by providing a forum for exchanging information about supply and demand conditions. The hedging and price discovery functions of future markets promote more efficient production, storage, marketing and agro-processing operations, and help in the improvement of overall agricultural marketing performance (UNCTAD, 2008). The basic purpose of a futures contract is to provide price-change protection. In most developing countries, produced commodities are not linked into international marketing because producers and traders are not as exposed in to international markets. As a result there is limited price discovery for them, this in turn, affects the continuous productivity of the sector. Therefore it is argued that there is a need for moving locally-produced commodities from the current small-holder atomistic non-industrial production storage centers into accredited warehouses in standardized lots, graded, shelf-life certificated, and insured. For these problems establishing commodity exchange is the unquestionable solution (Aning, 2007).

Commodity exchange can also play an important role in empowering the farmers, the traders, and buyers. As a result they are able to carry out efficient agriculture marketing system. Kenya Agriculture Commodity Exchange (KACE) is a private sector firm that empowers rural farmers with market information. Through a web-based platform, KACE allows buyers and sellers of agricultural commodities to trade directly with one another. This service provides relevant and timely marketing information and a transparent and competitive market price discovery mechanism for the buyers and the sellers (Koranchelian, 2005). Furthermore, it can be used as a basis for comparison of the price of a commodity with the prices within different countries.

*Over view of Ethiopian Market Reforms and Challenges*

The Ethiopian grain economy had experienced dramatic market reform in the early 1990s with the nearly complete liberalization of the grain market. The Dergue government tightly controlled trade, through cooperatives and its parastatal agency, the Agricultural Marketing Corporation (AMC), initially set up in 1976 with World Bank support for the purpose of purchasing grain and distributing it to consumers. In this period, policies included fixed pan-territorial grain prices, restricted private inter-regional grain movements, limited private sector participation, and a producer grain quota to the AMC amounting from 10 to 50 percent of the harvest at fixed AMC prices that were consistently below market prices. This had an effect of depressing rural incomes and production. In March 1990, all restrictions on private trade were eliminated and official prices and quotas were lifted. Subsequently in 1992, the Transitional Government continued reforms through eliminating wheat consumer subsidies and downsizing the AMC, through closing all eight zonal offices, reducing its branch offices from 27 to 11 and its grain purchase centers from 2013 to 80. It was renamed the Ethiopian Grain Trade Enterprise (EGTE) with a new mandate of stabilizing prices and maintaining buffer stocks. Unlike most post-reform African states where marketing boards continued to dominate trade, the EGTE plays a relatively minor role, with only a 2 to 5 percent share of the domestic market (Jayne, Negassa, & Myers, 1998). In 1999, further reforms involved merging EGTE with the Ethiopian Oil Seeds and Pulses Export Corporation (EOPEC) and re-establishing it as a public enterprise with the major objective of operating for commercial profitability by focusing on exports.

The liberalization did indeed result in a significant re-engagement of the private sector in grain trade, improved market integration, and the reduction of marketing margins. However the reforms did not have the envisaged impact on agricultural growth and poverty reduction. Despite the narrowing of price spreads or margins, market reforms did not reduce the volatility of grain prices and may have indeed, exacerbated it. Linked to this, significant constraints to market performance remained, leading to the persistence of thin markets defined as markets in which there are few purchases and sales. As mentioned in the statement of the problem some of the constraints to market performance were: weak infrastructure or missing institutions, high transaction costs such as; physical marketing, storage, handling and transport costs, lack of market coordination, absence of accurate and timely information, and so forth. Therefore along with the major policy reform, it is also important to organize well functioning marketing institutions like Commodity Exchange in an attempt to bring about sustainable development in rural areas as well as over the nation (Eleni & Ian Goggin, 2005)

## RESULT AND DISCUSSION

*Rationale for Establishment of Commodity Exchange in Ethiopia*

The rationales which lead to the establishment of commodity exchange in Ethiopia can be analyzed under push and pull factors. Pull factors are defined as circumstances or factors outside of the market itself which justify the development of a commodity exchange in Ethiopia, while push factors are internal circumstances that motivate the development of an exchange.

The major push factors that potentially justify a Commodity Exchange in Ethiopia can be identified. Both ADLI and Rural Development Strategy of the country encourages surplus and market oriented agricultural production or commercialization of smallholder agriculture in order to achieve rapid and sustainable growth. As the second most populous country in sub-Saharan Africa and with a population that spends the bulk of its expenditures on food items, there is a large and growing domestic market for staples. Because of the geographic dispersion of surplus and deficit areas of the country and the radial configuration of the road infrastructure, Addis Ababa is a logical hub or clearing point for the domestic grain market. There are a number of established brokers with a long tradition who are handling multiple clients from the regional deficit and surplus areas. Another important factor in justifying a push for a commodity exchange is the recent initiative to establish voluntary, market-oriented, cooperative unions around the country. If these cooperatives operate with a business orientation, they can stand to greatly benefit from the existence of a well-organized national market. Another rationale for commodity exchange in Ethiopia is a gradual increase in large-scale commercial farmers in the grain sector. Finally, a critical factor is the positive steps taken by the government and the current political will to transform the agricultural marketing system of the country. This is a major factor in determining the success of an exchange which requires an absolute paradigm shift from a planning-based mindset to one which aims to achieve self-coordinating market order. In addition to the push factors which have been elaborated above, there are also six significant pull factors which also justify commodity exchange initiative. The maize and wheat markets in nearby regional markets constitute an untapped export potential. Ethiopia is the second largest maize and wheat producer in Africa**,** with domestic production of more than double the volumes jointly produced by the three members of the East African Community (Kenya, Tanzania, and Uganda) in 2004-2005. Another important pull factor is the domestic market is also increasingly supply for food aid procurement, a trend which is likely to continue in the near future. Currently the government of Ethiopia has been practicing Productive Safety Nets Program. The Ethiopian economy is evolving in the direction of increased domestic and foreign investment in agro-processing industries, particularly private investment. An organized market can deliver adequate and regular supplies of products at the required quality for such industries.

As exports of oilseeds, pulses, and cereals grow, there is an increasing demand by exporters facing international markets for an organized domestic market. Finally, another pull factor is the emerging livestock industry in Ethiopia, which will eventually absorb a considerable share of the domestic market, if Ethiopia is to compete effectively on livestock products.

## OPERATION OF THE COMMODITY EXCHANGE IN ETHIOPIA

The Ethiopia Commodity Exchange started live trading on April $24^{th}$ 2008. It provides a market place where buyers and sellers can come together to trade and be assured of quality, delivery and payment. The exchange is a private-public undertaking with capital investment from its main promoter, the Government of Ethiopia, and membership seats privately owned by trading and intermediary members. The Exchange is jointly governed by private – public Board of Directors and managed professionally by an internationally recruited team.

The Ethiopian Commodity Exchange Authority (ECEA) is controlled by the Ministry of Agriculture and Rural Development. It was established by a capital budget amounting to 194 million US dollar financed by the government and donor agencies and its head office is located in Addis Ababa. ECX has a board of directors of eleven members, six members including the chairman are appointed by Ministry of Agriculture and Rural Development and the rest are selected by members.

### Activities of Ethiopian Commodity Exchange

- Leading and controlling members of the commodity exchange
- Establishing trading system
- Taking commodity exchange contracts
- Disseminating market price information
- Arbitration and conciliation
- Market surveillance
- Organized warehouses
- Delivery of received notes
- Providing commodity quality grade  certificate
- Facilitating payment and settlement

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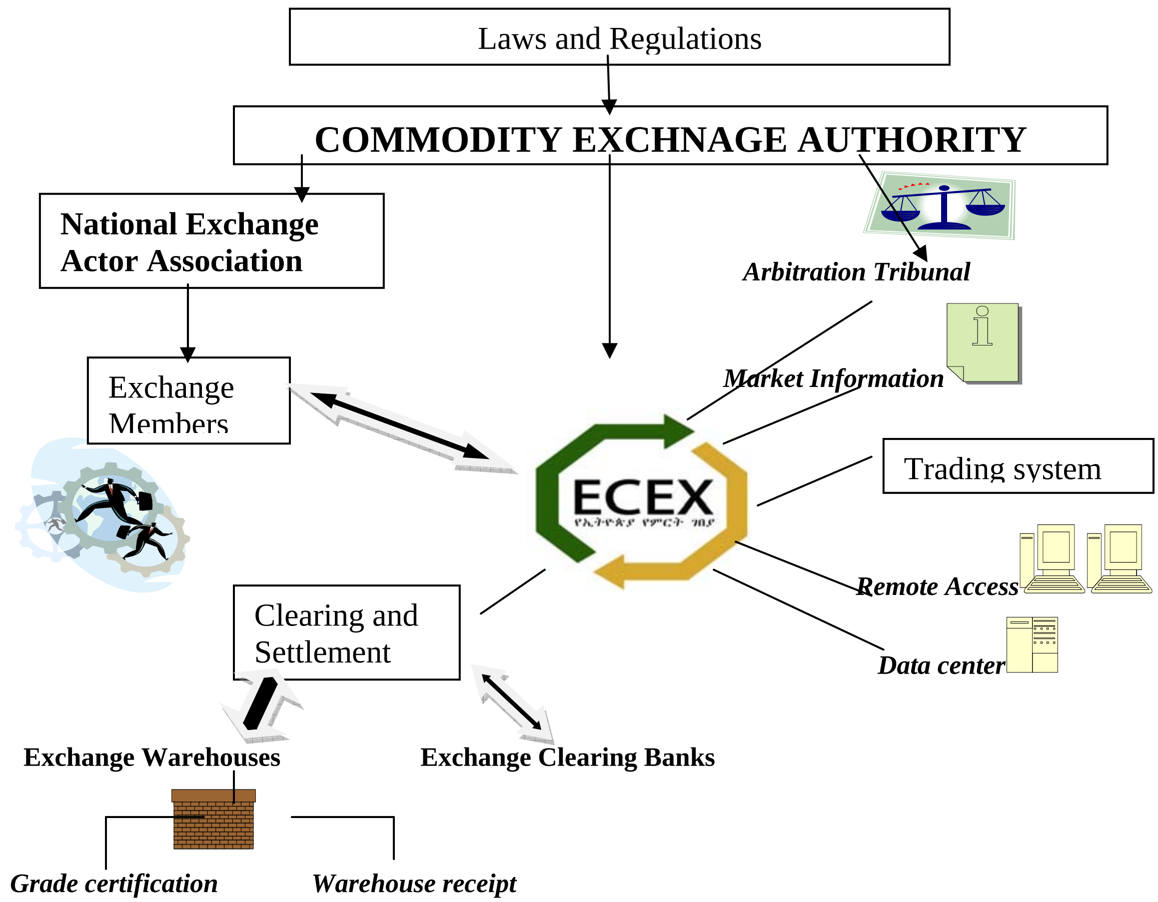


Fig.1. Ethiopian Commodity Exchange Operation Model

*Source: Own Schematic Representation, 2010*

**Membership Conditions, Criteria's, Duties and Rights**

ECX works on the basis of membership seat that is a permanent and transferable right to trade on the exchange. Only members can trade on the exchange which means that non members use the services of a member to conduct trading. Members purchase permanent and freely transferable trading rights known as seats. By owning a seat, members become core stakeholders maintaining the integrity of the commodity exchange market place. Together they safeguard the interest of the marketing system. They also bear the liability for all transactions that they conduct on ECX.

Any individual, company, public enterprise, or cooperative that meets the requirements for exchange actor recognition from the Ethiopian Commodity Exchange Authority is eligible for ECX membership. Members are those who use the market regularly and frequently either as producers, intermediaries, or buyers. ECX offers two classes of membership: Trading Member (TM) who trades only his or her own account and an Intermediary Member (IM) trade either on his or her own account or on behalf of clients**.** Every Member is required to hold two settlement accounts (Pay-In and Pay-Out) accounts with an ECX designated settlement bank and to authorize power of attorney to the ECX clearing house to issue Pay-In transfer instructions on his or her behalf. An IM is required to hold separate settlement accounts for client trading and is expected to maintain a system for reporting on payment to clients. Regular members can be trading and intermediary trading members. Trading members are allowed to buy or sell any commodity for themselves whereas limited trading members are eligible to buy and sell all commodities for themselves as well as for their clients besides they can reconcile accounts of their clients and limited trading members. According to the law of ECX they are eligible for commission of 0.5% up to 2% payments for the task they perform from their clients of limited trading and trading members respectively**.**

Limited trading membership is given to those who participate in coffee trading. They are expected to be on one side of the trade to either buy or sell and can be Limited Trading Members (LTM) and Limited Intermediate Members (LIM).  A LTM is suited for the current "Akrabi" who collects and sells his own coffee.  In addition, consumer groups, cooperative unions, and local coffee wholesalers can also included in this category.  A LTM is a member who can only trade for his own account, has full access to the trading floor, cannot trade for clients, can trade on one commodity only, and valid for only one year. On the other side, LIM can trade only for his own account as well as for clients. Unlike Limited Trading Members, LIM joins as a sell only limited member, can trade for self and client, and can charge commission for service provided. However, the other features are similar. For Intermediary Members, ECX offers an additional feature over time to grow their business through Associate Members (AM), provided they meet ECX requirements. Intermediary Members may sponsor Associate Members, similar to subsidiaries, who themselves may not meet ECX requirements for full membership. The advantage to members has enhanced revenue potential through expanding their client base through the network of their associates. Intermediary Members are not limited in the number of associates they sponsor but are liable for their trades. Associate Members are required to obtain exchange actor recognition from the Authority along with a sponsorship letter from a member. All Members may also appoint authorized member representatives to act on their behalf. An authorized member representative is an individual employed as an agent or staff member of a member or associate member. Authorized member representatives can include brokers, who trade on behalf of the member on a commission basis, and agents, who represent a member in the market. Authorized representative is required to also obtain exchange actor recognition from the commodity exchange authority along with a letter of appointment from the member to act as an authorized representative.

**Table 1- Current membership status of Ethiopian commodity exchange by member category**

| Type of Membership | No. |
|---|---|
| *Full Members* | |
| 1. Trading member | 23 |
| 2. Intermediate member | 74 |
| *Limited Members* | |
| 1. Non clearing Buy-only TM | 95 |
| 2. Sell only TM | 91 |
| *Intermediate Members* | |
| 1. Limited intermediary members | 167 |
| 2. Clearing buy only TM | 70 |

Source: Own Survey, 2010

As can be seen in Table 1, most of the members are intermediate which shows that producer members are limited in number. Many of the members are engaged in buying and selling of commodities produced by farmers and private investors.

**Criteria for Membership**

In order to be a member in Ethiopian commodity exchange one has to fulfill requirements. As to the financial requirements, audited financial statement by an authority-approved auditor, net worth of 500,000.00 Ethiopian Birr (ETB) and 1,000,000.00 ETB for trading and intermediate members respectively, able to pay membership seat price of 50,000.00 ETB and 5,000.00 ETB annual membership maintenance fee after one year. In addition, provision of refundable security deposit of 200,000 ETB for trading, 300,000 ETB for intermediate, 50,000 ETB for limited trading and 100,000 ETB for limited intermediary trading members in ECX Settlement Guarantee Fund for the duration of membership. Limited member are expected to pay annual fee of 5,000 ETB. The other requirements are; recognition by the Ethiopian Commodity Exchange Authority as an exchange actor, evidence of commercial activities in exchange-traded commodities either on own account or on behalf of others, tax registration and maintenance of tax clearance according to Ethiopian law, and successful completion of authority-approved ECX certification examination and personal interview with the exchange.

**Rights and duties of Commodity exchange members**

Members have the right to transfer their membership, to trade in the commodity exchange, and participate in the Board of the Commodity Exchange. They are obligated to pay net payment directly through the market, able to open bank account in a recognized bank by the ECX, and keep the proclamation, rules and directives of ECX authority.

**Integrated Physical Delivery Management**

ECX offers an integrated Physical Delivery Management System from the receipt of commodities on the basis of industry accepted grades and standards for each traded commodity by type to the ultimate delivery. Commodities are deposited in warehouses operated by ECX in major surplus regions of the country. Currently, ECX have operating warehouses in Addis Ababa, Adama, Shashemene, Nekempte, Bure, and Humera. The ECX warehouse is where commodities are sampled, weighed, and graded. The deposited commodities are stored using global standards of Inventory Management which rely on first-in-first-out principles, rotation, and careful environmental control. The ECX inventory management system guarantees the quality and quantity of the commodity throughout the pre-determined period of storage. Further, warehouses are insured at maximum coverage to protect against loss and damage of deposits.

At the warehouse, deposited commodities are issued an electronic goods received note, which is electronically transmitted to the ECX central depository, where the electronic warehouse receipt is created and securely kept. The central depository possess a central automated registry of warehouse receipts of all depositors, similar to any asset-holding account, which can be debited in decrements when sales are made on the ECX trading floor. This system avoids the risk of fraud or loss of paper receipts, provides flexibility in selling partial amounts of the deposited commodity, and increases the efficiency of physical delivery. At sale, the ECX central depository debits the seller's account and automatically transfers title of the commodity to the buyer and issues a delivery notice, on the basis of which the commodity can be released to the buyer. ECX experts regularly conduct surveillance on market trends as well as conduct audit and investigations on market operations to protect the market from manipulation, excessive speculation, fraud, or other malpractice.

**Trading and Contracts**

Ethiopian Commodity Exchange offers standardized trading contracts in white and mixed maize, hard and soft wheat, processed and unprocessed haricot beans, sesame, and coffee. The ECX trading system initially start as a physical trading floor located in Addis Ababa and now transition to an electronic trading platform over time. The trading floor has been using "open outcry" price bidding where all interested sellers and buyers verbally negotiate simultaneously during trading hours. Trading is conducted for each commodity class based on the grade given for the specific class of commodity by the commodity exchange warehouses like; White Maize Grade 1, Soft Wheat grade 2, etc. The transaction orders for sales and purchases are transmitted to ECX members using telephone and recorded on order tickets. Once an order is executed, meaning a deal is made; the order ticket is electronically entered and reconciled in the ECX automated back office system to ensure the existence and validity of the warehouse receipt backing the sale, the availability of buyer funds in a deposit account, and the validity of the member-client agreement. This automated reconciliation takes just minutes and is key to giving all market players confidence in the market.

To date Ethiopia commodity exchange undertakes contracts for both spot and future contract trading. The presence of standardized contracts on the ECX Trading Floor eliminates the costs and risks associated with contract negotiation. It specifies the grade, lot size, payment terms, price quotation (currency and unit), tolerance, dispute settlement, and other parameters for any commodity. Thus buyers and sellers only have to agree on the price and quantity.

ECX contracts are designed to enable a broad reach of the market to small and large players alike. The standard lot size of an ECX contract is 50 quintals or 5 tons for all commodities, tailored to current conditions of small truck transport in rural Ethiopia. ECX contracts are designed to create a national marketplace where all buyers and sellers meet to determine the national reference price. Thus, all ECX contracts are quoted as “arrived Addis Ababa” and a location differential is applied (based on the transport tariff from Addis Ababa to the delivery location) at the settlement of the transaction depending on the actual location of the physical commodity at delivery. ECX regularly updates the transport differential and makes this information known in advance.

**Clearing and Settlement**

In order to eliminate risks of contract defaults, all payments have been cleared and settled in the market through ECX internal clearing house. This is to mean that it takes the role of receiving payments for all transactions from buyers and transferring these funds to all sellers of commodities, and receiving all Warehouse Receipts from all sellers of commodities and transferring them to all buyers.

The ECX Clearing House works closely with the central depository and with ECX approved settlement banks. ECX requires that all members maintain both a pay-in and a pay-out account in these banks where ECX also maintains a settlement account. At the end of every trading day, the ECX Clearing House calculates the net obligations of all its active members to determine whether funds need to be transferred from the members’ pay-in account to the ECX settlement account or vice-versa to the members’ pay-out account. All pay-in transfers to ECX are made on the same day as the transaction and all pay-out transfers are made on the following morning. Similarly, all transfers of warehouse receipt to the buyer are made by the central depository the following day after pay-in has been made to the seller.

**Market Information Dissemination**

One of the benefits of Ethiopia commodity exchange in transforming an age old traditional agricultural marketing is through providing accurate, reliable, and timely data on a continuous basis to all market players. In doing so, data on opening price, highest price, lowest price, last traded or current price, and volume of trade have been transmitted continuously using electronic networking to electronic price display boards located in public sites in Addis Ababa and other major market centers around the country for every commodity grade traded on the Trading Floor. In addition, market data feeds are transmitted daily to Radio, Print Media, Television, and innovative uses of SMS and Inter-active Voice Recognition (IVR) using mobile telephone to rural areas. Now, data have been transmitted electronically from the trading sessions to market centers in Addis Ababa, Adama, Shashemene, Nekempte, Hawassa, Bahirdar, Mekelle, Gondar, Dessie, Diredawa, Harar and Jimma. Such dissemination of information, therefore, eliminate an information gap and help both market players, including rural farmers, to get the right profit from what they produced or traded.

**Commercial Dispute Resolution**

ECX has an in-house arbitration tribunal with licensed arbitrators to assure the speedy and professional resolution of any commercial disputes that may arise.

## CHALLENGES

ECX is at its infant stage and faces various challenges. The most important is the limited awareness about the operation and benefits of the exchange by every market player; traders, cooperatives, exporters, farmers, brokers, etc. There is limited capacity in terms of skills, infrastructure particularly of telecommunications and storage capacity, and also in terms of financial access by the market actors. Another challenge is the presence of a narrow spectrum of actors particularly of limited number of industrial members. There is seasonality of the market as the production system is seasonal and also there is limited number of storage facilities and unfamiliarity with future contracts.

A commodity exchange itself depends on a number of linked institutions which are critical to its functioning. These core institutions are a market information system, a system of product grading and certification, a regulatory framework and appropriate legislation, an arbitration mechanism, and producer and trade associations. In addition, a warehouse receipts system is a very important related institution. A commodity exchange also depends on the functioning of allied sectors like banking, insurance, transport, IT services, and even inspection services. Thus, while these sectors are not strictly the part of an integrated institutional development plan, they must be nonetheless engaged, involved and brought along as the exchange development proceeds. The other important challenges of ECX are the low level of coordination, refusal of traditional brokers to accept the new system, limitations in the provision of facilities, especially internet services, problems related with laboratories like insufficient sewerage system disruption of power supply that affect service delivery to customers and conflicts due to poor contractual agreement among suppliers and transporters.

## CONCLUSION

One of the important challenges that the country faces is how market exchange can be coordinated efficiently, at minimum transaction costs and how to bring about a self-coordinating market order. In order to do so, two core aspects must be addressed; the transmission of vitally needed market information and the low-cost enforcement of contracts among market participants. Commodity exchange can address this critical need through a system that generates itself market information which enhances the transparency of product grades, qualities, and marketed volumes in addition to the market-clearing price that promotes self-regulation through a structure that enhances the incentives for preserving order and integrity of the system**.** The study has highlighted that a commodity exchange itself depends on a number of linked institutions, which are critical to its functioning. Therefore, a key perspective that is recommended is that of an integrated commodity exchange development initiative which would include developing all the components of the system in an integrated fashion, leading to sustainable agricultural development.

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