

Assessing the Opportunity and Challenges of Ethiopia Commodity Exchange for the Members of Agricultural Product Export

Habtamu Abebaw Worku*

Department of Management, Debre Markos University, Ethiopia

Abstract

The main objective of the study was to assess the opportunities and challenges of Ethiopia commodity exchange for the members of the agricultural product export. This study used both primary and secondary sources of data. This study employed descriptive type of research and it employed a census research strategy to capture the relevant information from the respondent. The target population of the study was ECX members particularly the exporters. In this study the researcher used both semi structured questionnaire and unstructured interview. The collected data was analyzed using descriptive statistics. The result of the study indicated that ECX members particularly exporters have got the opportunity of market access, increment of sales volume and profit through ECX. In contrary, unsatisfied with communication and transportation service; lack of complete, accurate and accessible international marketing information, lack of adequate warehouses, grading and sampling system, higher penalty cost for not withdrawing commodities from the warehouses on time were found to be some of challenges of ECX for the members of the agricultural product export in ECX. Finally, to enhance the contribution of ECX and to alleviate the challenges of ECX for the members, it is recommended that ECX has to: - provide complete, accurate and easily accessible marketing information; rent or build adequate warehouse. It also advised that quality grading specialists of the exchange should treat all ECX members equally & build the elements of physical infrastructure that support commodity exchange.

Keywords: Commodity exchange; ECX; ECX members

Introduction

Production of agricultural commodities play a major economic role in many developing countries, especially in the least developed ones [1]. Because of commodity production and trade are the primary means of livelihood for millions of households, commodity sector development is essential for poverty alleviation and overall economic development. Faced with both price volatility and high marketing costs, many see commodity exchanges as an alternative way to manage risks and increase efficiency in a liberalized market environment [2].

Ethiopia is a developing country where agriculture is the backbone of the economy and the source of livelihood for the 84% of the population. Nevertheless the sector is not well developed and much of the produce is produced by small holder farmers. The farmers produce food for their household and sale the rest which is left from the house consumption in the nearby market places. The main agricultural products are coffee, teff, maize, wheat, chat and sesame (Ethiopia Information and Communication Technology Development Agency [EICTDA]).

The bulk of the country's merchandise export earnings are from the agriculture sector and this sector accounts about 80-90% of the total export while the share of manufactured products was eleven percent in 2001/02 and 12.5% in 2002/03 [3].

Today there are various types of public or private market information and commodity exchange systems that are backed up using modern ICT to provide information to market participants. Following the liberalization of the agricultural market in most of sub-Saharan African countries market information and commodity exchange systems are introduced.

The Ethiopia Commodity Exchange (ECX) is a new initiative for Ethiopia and the first of its kind in Africa [4]. The ECX was formed in 2008 to address the problems of market access and market infrastructure primarily for grain farmers, and subsequently became the sole body responsible for managing trade in coffee [4].

Growing interest in commodity exchanges on the part of governments, donors, and the private sector in developing countries reflect a drive to reduce transactions costs and a need for new commodity risk management tools. Improvements in the institutions helping commodity markets are especially important to African countries that remain heavily dependent on a small range of commodities for export revenues [5].

As the findings of Tollens [6], 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.

Hence, a commodity exchanges depends on a number of linked institutions which are critical to provide its function to its members. These core institutions are a market information system, a method of product grading and certification, a regulatory framework and apt legislation, an arbitration mechanism, and producer and trade associations [1]. In addition, a warehouse receipts system is a very important related institution [7]. Most Africa commodity exchanges failed to serve the core institution of a commodity exchange efficiently to the participants. Solving the problems of commodity exchange is very important for Africa at large and to Ethiopia specifically.

***Corresponding author:** Habtamu Abebaw Worku, Department of Management, Debre Markos University, Ethiopia, Tel: +251910136819; E-mail: habtamu_abeabaw@yahoo.com

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Despite its establishments, there were not adequate studies that identified the opportunity and challenges of ECX members. The previous studies mostly focus on the challenges of ECX and the roles of ECX to smallholder farmers. They were not focus on the challenges and opportunities of exporter within ECX in exporting agricultural products. Therefore, the main purpose of this study is to identify the challenges of the ECX exporter that arise from market information, storage (warehouse), quality grade (standard), regulation and to assess the opportunities ECX exporters within ECX with respect to market access, sales volume and profit.

Statement of the Problem

The development of the agricultural market in Ethiopia is based on old traditional methods [4]. It is characterized by insufficient market information, unstable price, poor quality, lack of trust among trading partners, and uncoordinated markets [7].

However, as a result of many constraints commodity exchanges have not lived up to expectation anywhere in Sub-Saharan Africa, apart from South Africa. Rashid et al. [5] identified three primary constraints to the development of vibrant commodity exchanges in the region: (i) market size; (ii) weak infrastructure and underdeveloped financial services; and (iii) lack of supportive legal and regulatory frameworks.

Quality of warehouse and storage management skills tends to be highly variable in most African countries. Enhancing the professional skills in the warehousing industry is necessary if storage losses are to be kept at a minimum. Similar training and capacity building is critical to enable traders and processing companies to utilize the WRS in cost-effectively managing their inventories [8].

Internet and telecommunications in the ECX are still quite deficient (sometimes non-existent) to disseminate information to the participants. In light of the above conditions and the ECX role to society in nation-building, the researchers find the need to assess the opportunities and challenges of ECX for the members of the agricultural product export. Specifically, the study attempted to answer the following questions:

1. Is there any opportunity to ECX exporter in ECX in terms of market access?
2. Is there any opportunity to ECX exporter in ECX in terms of profit and sales volume?
3. What are the challenges to ECX exporter that arises from market information and warehouse?
4. What are the challenges to ECX exporter that arise from quality grade services, legal and regulatory?

Literature Review

The purpose of commodity exchanges

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/sake. The exchange itself does not operate for profit. It is just 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.

The purposes served by a commodities exchange depend in part on the nature of the specific contracts that are traded. Just by centralizing trade in a commodity an exchange can facilitate title transfer, price

discovery and market transparency. Transaction costs are decreased because coordination through a centralized exchange can decrease costs associated with identifying the market outlets, physically inspecting of the product quality, and finding purchaser or sellers. By decreasing transactions costs and enhancing information flows an exchange can improve returns to market agents while reducing short term price variability and spatial price dispersion. Such contracts command little capacity to address inter annual price uncertainty. More sophisticated contracts allowing exchange in futures can enable further risk management, but such contracts require a well-developed exchange and cannot address maintain spot prices in bounds that might be desired.

Trading contracts for future delivery, commodity exchanges can assist strengthen market liquidity, increase profit, improve price discovery and facilitate price risk management. According to Rashid et al. [5], an exchange can improve liquidity because a futures contract is a fungible financial instrument which buyers and sellers are willing to hold and exchange. While futures contracts efficiently remove price level risk, they do not eliminate the risk. Instead they replace price risk with basis risk, where the basis is the difference between the spot market and futures market prices. Unexpected shifts in the basis can result in losses or gains, and the degree of basis risk can highly influence the effectiveness of the exchange in risk management.

As explained by Rashid et al. [5], providing the services of a commodity exchange is expensive. The costs include physical investments in warehousing, operational space and communications as well as operational costs involved in screening participants and enforcing contracts. Moreover, an exchange typically must provide clearinghouse services which allow buying and selling the commodities traded at the stated prices with limited fear of default for participants. These services disclose the exchange to both working capital costs and risk. For an exchange to succeed its services must be adequately valued by users that they are willing to pay fees to cover these costs.

According to Rashid et al. [5], market failures, including inadequacies in physical infrastructure, asymmetry in information, inadequate supporting legal and financial institutions can all impede the formation of futures exchanges.

Functions and benefits of commodity exchanges

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. According to Gabre-Madhin and Goggin [7], a commodity exchange provides mechanism for price discovery which simplifies transactions with standard contracts and transmits information about a volume and prices. An exchange provides a mechanism for increasing market liquidity, enabling transfer of price risk and creates trust, order, profit and integrity in the market (Figure 1).

A Commodity Exchange is fundamentally designed to provide service and add value to all market players. It 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 [1].

Contribution of commodity exchange for agricultural development

Agricultural commodity futures are market-based instruments

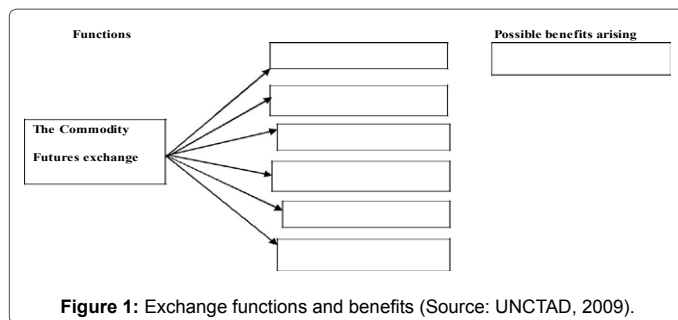


Figure 1: Exchange functions and benefits (Source: UNCTAD, 2009).

for managing risks and they help in orderly establishment of efficient agricultural commercialization. Future markets are important to hedge commodity price risks. It also serves 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 purposes of future markets promote more efficient production, market storage and agro-processing operations, and help in the enhancement of overall agricultural marketing performance [9]. The basic purpose of a futures contract is to provide price-change protection.

Commodity exchange can also play an important role in empowering the farmers, the buyers, and traders. As a result they are able to perform efficient agriculture marketing system. This service provides relevant and timely marketing information and a transparent and competitive market price discovery mechanism for the buyers and the sellers. Additionally, it can be used as a basis for comparison of the price of a commodity with the prices within different countries market [1].

A Brief overview of the Ethiopia commodity exchange

Agriculture is the backbone of Ethiopia's economy. To make millions of Ethiopians out of poverty requires a fundamental change in the way agriculture is done. Substance agriculture economy should be replaced with technology-driven and market-oriented production.

As Ethiopia is ready to transform its agricultural economy, so too must Ethiopia's marketing system take the country into the new millennium. It is time to go into the modern age of globally connected trading systems, depending on technology and knowhow, while adapted to Ethiopia's realities and conditions. It is time to create a new partnership between the private and the public in the new arena created by market liberalization.

The Ethiopian Commodity Exchange is designed to be a marketplace where buyers and sellers meet to trade, assured of quality, quantity, delivery and payment. It will control a system of daily clearing and settling of contracts. It will improve market efficiency by operating a trading system where buyers and sellers use standardized contracts. Market transparency will be accomplished by distributing market information in real time to all market players [4].

The Ethiopia Commodity Exchange (the "Exchange") is established by the Ethiopia Commodity Exchange Proclamation No.550/2007 as one of the basic ingredients to transform the country's agriculture to market oriented production system.

As per its establishing proclamation, the Exchange is created to accomplish the following purposes:

1. To create an efficient, transparent, and orderly marketing system that serves the needs of sellers, buyers and intermediaries, and that promotes increased market participation of Ethiopian small scale producers;

2. To give a centralized trading mechanism in which offers to sell and bids to buy are coordinated through a physical trading floor with open outcry bidding or an electronic order matching system or both;
3. To provide automated back office operations to record, monitor, and publicly disseminate information on Exchange transactions;
4. To offer standardized grade-specific contracts as the basis of Exchange trading;
5. To perform trading on the basis of product grade certificates and guaranteed warehouse receipts;
6. To clear and settle all transactions performed on the Exchange to minimize default risk;
7. To provide/render/ a mechanism for dispute resolution through arbitration to the members
8. To provide real timely market information to the public;
9. To perform market surveillance to ensure the integrity of the members and of the market; and
10. To prevent the occurrence of contingent risk to the market through implementing risk management by employing proper management mechanism.
11. To effectively perform the above purposes, the Exchange is established as a demutualized corporate entity with clear separation of ownership, membership and management.

Thus, although the Exchange is wholly owned by state of Ethiopia, it has an autonomous and professional management that shall be neither related to the ownership of the Exchange by government nor to the Membership of the Exchange.

The Exchange has members that have been recognized as Exchange Actors by the Ethiopia Commodity Exchange Authority and who have the right to trade only for their own account or either for their own account or the account of clients. At a sale of membership seat in ECX, any person who fulfills necessary requirements set under the Rules of the Exchange and other pertinent laws can acquire membership of the Exchange that shall, among other things, confer a right to trade at the Exchange.

The Ethiopia commodity exchange has a Board of Directors, Chief Executive Officer, who shall, among other things, organize, direct and administer the Exchange, and the necessary officers and staff.

The composition of Board of Directors, which oversees the management of the Exchange, is designed to keep a healthy balance of owner and member interests. Thus, it is composed of 11 members, of whom 6, including the chairperson, are representatives nominated by the owner and 5 are elected by the members of the Exchange.

The Exchange has created a marketplace, where sellers and buyers come together to trade, assured of quality, quantity, delivery and payment, by implementing its establishing proclamation, the rules of the Exchange and other pertinent laws that governs its day to day operations [4].

Research Methodology

Data type and source

This study employed both quantitative and qualitative types of data that obtained from primary and secondary data sources. The reason

being, the researcher gathered and analyzed qualitative primary and secondary data to complement & elaborate the quantitative type of data.

To generate valuable and relevant data, the researcher was depending on both primary and secondary sources of data. The primary source of data was collected through a questionnaire and interview. In addition to this, for background discussion and theoretical explanation, the researcher depended on secondary source of data. Secondary sources of data were obtained from ECX, ECX reports, ECX newspapers, ECX magazines.

Research design

Both qualitative and quantitative approaches were used to assess the opportunity and challenges of ECX for the members. This study was descriptive in nature hence; it intended to describe the opportunity and challenges of ECX. Moreover, this study was cross sectional survey design. According to Zikmund, a cross sectional survey design is the type of survey design in which necessary data is collected at one point in time from particular set of population. This research design was utilized because of resource and time limitation to undertake longitudinal survey.

Sample size

Population is the total group of people or entities from which information is required [10]. The total population of the study consists of 329 ECX members, which were categorized as full members and limited members of the Ethiopian commodity exchange, engaged in selling, processor, and wholesaler and exporting of commodities in Addis Ababa with in ECX. Out of the total members sellers are 149, exporter 148, processor 7 and wholesaler 25.

Due to the purpose of the study, the researcher only considered Ethiopia commodity exchange exporter. Therefore, from the total population of the study the researcher drawn sample frames only those who participate in exporting activity. There are 148 exporters with in ECX.

Data collection and instrument

In this study, the researcher used both semi structured questionnaire and unstructured interview methods of data collection. The questionnaire was used because it has the advantage of participating large respondents over other data gathering techniques; it limits inconsistency and also saves time. In addition, gathering data by using interview is very important to supplement the information gathered thorough questionnaires. The questionnaires and interview questions were designed in English language. The researcher was selected 3 data collectors to effectively collect data from the potential respondents through questionnaires and appropriate training was given for the enumerators.

The following procedure was pursued to administer questionnaire to respondents. First, the researcher and data collectors approached potential respondents to ask their cooperation in filling the questionnaire and explained the purpose of collecting data, how the questionnaire will be filled and the confidentiality of to be obtained information. Then, the questionnaires were distributed and respondents were asked to furnish information honestly and return the filled up questionnaire.

The semi structured questionnaire had two parts. The first part of the questionnaire was about demographic characteristics of respondents such as sex, age, year of participation, membership

type, and type of product exporting. Part two contains the main part of the questionnaire which assess the opportunity and challenges of ECX members. Here some question were in statements form and ECX members were asked to express their agreement/disagreement in the five point likert scale, where 1=strongly disagree, 2=disagree, 3=indifferent, 4=agree, 5=strongly agree.

Pilot test of the questionnaire was carried out in Addis Ababa (Ethiopia commodity exchange) and the Feedback obtained from the pilot test was incorporated in the questionnaire.

The data collection was held according to the time table and 148 questionnaires were distributed to the potential respondents. Out of the total questionnaire, 129 (87%) questionnaires were returned and considered for analysis.

The personal interview

The interview schedule was designed to conduct unstructured interview with 3 heads of departments within ECX. Before starting interviewing, the researcher introduced himself and explained the purpose of the study to interviewee. During interview session, the researchers jot down all important points on notepad and organized them for analysis purpose.

Data processing and methods of data analysis

The data collected using semi structured questionnaire were edited, coded and analyzed with great care. Both in-house and field editing was undertaken to detect errors that had been committed by respondents during completing the questionnaires. The coding of the possible alternatives in the questionnaire was made in advance of administering the questionnaire to the target respondents. Meaning, in a five point scale the possible responses was pre-coded (for example, 1=strongly disagree, 2=disagree, 3=indifferent, 4=agree, and 5=strongly agree) to facilitate quick answering of the questions and to simplify data entry in to computer software for analysis. In addition, for yes or No possible responses was pre-coded (for example, 1=Yes, 2=No).

The qualitative method of data analysis was employed for the analysis of data that were collected through personal interviews. Data collected through questionnaires were analyzed quantitatively by utilizing statistical tools such as tabulation, bar charts, and pie charts to present data. In addition, descriptive statistics such as mean, frequency and percentage were used to analyze and interpret data. For data that were analyzed using mean score, since five point Likert scale was used, mean score of 3.0 was considered as midpoint (indifferent), while mean scores of greater than 3.0 and less than 3.0 were assumed as agreement and disagreement, respectively. After data had been presented and analyzed, conclusion and recommendations were drawn from the findings.

Results and Discussion

Accuracy of information is level of error/ incorrect data within the overall system data. The availability of timely and accurate information is vital to make appropriate decision. Market information regarding quantity, price, quality of different commodities improve the decision making capability of the ECX members and strengthens their bargaining power and productivity [11].

Regarding the accuracy of the information disseminated by ECX, 32.6% of the respondents responded that they get error free or accurate information from ECX. In contrast to this, majority of the respondents (65.1%) said that the information they get from ECX still contains

some errors. This is due to the fact that the information they get in the market place and they listen through radio or different communication channel was sometimes different. Only a small proportion of the respondents (2.3%) replied that the information they get from ECX was full of error or inaccurate information. Therefore, based on the above result we can deduce that the information which was disseminated by ECX contained some error regarding the price, quality and quantity of the product (Table 1). Because of this problem the decision making of ECX members may affect be affected by this marketing information errors and it will decrease the bargaining power of ECX members. Timely, accurate and representative market information is a powerful tool in the empowerment of the market participants in a liberalized marketing system [6]. Consistent with the above finding, poor market information /intelligence, very little reliable data on trade flow, poor communication and lack of transparency were the characteristics of market in developing country especially in Africa [7].

According to Mokotjo and Kalusopa, the characteristics of quality information involve relevance, accuracy, sufficiency, timeliness, and currency. Relevance of information is the degree to which data is necessary in order to complete particular user decision and actions. Relevant information is very important to make effective and appropriate decision. Table 2 reveals that when ECX members were asked to express their opinion on the statement “relevance of the marketing information disseminated by ECX”. 45% and 12% of the respondents responded that the information they get from ECX were relevant and very relevant to sell their products respectively. Whereas 33.3% and 8.5% of the respondents replied that the market information they get from ECX was little relevant and not relevant to sell their products respectively. They said that the marketing information disseminated by ECX had little relevance due to limited information disseminated by ECX regarding the international market price, quality and quantity about the commodity. In addition they said that, the information disseminated by ECX through different communication channel important to only for domestic market. Particularly, it has little relevance to exporters to sell their products in to international market and they are tried to get full information about international market condition by themselves through internet. Therefore, the above analysis indicates that ECX members have got little relevant information which was disseminated by ECX to sell their products abroad.

Timeliness is defined as the degree to which data can be delivered by the e-Government system within a required timeframe [11].

The dissemination of sufficient and on time information is essential for the proper functioning of the agricultural market. This means “information has a key role to play in agricultural development. It serves as a tool for communication between the actors, as the channel for assessing trends, and as the tool for shaping decisions by both producers and policy makers”.

As it has been described ECX disseminates market data through different channels. Among these the electronic price tickers and the website are updated by the recent market data at every trading time. As it can be observed in Table 3, 1.6% and 38.8% of the respondents responded that they strongly disagree and disagree with the information they get whenever they need it respectively. They said that price ticker board is not found in everywhere. On other wing, 48.8% and 4.7% of the respondents said that they agree and strongly agree with the statement respectively. Means they are getting timely marketing information whenever they need it. The remaining 6.2% of the respondent replied that they neither agree nor disagree with the statement. Additionally, the mean value of ECX member’s response for the statement was 3.16.

This implies that large numbers of ECX members agreed in that they have got timely marketing information whenever they need it from ECX. Generally from the above result we can deduce that large number of ECX members have got timely information which was disseminated by different ECX communication channels. Market transparency will be achieved by disseminating market information in real time to all market players [4].

Appropriateness of presentation is the degree to which data processed by the e-government system is accessible and understandable to the users [11]. The ECX member’s response for the ease of understanding of the market information presented on the different data dissemination tool was as follows: - 41.9% of the respondents replied that it was difficult to understand the data disseminated. In contrary to this, 58.1% of the respondents replied that the information displayed by ECX communication tools was easily understood. This shows that majority of the respondents found the information displayed via different dissemination easily understood (Table 4).

Commodities are deposited in warehouses operated by ECX in major surplus regions of the country. According to the key informant interview and secondary data analysis result, ECX has 35 privately and 16 government owned warehouses in 16 different parts of the country. Currently, ECX has operating warehouses in Addis Ababa (saris), Dire dawa, Nazareth, Shashemene, Nekemte, Bure, Hawassa, Jimma, Bedelle, Dilla, Gimbi, Gondar, Metema, Assossa, Sodo, Bonga and Humera. The ECX warehouse is a place where commodities are weighed, sampled and graded.

According to Table 5, a large number of the respondents (53.5%) responded as ECX did not have adequate storage service which accommodates request of the participant’s commodities. Whereas, 46.5% of the respondents revealed that the ECX has adequate warehouse to accommodate commodities in case of request from the ECX members. Moreover, interview responses from officers of the ECX

Item	Response	Frequency	Percent	Cumulative Percent
Accuracy of marketing information	Full of Error	3	2.3	2.3
	Contain some Error	84	65.1	67.4
	Error Free	42	32.6	100.0
	Total	129	100.0	

Table 1: Accuracy of market information, Source: own survey result, 2013.

Item	Response	Frequency	Percent	Cumulative Percent
Relevance of marketing information	Not relevant	11	8.5	8.5
	Little relevant	43	33.3	41.9
	Relevant	59	45.7	87.6
	Very relevant	16	12.4	100.0
	Total	129	100.0	

Table 2: Relevance of marketing information, Source: own survey result, 2013.

Item	Response	Frequency	Percent	Cumulative Percent	Mean value
Timeliness of the marketing information	Strongly Disagree	2	1.6	1.6	3.16
	Disagree	50	38.8	40.3	
	Indifferent	8	6.2	46.5	
	Agree	63	48.8	95.3	
	Strongly Agree	6	4.7	100.0	
	Total	129	100.0		

Source: own survey result, 2013

Table 3: Timeliness of the ECX marketing information

Item	Response	Frequency	Percent	Cumulative Percent
Appropriateness of the presentation	Difficult to understand	54	41.9	41.9
	Easy to understand	75	58.1	100.0
	Total	129	100.0	

Source: own survey result, 2013

Table 4: Appropriateness of the information displayed on the different data dissemination tool

clarified that; warehousing facilities are one major impediment to the growth of commodity markets in Ethiopia. Though it is government organization, Ethiopian commodity trade enterprise; plays a vital role in storage of commodities; the infrastructure does not support future trading adequately. The entire current warehouse of ECX is rented from Ethiopian commodity trade enterprise. For the commodity futures to work effectively, the seller must deposit the commodities traded in a warehouse and the buyer should take physical delivery of the commodity in a warehouse at a location of his choice. However, at present, only a small amount of warehouses can handle such kind of delivery requests and that too for specific commodities in the exchange traded. As results of the above mentioned source confirmed, the warehouses are not adequate enough to accommodate all the requests of ECX member's.

As per the response of the respondents, 41.9% of them responded that they were satisfied with the services quality of the warehouse which was provided. In contrary to this a relatively higher percent of the respondents (58.1%) said that the warehouse services were not providing satisfactory service. The sources of dissatisfaction were: lacks of adequate warehousing facility that can ensure quality standard service. Therefore, based on the above result it can be said that the majority of ECX members were not satisfied with the service quality of the warehouse.

Table 6 above clearly indicates the respondents' response regarding warehouses /storage costs, about 58.2% of the respondents replied as warehouse/storage cost were fair and affordable. On the other hand, 41.9% of the respondents replied as it was not fair and unaffordable. From this one can easily deduce that the warehouse/storage cost was fair and affordable to ECX members.

Likewise findings portrayed in Table 6 revealed that about 6.2% of the respondents replied as the penalty cost for the delay made to withdraw the commodity on time from the warehouse was low. 43.4% 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. Contrary to the above findings, majority (50.4%) 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. This shows that large numbers of the ECX members believed that the penalty cost for the delay was high. consistent with this, key informant interview was also revealed 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.

The Table 7 above indicated that 49.6% of the study participants replied the time given to store and transfer commodities were adequate enough. In contrary to this, equal proportion (50.4%) of the respondents revealed that the time given to store and transfer the commodities is not adequate enough. Accordingly based on the above result we can say that the time given to store and transfer the commodities are not adequate because the ECX warehouses were found out of Addis Ababa

and the infrastructure development /transportation was not much developed.

Similarly findings of this study depicted on Table 7, above indicated that a relatively higher percent of the respondents (55.8%) responded as the ECX recording and management system of the warehouse was satisfactory. While 44.2% of the respondents replied as ECX and management system of the warehouse was not as satisfactory. This implies that majority of ECX members were satisfied with the recording and management system of the warehouse.

In the key informant interview, it was also said that the deposited commodities are stored using global standards of inventory management which depends on first-in-first-out rules, rotation, and careful environmental control. The Ethiopia commodity exchange inventory management system guarantees the quantity and quality 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. As findings by Gideon [8] indicated, professional skill in warehousing is necessary if storage losses are to be kept at a minimum.

As depicted on Table 7 above, a relatively higher percent of the respondents (57.4%) believed that the security of the warehouse in case of risky casualties like theft and fire were secured. In contrast to this 42.6% of the respondents replied that they are not confident enough in the warehouse for risky casualties like theft and fire. 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 members. This shows that the ECX warehouse was secured and majority of the members are confident with the warehouse security. Gideon [8] finding shows network of secure, well-run warehouses which are available to various depositors is crucial prerequisite for a successful accomplishment of commodity exchange.

As presented in the above Table 8, the relatively higher percentage of the respondents (65.1%) replied that the ECX warehouses were well equipped with grading and laboratory. In line with this, key informant interview also confirmed that the ECX warehouses have well equipped

Item	Response	Frequency	Percent	Cumulative percent
Adequacy of warehouses	Yes	60	46.5	46.5
	No	69	53.5	100.0
	Total	129	100.0	
Warehouse service quality	Yes	54	41.9	41.9
	No	75	58.1	100.0
	Total	129	100.0	

Source: own survey result, 2013

Table 5: Adequacy of warehouses and warehouse service quality

Item	Response	Frequency	Percent	Cumulative Percent
Warehouse/ storage cost	Yes	75	58.1	58.1
	No	54	41.9	100.0
	Total	129	100.0	
Penalty cost for the delay to withdraw	Low	8	6.2	6.2
	Fair	56	43.4	49.6
	High	65	50.4	100.0
	Total	129	100.0	

Source: own survey result, 2013

Table 6: Warehouse /storage cost and penalty cost for the delay to withdraw

Item	Response	Frequency	Percent	Cumulative
Time given to store and transfer commodities	Yes	64	49.6	49.6
	No	65	50.4	100.0
	Total	129	100.0	
Recording and management system of the warehouse	Yes	72	55.8	55.8
	No	57	44.2	100.0
	Total	129	100.0	
Warehouse security	Yes	74	57.4	57.4
	No	55	42.6	100.0
	Total	129	100.0	

Source: own survey result, 2013

Table 7: Recording and management system of the warehouse and Warehouse security

grading laboratories. On the other hand a considerable percent of the respondents (34.9%) replied as the ECX warehouse were not equipped with grading and laboratory. This show that majority of the members believed that ECX is well equipped with grading and laboratory.

Likewise findings of this study depicted on Table 8 above, relatively higher percentage of the respondents (51.9%) revealed the ECX warehouses lacks well equipped quality control specialist. On the other hand equal proportion of the respondents (48.1%) replied as the ECX is well equipped with quality control specialists and although they are a pre requisite for successful commodity exchange. In line with this, key informant interview also confirmed that the ECX warehouse is well equipped with quality control specialist. According to Goggin [7], lack of quality standard, lack of competition, lack of quality control or transparency and undeveloped market are the features of developing country market.

Even if the ECX has grading laboratories and quality control specialist, about 56.6% of the respondents indicated that they were not satisfied with the grading and sampling of commodities conducted in the warehouses. They said that bias, lack of knowledge and lack of accurate measuring equipment in grading and sampling of the commodity were the sources of dissatisfaction. On the other hand, 43.4% of the respondents replied that they were satisfied with the grading and sampling of the commodities. As results of the study portrayed in the above Table 8, 23.28 % of the respondents responded as the grading and sampling specialists of the ECX warehouses were made bias while in quality grading and taking samples of the commodities. Consistent with this, 30.15% of the respondents showed that the exchange lacks of accurate measuring equipment in grading and sampling of the commodity. And the other 46.57% 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 interview verified that the main problem of the ECX members were lack of awareness in quality grading and sampling system of the exchange. Consistent with the above responses, 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 led to difficulty in setting prices for certain quality grades. Quality grading of the Ethiopian Quality and Standard Authority takes a long time as well as prone to corruption. More over the result of the research match with above scholar's result [12].

As results of regulation related analysis of the study depicted on the Table 9, about 62.8% of the respondents confirmed that the sole

control of dishonest and irresponsible practice in the exchange process was made by the ECX authority. In contrary to the aforementioned result, 37.2% of the respondents replied that the authority did not control the irresponsible and dishonest act of the exchange. This is also confirmed by key informant interview. According to the information obtained from key informant interview, all the illegal acts of the participants and the exchange are controlled or supervised by the ECX authority. Consistent with the above finding, a commodity exchange in a developing economy serves many benefits to its members: like contracts are written and enforceable and a dispute resolution mechanism is provided [9].

As results of the analysis revealed in the above Table 9, about 53.5% of the respondents were confident enough in the ECX in enforcing contracts that were made among the participants while only 46.5% were portrayed the ECX did not enforce contracts that were made by the participants in the exchange. This shows that majority of the ECX members were confident with the enforcement of contract which was provided by ECX. In contrary to findings of this study, findings of Rashid et al. [5] verifies that the real challenge in African commodity exchange is not the development of grades but the enforcement of contracts.

Regarding to the arbitration mechanism of ECX, about 60.5% of the respondents replied that ECX provide Arbitration mechanism for dispute settlement. In the other side, 39.5% of the respondents replied that the ECX did not provided arbitration mechanism for dispute settlements. The key informant interview also confirmed that ECX provides arbitration mechanism for dispute settlement. Therefore, the above result indicates that the majority of members have got the service of arbitration mechanism which was provided by ECX.

As the Table 9, above verified, 57.4% of respondents replied that the ECX was committed in regulate the market to truly reflect the market price information about the market. On the other hand 42.6% of the study respondents said that the ECX did not regulate the market to truly reflect the market price information about the market. This indicate that majority of the ECX members believed that ECX was committed to regulate the market to truly reflect the market price information about the market.

Concerning the free and transparency of the dissemination of data, Table 9 above revealed that 71.3% of the respondents said that the ECX regulator ensured free and transparency of dissemination of data. Contrary to this, 28.7% of the respondents replied that the ECX regulators did not ensure free and transparency of dissemination of data. The key informant interview confirmed that before the establishment of ECX, there was not transparency in the market. But now ECX ensures transparency and confidentiality by disseminating reliable data to the members in the market. Consistent with the above result, market transparency is a condition for effective competition and good marketing performance in liberalized markets. Market transparency can be defined as the degree of information that farmers, traders, cooperatives, exporters and market control institutions, including the government, have about parameters relevant to their decision making. Sufficient knowledge of prevailing prices, qualities, quantities and conditions of sale in the markets are indispensable for rational production and marketing decisions.

Commercial and Financial Sector

According to Rashid et al. [5], for an exchange to operate successfully there must be commercial and financial sector in the economy. Moreover, an exchange must have access to a clearing house

Item	Response	Frequency	Percent	Cumulative Percent
Warehouse equipped with grading laboratory	Yes	84	65.1	65.1
	No	45	34.9	100.0
	Total	129	100.0	
Presence of quality control specialist	Yes	62	48.1	48.1
	No	67	51.9	100.0
	Total	129	100.0	
Satisfied with grading and sampling system of exchange	Yes	56	43.4	43.4
	No	73	56.6	100.0
	Total	129	100.0	
Problem with grading and sampling system of exchange	Bias	17	23.28	23.28
	Lack of Knowledge	34	46.57	69.85
	Lack of Accurate Measuring Equipment	22	30.15	100.0
	Total	73	100.0	

Source: own survey result, 2013

Table 8: Quality grading and sampling system of the ECX

Do the regulations made to the following to protect the members is satisfactory?	response	Frequency	Percent	Cumulative Percent
Dishonest or irresponsible practice by the exchange	Yes	81	62.8	62.8
	No	48	37.2	100.0
	Total	129	100.0	
Enforcing contract	Yes	69	53.5	53.5
	No	60	46.5	100.0
	Total	129	100.0	
Arbitration mechanism for dispute	Yes	78	60.5	60.5
	No	51	39.5	100.0
	Total	129	100.0	
ECX regulators market price truly reflect the information known about the market	Yes	74	57.4	57.4
	No	55	42.6	100.0
	Total	129	100.0	
Free and transparent dissemination of data	Yes	92	71.3	71.3
	No	37	28.7	100.0
	Total	129	100.0	

Source: own survey result, 2013

Table 9: Legal and regulatory related

with sufficient capital to serve as a guarantor of all transactions. These requirements mean a generally well-functioning financial sector.

As results of the analysis revealed in the above Figure 2, about 60.47% of the respondents replied that banks are the sources of credit when they need credit. Whereas 20.16% of the respondents said that friends and relatives are their source of credit. On the other hand 8.53% of the respondents respond that micro finance institutions are the source of credit. Only 10.85% of the respondents said that their source of credit was from others i.e. they run their business by their own finance. This shows that majority of ECX members have got a source of credit from financial institution.

As the result of the study revealed in Table 10, about 46.5% of the respondents replied that the interest rate that the ECX member paid for the aforementioned financial institution was fair and affordable. On the other hand 49.6% of the respondents said that the interest rate that the ECX members paid for the aforementioned financial institution was high. Only 3.9% of the respondents respond that the interest rate paid

for the financial institution was low. This shows that a considerable percent of the ECX members believed that the interest rate paid for financial institution was high. consistent with the above finding, limited access to affordable credit, weak or absent sectoral support institution, poor infrastructure and information asymmetries are the critical developmental challenge in developing country especially for the market participants in a commodity exchange [13].

As depicted on the above Table 11 shows that higher percent of the respondent (52.7%) said that the ECX clearing and settlement system was not well equipped adequately by infrastructure to provide effective and efficient services for the members in assuring payment to the seller, matching up each buy and sell transaction, and integrating the market place of the exchange. Whereas 47.3% of the respondents replied that the ECX clearing and settlement system was well equipped adequately by infrastructure to provide effective and efficient services for the members. Therefore, the above result shows that the ECX clearing and settlement system was not well equipped by infrastructure.

According to Rashid et al. [5], for commodity exchanges to be successful, they must have access to clearinghouse facilities with adequate capital and infrastructure to serve as a guarantor of all transactions.

As the results portrayed in the above Table 11, about 52.7% of the respondents were satisfied with the trained manpower of the ECX banking settlement. On the other hand 47.3% of the respondents said that the ECX clearing and settlement system was not well equipped adequately by trained manpower and they were not satisfied with trained manpower of the ECX banking settlement. According to key informant interview and secondary source 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. Consistent with the above respondent's response, a commodity exchange needs qualified, knowledgeable, and committed staff. In addition, exchange staff should not only be knowledgeable and good, but should also be committed. Exchange staff should not only understand the benefits of an exchange, but also believe in the benefits [13].

As presented in Table 12 below, respondents were asked to rank the challenges of ECX members in exporting the product with in ECX. To this end, the respondents express their disagreement and agreement on the statement using a scale of 1 – 5 (Where 1=strongly disagree, 2=disagree, 3=indifferent, 4=agree and 5 is strongly agree). By comparing the mean value of each variable one can easily say that this variable is the top challenges of ECX members. The highest mean score implies the top challenges for ECX members.

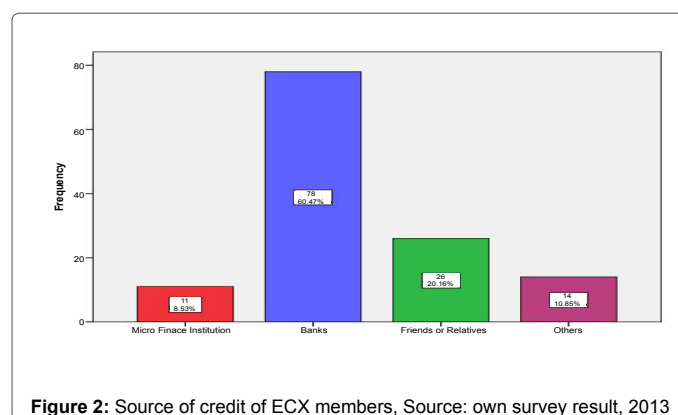


Figure 2: Source of credit of ECX members, Source: own survey result, 2013

Item	Response	Frequency	Percent	Cumulative Percent
Interest rate	Low	5	3.9	3.9
	Fair	60	46.5	46.5
	High	64	49.6	100.0
	Total	129	100.0	

Source: own survey result, 2013

Table 10: Interest rate

Item	Response	Frequency	Percent	Cumulative Percent
ECX clearing and settlement system equipped adequately by infrastructure	Yes	61	47.3	47.3
	No	68	52.7	100.0
	Total	129	100.0	
ECX clearing and settlement system equipped adequately by trained man power	Yes	68	52.7	52.7
	No	61	47.3	100.0
	Total	129	100.0	

Source: own survey result, 2013

Table 11: ECX clearing and settlement system

Challenges of ECX members with in ECX	N	Mean value	Rank
Quality grade or standard	129	4.05	1 st
Storage/warehouse	129	3.83	2 nd
Marketing information	129	3.82	3 rd
Legal and regulatory	129	3.27	4 th
Communication and transportation	129	3.22	5 th
Commercial and financial sector development	129	3.14	6 th

Source: own survey result, 2013

Table 12: Ranking the challenges of ECX for the members

As presented in the above Table 12, the mean value of quality grade or standard (4.05) had highest mean value. This implies that quality and grade standard was the first and top challenges of ECX for the members in exporting the product with in ECX. The mean value of storage /warehouse was 3.83. This implies that storage /warehouse cost and penalty cost were the second top challenges for the ECX members because it has the second highest mean value compared to other. The mean value of marketing information was 3.82. This implies that marketing information were the third top challenges for Ethiopia commodity exchange members to export the product with in ECX. In addition, the mean value of legal and quality grade and communication and transportation was 3.27 and 3.22 respectively. This implies that legal and regulatory and Communication and transportation related challenges were the fourth and fifth challenges for the members. Lastly, the mean value of commercial and financial sector development was 3.14. This implies that commercial and financial sector was the least challenge for ECX members.

Generally, respondents agreed quality and standard were the most and the top challenges of ECX for Ethiopia commodity exchange members. This is consistent with a research conducted by Alemu and Gerdien [12] which 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.

Summary and Conclusion

Based on the findings of the study, the researchers advance the following conclusions:

Ethiopia's economy is highly dependent on agriculture, similar to that of Sub-Sahara African countries, where 84% of its population

employed in this sector. That is why agriculture is widely regarded as the back bone of Ethiopian economy. It plays a key function both in the development of the nation as well as in the wellbeing of its people. The ECX was established to revolutionize Ethiopian agriculture and transform the economy through a dynamic, efficient and transparent marketing system. Properly regulated and implemented, commodity exchanges can contribute greatly to the achievement of a country's economic and developmental goal and strengthen the bargaining power of the market participants.

Descriptive analysis revealed that the majority of the participants in the ECX members were male and majority of the respondents fall within 18-45years mean youngster and adult age group. Concerning with their membership, majority of the ECX members are full members. In addition, from this study it can be concluded that majority of the ECX members have been exporting coffee and sesame.

Concerning the opportunity of ECX for the members, this study found that majority of ECX members have got the opportunity of market access in exporting the product through ECX. In addition to the above, as the finding of the study indicates, that large numbers of ECX members have got the opportunity of increment of their sales volume and profit in exporting agricultural product through ECX. Therefore, it is possible to be concluded that ECX members particularly the exporters have got the opportunity of market access, increment of sale volume and profit through ECX. Moreover, this study found that majority of the ECX members' volume of export were at moderate and low level before joining ECX. However, after joining ECX the members' volume of export has been increasing at high and moderate level. Therefore, it is possible to be concluded that membership in ECX has contributed for the increment of the volume of export.

Regarding the sales volume and profit of ECX members, particularly to the exporters in 2012, this study revealed that large number of the members' sales volume and profit increased in 2012 compared to the preceding year. Even if the majority of the members' sales volume and profit increased in 2012, the percentage of sales volume increased in 2012 was within different range. Therefore, it is possible conclude that the sales volumes and profit of the members' were increased with in different range and the sales volume and profit increased from time to times.

Regarding to challenges of Ethiopia commodity exchange, this study found that lack of transportation service particularly, from ECX warehouse to ECX members storage place was among the basic challenges. In addition, the study found that the majority of the ECX members were not satisfied with the transportation and communication service. Therefore, it is possible to conclude from this study that communication i.e. network problem and transportation services were the challenges of ECX for the members.

This study also revealed that the marketing information of ECX was somewhat accessible, the ECX members used different ICT tools to access marketing information from ECX and majority of the members used internet as the convenient ICT tool. Therefore, it is possible to conclude from this study that the ECX members have not got complete and accurate marketing information from ECX. To sum up, completeness, accuracy and relevance of the marketing information were the main challenges of ECX for the members.

Furthermore, the finding of this study revealed that lack of adequate warehouses that accommodate ECX members request, unsatisfied with the service quality of the warehouse, higher penalty cost imposed for the ECX members for not withdrawing their commodity from

the warehouses, lack of adequate time given to store and transfer the commodities. However, this study also found that majority of ECX members were satisfied with recording and management system of the warehouses and the ECX warehouse was secured from theft. Therefore, it can be concluded that lack of adequate warehouse, penalty cost and lack of quality service in the warehouse were challenges of ECX for the members.

This study found that lack of well-equipped quality control specialist, non-transparent quality grading and sampling system of the exchange, bias, and lack of accurate measuring equipment in ECX. However, this study found that the ECX warehouses were well equipped with grading and laboratory. Therefore, it is possible to conclude from this study that the quality/ standard problems were the basic challenges of ECX for the members.

Moreover, this study found that ECX and the authority were playing an important role in enforcing of contracts, in controlling dishonest or irresponsible practice by exchange and provide arbitration mechanisms for dispute settlements. In addition, this study found that ECX was committed in regulating the market to truly reflect the market price information about the market and the ECX regulator ensured free and transparency of dissemination of data. Therefore, it is possible to conclude from this study that legal and regulatory were not as such a main challenge of ECX for the members.

The study also revealed that even though large numbers of the ECX members have got a credit from financial institution, they paid high interest rate for financial institution. In addition to the above as the finding of the study, this study found that the bank clearing and settlement of the exchange were not adequately equipped within infrastructure and manpower in matching up of each buy and sell transaction, coordination of members and the exchange and to provide effective service. Therefore, it can be concluded that banking and clearing settlement of the exchange were not providing quality service for the members.

Finally, this study found that quality grade were the top challenge of ECX for the member. It is followed by storage/warehouse and marketing information respectively. Therefore, it is possible to conclude that quality grade and warehouse related problems were the main challenges of ECX for the members.

Recommendation

Based on the findings, the researchers advance the following recommendations to address the intended goals of ECX and to enhance the contribution of ECX and to alleviate/solve the challenges of ECX for the members in this study:

ECX should Share experiences and best practices with other successful commodity exchanges in other countries i.e. from South Africa, India, Brazil and China to continue the opportunity and benefit of commodity exchange to its members.

The government and stakeholders should build the elements of physical infrastructure that support commodity exchange and market development – including information and communications technology and transport facility. In addition, the ECX should collaborate with other supportive institution like ethio-telecom to solve the networking problem which often occurred during dissemination of marketing information.

The ECX should provide complete marketing information about the price, the quality and the quantity of the commodity to the ECX

members by providing other countries commodity market prices.

The ECX should provide accurate marketing information by providing on time information through different communication tools and error free marketing information to the members.

The ECX should build electric price ticker throughout the country to provide easily accessible marketing information to the members.

The ECX should build or rent adequate warehouses. In addition to this the exchange should have trained man powers in the area of warehouse operation, 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 the 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 ECX member to store and transfer their commodities. Since the penalty cost for not withdrawing the commodities from the warehouses was much higher (2% of the price of 1 quintal), it should apply reasonable penalty cost for not withdrawing commodities on time.

The quality grading specialists of the exchange should treat all members equally (without bias) and using coding to avoid bias. 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 government should facilitate credit access at low interest rate from government banks and donors that the ECX members. In addition, the ECX should have trained manpower and build infrastructure to provide efficient service in the bank clearing and settlement of the exchange.

Area for Further Research

This study has assessed the opportunity and challenges of ECX for the members of agricultural product export. Nevertheless, the findings should be interpreted carefully, as there were a number of drawbacks which also represent opportunities for further research. First, macro-economic stability and government policy may affect ECX members. In addition, the ECX members also include seller, wholesaler, and processors that the researcher did not take in to account in this study. Thus, the future researcher could conduct a study on the same title by considering the above mentioned factors. Moreover, future research may investigate the role of ECX in promoting agricultural product export.

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