ASSESSMENT OF THE MARKETING SYSTEM FOR FISH ORIGINATED FROM LAKE TANA, ETHIOPIA

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LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

FAO: Food and Agricultural Organization of the United Nations.

SPSS: Statistical Package for Social Science.

MOARD: Ministry of Agriculture and Rural Development.

FPME: Fish Production and Marketing Enterprise.

ILRI: International Livestock Research institute.

ARARI: Amhara Regional Research Institute.

Kg: Kilogram.

BOARD: Bureau of Agricultural and Rural Development

ABSTRACT

The primary purpose of this research study was to assess marketing system for the fish originated from Lake Tana. Additionally, efforts have been made to describe the root causes of the problems facing various actors (Fishermen, distributors/retailers and consumers) in the fish marketing system, from production to marketing stage. In order to accomplish research objectives, two areas i.e. Lake Tana and Addis Ababa were considered, from production and marketing/selling perspectives, and looking after the operations performed by the three (above mentioned) actors of the fish marketing system. Therefore, data were collected from the fishermen in Lake Tana, retailers (bringing the fish from the production area to the market), and consumers in the terminal market (Addis Ababa) specifically, Piazza, Bole and Merkato, being considered for the purpose of the study, in order to assess the performance of the system and by describing the practices and problems across the fish marketing system from the point of production till consumption. A total of 225 respondents, constituting producers (31), retailers (56) and consumers (138) were selected, by using cluster and convenient sampling techniques, to take part in the study. For the purpose of primary data collection, two self administered questionnaires were designed and distributed to the respondent retailers and consumers; however, the researcher administered another category of questionnaire developed for fish producers from the Lake Tana, by himself, as many of the participants were illiterate. The reported instruments were prepared both in English and the local language (Amharic), to be filled by the respondents in the language preferable to them. Once the data collection stage was over, collected responses were organized in the form of tables and graphs, by using percentage, average scores, standard deviations, and Chi-square analysis. Though, the interview data were interpreted into meaningful facts, highlighting the problems associated with poor performance of exchange and physical functions by the producers and retailers, lack of cooperation among fishermen, and no access to timely information about the demand and price of fish in the market, on the part of fishermen from Lake Tana. Altogether, these factors appeared to be making the fish originated from Lake Tana inferior in quality, expensive in comparison to the fish from other lakes, and unfair prices obtained by the producers.

CHAPTER ONE

1. INTRODUCTION

This chapter draws an outline of the research work, while providing a general introduction and background of the study, statement of the problem, research objectives, significance, scope and limitation of the study, operational definitions and organization of the paper are addressed.

1.1 Background of the Study

Fishing is a primary economic activity that involves gathering or harvesting of fish resources from nature. It is known to be one of the oldest human activities still fishing is widely spread economic activity both in primitive and modern societies. Fish has been the world's major commodity traded for more than a thousand years and has influenced living conditions for just as long (Kaplinsky, 2000). Trade in seafood products has continued to increase over the past two decades from an average of 35% between 1984 and 1994 to an annual average of 37% of world catch between 1995 and 2003 (Gudmundsson, 2006). In 2003, fish was a source of protein for about 2.6 billion people and constituted about 16% of animal protein (FAO, 2004). The first level sale value of fish catch amounted to around US$ 78 billion, while about 50 million tones of fish and Fishery products entered the global trade, with an estimated value of US $ 58.2 billion (FAO, 2004, p. 4). According to the report of FAO (2006, p.56), capture fisheries has grown at a rate of 2.6% since 1990 supporting livelihoods of 100-200 million people directly or indirectly, ninety percent of them living in developing countries.

The world population is on the rise, as the demand for aquatic food products. Production from capture fisheries at the global level is leveling off and most of the main fishing areas have reached their maximum potential sustaining fish supplies from capture fisheries will therefore, not be able to meet the growing global demand for aquatic food (FAO, 2006, p. 41).

At present the aquaculture sector contribute a little over 40 million tones (excluding aquatic plants) to the world aquatic food production according to recent FAO predictions, in order to maintain the current level of per capital consumption at the minimum, global aquaculture production should reach 80 million tones by 2050. Aquaculture has a great potential to meet this

increasing demand for aquatic food in most regions of the world. However, in order to achieve this sector (aqua farmers) and fish marketing actors will face significant challenges in the production and marketing activities.

There are over 22,000 species of fish and the United Nations Food and Agriculture Organization monitors commercial harvest of slightly over 11000 species. Total world aquaculture amounted to some 54,786,000 tones, to which Africa as a whole contributed 531,000 (0.0097%) the SSA contributions of 72,334 tones to the Africa total mere 13.6% or 0.14% of the world totals.

The total Ethiopian potential fish yield calculated from the surface area for major lakes is estimated at 60,000 tones per year. There are around 101 species of fish available in the country, 25 of theme are commercial fish species in Ethiopian lakes have high promising potential for the development of potential fish industry. According to the data collected by BOARD the annual catch from Lake Tana is estimated at around 15,000t the above figure shows the African countries in general and Ethiopia in particular are not utilizing fish resource effectively and the resource is not properly marketed.

According to the report FAO Fishery (2003), In Ethiopia fish products are offered for consumption in the form of fresh fish, packed fish and in other methods. From overall production of fish in the country 73% is in the form of fresh fish, 26% is in the form of frozen fish and the remaining in other ways to consume fish and fish products. Consumption of fish and fish products in Ethiopia is not developed well. Most of the time frequent users are those who lived around lakes and rivers. The societies have a little knowledge about fish products as a source of food. Further more the society can not afford to buy fish products because of high cost of living as related to price of fish products.

This research is essential to assess the marketing system for the fish originated from Lake Tana since; Lake Tana is the biggest lake in the country by its fish potential, and by assuming that understanding the current fish marketing system is essential to identify the major root causes in the current problems in the fish marketing system of the fish originated from Lake Tana.

According to Kohls and Uhl (1990), the Fish marketing in particular and agricultural marketing in general is a system. A system is a complex of interrelated component parts or sub-systems which have a defined common goal. Thus, an agricultural/aquaculture and food marketing system

comprises all of the functions, and agencies who perform those activities, that are necessary in order to profitably exploit opportunities in the marketplace each of the components, or sub-systems, is independent of one another but a change in any one of them impacts on the others as well as upon the system as a whole. Therefore, such a marketing system may assume to be consisting of production, distribution and consumption, as main organs.

1.1.1 Aquaculture in Ethiopia

Aquaculture is still virtually non-existent in Ethiopia, despite favorable physical conditions. The high central Plateau above 2 500 m (11% of total area) could be appropriate for all year round farming of cold water species the surrounding and central Highlands present temperature characteristics favorable to the breeding of a large number of species, from cold water to warm water fish. In addition, the temperature conditions are remarkably stable as compared to European so-called "temperate climates" and give a great scope for cultivating a large range of species in very good conditions.

The lowlands (33% of total area) offer ideal temperature conditions for warm water species such as tilapine, but are unfortunately water-deficient zones, with a long dry season susceptible to drought. Soils are also generally sandy and not germane for pond construction. Water storage microdams could however be employed for fish breeding.

Among local species found in the country, species known as having a good breeding potential are Oreochromis niloticus, Sarotherodon gallileus, Heterotis niloticus, Clarias lazera and Clarias mossambicus. As from 1936, non-indigenous fish species were also introduced for game fishing, improvement of local stocks and control of weeds and disease vectors. Rainbow trout was introduced in 1973-1974 into the rivers Sibilo, Chacha, Beressa and Mugar and into the lake Wonchi, while common carp (Cyprinus carpio), crucian carp (Carassius carassius) and Tilapia zillii have been introduced into lakes for stock improvement (Fish Base, 2004).

1.1.2 Importance of Aquaculture to Ethiopia

Aquaculture is recognized as an alternative means of achieving food security and poverty reduction in the rural area, and is now considered an integral part of rural and agricultural

development policies and strategies. However, much remains to build institutional capacity in the areas of research, technology and training, which will requires external assistance.

1.1.3 Fish production: Main sources, species and volumes

Following Eritrea's secession from Ethiopia in 1993 and the consequent loss of its coastline, Ethiopia has only inland freshwater capture fisheries. It has no significant aquaculture development. The inland capture fishery comprises: Rift Valley lakes (for example, lakes Chamo, Abaya and Ziway and the northern part of Lake Turkana) and Lake Tana, which although shallow, is the largest lake in Ethiopia; rivers; and small water bodies (reservoirs, natural ponds). There is fishing on all these water bodies, but commercial production (i.e. serving markets other than the local communities) is concentrated on the five lakes, with Chamo, Ziway and Tana particularly dominant. The main species are Nile tilapia, representing 60% of the catch, (FAO, 2004), Nile perch (favoured but increasingly scarce), barbus (two species) and catfish.

1.1.4 Geographical Location and Area of Lake Tana

Lake Tana is Ethiopia's largest Lake Located in Amhara Region and the source of the Blue Nile. It is a shallow lake, not exceeding 14 meters in depth. With recent improvements in the road system, Bahir Dar, the main town on the lake in the extreme south, can be reached by tarmac road from Addis Ababa in about 9 hours. From Bahir Dar, there is a tarmac road to Gondar, running north to the east of the lake, 3–7 kilometers inland, making this side of the lake relatively accessible. (From this road there is also one tarmac spur to the lake, from Meksenyt).The rest of the lake is served by dirt roads (many of which are not passable by vehicles during the rainy season), a ferry from Bahir Dar serving the western and northern shore villages, and informal boat transport.

1.2 Statement of the Problem

Ethiopia is one of the east African countries which have a huge potential for fisheries but the actual fish marketing of a country is still in an infant stage even if it is compared from other sub-Saharan countries (International Livestock Research Institute, 2007).

Lake Tana is the major fish production area and which is also the biggest lake in the country. The annual catch of the Lake accounts only 1,000 tones from the total production capacity of Lake Tana the total capacity is 15,000 tones annually (Sewmehon et al., 2007).

On the other hand, both in international and local market demand for fish is high for this the evidence is that the countries import for fish and fish products is higher than that of export and the FAO estimates also show as there is high demand for fish products at the international level this indicates that even if the countries production potential is very high and the current production still can not satisfy the local market demand whether in quality or quantity or both.

Agricultural marketing in general and fish marketing in particular is a system which starts from producing a salable farm commodities and the existence of effective marketing system plays a vital role for the effective utilization of the countries fish resources.

Fish marketing in particular and agricultural marketing in general as a system is consisting of four main marketing domains production, distribution, consumption and regulatory and the key players in the chain that connect food and agriculture are the farmers (producers such as fishermen), intermediaries, the food processors and the consumers. In practice they each see the agricultural (food marketing system from perspective of self interest and those interests are sometimes in conflict.

The farmer's interest is focused on getting the best return from his produce which usually equates to maximum price for unlimited quantities producers (processors) want least cost, best quality produce from the farmers (fishermen) so that they can sell it at competitive, but profitable price traders and retailers want high quality and reliable supplies from the farmer at the most competitive prices and consumers are interested in obtaining high quality product at low price (FAO, 2007, p. 5) this conflict of interest makes all the market actors in the system in need of seeking best quality and each member or actors of the system is expected to be competitive to fulfill the interest of all actors in the system.

According to the report of International Livestock Research Institute (2007, p. 33), report there are some problems in the fish marketing system for the fish originated from lake Tana these problems includes the following:

- The fish originated from Lake Tana has inferior quality.
- The fish originated from Lake Tana is expensive than the fish originated from other parts of the country.
- The producer's price is low or they are not direct beneficiaries from their produce.

1.3 Research Questions

The study tries to answer certain important questions that help to solve the problems associated with marketing system of the fish originated from Lake Tana.

- What are the major causes associated with marketing system that make the quality of fish originated from Lake Tana inferior to others?
- Is the fish originated from Lake Tana expensive?
- Why the producers are unable to get a fair price for their produce originated from Lake Tana?

1.4 Objectives of the Study

1.4.1 General Objective

The general objective of the study is to describe the marketing system for the fish originated from Lake Tana by assessing the functional areas in the system and the constraints or challenges of the major fish marketing actors.

1.4.2 Specific Objectives

The specific objectives of the research include:

- To identify the different actors participates in the marketing system of fish originated from Lake Tana and the challenges that those actors are facing.
- To review the practice of exchange function which includes the buying and selling in the marketing system for the fish originated from Lake Tana.

- To assess the performance of physical functions i.e. the storage, processing and transportation and their effects on the marketing system.

1.5 Scope and Limitations of the Study

The study assess the three major market actors the Fishermen, Retailers, consumers and it tries to identify the major reasons for the problems in the system. The study covers two places to collect information from the producers the data were collected from the production place from Lake Tana and the data from consumers and fish retailers were collected from Addis Ababa three areas namely Bole, Piazza and Merkato areas because those three areas are the major fish market centers in Addis Ababa.

The researcher doesn't believe that the study is totally free from all sorts of limitations. The major limitations of this study are unavailability of relevant references on agricultural marketing particularly on fish marketing and lack of cooperation on the side of some respondents in filling and returning the questionnaire on time. In addition, to these the very big constraint during the research period was shortage of time and finance.

1.6 Significance of the Study

This study will help to show and analyze the current fish marketing system for the fish originated from Lake Tana. Hence, the study believed to give the following benefits.

- It provides information on the actual marketing system for the fish originated from Lake Tana.
- It will help the major market actors to recognize their weakness.
- It can be used as an input to policy makers.
- In addition to the above advantages the study will give hint for the coming researchers who want to carry out another study similar to this one.

1.7 Organization of the Study

With the scope of the study as elicited above the study is organized systematically to elucidate the facts in the most comprehensive manner. The entire report contain five chapter organized as follows chapter one incorporate an introduction consisting of background the study, statement of the problem, objective, scope and limitation of the study and significance of the study. Chapter Two contains the review of related literature. Chapter Three explain the methodology used to conduct the study which incorporates the type and source of data, the sample size, the sampling technique the methodology of data analysis used in the study. Chapter Four here, the chapter include the result and discussions of the study. The data collected were analyzed using the data analysis tools chapter Five: in this chapter the summary, conclusion and the possible recommendations made based on the findings obtained is included.

1.8 Operational Definitions

Terminal Market: A terminal market is a market where the produce is either finally disposed of to the consumers or to the processor or assembled for export. In these markets, merchants are well organized and use modern method of marketing (Krishnamoorthy, 2009).

Marketing cooperative: - A marketing cooperative is a business organization owned by farmers to collectively sell their products. It allows producers to accomplish collectively functions they could not achieve on their own (Mark and Kenedy, 1998).

CHAPTER TWO

LITERATURE REVIEW

This section provides an understanding of fish marketing system and functions associated to that including product quality, price and margins. Therefore, the section presents a theoretical review with an aim to provide a relevant insight into the related literature and findings revealed by the researchers in the subject area.

2. Marketing System

The marketing system is composed of the interrelated and interdependent functions or activities performed by different participants in order to fulfill the needs and wants of individuals or groups through exchange by which the decision of one market participant have its own impact on others. The marketing system is characterized by two important roles the first one is the physical distribution by receiving the produce from the producer directly or from other channel member and distribute to the next channel member or to the final consumers or users. During the time of distribution and before the produce is ready for physical distribution it needs proper handling so, handling also is one of the activity performed by members in the marketing system during the physical distribution. The other role of the marketing system is the economic role which includes facilitating the exchange between buyers and sellers and adding value to the produce. (Kotler and Kevin, 2006).

2.1 Agricultural Marketing

Agricultural marketing comprises of all the operations involved in the movement of food and raw materials from the place of production to the place of consumption it includes handling of products at the farm, initial processing, grading and packaging in order to maintain and enhance the quality and avoid wastage. It is the study of all activities, agencies and policies involved in the movement of agricultural produce from the farms to the consumers. Agricultural commodities have special characteristics and therefore marketing of agricultural commodities is different from marketing of manufactured goods. (Krishnamoorthy, 2009)

2.2 Marketing Systems for Agricultural Commodities

According to FAO (1997, p.4), Agricultural commodity marketing system encompasses all the participants in the production, processing and marketing of an undifferentiated or unbranded farm product (such as fish), including farm input suppliers, farmers, storage operators, processors, wholesalers and retailers involved in the flow of the commodity from initial inputs to the final consumer. The commodity marketing system also includes all the institutions and arrangements that affect and coordinate the stages of a commodity flow such as the government and its parastatals, trade associations, financial partners, transport groups and educational organizations related to the commodity. The system framework includes the major linkages that hold the system together such as transportation, coordination, vertical integration, joint ventures, tripartite marketing arrangements, and financial arrangements. The systems approach emphasizes the interdependence and inters relatedness of all aspects of agribusiness, namely: from farm input supply to the growing, assembling, storage, processing, distribution and ultimate consumption of the product.

2.2.1 Agricultural Marketing Sub-System

According to Rosson (1974), food and agriculture are connected by key market actors in the agricultural marketing system those key actors includes the producers, intermediaries, food processing firms and consumers. In order to call the agricultural marketing system as a system the author(1974) further explain that the system comprises of four main domains starting from production of the produce because agricultural marketing starts from producing saleable farm commodities (Krishnammorthy, 2009, p.221) distribution of the produce, consumption and regulatory activities are also the domains of agricultural marketing system.

Understanding about the marketing system is essential due to different reasons FAO (1997, p.7), states that an efficient and organized marketing system is necessary to enable producers to realize a just price for their exploitation by middlemen, commission agents and traders. As Kriseberg (1974), in his study shows that well organized and efficient marketing system make the producers able to get a fair price by reducing unfair margin distribution which goes into middlemen, commission agents and traders. The author (1974), also recommend that providing better facilities, and basic infrastructure improves the economic condition of the farmers and can

protect them from the influence of traders in order to realize the need of efficient marketing system.

2.2.2 The Agricultural Marketing System in Practice

FAO (1997, p.14), all players in the system see the agricultural/ food marketing systems from a perspective of self-interest and those interests are sometimes in conflict. The farmers interest is focused on getting the best return from his produce, which usually equates to maximum price for unlimited quantities manufacturers (producers) want least cost, best quality produce from the farmer so that they can sell it at competitive, but profitable, price. Traders and retailers want high quality and reliable supplies from the manufacturer or farmer, at the most competitive price and Consumers are also interested in obtaining high quality product at low price.

2.3 Distinguishing Nature of Fish Marketing

Like any other perishable agricultural products fish is sensitive to various factors both at production and distribution process. Maintenance of appropriate temperature in the distribution process needs especial emphasis to keep the quality of the product intact. This in turn necessitates continuous and uninterrupted cooling facilities for transportation and warehousing. Moreover, transportation operation need to be rapid in order to extend perish ability limits of the products if these facilities are not adequately furnished, there would be tremendous financial loss that emanated from volume and quality deterioration there should also be strongly integrated logistics system along the channel members from the point of production to consumer hands. As clearly shown by Kohl and Uhl (2002) "sell it or smell it" the motto in perishable products.

2.4 Functions of Agricultural Marketing System

Marketing function studies marketing in terms of the various activities that are performed in getting farm product from the producer to the consumer. These activities are called functions (Cramers and Jensen, 1982). According to Saccomandi (1998), functions can be classified based on objectives: logistical, marketing and economic objectives. Logistical functions are related to the concentration, transport and preservation of products. Marketing functions are dedicated to classification, packaging, development of demand and market information. Economic functions include financing, risk bearing and facilitation of exchange.

Marketing of agricultural products consists primarily of moving products from production sites to points of final consumption. In this regard, the market performs exchange functions as well as physical and facilitating functions. The exchange function involves buying, selling and pricing. Transportation, product transformation and storage are physical functions, while financing, risk bearing and marketing information facilitating marketing (Branson and Norvell, 1983). Goetz and Weber (1986), stated dimensions before a commodity are available to the urban consumer to include: the temporal, spatial and form dimensions. The temporal dimension is regarding the storage and providing reliable supply, the spatial dimension regards the transport of the produce from point of production to urban centers, and the form dimension discloses the processing, labeling, packaging, sorting and cleaning activities before the product arrive at the final consumer. A clear understanding of marketing function with an investigation of strengths and weakness help where to improve the marketing system. The level of functions could differ from product to product.

Kohls and Uhl (1990, p.19), also classified the functions involved in agricultural and food marketing and process as under three sets of functions of a marketing system which are exchange function, physical function and facilitating functions. Each of these functions adds value to the product and they require inputs, so they incur costs. As long as the value added to the product is positive, most firms or entrepreneurs will find it profitable to compete to supply the service.

2.4.1 Exchange Functions

Kohls and Uhl (1990, p.21), states that the exchange functions are those activities involved in the transfer of title to goods. The exchanges functions represent the point at which the issue of price determination becomes vary important, these functions are expressed at least partially as a price, being placed on the goods. Both having and selling functions have as their primary objective the negotiation of favorable terms or exchange. In other words exchange function includes buying (assembling) and selling functions.

2.4.1.1 Buying (Assembling) Function

According to Krishnamoorthy (2009, p. 223), the buying function is largely one of seeking out the source of supply, assembling the products, and performing the activities associated with

purchase. This function involves collecting and bringing together goods of the same type from various sources or places of supply at a central place.

The task of assembling function extends from collecting of the produce from large number of farmers which are located in geographically scattered areas that produces in smaller quantities and then brings to the central place for selling.

The assembling function as it is the most important activity in the exchange function many intermediaries participate in the process. Generally when Krishnamoorthy (2009, p. 227), states that these functions involve the assembling of raw product into the hand of other middlemen to achieve the sole purpose of meeting the demands of final consumer.

2.4.1.2 Selling Function

FAO (1997, p. 8), states that the selling function must be broadly interpreted it is more than merely passively accepting the price offered. In this function can be grouped all the various activities that sometimes are called merchandising most of the physical arrangements of display of goods are grouped here, advertising and other promotional devices to influence or create demands are also part of the selling function. In addition to those activities the selling function covers the decision as to the proper packages, and selection of the best marketing channel. Krishnamoorthy (2009, p. 223), also defines the selling function involves identification of different categories of consumers, understanding their needs and wants and supplying the produce to meet their requirements and collecting money for the produce sold

2.4.2 Physical Functions

According to the definition of FAO (1997, p. 8), the physical functions are those activities that involve handling, movement and physical change of the actual commodity itself that helps to solve the problems of when, what, and where in marketing technically, the physical functions includes transportation, storage and processing functions and all these functions adds value to the product.

2.4.2.1 Storage Function

Storage is one of the physical functions as FAO (1997, p. 9), states that the storage function is primarily concerned with making goods available at the desired time by preserving the quality of the product.

- **Types of Storage for Agricultural Commodities**

According to Krishnamoorthy (2009, p. 247), there are three types of storage or warehouses that used to store different agricultural commodities. These are general warehouse, special commodity warehouse and refrigerated warehouses.

A. General warehouses: - that used for storing food grains
B. Special commodity ware: are especially constructed for storage of commodities like cotton and tobacco.
C. Refrigerated warehoused are meant for storage of perishable products like fish, fruit vegetables etc that have shorter life time due to their nature of easily spoiled.

Based on the classification of Krishnamoorthy (2009), the type of storage for fish and other perishable products is refrigerated warehouses in the retail store and refrigerated trucks at the time of transportation. IIR (2009), also recommends that refrigerated transport and refrigeration in retail outlets plays a vital role for transporting perishable products like fish from the landing site into the final market and in the retail outlet by extending the shelf life of the products and it reduce spoilage if it is properly functioning without an interruption.

2.4.2.2 Transportation Function

According to FAO (1997, p. 9), transportation function is primarily concerned with making goods available at the proper place. Transportation function generally includes weighing alternative routs and types of transportation as they might affect transportation costs. It also includes activities involved in preparation for shipment, such as crating and loading.

Ajiboye and Ayantoyinbo (2009), also states that transport is regarded as a crucial factor in improving agricultural productivity by creating market for agricultural produce and by reducing spoilage and wastage.

According to Krishnamoorthy (2009, p. 197), right transport at the right time is essential for the smooth functioning of any market and the marketing possibilities of perishable commodities like fish depends very largely on the rapidity with which they can be transported to the market place without damage.

In addition to these when this author (2009) states that the cost of transport directly affect the price of the agricultural produce all involved in agricultural marketing i.e. the farmer, the trader and the consumer.

Transportation to Perishable Products

According to Luis (2008), perishable food products such as meat or fish require refrigerated transport and cooling is essential to avoid deterioration and market loss. The quality of these products might change rapidly because they are submitted to a variety of risks during transport and storage that are responsible for material quality loss so, perishable products should be transported by refrigerated transport in order to keep the quality of the product.

2.4.2.3 Processing Function

FAO (1997), states that the processing function is sometimes not included in a list of marketing functions because it is essentially a form-changing activity however, in the broad view of agricultural marketing activity cannot be omitted. The processing function would include all those essentially manufacturing activities that change the basic form of the product, such as converting fish into canned frozen product.

According to Kohls and Uhls (1990), most agricultural commodities including fish are not in a form suitable for direct delivery to the consumer when it is first harvested rather it needs to be changed in some way before it can be used. Processing technique helps to change the form of products and helps to increase the shelf life of the fish these includes smoking/roast, sun drying, dried/salted and canned.

In addition to these as FAO (1997, p. 9), states that products purchased by consumers are often different in form from the original raw material purchased at the farm gate. Moreover, processing operations may create by-products that are have a value of their own these by products are not of course, part of the reference product and therefore have value to be excluded from calculations of the marketing costs attached to the reference product.

2.4.3 Facilitating Functions:

According to FAO (1997, p. 9), the facilitating functions are those that make possible the smooth performance of the exchange and physical functions. These activities are not directly involved in either the exchange or physical handling of products. However, without them the modern marketing system would not be possible. They might aptly be called the grease that makes the wheels of the marketing machine go round.

2.4.3.1 Standardization

Krishnamoorthy (2009, p. 291), also further explains that standardization involves the process of fixing certain norms for the product these norms are established by customs or tradition or by certain authority. It involves determination of basic characteristics of a product on the basis of which the product can be divided into various groups. It also means determining the standards of products to be produced with regard to size, color, form, weight, shape and quality. This function simplifies buying and selling, because it makes the sale by sample and description possible. It, therefore, is one of the activities that make possible mass selling, which is so important to modern economy.

According to FAO (1997, p. 11), effective standardization is basic to an efficient pricing process. A consumer-directed system assumes that the consumers will make their wants known to producers through price differentials. These differentials must then be passed back through the marketing channel so that marketing agencies and producers can know what is wanted. Only if a commodity is traded in well defined units of quality and quantity can a price quotation do this job effectively. Standardization also simplifies the concentration process, because it permits the grouping of similar lots of commodities early in movement from the producing points.

2.4.3.2 Market Information

According to Krishnamoorthy (2009, p. 293), an efficient marketing can not operate in an information vacuum to decide on how much to pay for commodities or what kind of pricing policy to use to sell require knowledge about the market. Market information in agricultural marketing system is necessary to know about profitable storage programs, an efficient

transportation service, an adequate standardization program and knowledge about the price of similar products that have the same purpose.

FAO (2004), also suggest that establishing price information system for agricultural products in major consumption areas empowers producer by increasing their bargaining power.

2.5 Product Quality

According to Kotler and Keller (2009) "Quality is the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs". And higher level of quality results in higher levels of customer satisfaction which support higher prices and often lower costs.

2.5.1 Agricultural Product Quality

According to FAO (1997), p. 297, quality is many things to different peoples who participate in agricultural marketing system it has different meaning and interpretation to consumers, processors, retailers and food service providers.

2.5.1.1 Fish Quality

According to Dave (2009), quality of fish can be assessed by its general appearance (skin, blood spot on gill cover, fitness, belly and smell), texture, eating quality, shelf life, chemical constituents, fat content, color and pigment, shape, fines, eye clarity and shape, gills color and smell.

2.5.1.1.1 Factors Affecting Fish Quality

The quality of fish is highly affected by physical factors during the post harvest activity. According to FAO (1997, p. 306), the quality of fish is affected by the quality of infrastructure facilities in the post harvest activity. These facilities include landing site facilities, such as washing platform, water supplies, covered weighting and selling sheds, drying slabs and racks, smoking kilns etc in the production area and well equipped transportation vehicle that able to transport the fish without spoilage and the storage facilities in the retail outlets highly affect the quality of fish. Equipment and installation improvements has often been undertaken to promote product quality.

2.5.1.1.2 The Effect of Storage on Fish Quality

According to IIR (2009), refrigeration storage plays a vital role in food safety and spoilage reduction. It reduces the rate of many undesirable chemical and physiological reactions that reduce quality. It also enables products to be preserved over much longer period and is less sensitive to minor temperature fluctuations.

IIR also recommends that the setting up of cold chain for perishable foodstuffs that are as extensive and reliable as those in industrialized countries would enable developing countries to raise food supply by about 15% by reducing post harvest losses.

2.5.1.1.3 The Effect of Transportation on Fish Quality

As Luis (2009), states that well equipped or transportation assures the fast delivery of products and the most important contribution of transportation to the fish quality if it is refrigerated (insulated truck) type of transport system reduces the probability of spoilage during transportation period. In addition to these the availability of the right type of transport at the right time highly affect the product quality which means if there is no any transport or if the farmers do not have their own transport they may not get the service at the right time the implication of these on the product quality is it will be spoiled on the farmers hand before it reaches into the hand of the consumers. Generally, equally with the absence of well equipped transport delay highly affect the product quality.

2.5.1.1.4 The Effect of Processing on the Fish Quality

As FAO fishery (2009), states that at retail market a consignment of processed fish can be retailed over several days without much loss in quality whereas fresh fish has got to be sold on the same day because since most markets are not equipped with proper cold storage facilities due to this the processing extend the shelf life of the fish in addition to increase the attractiveness of the fish.

2.5.1.1.5 The Effect of Post Harvest Activities on Fish Quality

According to FAO the post harvest activities refers to activities that can be done after harvesting of the fish in order to enhance the quality of the product before it reaches into the hand of the

final user this activities in the fishing includes different fish preservation activities such as smoking, salting, drying and freezing mainly onshore activities undertaken by men and women including family and industrial enterprises.

All these activities have their own important role in order to preserve the quality of fish for a longer time but the shelf life of the fish is varied by each method of the post harvesting method for instance the shelf life of smoked fish is 14 days which means smoked fish can stay up to 14 days without spoilage.

2.6 Assessing the Performance of a Marketing System

FAO (1997, p. 284), states that the performance of a marketing system could be evaluated in terms of how well the agricultural and food marketing system performs what the society and the market of it. However, it soon becomes apparent that marketing system has multiple and often conflicting goals. Compromises and trade offs will be necessary if the various participants in the marketing system are to satisfied for this research purpose it is enough to consider the perspective of three participants in the system farmer, distributors/retailers and consumers. The farmer's criteria to assess the performance of the system might include the capacity of intermediaries to exert undue on prices; the extent of competition in the sectors supplying farm inputs and accessibility of infrastructure at reasonable cost (e.g. suitable storage and transportation). The distributors/retailers criteria might be getting high quality and reliable supplies from the farmers or manufacturer at the competitive but profitable price and the consumers criteria to evaluate the performance of the system might include in terms of its performance in avoiding high and fluctuating prices, shortages in supply consistency in delivering products or produce in terms of the quality of produce. Based on these perspectives FAO (1997, p. 286), states that there are several contrasting measures which are commonly used in assessing the performance of a marketing system. These are the farmers/growers share of the retail price paid by the end user or consumer the gross marketing margin or farm retail price spread and the proportion of a consumers income which a marketing system performance is evaluated the term most commonly used are efficiency and effectiveness these two things are not one and the same thing. According to David J. (2004), efficiency is concerned with inputs and outputs. An efficient producer produces goods economically it does things right the benefit is

that the cost per unit of output is low and, therefore, the potential for offering low prices to gain market share or charging medium to high price and achieving high profit margins is present.

2.6.1 Marketing Efficiency

According to Kriesberg (1974), a marketing system can be effective without being efficient and increased efficiency is in the best interest of the farmers, traders, processors, wholesalers, retailers, consumers and society as a whole. The efficiency of a marketing system is measured in terms of the level and or costs to the system of the inputs to achieve a given level and or costs to the system of the inputs. To achieve a given level and quality o f output such inputs are generally in the form of land, finance, time, manpower and materials when evaluating any marketing change intended to improve marketing efficiency both cost reductions and customer utility must be considered.

2.6.2 Pricing Efficiency

As Gross (1983), states that the best measure of the satisfaction output of the marketing system is the price that consumes will pay in the market place for the produce. Pricing efficiency also achieved by efficient resource allocation he (1983) also tries to relate pricing efficiency with competitiveness based on the assumption that competitive markets are efficient and pricing efficiency is concerned with the ability of the marketing system to coordinate the entire agricultural food production and marketing process in accordance with consumer directives.

Kriesberg (1974), also says that the usefulness of pricing efficiency measures in evaluating any marketing system depends upon four conditions.

- That customer has alternatives from which to choose in the marketplace. In other words, the measure has little relevance to situations where there is an effective monopoly.
- The prices of alternatives adequately reflect the costs of providing them that is, there are no subsidies hidden or otherwise for competitive products.
- Organizations must be free to enter or leave the market.
- There must be competition between those in the marketplace.

Theory suggests that if markets are operating efficiently then prices of a given product will be related over space and time, and between forms. Prices should only differ between geographic

areas of a country by transportation costs from one point to another. Similarly, the price of storable products at one point in time should not exceed the price in a previous period in time by more than the cost of storage. And, again, the price of a processed product should not exceed the price of the unprocessed equivalent by more than the cost of processing. Advocates of the pricing efficiency concept believe that prices which do not reflect the costs of marketing services are clues to functional deficiencies, chief among them being monopolistic power but an expensive service will naturally lead to low farm gate prices (the net price the farmer receives from selling his produce).

2.6.3 Identifying Marketing Costs and Margins

Marketing costs are different from cost of productions these costs incurred in between the activities performed by different market actors' effort to move the product from the landing site to the assembling market and to the final market (FAO, 1997, p. 288). Marketing costs includes labor, transport, handling, packaging, container and rent, utilities, selling expenses, depreciation allowances and interest charges. These costs are unavoidable costs whether the produce is moved by farmers itself intermediaries, cooperatives, marketing boards, wholesalers or retailers.

Marketing costs vary from commodity to commodity and product to product the difference of the marketing costs for different commodities arises due to different factors. These factors includes if the product is more perishable the greater the marketing cost because it needs additional expenses to extend the shelf life of the produce. If the produce needs more processing it also increases the marketing cost. In addition to these the greater the amount of the produce handling and transportation there will be the greater the marketing costs. Besides these factors marketing cost can increase if the marketing services improved due to the development of the country and the improvement on the standard of living because in this situation consumers starts to seek more improved marketing services and they are willing to expend smaller proportions are spent on additional and improved services, generally, all the above four factors that contributes for the variation of the marketing costs of different agricultural commodities.

The two approaches to measure marketing performance are: marketing margin and the analysis of market channel efficiency. A large number of studies have analyzed the marketing margins for different types of commodities to examine the performance of agricultural products marketing (e.g, Wohlengenant and Mullen, 1987); (Schroeter and Azlam, 1995); (Holt, 1993) and (Sexton, Zharg and Chalfant, 2005 as cited on Jema, 2008), argued that even though variations in the

margin over time might be attributable to marginal marketing costs under perfect computation, additional factors such as seasonality, technological changes, and sales volume may also explain the variations in the margin.

Marketing margin is most commonly used to refer to the difference between producer and consumer prices of an equivalent quantity and quality of a commodity. However, it may also describe price differences between other points in the marketing chain, for example between producer and wholesale, wholesale and retail prices (Scarborough and kydd, 1992). The size of marketing margins is largely dependent upon a combination of the quality and quantity of marketing services, and the efficiency with which they are undertaken and priced. The quality and quantity of marketing services depends on supply and demand of marketing services and/or the degree of competition in the market place.

When there are several participants in the marketing chain, the margin is calculated by finding the price variations at different segments and by comparing them with the final price to the consumer. The consumer price is then the base or the common denominator for all marketing margins. Comparing the total gross marketing margin is always related to the final price or the price paid by the end consumer and then expressed as a percentage (Mendoza, 1995).

To know whether margins are reasonable or not it is necessary to understand the nature and composition of marketing costs because unreasonable margin result in unreasonable price rise.FAO (1997, p. 289), also states that the margin must cover the cost involved in transferring the produce from one stage to the next and provide a reasonable return to those doing the marketing chain and the extent to which the product is stored or processed which means if the marketing chain is too long it is clear that as the margin will increase because each middlemen adds their margins and other determinants of the total margin is the extent to which the product is stored or processed.

FAO (1997), states that when calculating marketing costs and margins there are two phenomena that can confound the estimations: product losses, or shrinkage, and the value of by-products.

Shrinkage: During the marketing process some of the produce will be lost, stolen, spoilt or otherwise wasted so that more than 1 kg of produce is required at the beginning of a marketing stage to provide a consumer with 1 kg of the reference product. This is termed shrinkage. Sometimes the amount of shrinkage at each stage of the marketing process may seem trivial, or difficult to measure, but if it is ignored it could seriously distort the assessment of the efficiency

of the marketing process. The causes of losses are many and varied: among these physical losses is the most important one which is due to poor harvesting techniques and bad handling on the farm (bruising, exposure to the sun) can mean that much damage has been done even before the produce is sold to the trader; when truckers are paid on a 'per piece' basis, farmers and traders try to squeeze as much as possible into the package and this can be a false economy as the loss resulting from the damage caused can exceed the savings in transport costs. Produce can be damaged in transit, by the constant shaking on bumpy roads, by exposure to sun on top of a bus, by high temperatures inside a truck or other vehicle (if a truck breaks down and has to sit at the side of the road for two or three days the entire consignment could not be sold). Delays and bad handling at the wholesale market can make things worse. Sometimes, for example, produce which has been well packed by the farmer or the trader is simply thrown onto a heap on the floor of the wholesaler's premises, causing further bruising and damage

2.6.3.1 The Effect of Transportation Cost on the Systems Performance

Transportation for agricultural commodities in general and perishable products in particular plays a vital role in the performance of agricultural marketing system equally with its benefits it has its own cost and it is also one of the major marketing cost. The cost of transportation can incurred by the farmers or traders in the process of moving the produce from the farm gate into the assembling center and after the produce reach into the hand of traders they move the produce down the marketing chain to the consumer in both situations if there is a movement of produce there is the cost of transportation (FAO, 1997, p. 299).

Transport cost can be incurred in two ways directly or indirectly in the former situation farmers or traders directly pays to truck owners or in some case, boat owner on a per piece basis in other cases, transport costs are indirect as when the trader, or even the farmer, owns and operates his own vehicles the cost of fuel, the drivers salary and allowance and other maintenance of the truck will be calculated as a cost of transport.

In addition to these Krishnamoorthy (2009), states that the cost of transport directly affects the price of agricultural produce. The implication of these costs is it increases the price inefficiency and finally results in the poor performance of the system. Generally, changes in transport costs will be passed to farmers and not go to transporters, food wholesalers and retailers or the final

urban consumers. Competitive transport and food marketing is required to ensure that the benefits from reductions in transport costs are passed on to farmers and to final consumers.

2.6.3.2 The Effect of Storage Costs on the Performance of the Systems

According to Kohls and Uhl (2002, p. 202), storage can be carried out by the farmer or marketing boards or by retailers in the retail outlets. In the case of more perishable products even if the storage can be used to extend for a short period the cost associated with the physical operation of the storage facilities including electricity, building and other utility and maintenance costs would be considered as a cost of storage in addition to this physical losses in storage need to be treated as costs in the way previously outline and quality losses are also inevitably and for the traders these are reflected in the price he or she receives.

2.6.3.3 The Effect of Processing Cost on the Systems Performance

As FAO (1997, p. 303), state that the cost of food products sold in retail store (supermarkets) is a very small proportion of the retail selling price, sometimes it can be less than ten percent of the retail price. More than ninety percent of retail price is the cost for processing and other marketing costs. In the similar study of the organization (1997) shows it is not possible to compare one kilogram of processed product sold to consumers due to product loss at the time of processing if the produce is not processed by the farmers itself.

2.7 Price

According to Kotler and Armstrong (2005), price is the amount of money charged for a product or service or the sum of the values that consumers exchange for the benefit of having or using the product or service. Price is the only element in the marketing mix that creates revenue, the other elements are costs. The price of a product must be determined in such a manner as to offer a reasonable amount of profit to the producer a reasonable remuneration to middlemen and maximum satisfaction to customers.

2.7.1 The Meaning of Price to Consumers

According to FAO (1997, p. 204), the price of a product or service conveys many diverse messages to consumers. Some consumers will see price as an indicator of product quality; others will perceive the price as a reflection of the scarcity value of the product or service; some others

will view price as a symbol of social status; and yet others will simply see price as a statement by the supplier about the value he/she places on the product or service. This being the case, consumers will perceive a given price in a variety of ways: as being too high or too low, as reflecting superior or inferior quality, as indicating ready availability or scarcity of supply, or as conveying high or low status.

Gross (1983), presents an interesting perspective on the meaning of price to consumers and marketers. His schema conceptualizes prices as having two components: the basic price and the premium price differential. It may, in practice, be an entirely fictional view of prices, but nonetheless it provides a useful conceptual framework for understanding both buyer and seller behavior with respect to price. The basic price is the amount buyers are assumed to be willing to pay for the core product and its associated benefits, the premium price differential represents the additional amount which buyers are willing to pay for the augmented product.

2.7.2 Price as an Indicator of Quality

According to FAO (1997, p. 206), in the absence of other information on which to base their judgment, consumers often take price to indicate the quality level of the product or service. Low prices can, in certain circumstances, prove as much a barrier to sales as prices which are too high. If the price is perceived to be too cheap then consumers begin to question whether it can be of adequate. In electing not to purchase the cheapest brand among competing products, consumer is seeking to avoid the risk of acquiring a product with a performance considered to be substandard.

Research by Stoetzel (1995), suggests that consumers do not set out to make a purchase with a particular price in mind which they consider to be the acceptable price. Rather, the consumer has a price band with an upper and lower limit.

2.7.3 Factors Influencing Agricultural Prices

According to Krishnamoorthy (2009, p. 147), the price of agricultural produce can be influenced by many factors these include:-

1. Uncertainty of supply the supply of agricultural produce depends upon agro climatic conditions and therefore they are inelastic to price fluctuation.
2. Financial problems the farmers are compelled to sell their produce even at a lower price to meet their commitments (household's expenses and creditors).

3. Perish ability of the product if the produce is perishable it has to be sold immediately at any price.
4. Superfluous middlemen there is huge difference between what the consumer pays and what the farmer receives for his produce as middlemen take away the profit. Middlemen at various levels in the value chain play a useful role in distributing fish supplies throughout the country however, there is evidence that the high number of middlemen cause the prices of fish to be high and barely affordable to consumers (Essuman, 1992). Products are processed at a considerable distance from where they are traded. Middlemen seek to keep information from producers, so that they can negotiate low prices to the producers, allowing for a disproportionately high mark-up by the middlemen. Nautilius (1997), has pointed out that the establishment of a central fish auction market would be a way of improving market efficiency and determining prices, thereby reducing the number of middlemen. This would also make the monitoring of price information easier, which, if made available to cured fish producers, would strengthen their bargaining position (Nautilius, 1997). A better understanding of the whole process by producers and joint ventures amongst producers and traders could be necessary to optimize the linkages within the value adding chain (Knútsson, 1996). This could lead to more effective distribution and a simpler value chain from fishing to marketing, which may have the added benefits of lowering costs in the long term. This could result in obtaining correct market information on time which could increase value creation (Knutson, 2000). This can also result in higher quality that meets consumer's needs and faster overall response time with better information flow between producers (Knútsson, 1996). For marketing to be more efficient in the rural markets the number of middlemen could be reduced at the village level. Village agricultural associations or co-operatives already exist in most villages could act as agents for producers, providing the services of marketing the produce on behalf of the producers. This could be in the form of joint ventures between fish producers and agriculture associations. In this case, without the interference of the middlemen the producer could increase his profit margin. Therefore, an improvement in the availability of fishery products to the consumers through the development and /or upgrading of rural markets is essential. This will help improve national marketing and distribution schemes from urban to rural areas.

5. Inadequate storage facilities in the absence of proper storage facilities to protect the produce from spoilage the producers are forced to sell their produce even at low prices
6. Improper weights and measures even today primitive weighing measures are used in the market to the disadvantage of the farmer.
7. Lack of adequate market information the farmers do not have access to the latest information on current prices and therefore they sell the product at low prices.
8. Lack of cooperation among producers or farmers.

According to Mark and Tracey (1998), Agricultural marketing cooperative allows producers to accomplish collectively functions they couldn't achieve on their own. Most agricultural producers have relatively little power or influence with large or food that purchase their commodities. Joining with other producers in a cooperative can give them greater power in the marketplace. In addition, cooperatives can give producers more control over their products as they make their way to consumers by allowing them to bypass one or more in the market channel. Farmers capture more of the returns that would otherwise go to others.

Agricultural marketing co-operatives provide different benefits to farmers those benefits includes:

i) To market the produce of the members of the society at fair prices;

ii) To safeguard the members from excessive marketing costs and malpractices.

ii) To make credit facilities available to the members against the security of the produce brought for sale.

iii) To make arrangements for the scientific storage of the member's produce. To provide the facilities of grading and market information which may help them to get a good price for their produce;

v). To introduce the system of pooling so as to acquire a better bargaining power than the individual members having a small quantity of produce for marketing purposes.

vi). To arrange for the export of the produce of the members so that they may get better returns.

viii) To make arrangement for the transport of the produce of the members from the villages to the market on collective basis and bring out a reduction in the cost of transportation.

ix) To arrange for the supply of inputs required by the farmers (fishermen).

However, with respect to fish marketing system, for the fish originated from Lake Tana, Figure 1 will shed light on the various market actors involved in the supply chain.

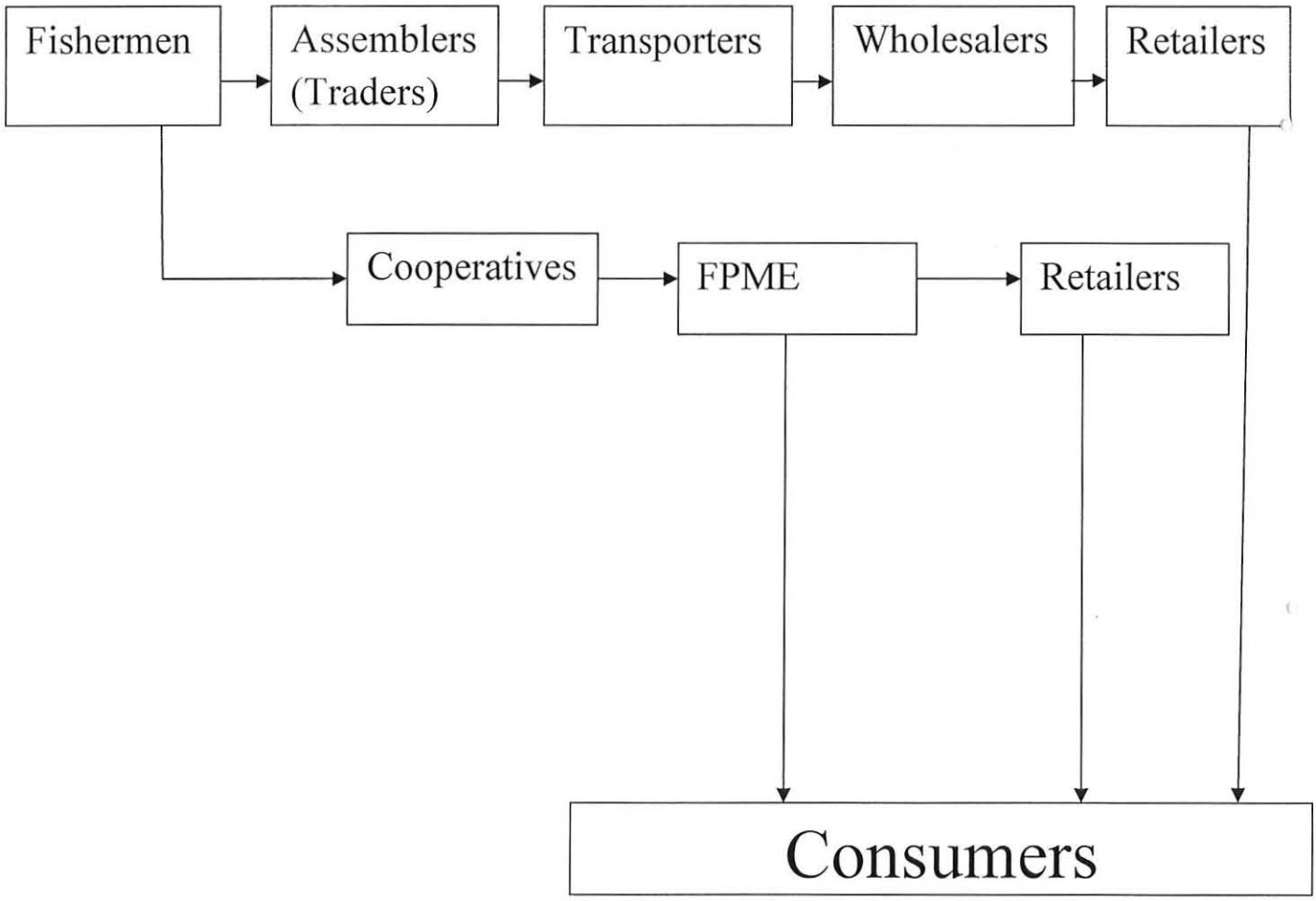

Figure 1. The Fish Marketing System of the Fish originated from Lake Tana

CHAPTER THREE

RESEARCH DESIGN

Based on the theoretical framework, the study developed with the methodology applied for preparing instruments of data collection, sampling and data analysis. This chapter deals with the specific steps followed to collect primary data, sampling procedure and ethical grounds maintained in accomplishing research objective.

3.1 Research Design

The descriptive approach to research design by following survey method is used in this study, to accomplish the research objectives. As mentioned by Calderon (1993), descriptive survey method becomes useful when the purpose of the research is to picture the current situation.

3.2 Research Methodology

The study is aimed at assessing the marketing system of the fish originated from Lake Tana. To achieve the purpose both quantitative and qualitative approach was selected to collect data related with the study under investigation.

3.3 Population and Sampling Technique

Since, the present study was confined to the assessment of marketing system of the fish originated from Lake Tana; the population of this study was determined to be the three market actors in the system: fishermen in Lake Tana, retailers and consumers in Addis Ababa. However, the sample retailers and customers were selected for the study from the three areas: Bole, Merkato and Piazza.

For this study cluster and convenient sampling techniques were used. In order to collect the data from fishermen only convenient sampling technique were used, but to collect the data from the retailers and consumers primarily, three areas were selected by cluster sampling technique from the ten sub-cities of Addis Ababa and the participants of the study from the three areas (clusters) were selected by convenient sampling technique.

3.4 Instrument of Data Collection

The instrument used to collect the data was questionnaires prepared in two languages in Amharic and in English this was use because it gathers data faster than any other method.

In order to collect the data from the respondents both self administered and interviewer administered approach were used. Self administered approach was prepared to allow respondents sufficient time to answer adequately and freely to provide substantial amount of information. Interviewer administered approach were used for the respondents who are illiterate that they can not read and write both English and Amharic. The questionnaire contains both closed ended type questions with multiple and dichotomous choices and open ended type of questions were included in order not to restrict respondents to the predetermined choices only.

3.5 Procedures of Data Collection

The instrument used to collect data in the study was drafted on the basis of intended data to be collected and by reviewing the related literature. The distribution of questionnaires to the fishermen, retailers and consumer respondents of Addis Ababa was made, and due follow-up was ensured by the student researcher for the entire process. However, before obtaining data, the researcher made clear the objectives and implications/usefulness of the study to the respective groups of respondents to avoid any confusion, biasness, and facilitate effective administration.

3.6 Method of Data Analysis

Method of data analysis were selected and utilized depending on the research methodology employed and type of data collecting instruments. After data collections was over, proper edition and organization of data into tables and graphs by using SPSS and MS-Excel software, were carried out for analysis purpose. The presentation and interpretation of findings was made using percentage, mean, std. deviation statistics and Chi-square test, however, the responses collected from open ended part of the questionnaire were interpreted and described in another section of the analysis.

3.7 Ethical Considerations

The respondents were informed that their participation was on a voluntary basis and all information provided would be kept private and confidential. Therefore, questionnaires were distributed only to those who agreed to participate in the study. The researcher then briefly explained the nature and requirement of the survey before the respondent filled up the questionnaire.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

Data collected by following methodology presented in the last chapter, were exposed to statistical analysis to generate the results inline with research objectives. This chapter shows the analysis of data associated with demographic profile of consumers, their perception on price and quality, the physical and exchange function performance of producers and retailers and other general questions.

The analysis in this research is divided into three parts based on the types of participants of the study; fish producers (fishermen) from Lake Tana, retailers and consumers in the terminal market (Addis Ababa). Therefore, three different sections were planned to present the analysis associated with the stated actors in the fish marketing system, as given below.

4.1 Analysis of Data Collected From Fishermen

In this part of the analysis the data collected from fishermen will be presented by the percentage distribution in the tables and graphs then, it will be interpreted. The tables generally divided into four categories to show the exchange function, physical function of fishermen and general questions that can describe the fishermen activities. In addition to the close ended type questions the answer obtained through open ended questions will be included in this part.

4.1.1 The Exchange Function Practices of Fishermen in Lake Tana

This section of the analysis presents the exchange function practices in the system specifically, the selling function practice of fishermen in Lake Tana.

Table1. The Selling Function

Item No	Items	Description	%
1	To Whom the fishermen sell their produce	To traders (assemblers)	58.1
		To retailers	-
		To fish production and marketing enterprise	41.9
		To hotels and restaurants	-
2	How the fishermen sell their produce	On contract basis by regular arrangement	41.9
		Through auction	-
		Without contractual agreements	58.1

According to the figures appearing in the above table, over half (58.1%) of the respondents claimed to be selling their produce originated from Lake Tana to traders/assemblers, while the remaining (41.9%) supply it to the fish production and marketing enterprise (FPME). While over half (58.1%) of the respondents agreed to be selling their product without any contractual agreements, the remaining (41.9%) acknowledged to have some regular arrangements.

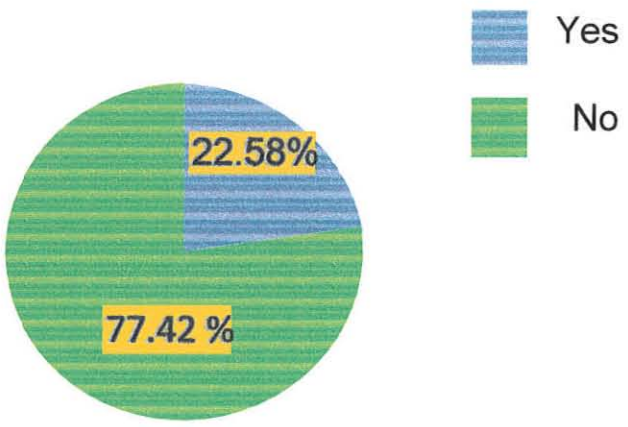

Figure 2: Fishermen Access to Information about the Demand of Fish in the Terminal Market

The above figure shows majority of respondents (fishermen) with the percentage distribution of (77.4) percent of them do not have an information about the demand of fish and fish products in the terminal market (Addis Ababa) market only the remaining (22.6) percent of the fishermen are aware about the demand of fish in the final market.

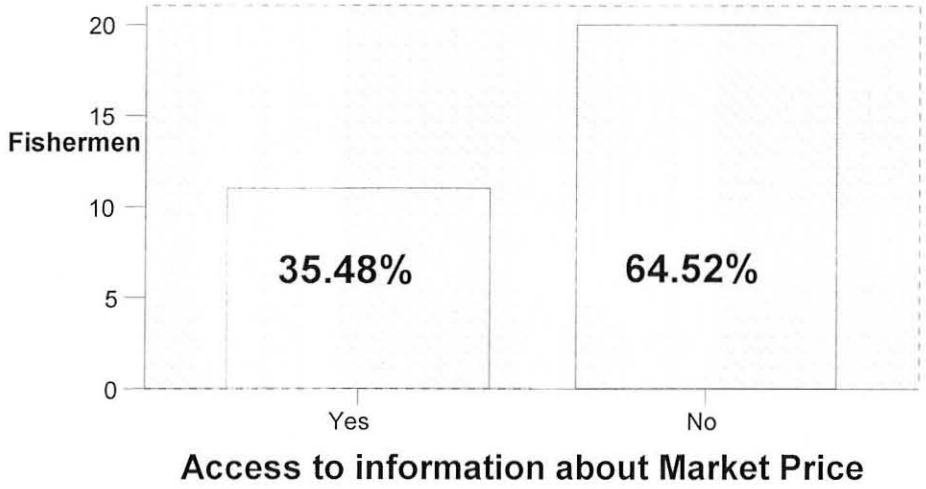

Figure 3 Fishermen access to information about the price of fish in Addis Ababa market

According to the above figure shows (64.5) percent of respondents do not have information on how much the price of fish in the terminal market only 11 respondents which accounts for (35.5) percent of the respondents are aware of the fish price in the Addis Ababa market.

In the exchange functions activities of fishermen three open ended type question were asked which shows their source of information if they have an information on price of fish in the final market and how they set price for their fish and how much they are selling one Kg of fish.

The first question fishermen were asked if they have an information on the price of fish in the terminal market from where they get the information most of the respondents that they get information from the information disseminated by the cooperative union to the members only few fishermen get information informally from other fishermen, traders and from their relatives who live in Addis.

In the second type of question regarding the pricing method of fishermen to their produce respondents were asked how they set the price for their produce most of the fishermen respond that as they do not have power to set the price for their produce the market lead the price and the market also lead by the traders because there is no cooperation between fishermen no body complain how much the traders pays for our produce so, traders are the price setters for fishermen produce for this similar question fishermen who are the member of cooperative unions respond that as there price for their produce is set by their association by cost plus pricing method.

Price of fish According to the response of fishermen in Lake Tana shows there are two prices fishermen in Lake Tana get. Currently, fishermen who are a member of cooperative union sell their produce (fresh fish) by 7.5 birr/kg and fishermen who are not a member of cooperative union sell primarily processed (gutted fish) by an average price of 3.5 birr/kg. The price of fish also determined by cooperative union in the case of fishermen who are the member of cooperative union whereas fisherman who are not a member of cooperative union they have no power to set the price for their produce they are price takers of price set by the traders.

4.1.2 Physical Function Practices of Fishermen

The physical function performance will be presented in the following tables and charts which includes fishermen Transportation, Processing and storage functions.

Table 2 Transportation Function Practice

Item No	Item	Description	%
1	Transportation of fish to assembly market	Human transport	58.1
		Animal transport	-
		By lorries	-
		Open trucks	-
		Refrigerated trucks	-
		Motorized boat	41.9
		Tanqua (Traditional boat)	-
2	Transportation of fish to terminal market	By open trucks	58.1
		By refrigerated trucks	41.9
		By open trucks with other commodities	-
		By refrigerated trucks with other commodities	-

As item no 1 of table 2 shows majority of fishermen which are not a member of any cooperative union use human transport to move their fish from the landing site into the assembly markets and only (41.9) percent of fishermen use motorized boat to transport their fish to assembly market because the assemblers receive the fish at the place of production (in the landing site).

According to item 2 of table 2 shows similar no of figure with the above question which is (58.1) percent of fishermen respond that their fish is transported by open trucks into the terminal market the remaining (41.9) percent of fishermen answered as their produce is transported by well equipped refrigerated trucks of fish production and marketing enterprise is the major buyer of these respondents.

Table 3 Processing Function Practice

Item No	Item	Description	%
1	In what form you sell your produce	Gutted (only the stomach and waste is removed)	58.1
		Fully processed (ready to eat)	-
		Unprocessed (fresh fish)	41.9
		Total	100

According to the result of item No 1 of Table 3 shows most of the fishermen (58.1) percent of them supply their produce in the form of gut which is only the stomach and waste of the fish is removed in other words the fish is primarily processed and the remaining (41.9) percent of the fishermen supply fresh fish which is not totally processed they sell fresh fish directly after catch. From this we can understand that most of the fish distributed to retailers in Addis Ababa market is the fish which is primarily processed gut fish.

Table 4 Cross tabulation of Membership of cooperative and availability of Refrigerated storage

			Storage			X^2
Item No	Member of cooperative union		Yes	No	Total	**31.00***
		Yes	14	0	14	
		No	0	17	17	
		Total	14	17	31	

* Significant at 0.001 level

As clearly indicated in the above cross tabulation the figure shows all of fishermen that they are not a member of any cooperative union which accounts for (54.84) percent of them do not have refrigerated storage facilities so they use traditional fish preservation mechanisms to protect their produce from spoilage but a little less than half of fishermen in Lake Tana (45.16) percent of fishermen that they are a member of fishermen cooperative unions have an access to refrigerated storage facilitated by their union.

4.1.3 Fishermen Fish Preservation Method

Table 5 Fish Preservation Method of Fishermen

Item No	Item	Description	%
1	Is there any activity done by fishermen to increase the shelf life of fish	Yes	58.8
		No	41.9
2	Method of preservation	Processing (filleting)	-
		Packaging	-
		Traditional Fish preservation method	58.1
		Ice	-
3	Way of preservation fishermen uses	Smoking	-
		Salting & sun drying	58.1
		Canning	-
		Nothing they use	41.9

As shown on the above table among the total number of 31 fishermen participated in the research (58.1) percent of the respondents use traditional fish preservation mechanism which is salting and sun drying in order to increase the shelf life of the fish before they supply it to traders or assemblers the remaining (41.9) percent of fishermen do not use any fish preservation mechanism in order to increase the shelf life of fish before sell it and they sell the full fresh fish directly after catch as it is Table 5.

4.1.4 General Questions

Table 6: Additional Concern

Item No	Item	Description	%
1	Are you a member of cooperative union	Yes	41.9
		No	58.1
2	Fishermen opinion to the importance of being a member of cooperative union	Yes	87.1
		No	12.5
3	Fishermen satisfaction on the landing site facilities	Yes	48.4
		No	51.1

According to the response of the fishermen on table 6 shows that among the total respondents only (41.9) percent of fishermen (producers are a member of fishermen cooperative union whereas large number of fishermen (58.1) percent of them are not a member of any fishermen cooperative unions. But as an opinion most of the respondents which is (87.1) percent of them agree with the statement of being a member of cooperative union help individual fishermen to enhance the price bargaining power only (12.5) percent of respondents are not agree with the idea that being a member of cooperative union help small farmers to enhance their bargaining power on price.

In the above first two items of table 6 even if majority of respondents agree with the idea that being a member of cooperative union helps individual fishermen bargaining power on price but, in the reverse majority of respondents are not a member of any cooperative union for this they put different reasons why they are not a member of cooperative union, these reasons include because most of the fishermen are part time fishermen which means they are peasants they only catch fish in the non crop harvesting season when they will be free from farm activities that is why they are not willing to be a member of cooperative union. The second, reason mostly answered by the respondents is the fishermen seek an immediate price payment for their produce but if they are a member of cooperative union the selling price is distributed to fishermen twice or once a month in the form of salary) the other reason of fishermen for not to be a member of cooperative union is even if they are willing to be a member only two cooperative union are available around Lake Tana (Tana Zuria) the Tana Haiq1 and Tana Haiq 2 cooperative unions

due to the limited capacity of the unions unable to administer additional members in addition, to the existing ones only few fishermen have their own personal reason that they are not willing to explain it to the researcher for not to be a member of any cooperative union.

The frequency and percentage distribution of item No3 of table 6 shows majority of respondents which is around (51.6) percent of them are not satisfied with the existing landing site facilities in the production area and transportation facilities to move their produce from catching place into the dry land and to the assembly market the remaining (41.9) and (6.5) percent of respondents are satisfied with the current landing site facilities and neutral respectively.

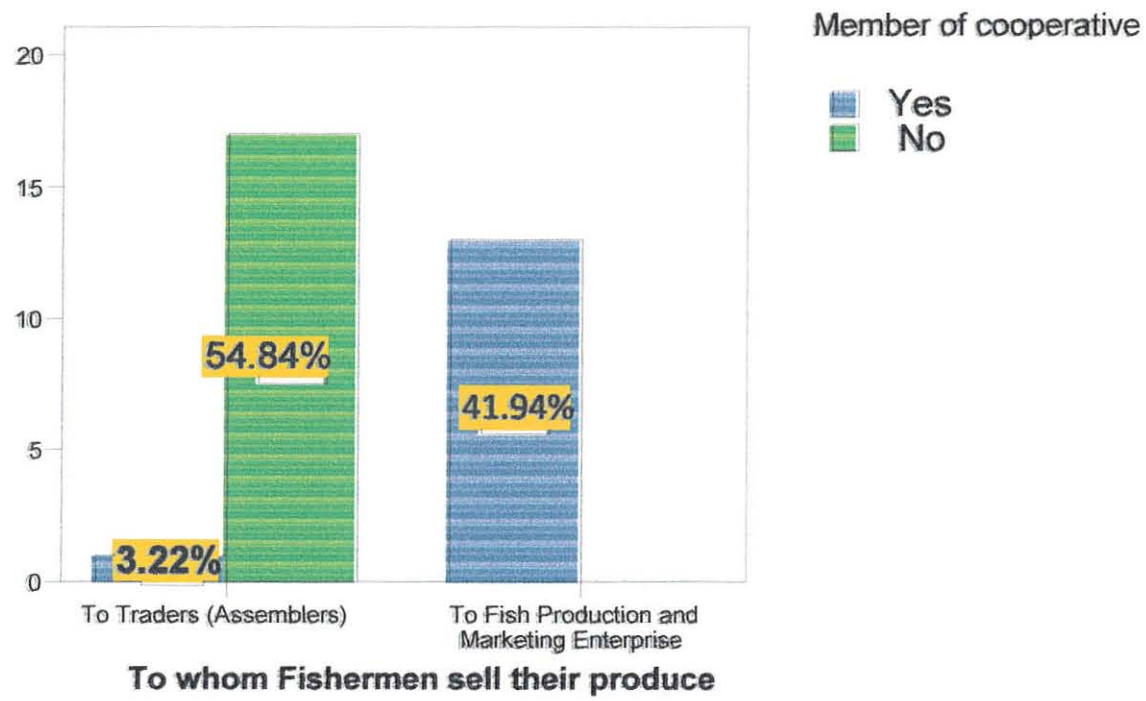

Figure 4 Target Markets of the Fishermen

Large number of fishermen (54.84) percent of respondents who are not a member of any cooperative unions sell their produce to traders and assemblers and a little less than half of respondents (41.94) percent of them sell their produce to Fish production and marketing

enterprise the remaining (3.22) percent of fishermen only sell their produce to FPME even if they are not a member of any cooperative unions.

4.2 The Data Collected From Fish Retailers in Addis Ababa

In this section of the analysis the respondents answer is divided into three parts based on the type of agricultural marketing functions which is the retailers exchange function and physical function performances in addition, general question are also included in this part.

4.2.1 Exchange Function Practices of Retailers

This section of the analysis presents the buying function practice of retailers to show the effects of exchange function practice in the marketing system.

Table 7 Buying Function Practice

Item No	Item	Description	%
1	Source of Lake Tana's Fish to retailers.	Small farmers (Fishermen)	-
		Cooperative	-
		From fish production and Marketing Enterprise (FPME) Shop	37.5
		From Wholesalers	62.5

The figure in the above table shows among 56 retailers participated in the research more than half which is (62.5) percent of respondents purchase their fish from wholesalers that they found in piazza (Atikilt Tera) and Merkato (Abinet area). And the remaining (37.5) percent of fish retailer and supermarkets purchase fish from fish production and marketing enterprise (FPME) shops.

4.2.2 Physical Function Practices of Retailers

This section presents the physical function practices of retailers which are processing, storage and transportation functions

Table 8 Processing Function Practice

Item No	Item	Description	%
1	Level of processing during purchase.	Gutted (only the stomach is removed)	60.7
		Partially filleted	-
		Fully filleted (ready to cook)	39.3
		Totally unprocessed	-
2	Level of processing when retailers sell.	Fully filleted (ready to cook)	100
		Only partially filleted	-
		Gutted (only the stomach and waste is removed	-
		Totally unprocessed	-

According to item 1 of table 8 shows from the total of 56 fish retailing shops and supermarkets that they engaged in fish retailing business all of them sell filleted fish (fish ready to cook and eat) to fish consumers but as item 2 of the same table shows among those retailers a little greater than half of retailers (60.7) percent of them receive the fish from their suppliers which is primarily processed (gut fish) that need additional processing to make the fish ready to cook whereas, the remaining (39.3) of the fish retailers receive fully filleted and packed fish from their suppliers.

Table 9 Storage Function Practice of Retailers

Item No	Item	Description	%
1	Storage facilities in the retailers shop	Yes	100
		No	-
2	Loss in quality due to frequent power interruption.	Yes	87.5
		No	12.5
3	Access to Safety power.	Yes	37.5
		No	62.5

Regarding, the storage facilities as item 1 of table 9 shows all of the fish retailing shops 100% of fish retailing shops have refrigerated storage facilities. On the same table of item 2 shows except few retailers which is only (12.5) percent of retailers most of the fish retailers (87.5) percent of retailers face fish quality loss due to unreliable electric supply. Majority of respondents which is (62.5) percent of fish retailing shops and supermarkets them do not have safety power during power break only (37.5) percent of them have safety power (generator) in their shops.

Table 10 Transportation and Handling Function

Item No	Item	Description	%
1	Type of transport when the fish is transported to retailers shop	By open trucks (Non refrigerated van)	62.5
		By refrigerated trucks	37.5
		By public transport	-
		By open trucks with other commodities	-
		By refrigerated trucks with other commodities	-
2	Fish handling mechanism.	High	30.4
		Medium	10.7
		Low	58.9

According to item 1 of table 10 the frequency and percentage distribution shows majority of retailers explain that the fish is always transported to their shops by open trucks (non refrigerated van) which do not have refrigeration which accounts for (62.5 percent and the remaining (37.5) percent of retailers explain that the fish is always transported into their shops by refrigerated truck.

In the above table of item no 2 the retailers were asked about the fish handling mechanism when the fish is transported to retailers shop the results of the respondents answer for this question shows most of the retailers which is (58.9) percent of retailers believe that the fish handling mechanism during transportation is low and (30.4) percent of retailers agree with the statement with the fish handling mechanism is high or very good and the remaining (10.7) percent of respondents answer as they have medium opinion on the handling mechanism.

Table 11 Cross Tabulation of Source of Supply and Marketing Cost Component of Retailers

		Marketing Costs Component of Retailers						
Item No	Source of supply	Packaging and Labeling	Storage cost	Packaging and labeling, storage cost	Packaging and labeling, storage processing and shrinkage	Packaging and labeling, storage, promotion, processing and shrinkage	Total	X^2
1	From wholesaler	0	1	1	27	6	35	44.82*
2	From FPME	1	15	3	1	0	20	
3	From small farmers (Fishermen)	1	0	0	1	0	1	
	Total	1	16	4	29	6	56	

* Significant at 0.001 level

The above cross tabulation table shows the no of retailer's source of supplies and the marketing cost components retailers.

According to the result of Item no 1 among 35 retailers that they purchase fish from wholesalers majority of them which is 27 (77.1) percent of retailers their major marketing cost is spent for Packaging and labeling, storage, processing and shrinkage and 6(17.1) percent of retailers their marketing costs include promotion cost in addition to the previous one the remaining 2 retailers (2.8) percent each their marketing costs include for storage only and packaging and labeling and storage cost respectively.

As clearly indicated in the item no 2 of table 11 among 20 retailers that they purchase the fish from fish production and marketing enterprise majority of respondents which is for 15 (75) percent of retailers their marketing cost is only storage cost 3(15) percent of retailers the marketing costs include packaging and labeling and storage cost and 1 (5) percent of retailer only spent for packaging and labeling storage, processing and shrinkage cost the remaining 1 (5) percent of retailer the marketing cost is only packaging and labeling.

Item No 3 of table 11 shows only one retailer purchase fish from fishermen and for this respondents the marketing cost include packaging and labeling, storage, processing and shrinkage cost.

To summaries the table majority of retailers purchase their fish from wholesalers which is 35(62.5) percent of retailers out of this 27 (77.1) percent of respondent that they purchase from retailers their marketing cost is packaging and labeling, storage, processing and shrinkage cost. And 20 (35.7) percent of retailers purchase fish from FPME out of this 15 (75) percent of retailers their marketing cost is only storage cost only 1 respondent purchase fish from FPME their marketing cost is similar with the cost retailers cost that purchase from wholesalers.

Table 12 Descriptive Statistics of Producer's Price, Wholesale Price, Retailer's Price and Retailers Marketing Cost

	Minimum	Maximum	Mean	Std. Deviation
Retailers Selling price	30 Birr/Kg	45 Birr/Kg	36.43 Birr/Kg	4.235
Wholesalers selling price	11Birr	35Birr	19.26Birr	1.585
Retailers Marketing cost	24 Birr/Kg	30 Birr/Kg	27.45 Birr/Kg	1.594
Producers price	3.5Birr/kg	7.5Birr/kg	4.3Birr/kg	1.78885

The above table shows that the producers selling price retailers selling price and cost. According to the figure in the above table shows the maximum selling price of fishermen is 7.5 birr/kg and the minimum price of 3.5birr/kg and on average 4.3birr /kg with the std. deviation of 1.78885. The maximum selling price of retailer is 45birr/kg and the minimum selling price is 30birr/kg and on average 36.43birr/kg with the std.deviation of 4.235 The in the process of making the product available to the market retailers the maximum and minimum marketing cost of retailers 3.5birr/kg and 7.5birr/kg respectively, and on average 4.3 birr/kg with the std deviation of 1.78885.

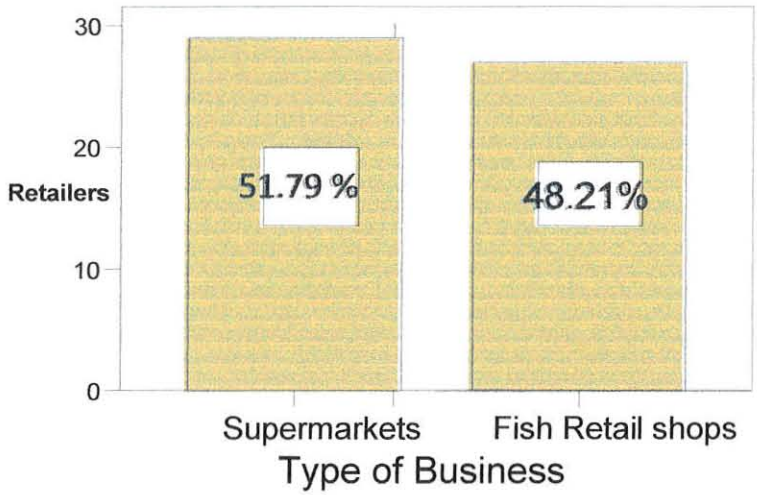

Figure 5 Retailers Type of Business

The above chart shows that among the 60 questionnaires distributed to fish retailers in the three areas (51.8) percent of respondents are supermarkets that they engaged in fish retailing organizations and the remaining (48.2) percent of them are fish retailers only that they sell fish and fish products

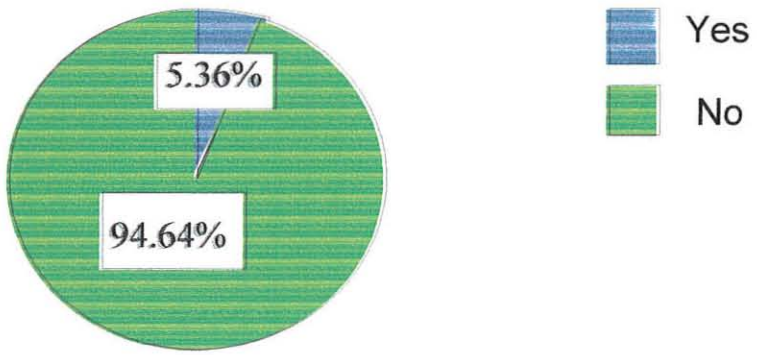

Figure 6 Information Exchange with Market Actors

According to the above chart almost all No of respondents (94.6) percent of fish retailers do not exchange market information with any market actors in the marketing system only few retailers which is (5.4) percent of fish retailing shops exchange an information with other market actors in the system including the consumers.

4.2.3 Data Collected Through Open Ended Questions

The fish retailers were asked six question these questions includes the retailers evaluation criteria for the fish quality their opinion on Lake Tana's fish quality and how do they ensure the quality of fish when they receive from their supplier before they sell

As per the response of respondents show for most of the retailers their criteria to evaluate the quality of fish the fish should not have bad smell, the colour of skin or meat should not be changed and if it is filleted it should be properly filleted for few retailers their major criteria is the place where the fish is comes from.

Based on the above retailers evaluation criteria to evaluate the quality of fish in general, and particularly for the fish originated from Lake Tana most of the fish retailers complain that the fish originated from Lake Tana has a bad smell and the colour of meat changed from the normal fish colour sometimes it will change into black others also explain that even if when they by the fish totally filleted fish sometimes they get not completely filleted fish.

In order to ensure the quality of fish retailers do not have any standardized mechanism whether the fish's quality is good or not they simply differentiate the bad quality fish from the good quality by smelling and looking.

4.3 Responses Obtained from Consumers

This section of the analysis presents the data collected from fish consumers in Addis Ababa and the data's includes the demographic profile of the respondents, the consumer's consumption pattern and the consumer's attitude towards the quality and the price of fish originated from Lake Tana.

4.3.1 Demographic Profile

Table 13 Sex, Age and Income profile of respondents

Item No	Item	Description	%
1	Sex	Male	8
		Female	92
2	Age	<18	-
		19-25	12.3
		26-40	46.4
		41-60	26.8
		>60	14.5
3	Monthly Income	<500	2.9
		501-1000	6.5
		1001-1500	11.6
		1501-2000	34.1
		>2000	44.9

As shown in the above tablet the dominant No of respondents or majority of them by their sex is females they accounts for (92) percent of fish buyers from the supermarkets and fish retailing shops are female only (8) percent of respondents or buyers are males.

In the similar table of item no 2 shows the age profile of respondents according to the result of the figures large no of respondents which accounts for (46.4) percent of respondents are with the age range of 26-40 and (26.8) percent of respondents are with the age range of 41-60 and (14.5)

percent of respondents are above the age of 60 and the remaining (12.3) percent of respondents are with the age range of 19-25).

Item no 3 of table 13 shows a little less than half 44.9% of respondents earn monthly income of greater than 2000 birr and a little greater than quarter (34.1) percent of respondents are included with the income group of 1500 up to 2000, (11.6) percent of respondents are within the income range of 1001 up to 1500 and (6.5) percent of fish buyers are with the income group of between 501 -1000 the remaining few respondents only (2.9) percents earn less than 500 birr a month.

4.3.2 Consumers Fish consumption Pattern

Table 14 Consumers Fish Consumption Pattern and Behavior

Item No	Item	Description	%
1	Purchase occasion.	Always	1.4
		During the holiday	-
		During the fasting season	78.8
		Occasionally	21.7
2	Consumer's prior experience.	Yes	97.1
		No	2.9
3	Consumer's willingness to consume	Yes	36.2
		No	63.8
4	From where consumers buy the Fish	From the fishermen	-
		From the fish retailing outlets	44.2
		From the supermarket	53.6
		From FPME	2.2

According to item 1 of table 14 shows that majority of fish consumers participated in the research which accounts for (76.8) percent of them purchase and consume fish only during the fasting season and the remaining 32 respondents out of which (21.7) respondents consume fish occasionally and only (1.4) percent of respondents also consume fish always.

Item no 2 shows respondents were asked whether they have a prior experience for the consumption of fish originated from Lake Tana or not but the majority of respondents which is around 97.1 percent or 134 no of respondents have prior experience by consumption of fish originated from Lake Tana. The remaining 2.9 percent or 4 respondents do not have prior experience for the fish originated from lake Tana but from this figure by which respondents that they have prior experience or not only (36.2) percent of them are willing to consume lake Tana's fish the majority of respondents which accounts for (63.8) percent of them are not willing to consume lake Tanas fish in the future (Table 14).

According to the result of item no 4 of table 14 shows (53.6) percent of respondents buy fish from supermarkets and (44.2) percent of respondents purchase fish from the fish retailing outlets that sell only fish and the remaining (2.2) percent of respondents buy from fish production and marketing enterprise retail outlets (FPME shops).

4.3.3 Consumer Perception towards Price and Quality of Fish

Table 15 Consumer's perception towards the price and quality fish originated from Lake Tana

Item No	Item	Description	%
1	Consumer's perception towards the quality.	High quality	4.3
		Medium quality	31.9
		Inferior quality	63.8
2	Consumers perception towards the price	Premium (expensive)	83.3
		Fair price	15.2
		Low price	1.4
3	Consumer's opinion on the price reasonability.	Yes	17.4
		No	82.6

According to item no 1 of table 15 shows most of fish consumers included in the research perceive that the fish originated from lake Tana has inferior quality this respondents accounts for

63.8 percent and the remaining 31.9 percent of respondents and 4.3 percent of respondents perceive that the fish originated from lake Tana has medium and high quality, respectively.

On the Similar table of item 3 respondents were asked their perception towards the price of fish which is originated from lake Tana the response of respondents shows (83.3) percent of consumers perceive that the fish originated from lake Tana is expensive compared from others and (15.2) percent of them also believe that the price is fair and the rest only (1.4) percent of respondents perceive as the price is low.

Finally, respondents were asked to explain their opinion in the form of yes or no answer as whether the price of fish originated from lake Tana is reasonable or not and the figure for this question shows large no of respondents around (82.6) percent of respondents argue that the price is not reasonable and put their reason in the open ended type question next to item 1, 2 &3 of table 15 or question no 13 of the questionnaire the reasons that make the respondents able to say the price of fish originated from Lake Tana is unreasonable includes there is a possibility of getting the fish at lower price from other lakes with similar or better quality. In addition to this reason some other respondents put another reason which is in comparison to its quality the price of fish originated from Lake Tana is exaggerated and unreasonable these are the two important reasons explained by respondents and the remaining (17.4) percent of respondents opinion is different from the previous ones they believe that the price of fish originated from lake Tana is reasonable and they argue with one reason which is the taste of lake Tana's fish is completely different from others so, they believe that lake Tana's fish deserves the existing price.

Respondents were asked to put their criteria to evaluate the quality of fish and to indicate what they observe on the quality of fish originated from Lake Tana. For the first question majority of respondents evaluate the quality of fish by its smell and colour of fish (meat) if its smell is bad they assume as it is spoiled and if the colour also changed they assume it is spoiled and the other criteria consumer is the fish should be purely filleted because they want to buy the fish that is ready to cook based on these criteria's respondents put few points that they observe on the quality of fish originated from lake Tana most of respondents say the fish originated from Lake Tana has quality problem it has a bad smell.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This section presents a summary of the study together with conclusion drawn and forwards some recommendations based on the findings.

5.1 Summary

Based on the data collected from the three market participants in the fish marketing system of the fish originated from Lake Tana the findings of the research obtained from the response of the Fish producers in Lake Tana and the consumers and fish retailers in the fish terminal market (Addis Ababa) market will be summarized as follows.

Most of the fish resources originated from Lake Tana is transported and distributed by few wholesalers (assemblers) that they do the assembling and distribution functions simultaneously. The fishermen who are not a member of cooperative unions supply the fish that they catch only to wholesalers this is because these wholesalers pay an immediate payment to the fishermen and the fish quality measurement criteria of those wholesalers is not to much restrictive than the fish quality criteria of other fish processing firms even if Fish Production and Marketing enterprise is the only fish processor in the country in general and the region in particular. For this the evidence is that in the similar place which is in lake Tana there are two cooperative unions that they supply the fish only to the Fish Production and Marketing Enterprise on contractual basis on behalf of their members whereas, the fishermen who are not a member of any cooperative union sell their produce without contractual agreement to any wholesalers.

According to the result of the analysis shows there is significant difference on the performance of the marketing function of fishermen who are a member of cooperative unions and non members of cooperative unions. Even if the fishermen who are a member of cooperative unions do not add value on the fish which means they sell fresh fish immediately after catch but they sell at a better price than primarily processed fish provided by non organized fishermen. At the time when this research was conducted the unions sell 1 Kg of fresh fish by 7.5 birr whereas, the organized fishermen sell 1 kg of gutted fish (primarily processed fish) by the price of 3.5 birr.

The impact of organizing in a cooperative union is not limited to this extent due to the individual small fishermen capacity they are not accessible to refrigerated storage facilities so, they are forced to use traditional fish preservation mechanisms to extend the shelf life of fish before it is assembled by assemblers whereas, the organized fishermen who are a member of cooperative union have access to refrigerated storage and generally, the landing site and transportation facilities the non organized fishermen using are not satisfactory and the fishermen are not accessible to pure water to wash the fish during preparation of fish in addition, to these the non availability of motorized boat to transport the fish from catching place to the landing site they use traditional small boat (Tanqua) with a limited caring capacity so, the fishermen are forced to catch only small amount of fish due to this reason they are not utilizing their time properly which means even if they are not working 8 hours a day. Regarding transportation of fish from the landing site to the terminal market the vast majority of the fish resource originated from Lake Tana is transported by open trucks (ISUZU) trucks which do not have refrigeration like any other non perishable agricultural products when it reaches into Addis Ababa market. The fish production and marketing enterprise is the only organized enterprise that uses refrigerated trucks to transport the fish.

In addition, to the above two functional areas performance of the fishermen which are the exchange and physical functions the fishermen access to information on price and market demand of the non organized fishermen is different from the organized fishermen. Even if most of the fishermen both organized and non organized fishermen do not have timely information on the price of fish and about the demand of the fish in the terminal market but the cooperative unions are disseminating current information's in all aspects of the market to the members formally as per the response of few fishermen shows.

Finally, organized fishermen are better performing than non organized fishermen if this is the reality the question should be even if the fishermen knows the benefit of being organizing in a cooperative union helps individual fishermen to get a better price and improved facilities why they will not be a member of cooperative unions. According to their response they have different reasons for not to be the member of cooperative union which are the small fishermen seek an immediate payment for their produce, the limited capacity of the existing cooperative union to manage additional new member due to the shortage of motorized boat and other facilities, some

fishermen also part time fishermen they work the fish catching activity only in the non crop harvest seasons because they are peasants, financial problem to organize new cooperative union and other personal reasons the non organized fishermen unable to organize in a cooperative unions and to strengthen their power on their produce.

Most retailers including supermarkets and fish retailing shops buy fish from their supplier only partially processed or gutted fish which means the fish only the stomach and waste of the fish is removed but they sell fully filleted and packed fish packing with plastic cover except the retailers purchase the fish from Fish Production and Marketing Enterprise which is the only well organize enterprise which engaged in fish production and marketing activity in the country. All the retailers and FPME in their process of making the product available to the market they incur marketing costs including processing and shrinkage costs storage, packaging and labeling costs are the major marketing cost components incurred by retailers.

The calculation of margin distribution of fishermen, wholesalers and retailers is depicted below. All the prices below show the average price.

Buying price from farmers 4.3 Birr

Retail price 36.43 Birr

Wholesale price 19.26

Share to producer 4.3/36.43=0.118 or **11.8%**

Wholesale margin (19.26-4.30)/36.43=0.4106 or **41.06%**

Retail margin (36.43-19.26)/36.43=0.4713 or **47.13%**

Total margin = **0.8819 or 88.19%**

The above figure shows the little less than half of the margin from the selling price is taken by a retailer which is 47.13 % and the wholesalers' margin represents 41.06%. Here the very surprising thing is the role of retailers is not only limited on distribution activity in line with their distribution activity they are highly engaged in processing and other value adding activities to

make the product ready to cook whereas, most wholesalers except FPME do not have any role in the value adding activity beyond transportation function.

The fish handling mechanism when the fish reaches into retailers shop is not good and the transportation of fish while the fish reaches into retailers shop is poor, as per the finding shows the distributors use open trucks and vans that do not have refrigeration to transport the produce to retailers shop.

The refrigerated storage in all retailing is available, but still there is loss in quality of fish in the retailing store due to unreliable electric supply and even if they know the effect of power break and they are facing quality loss problems due to electric power break in the retailing shop but most of the retailers do not have replaceable power supply (generator) for the time when there is electric power break to reduce the loss of quality due to electric power break.

The great majority of fish buyers are females. Regarding the age and income category of fish buyers' majority of them are included with the age range of 26-40 and 41-60 with the income group of above 2000 and 1500-2000 respectively.

Mostly, the fish is consumed in fasting season is one of the finding of this research and supermarkets are the major source of fish and fish products for most buyers than fish retailing shops.

Regarding the fish originated from Lake Tana consumers have bad image on the quality of fish and they believe that the fish has inferior quality but expensive so, as long as they have many alternatives to get the better and similar quality of fish at a lesser price they are not willing to buy the fish originated from Lake Tana.

5.2 Conclusion

Based on the actual marketing functions practices of the three market actors participate in the fish marketing system of the fish originated from Lake Tana to answer the questions of this research after analyzing the data's obtained from those actors the researcher reaches into the following conclusion that shows the root causes for the problems.

The fish originated from Lake Tana has inferior quality. As per the finding of this research the main causes of this quality problem is not only arise from one point which means as a system the two market participants in this context the producers and retailers performance of physical functions highly contribute to the poor quality of the fish but due to the subjectivity nature of the meaning of quality to different individuals (market actors) the meaning of fish quality in this research is defined based on the criteria of consumers and retailers to evaluate the quality of fish and the conclusion of the root cause also based on the support of literatures by identifying the causes for the symptoms what consumers and retailers shows on the quality inferiority of the fish originated from Lake Tana. Those quality problems raised by the consumers and retailers regarding the fish originated from Lake Tana is the fish has unwanted bad smell, the meat of the fish do not have the original fish color that unspoiled fish has based on these symptoms and the practice of the retailers and producers actual practice of agricultural marketing functions the research identify the root causes of the quality inferiority of the fish originated from lake Tana as follows.

The first, reason is the fishermen are using traditional fish preservation mechanism which is salting and sun drying in order to extend the shelf life of the fish, this is because that they do not have refrigerated storage facilities. Only the members of cooperative unions have access to cool storage facilities. In addition, to this the landing sites facilities in the production area are not well organized fishermen do not have access to pure water due to this reason they are forced to use the water of the lake during their primary processing whereas, the fishermen who are the member of cooperative unions have a better access to the organized landing site facilities than non organized fishermen.

After the fish get out from the hand of fishermen the transportation mechanism and the fish handling during transport and in the retail outlet would be essential in order to protect the fish from spoilage. Refrigerated transport for perishable product is too much important to protect the fish from spoilage during transport but, here the fish is transported by open trucks and vans that they do not have refrigerated from the production area up to the product reaches into the hand of retailers except few amount of fish transported and distributed by Fish production and Marketing Enterprise in Addis Ababa market.

The loss of quality in the retail outlet due to unreliable cold storage and non availability of safety power (electric power generator) during electric interruption is another basic reason that contributes a lot to the loss of quality in the retail store.

The second, question of the research was identifying the main causes of why the fishermen are unable to get fair price for their produce. From the finding of the research the researcher identifies the following reasons.

The first, reason is the fishermen do not have refrigerated storage to protect their produce for a long time without spoilage so; they are forced to sell their produce at a lower price. The second reason is the fishermen do not have access to timely information about the market demand and price of fish in the terminal market. The third, reason is there is no any rules that regulate the margin distribution to the middlemen participate in the system to establish fair margin distribution between all market participants. When we see the difference between what wholesalers and producers are getting the margin of wholesalers is 30.98% greater than what producers are getting but this wholesalers do not add value on the fish than what producers do for this the evidence is the producers sell gut (primarily processed fish) to wholesalers. Whatever the numbers of middlemen's are participate between producers and wholesalers but there is no any value adding activity is done when the fish reaches into the hand of retailers because retailers purchase gut fish from their supplier this shows those middlemen's between producers and retailers are taking the share of producers unfairly.

The fourth, reason is the producers are selling only primarily processed (gut fish) but the consumers need filleted fish or the fish ready to cook so in order to satisfy the need of the consumers the processing function is done by the retailers which means retailers are doing not only distribution of fish but they are doing the processing of fish in addition to packaging, promotion and storage. So according to FAO,(1997) it is not possible to compare one kilogram of processed fish sold to consumers with unprocessed or primarily processed fish due to product loss at the time of processing if the produce is not processed by the farmer itself. FAO further states that the cost of food products sold in retail store (supermarkets) is a very small proportion of the retail price sometimes it can be less than 10 percent of the retail price and more than 90 percent of the retail price is the cost of processing and other marketing cost due to this reason the producers are not getting the fair price for their produce.

The last, reason that makes fishermen unable to get fair price for their produce is there is no cooperation among fishermen even if the result of the analysis shows the members of cooperative unions are also not getting high price for their produce but relatively they are getting a better price than what non member of cooperative unions are getting. From this we can conclude that cooperation of middlemen can enhance fishermen bargaining power on price and it improves fishermen access to timely information on price and market demand.

The third question of the research was to make sure that whether the price of fish originated from Lake Tana is expensive or not as the finding of the research shows the price of fish originated from lake Tana is expensive and consumers do not believe as the price is reasonable by explaining as they can get similar or better quality of fish at a lower price than this, so from this the researcher can conclude that the buyers simply see the higher price as a statement by the supplier about the value he or she places on the product or service which means they do not relate price of fish with high quality, scarcity value of the product or as a symbol of social status even if the reality is this regarding the consumers perception on price of fish originated from Lake Tana. The retailers are selling at a higher price than the fish from other places but this can be due to price inefficiency of retailers or their wrong association of high price with high quality. But still there is a gap to know the main root cause of the high price of fish originated from Lake Tana further study is needed to know the main root causes for high price.

5.3 Recommendations

Based on the above conclusion the researcher forwards the following recommendations to market actors participate in the fish marketing system for the fish originated from Lake Tana and to other policy makers to alleviate the problems in the system.

- In order to make the fishing sector contributing to the countries economic growth enhancing the performance of the market actor's activity in the system is essential as long as Lake Tana is the major Lake that has a huge potential of fish in the country enhancing the capacity of fishermen and improving the marketing system contribute a lot to improve the life of fishermen and to use the fish resource of the country by reducing loss in quality and quantity. To achieve these changes the role of government is irreplaceable by

helping fishermen to form cooperative union and by improving Landing site facilities and laws in the margin distribution of market participants should be established.

- The fishermen should establish cooperative unions that perform all the marketing functions on behalf of the members including processing of fish in this case without the interference of the middlemen the producers could increase their profit margin. In addition to these cooperation of fishermen can also improve their access to organized landing site facilities access to timely market information in the terminal market.

- Ensuring pricing efficiency as long as the consumers has alternatives from which to choose from the market place and there is competition between those in the marketplace high price of the produce discourage consumers not to buy fish originated from lake Tana as long as there is no other way to distinguish the quality of fish so, all the market participants should work for pricing efficiency.

REFERENCES

Ajiboye A.O and B.B. Ayantoyinbo. 2009. 'Analysis of Transportation and Distribution Problems of Agricultural Products Marketing in Sub Saharan Region: An Application to Kolanut'. "Journal of Technology, Entrepreneurship and Rural Development", Vol.4, No. 1. Pp 188-200. http://WWW.ijaerd.iautechaee-edu.com

Branson, R., and D.G. Norvell. 1983. Introduction to Agricultural Marketing. McGraw- Hill Inc, USA. 521p

Calderon ,J,F. 1993. Methods of research and thesis writing, national book store city mandaluyong

Cramer, G. L. and Jensen, W. 1982. Agricultural Economics and Agribusiness, 2nd Edition. McGraw Hill Book Company, USA 222p.

Dave Robb. 2009. Factors Affecting Fish Quality: Focus on Farmed Salmon

(http://www.scipub.org/fulltext/ajas/ajas77859-877.pdf)

FAO. 1997. Agriculture and food marketing management. Rome, Italy.

FAO. 2003. Information on fisheries management in the Federal Democratic Republic of Ethiopia. FAO, Rome, Italy.

FAO. 2004. The state of the world Fisheries and Aquaculture FAO. Rome, Italy .

FAO. 2005. Post-harvest changes in fish. In: FAO Fisheries and Aquaculture Department, Food and Agriculture Organization, Rome, Italy. http://www.fao.org/fishery/topic/12320/en

FAO. 2006. Fisheries Circular. No. 1017/4. Rome, FAO Regional review on aquaculture development.

FAO. 2007. Regional Office for Africa, Agricultural and Food Marketing management text.

FAO. 2009. Fisheries Circular. No. 1017/4. Rome, FAO Regional review on aquaculture development.

Fish Base. 2004. A global information system on fishes. DVD. World Fish Center - Philippine Office, Los Banos, Philippines.

Goetz, S, and M.T. Weber. 1986. Fundamentals of price analysis in developing countries' food Systems: a training manual to accompany the microcomputer software program "MSTAT". *Working Paper No 29.* MSU international Development Papers. Michigan State University. East Lansing, Michigan, USA. 148p.

Gordon et.al. 2007. Report on Marketing systems for fish from Lake Tana, Ethiopia: for marketing and livelihoods. IPMS (Improving Productivity and Market Success) Ethiopian Farmers Project Working Paper 2. ILRI (International Livestock Research Institute), Nairobi, Kenya.

Gross, I. 1983. "Insights from Pricing Research." In: Pricing Practices and Strategies, E.L. Bailey, ed., New York: Conference Board. pp. 34–39.

Gudmundsson, E.; Asche, F.; Nielsen, M. 2006. Revenue distribution through the seafood value chain. *FAO Fisheries Circular.* No. 1019. Rome, FAO.

International Institute of Refrigeration. 2009. the role of refrigeration in worldwide 177, Bd Malesherbes – 75017 Paris (France) http://WWW.iifiir.org

Jema, H. 2008. Economic efficiency and marketing performance of vegetable production in the eastern and central parts of Ethiopia. PhD Dissertation. Uppsala ----------

K M Essuman. 1992. 80p FAO A study on processing marketing and consumption Fisheries Technical Paper No 329 ISBN 92 5 103255 6

Kaplinsky, R. 2000. Spreading the Gains from Globalisation: What Can Be Learned from Value Chain Analysis? Institute of Development Studies, Working Paper 110, Sussex.

Kotler. Philip and Gary Armstrong. 2005. Principle of Marketing 10th ed. Pearson education, Inc (405-407)

Kotler. Philip & Keller Kevin lane. 2006. marketing management 13th ed. Published by Pearson education, inc

Kotler. Philip & Keller Kevin lane. 2009. marketing management 13th ed. Published by Pearson education, Inc p124

Kohls, R.L., and Uhl, J.N. 1990. Marketing of Agricultural Products, 7th edition, Macmillan Publishing Company, pp. 196–197.

Kohls R.L & Uhl J.N. 2002. Agricultural Marketing. New Delhi: IBH publishing co.pvt.Ltd

Knútsson, Ö. 1996. Strategic Alliances. Unpublished MSc. Dissertation, University of Edinburgh, Scotland. UK. (http://www.scipub.org/fulltext/ajas/ajas77859-877.pdf)

Knútsson, Ö. 2000. Strategic Alliances: The role of central firm in governing strategic alliances between small and medium sized companies; The case in the Icelandic fish industry. Unpublished PhD Thesis. University of Edinburgh, Scotland, UK.

Kriesberg, M. 1974. "Marketing Efficiency In Developing Countries". In: Marketing Systems For Developing Countries. (Eds.) Izraeli, D., Izraeli, D. and Dafna

Luis Ruiz Garcia. 2008. "Development of monitoring applications for refrigerated perishable goods transportation" PhD Thesis Ingeniero Agrónomo Madrid.

Mark. W and Kennedy. L. 1998. understanding agricultural marketing cooperatives united

Mendoza, G. 1995. A primer on marketing channels and margins.p257-275. In G.J.Scott(eds.). Prices, Products, and People: Analyzing Agricultural Markets in Developing Countries. Lynne Reinner Publishers, Boulder, London.

Nautilius, C. 1997. Marketing of Fishery products. FAO Globefish publication. [Nov. 17 2000] < http://www.globefish.org/publications/special series/vols/vol.01.htm>

Rosson, P. 1974. "Changing Traditional Distribution Systems: Fish Marketing In Tanzania", *Journal of Physical Distribution,* No. 4, Vol. %, pp.305–316.

R Krishnamoorthy. 2009. Introduction to Rural Marketing published or distributed by Himalaya [, CHIMPUB100963].

Saccomandi, V. 1998. Agricultural Market Economics: A Neo-Institutional Analysis of the Exchange, Circulation and Distribution of Agricultural Products. 231p states department of agricultural business cooperative service.

Scarborough, V., and J. Kydd, 1992. Economic analysis of agricultural markets: A manual. *Marketing Series No 5.* Natural Resources Institute. University of Greenwich, Chatham, U.K.166p

Stoetzel, J. 1995. In: *Pricing Strategy*, B. Taylor & G.Wills (Eds) Staples Press, London, pp. 70–74.http://WWW.fao.org/DOCREP/004/W3240E08.htm

Thomas.T. Nagle,John E.hogan. 2006. The strategy and tactics of pricing. 4th ed.,pearson prentice hall p149.

Appendices

Appendix 1

Questionnaire for Producer/Fishermen

Dear Respondent,

I am Abebe Worku, MA-Marketing graduating student from Addis Ababa University. This questionnaire is designed to collect data from the fish producers to assess the marketing system for the fish originated from Lake Tana. Your responses will be kept in strict confidentiality.

Note: Kindly make a tick-mark (✓) to the option that best describe your choice.

1. Please indicate your age group

   ☐ Under 18 ☐ 26-40 ☐ Above 60

   ☐ 19-25 ☐ 41-60

2. Sex

   ☐ Male ☐ Female

3. Monthly Income.

   ☐ < 500 ☐ 1001-1500 ☐ > 2000

   ☐ 501-1000 ☐ 1500-2000

4. Educational background.

   ☐ Illiterate ☐ Elementary certificate ☐ 12 complete ☐ Certificate

   ☐ Diploma ☐ First Degree ☐ Post graduate degree

5. To whom you sell your produce?

   ☐ To traders (assemblers) ☐ To Fish Production and Marketing Enterprise

   ☐ To retailers ☐ To hotels and restaurants

   If any others specify_____

6. Are you a member of any cooperative union?

   ☐ Yes ☐ No

7. If your answer for question no 2 is no what is your reason?

   _____.

8. If you are a member of the cooperative union do you think that the union is helping you to enhance the bargaining power on price?

   ☐ Yes ☐ No

9. Are you satisfied with the current landing site and transport facilities?

☐ **Yes** ☐ **No**

10. If your answer for question no 5 is no why? state your reason.

_____

11. Do you do anything to the product to increase the shelf life and its quality before selling?

☐ Yes ☐ No

12. If your answer for question no 6 is yes what are they? More than one choice is possible.

☐ Processing (filleting) ☐Traditional food preservation methods

☐ Packaging ☐ Ice

☐ If any other specify_____

13. Do you have a refrigerated storage?

☐ Yes ☐ No

14. How you transport the fish from the landing site to the assembly market?

☐ Human transport ☐ By lorries ☐Refrigerated trucks.

☐ Animal transport ☐ Open trucks ☐ Motorized Boat ☐ Tanqua

15. In what form you sell the fish?

☐ Gutted (only the stomach is removed). ☐ Unprocessed fish.

☐ Fully processed (ready to eat).

16. What technique of fish preservation you are using to extend the shelf life of the fish?

☐ Smoking. ☐ Sun drying. ☐ Canning.

☐ Salting. ☐ Nothing. ☐ If any other specify_____

17. What are your marketing costs? More than one choice is possible.

☐ Inland transportation cost ☐ cost for boat transport

☐ Processing cost ☐ handling cost ☐ Storage costs

☐ Other costs specify_____

18. How is the fish transported from the assembly market into the final market?

☐ By open trucks ☐ By open trucks with other commodities.

☐ By refrigerated trucks. ☐ By refrigerated truck with other commodities.

☐ If any other_____

19. How do you sell your produce?

□ On contract basis by regular arrangement □ Through auction

□ Without contractual agreement □ If any other specify_____

20. How do you set the price for your produce

_____

21. Do you have enough market information on the fish demand and consumers preference in the final market?

□ Yes □ No

22. Do you know how much the price of fish originated from lake Tana in Addis Ababa market?

□ Yes □ No

23. How much is your selling price for one kilogram of fish? _____Birr.

Questionnaire for Fish consumers

Dear Respondent,

I am Abebe Worku, MA-Marketing graduating student from Addis Ababa University. This questionnaire is designed to collect data from the fish consumers to assess the marketing system for the fish originated from Lake Tana. Your responses will be kept in strict confidentiality.

Note: Kindly make a tick-mark (✓) to the option that best describe your choice.

Part I General information

1. Please indicate your age group

   ☐ Under 18 ☐ 26-40 ☐ Above 60

   ☐ 19-25 ☐ 41-60

2. Sex

   ☐ Male ☐ Female

3. Monthly Income.

   ☐ < 500 ☐ 1001-1500 ☐ > 2000

   ☐ 501-1000 ☐ 1500-2000

4. Educational background.

   ☐ Illiterate ☐ Elementary certificate ☐ 12 complete ☐ Certificate

   ☐ Diploma ☐ First Degree ☐ Post graduate degree

4. When do you eat fish?

   ☐ Always ☐ During the fasting season

   ☐ During the holiday ☐ Occasionally

5. Do you consumer the fish originated from lake Tana before?

   ☐ Yes ☐ No

6. Are you willing to consume Lake Tana's fish again?

   ☐ Yes ☐ No

7. From where do you buy the fish?

   □ From the fishermen's □ From the fish retail outlet

   □ From the supermarket □ From the fish production and marketing enterprise (FPME) shops

8. What is your criterion to evaluate the quality of fish?

   _____

9. Please indicate what you observe on the quality of fish originated from Lake Tana?

   _____

   _____

10. How do you get the quality of fishes originated from Lake Tana?

    □ High quality □ Inferior quality

    □ Medium quality

11. How do you get the price of Lake Tana's fish?

    □ Premium/Expensive price □ Low price

    □ Fair price

12. Do you think that the price of fish originated from Lake Tana is reasonable?

    □ Yes □ No

13. If your answer for question No12 is yes how do you say this state your reason.

    _____

14. If your answer for question No 12 is no how you do say this state your reason.

    _____

Questionnaire for Fish retailers

Dear Respondent,

I am Abebe Worku, MA-Marketing graduating student from Addis Ababa University. This questionnaire is designed to collect data from the fish consumers to assess the marketing system for the fish originated from Lake Tana. Your responses will be kept in strict confidentiality.

Note: Kindly make a tick-mark (✓) to the option that best describe your choice.

1. Please indicate your age group

   ☐ Under 18 ☐ 26-40 ☐ Above 60

   ☐ 19-25 ☐ 41-60

2. Sex

   ☐ Male ☐ Female

3. Monthly Income.

   ☐ < 500 ☐ 1001-1500 ☐ > 2000

   ☐ 501-1000 ☐ 1500-2000

4. Educational background.

   ☐ Illiterate ☐ Elementary certificate ☐ 12 complete ☐ Certificate

   ☐ Diploma ☐ First Degree ☐ Post graduate degree

5. From whom do you buy your fish?

   ☐ Small farmer's (fisherman's) ☐ From Fish production and marketing enterprise (FPME)Shops.

   ☐ Cooperatives ☐ Wholesalers.

   ☐ If any other specify._____

6. Please specify type of your business

   ☐ Supermarket ☐ Fish retail shop

7. At what level of processing the fish is processed when you receive it from your supplier.

   ☐ Gutted (only the stomach is removed) ☐ Totally unprocessed

   ☐ partially filleted ☐ Fully Filleted (ready to eat)

8. At what level of processing the fish is processed when you sell it to the market?

☐ Fully Filleted (ready to eat) ☐ Only partially filleted

☐ Gutted (only the stomach is removed) ☐ Totally unprocessed

9. What is your criterion to evaluate the quality of fish?

_____.

10. Amongst your criteria's which one is not satisfied by the fish originated from Lake Tana?

_____

11. How do you ensure the quality of fish received from your suppliers before sell?

_____

12. How much is your purchase price for one kilogram _____Birr

13. What are your marketing costs? More than one choice is possible.

☐ Transportation cost ☐ Packaging and labeling cost

☐ Handling cost ☐ Promotional cost

☐ Storage cost ☐ Processing and shrinkage cost

☐ If any other specify_____

14. In what kind of transport the fish is transported into your shop.

☐ By open trucks ☐ By open trucks with other commodities

☐ By Refrigerated trucks ☐ By Refrigerated truck with other commodities

☐ By public transport ☐ If any other specify_____

15. How much cost do you incur for one kilogram of fish including the price of the fish _____Birr.

16. Do you have a refrigerated storage?

☐ Yes ☐ No

17. Did you face any loss in quality of fish in your store due to unreliable electric supply before?

☐ Yes ☐ No

18. Do you prepare substitute power supply that can be used when there is electric power supply break

☐ Yes ☐ No

19. How do you get the fish handling mechanism during transportation when the fish come to your shop?

□ High □ Low (Inferior)

□ Medium

20. Do you exchange marketing information with any of the market actors including the Consumers?

□ Yes □ No

21. How much you are selling the one kilogram of fish _____ Birr.

በዓሣ አጥማጆች የሚሞላ መጠይቅ

ውድ የመጠይቁ መላሾች ይህ መጠይቅ የተዘጋጀው በአዲስ አበባ ዩኒቨርሲቲ የገበያ ስራ አመራር ትምህርት ክፍል የሁለተኛ ዲግሪ (የድህረ ምረቃ) ተማሪ ሲሆን አላማውም በጣና ሐይቅ የሚገኘው ዓሣ የግብይት ስርአት ላይ ያተኮረ ትምህርታዊ ጥናት ለማዘጋጀት የሚሆን መረጃ ከዓሣ አጥማጆች ለመሰብሰብ ነው፡፡ የእርስዎ ምላሽ ከሌሎች ሰዎች ምላሽ ጋር ተዳምሮ ለጥናቱ ትልቅ ግብአት ስለሚሆን የእርስዎ ትብብር ወሳኝ ነው፡፡ የሚሰጡትም ምላሽ ሚስጥራዊነቱ የተጠበቀ ነው፡፡

በቅድሚያ ውድ ጊዜዎን ሰውተው ለመመላት ስለተባበሩን እናመሰግናለን፡፡

ማስታወሻ፡- ለሚሰጡት ምላሽ የ (✓) ምልክት በሳጥኑ ውስጥ ያስቀምጡ፡፡

1. እባክዎ በየትኛው እድሜ ክልል ውስጥ እንደሆኑ ይግለፁ፡፡

□ ከ18 ዓመት በታች □ ከ26-40 □ ከ60 በላይ

□ ከ19-25 □ ከ41-60

2. ፆታ

□ ወንድ □ ሴት

3. ወርሃዊ ገቢ

□ ከ500 በታች □ ከ1001-1500 □ ከ2000 በላይ

□ ከ501-1000 □ 1501-2000

4. የትምሕርት ደረጃ

□ ያልተማረ □ አንደኛ ደረጃ ያጠናቀቀ □ 12 ያጠናቀቀ □ ሰርተፍኬት

□ ዲፕሎማ □ የመጀመሪያ ዲግሪ □ የድህረ ምረቃ ዲግሪ

5. ምርትዎን የሚሸጡት ለማን ነው?

☐ ለነጋዴዎች (ለሰብሳቢዎች)　　☐ ለቸርቻሪዎች

☐ ለዓሳ ምርት እና ገበያ ድርጅት　　☐ ለሆቴልና ምግብ ቤቶች

ሌላ ካለ ይግለፁ _____

6. የህብረት ስራ ማህበር አባል ነዎት?

☐ አዎ　　☐ አይደለሁም

7. ለ2ኛው ጥያቄ መልስዎ አባል አይደለሁም ከሆነ ምክንያትዎን ይግለፁ፡፡ _____

_____

8. የህብረት ስራ ማህበር አባል ከሆንኩ የተሻለ ዋጋ እንዳገኝ ወይም በዋጋ የመደራደር አቅሜ እንዲጨምር ይረዳኛል ብለው ያስባሉ?

☐ አዎ　　☐ አላስብም

9. አሁን ባሉት የማምረቻ ቦታ መሠረት ልማቶች፣ የምርት መጠበቂያና ማዘጋጃ እንዲሁም የትራንስፖርት መገልግያዎች የጥራት ደረጃ እና አደረጃጀት ደስተኛ ነዎት?

☐ አዎ　　☐ አይደለሁም

10. ለ5ኛ ጥያቄ መልስዎ ደስተኛ አይደለሁም ከሆነ ለምን? _____

___

11. ምርትዎን ከመሸጥዎ በፊት ሳይበላሽ ለረጅም ጊዜ እንዲቆይና የጥራት ደረጃውን እንዳይቀንስ የሚያደርጉት ነገር አለ?

☐ አዎ　　☐ የለም

12. ለ7ኛው ጥያቄ መልስዎ አዎ ከሆነ ምንድን ነው /ናቸው ከአንድ በላይ ምላሽ መስጠት ይቻላል?

☐ ማቀነባበር (በቀላሉ ለመመገብ በሚቻልበት ሁኔታ ማዘጋጀት)

☐ ማሸግ　　☐ ባህላዊ ዓሣን ሳይበላሽ የማቆያ ዘዴዎችን ብቻ መጠቀም

☐ በበረዶ ማቀዝቀዝ

ሌላ ካለ ይግለፁ _____

13. ዓሣዎችን ለገበያ እስከሚቀርቡ(ባይሸጡ) የሚያከማቹበት ወይም የሚያቆዩበት ማቀዝቀዣ አለዎት?

☐ አዎ ☐ የለምኝም

14. ምርትዎን ከማምረቻ ቦታ ለገበያ መደሚሰበሰብበት ቦታ የሚያጓጓዙት እንዴት ነው?

☐ በሰው ሃይል ማጓጓዣ ☐ በእንሰሳት ሃይል ማጓጓዣ

☐ በጋሪ ☐ በክፍት የጭነት ማኪና

☐ በባለ ማቀዝቀዣ መኪኖች ☐ በሞተር ጀልባ ☐ በታንኩዋ

15. በምን ያህል ደረጃ የተዘጋጁ ዓሣዎችን ነው ለሽያጭ የሚያቀርቡት?

☐ የሆድ እቃዉ ብቻ ተወግዶ አጥንቱ ያልወጣለት

☐ ሙሉ ለሙሉ ፊሌት ሆኖ አብስሎ ለመመገብ ዝግጁ የሆነ

☐ ምንም ሳይዘጋጅ ሙሉዉን ዓሣ

16. ዓሣዎችን ለረጅም ጊዜ እንዲቆዩ ለማድረግ የሚጠቀሙበት ዘዴ የትኛው ነው?

☐ በጭስ በማድረቅ ☐ በፀሃይ በማድረቅ

☐ በጨው በማሸት/በመቀባት ☐ አቀነባብሮ በቆርቆሮ በማሸግ

☐ ማቀዝቀዣ ዉስጥ በማስቀመጥ ☐ ምንም አልጠቀምም

ሌላ ካለ ይግለፁ _____

17. ምርትዎን ለሽያጭ እስኪቀርብ የሚያወጧቸው የግብይት ወጪዎች የትኞቹ ናቸው ከአንድ በላይ ምላሽ መስጠት ይቻላል?

☐ የየብስ የማጓጓዣ ወጪ ☐ የምርት ማዘጋጃ(ማቀነባበሪያ)

☐ የጀልባ ማጓጓዣ ወጪ ወጪ

☐ የምርት አያያዝ (አጠባበቅ) ወጪ ☐ የምርት ማከማቻ ወጪ

ሌላ ካለ ይግለፁ _____

18. የዓሣ ምርትዎ ወደ ዋናው ገበያ ወደ አዲስ አበባ የሚጓጓዝበት ማጓጓዣ የትኛው ነው?

☐ በክፍት የጭነት መኪና ☐ ማቀዝቀዣ ባለው መኪና

☐ በክፍት መኪና ከሌሎች እቃዎች ጋር

☐ ማቀዝቀዣ በተገጠመለት መኪና ከሌሎች እቃዎች ጋር

ሌላ ካለ ይግለፁ _____

15. ምርትዎን የሚሸጡት እንዴት ነው?

☐ በኮንትራት የሽያጭ ውል (በቋሚ አቅራቢነት) ☐ በጨረታ

☐ ያለ ምንም ውል ሌላ ካለ ይግለፁ _____

16. ለምርትዎ የመሸጫ ዋጋ የሚወስኑት እንዴት ነው _____

_____

17. አዲስ አበባ ስላለው ዓሣ ገበያ ፍላጎት እና የተጠቃሚዎች የዓሣ ምርጫ ላይ በቂ መረጃ አለዎት?

☐ አዎ ☐ የለኝም

18. በአዲስ አበባ ገበያ ስላለው የጣና ሀይቅ የዓሣ ዋጋ መረጃ አለዎት?

☐ አዎ ☐ የለኝም

19. ለጥያቄ ቁጥር 18 መልስዎ አዎ ከሆነ የመረጃ ምንጭዎ ምንድን ነው? _____

_____

20. ለጥያቄ ቁጥር 18 መልስዎ የለኝም ከሆነ ስለ ወቅታዊ የዓሣ ዋጋ ማወቁ ይረዳኛል (ይጠቅመኛል) ብለው ያሰባሉ እንዴትስ ሊረዳዎ ይችላል? _____

_____

21. አንድ ኪሎ ግራሙን ዓሣ ለሰብሳቢዎች የሚሸጡት በስንት ብር ነዉ ብር

በዓሣ ሸማቾች/ተጠቃሚዎች የሚሞላ መጠይቅ

ውድ የመጠይቁ መላሾች ይህ መጠይቅ የተዘጋጀው በአዲስ አበባ ዩኒቨርሲቲ የገበያ ስራ አመራር ትምህርት ክፍል የሁለተኛ ዲግሪ (የድህረ ምረቃ) ተማሪ ሲሆን አላማውም ከጣና ሐይቅ በሚገኘው ዓሣ የግብይት ስርአት ላይ ያተኮረ ትምህርታዊ ጥናት ለማዘጋጀት የሚሆን መረጃ ከዓሣ ሸማቾች/ተጠቃሚዎች ለመሰብሰብ ነው፡፡ የእርስዎ ምላሽ ከሌሎች ሰዎች ምላሽ ጋር ተዳምሮ ለጥናቱ ትልቅ ግብአት ስለሚሆን የእርስዎ ትብብር ወሳኝ ነው፡፡ የሚሰጡትም ምላሽ ሚስጥራዊነቱ የተጠበቀ ነው፡፡

በቅድሚያ ውድ ጊዜዎን ሰውተው ስለተባበሩን እናመሰግናለን፡፡

ማስታወሻ፡- ለሚሰጡት ምላሽ የ (✓) ምልክት በሳጥኑ ውስጥ ያስቀምጡ፡፡

1. እባክዎ በየትኛው እድሜ ክልል ውስጥ እንደሆኑ ይግለፁ፡፡
   - ☐ ከ18 ዓመት በታች
   - ☐ ከ19-25
   - ☐ ከ26-40
   - ☐ ከ41-60
   - ☐ ከ60 በላይ
2. ፆታ
   - ☐ ወንድ
   - ☐ ሴት
3. ወርሃዊ ገቢ.
   - ☐ ከ500 በታች
   - ☐ ከ501-1000
   - ☐ ከ1001-1500
   - ☐ 1501-2000
   - ☐ ከ2000 በላይ
4. የትምሕርት ደረጃ
   - ☐ ያልተማረ
   - ☐ አንደኛ ደረጃ ያጠናቀቀ
   - ☐ 12ያጠናቀቀ
   - ☐ ሰርተፍኬት
   - ☐ ዲፕሎማ
   - ☐ የመጀመሪያ ዲግሪ
   - ☐ የድህረ ምረቃ ዲግሪ
5. ዓሣን የሚመገቡት መቼ ነው?
   - ☐ ሁልጊዜ
   - ☐ በበአላት ቀናት ብቻ
   - ☐ በየም ወቅት ብቻ
   - ☐ አልፎ አልፎ

6. ከጣና ሀይቅ የሚገኘዉን ዓሣ ተመግበዉ የዉቃሉ?

☐ አዎ ☐ አላዉቅም

7. ከዚህ በሁዋላ ከጣና ሀይቅ የሚገኘዉን ዓሣ ለመመገብ ፈቃደኛ ነዎት?

☐ አዎ ☐ አይደለሁም

8. ዓሣ የሚገዙት ከየት ነው?

☐ ከዓሣ አጥማጆች ☐ ከሸቀጣሸቀጥ መደብር (ሱፐርማርኬት)

☐ ከዓሣ ችርቻሮ ሱቆች ☐ ከዓሣ ምርትና ገበያ ድርጅት ሱቆች

9. የዓሣን የጥራት ደረጃ የሚለኩበት መስፈርትዎ ምንድን ነው? _____

_____

10. ከጣና ሃይቅ በሚመጣው ዓሣ የጥራት ደረጃ ዙሪያ የታዘቡት ነገር ካለ ይግለፁ _____

_____

11. ከጣና ሃይቅ የሚመጣውን የአሣ ጥራት ከሌሎች ቦታዎች ከሚመጡ አሣዎች ጥራት ጋር ሲያነፃፅሩት እንዴት አገኙት?

☐ ከፍተኛ ጥራት አለው ☐ አነስተኛ ጥራት አለው ☐ መካከለኛ ጥራት አለው

12. ከጣና ሃይቅ የሚመጣውን ዓሣ ዋጋ እንዴት አገኙት?

☐ ከፍተኛ ነው ☐ ዝቅተኛ ነው

☐ ተማጣጣኝ ነው

13. ከጣና ሃይቅ የሚመጣው ዓሣ ዋጋ ምክንያታዊ ነው ብለው ያስባሉ?

☐ አዎ ☐ አላስብም

14. ለጥያቄ ቁጠር 12 መልስዎ አዎ ከሆነ እንዴት ምክንያትዎን ይግለፁ _____

_____

15. ለጥያቄ ቁጠር 12 መልስዎ አላስብም ወይም ዋጋው ምክንያታዊ አይደለም ከሆነ እንዴት? ምክንያትዎን ይግለፁ _____

በዓሣ ችርቻሮ ንግድ በተሰማሩ ድርጅቶች የሚሞላ መጠይቅ

ውድ የመጠይቁ መላሾች ይህ መጠይቅ የተዘጋጀው በአዲስ አበባ ዩኒቨርሲቲ የገበያ ስራ አመራር ትምህርት ክፍል የሁለተኛ ዲግሪ (የድህረ ምረቃ) ተማሪ ሲሆን አላማውም ከጣና ሐይቅ በሚገኘው ዓሣ የግብይት ስርአት ላይ ያተኮረ ትምህርታዊ ጥናት ለማዘጋጀት የሚሆን መረጃ በዓሣ ንግድ ከተሰማሩ ድርጅቶች ለመሰብሰብ ነው፡፡ የእርስዎ ምላሽ ከሌሎች ሰዎች ምላሽ ጋር ተዳምሮ ለጥናቱ ትልቅ ግብአት ስለሚሆን የእርስዎ ትብብር ወሳኝ ነው፡፡ የሚሰጡትም ምላሽ ሚስጥራዊነቱ የተጠበቀ ነው፡፡

በቅድሚያ ውድ ጊዜዎን ሰውተው ስለተባበሩን እናመሰግናለን፡፡

ማስታወሻ፡- ለሚሰጡት ምላሽ የ (✓) ምልክት በሳጥኑ ውስጥ ያስቀምጡ፡፡

1. እባክዎ በየትኛው እድሜ ክልል ውስጥ እንደሆኑ ይግለፁ፡፡

☐ ከ18 ዓመት በታች ☐ ከ26-40 ☐ ከ60 በላይ

☐ ከ19-25 ☐ ከ41-60

2. ፆታ

☐ ወንድ ☐ ሴት

3. ወርሃዊ ገቢ

☐ ከ500 በታች ☐ ከ1001-1500 ☐ ከ2000 በላይ

☐ ከ501-1000 ☐ 1501-2000

4. የትምሕርት ደረጃ

☐ ያልተማረ ☐ አንደኛ ደረጃ ያጠናቀቀ ☐ 12ያጠናቀቀ ☐ ሰርተፍኬት

☐ ዲፕሎማ ☐ የመጀመሪያ ዲግሪ ☐ የድህረ ምረቃ ዲግሪ

5. የሚሸጡትን ዓሣ የሚገዙት ከማን ነው?

☐ ከዓሣ አጥማጆች ☐ ከህብረት ሰራ ማህበራት

☐ ከዓሣ ምርት እና ገበያ ድርጅት ☐ ከጅምላ አከፋፋዮች

☐ ሌላ ካለ ይግለፁ _____

6. እባክዎ የንግድ ዘርፍዎን ይግለጹ

☐ የሽቀጣሽቀጥ መደብር (ሱፐርማርኬት) ☐ የዓሣ ችርቻሮ መሸጫ ሱቅ

7. ዓሣዎችን ከአቅራቢዎች ሲቀበሉ ዓሣዎቹ በምን ያህል ደረጃ ተዘጋጅተዉ ነዉ?

☐ የሆድ እቃዉ ብቻ የወጣ ምንም ያልተዘጋጀ ☐ በከፊል ብቻ ፊሌት የተደረገ

☐ ምንምሳይዘጋጀ ☐ ሙሉ ለሙሉ ፊሌት የሆነ

8. የሚሸጡትን ዓሣ በምን ያህል ደረጃ አዘጋጅተዉ ነዉ?

☐ ሙሉ ለሙሉ ፊሌት የሆነ ☐ በከፊል ብቻ ፊሌት የተደረገ

☐ የሆድ እቃዉ ብቻ የወጣ ምንም ያልተዘጋጀ ☐ ምንም ያልተዘጋጀ

9. የዓሣዎችን ጥራት የሚመዝኑበት መስፈርት ምንድን ነው? (ናቸዉ)? _____

_____

10. ከመስፈርቶችዎ ውስጥ ከጣና ሃይቅ የሚገኘው ዓሣ የማያሟላው የቱን ነው? _____

_____

11. ከአቅራቢዎች የገዙትን ዓሣ ከመሸጥዎ በፊት ጥራቱን የሚያረጋግጡበት መንገድ ምንድን ነው (እንዴት) ነው? _____

12. ከዓሣ አቅራቢዎች አንድ ኪሎግራሙን ዓሣ የሚገዙት በምን ያህል ብር ነው?___

13. ዓሣን ከአቅራቢዎች ተቀብለው እስከሚሸጡበት ድረስ ያሉ የግብይት ወጪዎችዎ ምንድን ናቸው? ወይም የትኞቹ ናቸው? ከአንድ በላይ ምላሽ መስጠት ይቻላል፡፡

☐ የማጓጓዣ ወጪ

☐ የማሸጊያና የማሸጊያ ላይ ህትመት ወጪ

☐ የምርት አያያዝ (መጠበቂያ) ወጪ

☐ የማስታወቂያ (የምርት ማስተዋወቂያ

☐ የማከማቻ የማቆያ ወጪ

☐ በዝግጅት (በማቀነባበር) ወቅት እና በሌሎች ምክንያቶች የሚከሰት የምርት የመጠን መቀነስ የሚፈጠር ወጪ

ሌላ ካለ ይግለፁ _____

14. ዓሣዎች ወደ መደብርዎ ወይም ሱቅዎ ሲመጡ በምን አይነት ማጓጓዣ ተጓጉዘው ነው?

☐ በክፍት መኪና ላይ ተጭኖ

☐ ማቀዝቀዣ በተገጠመለት መኪና ተጭኖ

☐ በህዝብ ማመላለሻ መኪና ተጭኖ

☐ በክፍት መኪና ከሌሎች እቃዎች (ሸቀጦች) ጋር ተጭኖ

☐ ማቀዝቀዣ በተገጠመለት መኪና ከሌሎች እቃዎች (ሸቀጦች) ጋር ተጭኖ

ሌላ ካለ ይግለፁ _____

15. የዓሣዉን መግዣ ዋጋ ጨምሮ ለአንድ ኪሎ ግራም ዓሣ የሚያወጡት ወጭ ምን ያህል ነው _____ ብር፡፡

12. ዓሣዎችን የሚያከማቹበት (የሚያቆዩበት) ማቀዝቀዣ አለዎት?

☐ አዎ ☐ የለኝም

13. በኤሌክትሪክ መቆራረጥ ምክንያት የጥራት መጓደል ገጥሞዎት ያዉቃል?

☐ አዎ ☐ አያዉቅም

14. የኤሌክትሪክ ሀይል ቢቆረጥ ተተኪ የሀይል አቅርቦት አዘጋጅተዋል?

□ አዎ □ አላዘጋጀሁም

15. ዓላማ ወደ መደብርዎ ሲመጣ በማንዣገዝ ወቅት ያለው የምርት አያያዝ ዘዴ እና የመገልገያ መሳሪያዎች የንጽህና ሁኔታ አንዴት ነዉ?

□ ከፍተኛ ነዉ □ ዝቅተኛ ነዉ

□ መካከለኛ ነዉ

16. በዓላ ግብይት ሥርአት ውስጥ ካሉ የገበያ ተዋናዮች ጋር ተጠቃሚዎችን ጨምሮ መረጃ ይለዋወጣሉ?

□ አዎ □ አልለዋወጥም/አልነጋገርም

17. አንድ ኪሎግራሙን ዓላ እየሸጡ ያሉት በምን ያህል ብር ነዉ _____ ብር

Appendix 2

Chi-square test

Chi- square test Cost component and source of supply

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
coscom * Fromw	56	100.0%	0	.0%	56	100.0%

Cost component * From where retailers buy fish Cross tabulation

Count

		From where retailers buy			Total
		from small farmers(fishermen)	Fro Fish production and marketing enterprise	Wholesalers	from small farmers(fisherme n)
Cost components	packaging and labeling cost	0	1	0	1
	Storage cost	0	15	1	16
	Packaging and labeling,Storage cost	0	3	1	4
	Packaging and labling,storage,Processing and shrinkage	1	1	27	29
	Packaging and labeling, Storage, promotion, processing and shrinkage	0	0	6	6
Total		1	20	35	56

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	44.823[a]	8	.000
Likelihood Ratio	52.828	8	.000
Linear-by-Linear Association	22.299	1	.000
N of Valid Cases	56		

a. 11 cells (73.3%) have expected count less than 5. The minimum expected count is .02.

Chi-Square test Membership of cooperative union and availability of storage facilities

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Member of cooperative * availability of storage	31	100.0%	0	.0%	31	100.0%

Memoco * storage Crosstabulation

Count

		storage		Total
		Yes	No	Yes
Member of cooperative union	Yes	14	0	14
	No	0	17	17
Total		14	17	31

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	31.000(b)	1	.000		
Continuity Correction(a)	27.094	1	.000		
Likelihood Ratio	42.684	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	30.000	1	.000		
N of Valid Cases	31				

a. Computed only for a 2x2 table

b. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.32.