

**ANALYSIS OF MARKETING CHANNELS AND EFFICIENCY OF  
MARKETING SYSTEM FOR SMOKED FISH MARKET IN OGUN  
STATE, NIGERIA**

**BY**

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DEGREE OF**

**AQUACULTURE AND FISHERIES MANAGEMENT**

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## **DECLARATION**

I hereby declare that this project has been written by **FALODUN**, Oyinlola, Monisade and is a record of my own research work. It has not been presented in any previous application for a higher degree of this or any other University.

All citations and sources of information are clearly acknowledged by means of references.

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**DATE**

## **CERIFICATION**

This is to certify that this project worked titled 'analysis of marketing channel and efficiency of marketing system for smoked fish in Ogun state by **FALODUN, OYINLOLA MONISADE** with matric number 2006/0792 meets the regulation governing the award of the bachelor of Aquaculture and Fisheries Management of the university of Agriculture, Abeokuta and is approved for its contribution to scientific knowledge and literary presentation

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## **ABSTRACT**

This study investigated the marketing performance of smoked fish market in Ogun State, Nigeria. Eighty fish marketers were drawn using purposive and simple random sampling technique from Makun omi, Olomore, Itoku and Kuto markets. Data collected were on the socio-economic characteristics, cost and return and problem associated with smoked fish marketing in the study area. Structured questionnaire were the instrument used for data collection. Analytical tools used were percentages, gross margin and marketing efficiency models. Percentage was used to describe the socio-economic variables and problem associated with the smoked fish marketing. While gross and marketing efficiency models were used to determine the Profitability and market margin respectively. The result revealed that 75% of the marketers were female in their middle ages 41years and 50years (35%). The result also showed a gross margin of 29,558.8 and a marketing efficiency of 40.17% which could be attributed to the marketing performance. The study identified a decentralized distribution channel in the area. The study concluded that processed fish marketing in the study area was profitable. It was recommended that government should provide credit facilities to finance storage facilities.

## **DEDICATION**

This project is dedicated to Almighty God and to my late parent Mr A.S Falodun and Mrs E.O Falodun.

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## CHAPTER ONE

### 1.1 INTRODUCTION

Fish is an aquatic animal caught by man since the early times for food value (Spore, 1986). It is often the most popular diet in the world and was long termed the “doorman’s protein”. Furthermore, Biswas (1989) stated that fish is making an important contribution to world protein supply.

Fish makes a vital contribution to the survival and health of a significant portion of the world’s population. Fish is especially important in the developing world. In some of Asia’s poorest countries (Bangladesh, Cambodia) people derive as much as 75% of their daily protein from fish. In West Africa fish accounts for 30% of animal protein intake, and this number would be larger if the poor could afford to buy more. Often referred to as “rich food for poor people,” fish provides essential nourishment, especially quality proteins and fats (macronutrients), vitamins and minerals (micronutrients). Second, for those involved in fisheries, aquaculture and fish trade, fish is a source of income which can be used to purchase other additional food items. Though this brief emphasizes the former, fish contributes to food security as an important accompanied to rice-based diets in Asia, maize- and cassava-based diets in Africa, though its consumption there is decreasing. Fish supply in Africa has been declining for a number of reasons while the demand has increased due to the rise in population, decrease in livestock production due to desertification, disease(Olaoye *et al* ,2007), and drought. Strategies to increase fish supply are being promoted globally.

## **1.2 World fisheries resource and capture**

The fisheries sector is crucial to food security, poverty alleviation and well being .In 2008,m the world consume 115 million tonnes of fish ,and demand is expected to rise .fish and fishery product are a vital and affordable source of food and high-quality protein. In 2008, fish as food reach an all time high of nearly 17kg per person, supplying over 3 billion people with at least 15 percent of their animal protein intake (FAO 2010)

Today fish is the only important food source that is still primarily gathered from the wild rather than farmed with marine culture. Historically accounting for greater than 80% of the World's fish supply more recently, however capture fisheries have not been able to keep pace with the growing demand and many marine species have already been over fished. Nearly half of the known ocean are completely exploited (FAO,1999) and 70% are in need of urgent management.

## **1.3 Fisheries in Nigeria**

Over the years different governments in Nigeria have recognized the relevance of the fisheries sub-sectors, which are composed of the marine, brackish and freshwater. Several attempts were made over the years to boost their productivity through institutional reforms and various fiscal and economic measures. Some of these measures involved tax exemption and input subsidy schemes for distribution to fishermen to stimulate increased production. Despite all these forms of external intervention in the development plans, the fisheries sector still showed a deficit in the supply and demand of fish to the populace. It was also thought that the sub-sector was a temporary phase of transition to the industrial sector, but today the small-scale fisheries have come to stay as a permanent feature in the fisheries of developing nations worldwide, Nigeria inclusive.

Nigeria is blessed with a vast expanse of inland freshwaters, marine and brackish ecosystem, which are very rich in aquatic life. Tall (2004), however, observed that Nigeria's fish production volume of 0.5 million tonnes cannot meet the annual demand of 1.3 million tonnes. Average annual fish consumption in the country has therefore stagnated at 9.2 kg per capita, which is quite below the world average of 13kg per capita, a situation that resulted in a huge supply and consumption gap. The Inter Academy Council has also reported that future projections indicate a wider supply demand gap (IAC, 2004). Over 90% of domestic fish supply in Nigeria comes from artisanal capture fisheries.

#### **1.4 Importance of fisheries to Nigerian economy**

Food security does not just concern food production. It can be defined as the physical and economic access to sufficient safe and nutritious food to meet dietary needs.

Fish provide the main source of animal protein to about one billion people globally. Fisheries are an important part of food security, particularly for many poor people in developing countries. In coastal areas and around major river systems the dependence on fish is usually higher (FAO, 2005). The importance of small-scale fisheries in particular for food security is emphasized by FAO (FAO, 2003).

#### **1.5 Fish and fisheries contribute to food security in a variety of ways:**

##### **1.5.1 Subsistence and local consumption**

Fisheries provide a direct supply of fish, either for consumption by fishers and their families, or through their sale at local markets. Small-scale fishers usually satisfy their subsistence needs first, before selling the rest of their catch.

The amount that is retained is fairly constant, independent of the size or value of the catch. This demonstrates that subsistence needs are their first priority, but that increasing catches enables them

to gain benefits beyond this. Inland fisheries are especially important for food security as almost all production goes for human consumption rather than, say, animal feed (FAO, 1999)

### **1.5.2 Nutritional quality**

Fish are a source of protein, micro-nutrients and essential fatty acids, providing an important complement to the predominantly carbohydrate-based diet of many poor people in developing countries. Evidence from a project commissioned jointly by the FMSP and Aquaculture and Fish Genetics Research Programme (AFGRP) suggests that small, indigenous fish are particularly important for nutrition because they are eaten whole, ‘bones and all’, thereby providing a source of calcium and other micronutrients

### **1.5.3 Income**

38 million people worldwide are employed in fisheries, 95% of whom are in developing countries. The income from employment or the financial revenues from the sale of fish, provide cash which can then be used for the purchase of other foodstuffs.

### **1.5.4 Accessible protein for the poor**

Fish are often one of the cheapest protein sources available in developing countries. Small fish are especially important for poor consumers, as they can be purchased in small quantities at low cost. The same consumers often cannot afford to buy other protein sources which have to be bought in much larger quantities, such as Chicken (Gameiro & Wilson, 2004)

Furthermore, fish are often processed locally and transported large distances, providing a cheap protein source for people who do not have access to fishing areas or fresh fish. Preservation is often carried out by smoking, drying or salting, which do not require complex or expensive technology. Some industrial fisheries provide cheap fish for urban dwellers.

### **1.5.5 Reducing vulnerability**

Fisheries reduce vulnerability to hunger by providing a complementary food source as part of diversified livelihood strategies although fisheries resources may fluctuate in abundance, very few marine fisheries has periods when the catch is consistently zero. Fisheries thus provide food when other food sources such as agriculture are at a seasonal low. When there is little or no cost to the household, as with intertidal resources or species that do not require regular re-stocking in inland fisheries, their importance to the poor may be even greater.

### **1.5.6 Medicinal value of fish**

The consumption rates and nutritional benefits of eating fish depend upon the amount of fish (versus other foods) and species (fatty versus lean) consumed, it is most valued as a protein food". The Biological Value and Protein Efficiency Ratio, indices of the amino acid profile and ability to support growth, are higher for fish than for beef, pork, chicken and milk proteins. In addition, the types and of dietary fats are generally more "heart healthy "than the fats found in other protein foods. Approximately 50% of the fatty acids in lean fish (e.g., walleye and yellow perch) and 25% in fattier fish (e.g., channel catfish and rainbow trout) are polyunsaturated fatty acids. The amount of saturated fatty acids, associated with increased risk of heart disease, tends to be relatively constant across fish species, at about 25% (Sabry, 1990). In contrast, the polyunsaturated and saturated fatty acids in beef are 4-10% and 40-45%, respectively, of the total fatty acids present. Fish is also valued as a source of omega-3 (n-3) fatty acids, very long chain polyunsaturated fatty acids which are critical for the development of the brain and retina, and which may be protective of some chronic diseases. Eicosapentanoic acid (EPA) (20:5 n-3) and docoahexanoic acid (DHA) (22:6 n-3), which account for approximately 90% of the polyunsaturated fatty acids in fish species from the North Atlantic and North Pacific (Sabry, 1990), are absent or present in much lower

amounts in other foods. The amount of cholesterol found in fish is comparable to levels in beef, pork, and chicken. Fish is an excellent source of the B vitamins niacin and B12, and in general is a better source of Vitamins D and A than beef, pork or chicken. Fish can also contribute appreciable amounts of dietary calcium, iron and zinc, nutrients that tend to be low in people's diets. Fish is among the best source of dietary selenium.

## **1.6 Fish demand and supply in Nigeria**

The fisheries sub –sector in Nigeria account for about 40% of animal protein in the diet and it contribute to 4.47%of the Agricultural share of the Nation’s GDP in 2003 (Ojo and Fagbenro, 2004). Recently Demand for fish product has doubled as other sources of animal protein have become expensive due to pressure by the ever –increasing population and the high population cost of the other animal protein source. (Ojo and Fagbenro, 2004). Domestic fish demand in 1998 was 1.52 million tones while the domestic production was 292,800 tonnes (sufficiency ratio of 19.26%) (Ojo and Fagbenro, 2004)

In marketing, fish passes through various market participant and exchange point before they reach the final consumer. These markets intermediaries are the wholesale and retail .Both play important role in marketing of system, at all stages in the marketing channel ,fish has to be packed un-packed to meet consumer ‘s demand

In spite of the importance of fish and the fishing industry, fish is an extremely perishable commodity, spoiling soon after death, due to enzymatic and microbial actions, resulting in disagreeable taste, smell and texture; thereby reducing consumer acceptability Brigitte *et al.* 1994; Garrow and James, 1994). These authors asserted that a high ambient temperature of the tropics is a major environmental factor promoting rapid spoilage of fish. Maddison *et al.* (1993) suggested

refrigeration as means of preventing the fast rate of deterioration in fish. They also cited careful handling and rapid processing as essential steps to overcome the problem of rapid fish spoilage. Therefore, to maintain the freshness of fish, the catch must be preserved or processed. However, several fish processing methods include fermentation, drying, frying, canning, Salting and smoking. Smoking, which is the main object of this paper, may be done in a variety of ways: pre-drying or salting before smoking; cold-smoking which involves the use of little fuel-wood that produces low heat and the products obtained do not keep long; and Hot-smoking which entails the application of much more heat, through the burning of large quantity of fuel-wood (Clucas, 1982). The products from hot-smoking are tastier (Osuji, 1976) and have longer shelf-lives (Maddison *et al.*, 1993). Smoking preserves fish by drying, cooking and depositing natural wood-smoke chemicals like tars, phenols and aldehydes all of which have powerful bactericidal action and prevent the growth of other micro-organisms on the flesh of the fish (Garrow and James, 1994). The flavour of smoke lies in the quantity of the smoke that the flesh is coated with (Anazonwu-Bello, 1976). The smoke determines the colour, which is one of the qualities that attract consumers. The colour is largely dependent on the method as well as the type of fuel wood used in smoking the fish. The colour ranges from black, dark brown, golden brown or light brown to dirty white. Consumer preference for colour of smoked fish varies from place to place. Preservation by smoking is probably the oldest and most popular method of fish preservation in Nigeria and is carried out mostly by women. Fish may be smoked in a Variety of ways but the longer it is smoked, the better it will keep. However, in order to improve smoking techniques, some control must be exercised over temperature, airflow and Smoking density. Traditional open type oven produce non-uniform smoked product, consume high quantity of wood (Clucas, 1982). .

### **1.7 Background of the study**

Smoked fish is widely produced in every part of the country .however; its marketing has not received adequate attention in Ogun state due to insufficient knowledge as to the efficiency of the marketing system. According to Adekoya (1996).the problem of smoked fish marketing are due to poor infrastructure, lack of capital for investment and insufficient marketing services.

### **1.8 Justification of study**

Malnutrition is a major health hazard in many developing countries. Malnutrition impedes health, work-efficiency, productivity and general economic progress. It has been recognize that fish is a veritable source of protein, therefore if readily available and affordable fish can alleviate the problem of malnutrition, then the marketing of smoked fish would appear to follow the concept of excludability in which any individual is free to engage in the fish marketing.

### **1.9 Problem statement**

Marketing is of high importance to smoked fish, thus before we think of production, we must first of all think of an available market for smoked fish. (Kohls & Uhl, 1980). They further stated that, the difficulty with the global food situation appears to be not how big a pie we can bake but how to cut and share the pieces. Agricultural production and fish marketing must develop hand in hand because they are partners in a progressive system. An efficient market is bound to foster the goals of economic development, namely increased real income and income redistribution.

### **1.10 Objectives of the study**

#### **Broad objectives**

The broad objectives of this study is to determine the marketing channels and levels of the efficiency of the marketing systems for smoked fish in Ogun state Nigeria

#### **The specifics objectives are to:**

- ❖ identify and describe the socio-economic characteristics of smoked fish sellers
- ❖ describe the channel of distribution of smoked fish in the study area.
- ❖ describe the structure of the smoked fish markets and price determination
- ❖ assess the efficiency of the smoked fish markets in the study area.
- ❖ identify the major constraints to efficient marketing system of smoked fish

### **1.11 Hypotheses**

The hypotheses tested in the null forms, are

**H<sub>0</sub>1:** There is no significant difference between socio-economic characteristics of smoked fish marketers and their daily income

**H<sub>0</sub>2:** There is no significant difference between mode of distribution of smoked fish and the smoked fish marketers' daily income

## **CHAPTER TWO**

### **2.0 LITERATURE REVIEW**

#### **2.1 Post harvest technology**

Fresh fish is one of the perishable food staples. Fish spoils very fast because of the intrinsic and extrinsic factors. The high ambient temperature and tropics has effect on the spoilages of fish by catalyzing the actions of bacteria, enzymes and chemical oxidation of fat in the body of the fish

Post harvesting losses may occur at the different stages from capture to marketing of the fish. With the decline in fish supply in meeting the demands of the increasing population, high post harvest losses are significantly reduced and production is increased through improved management, fish handling ,processing , storage and distribution.

Post harvest losses are processing losses (from processors) and marketing losses (from seller and buyers). These have been estimated at not less than 30% (Tobor 1984).

#### **2.2 Importance of post harvest technology**

- It extend the shelf –life of fish and fish product
- It minimize spoilage of fish
- It make available the supply of fish in good condition
- It reduces market losses experienced by the fish marketers

## **2.3 Component of post harvest technology:**

The component of post harvest technology include the following: Handling, Preservation, Processing, Utilization, Storage and marketing

### **A.) Handling:**

Good handling of fish from point of harvest to final consumption is very essential for the quality of fish to be maintained. Fish handling involve all the procedure aimed at maintaining the quality of fish. Azeza (1977) and Eyo (1998), observed that fishermen losses a great proportion of their catches due to poor handling of the fish.

### **B.) Preservation and processing**

These methods explore ways by which spoilage are stopped or slowed down to give product a longer shelf life. Processing methods usually change the texture, taste, and physical appearance of the fish. FAO (1986) gave three main fish processing methods as drying, salting and smoking.

### **C.) Smoking**

This is the removal of most of the water from the flesh and the depositing of preserving chemical on the fish flesh. According to Rawson and Sai (1966) in the process of drying and smoking, much of the water content of the fish is extracted through heat thus inhibiting the action of microorganism and prolonging the shelf life. Smoke therefore combine three main effects drying, cooking and preservation.

Capture fish



Washing



Gutting



Cutting



Tenting



Smoking



Cooling



Storage



Packaging

Chart 1. Fish smoking procedure: Smoking process

## **2.4 Fish smoking procedures**

About 1-5% of the total catch is reportedly lost to spoilage because fish were purchased from different landing sites. At these sites fish are either left struggling in canoes or on bare ground open to flies until they die. When fish are conveyed to the kitchen/ smoking room they are dumped on the bare floor before washing them in batches in two different plastic bowls of brackish water. The same bowl of water is often used for a single consignment. Scales of fish are not removed before smoking. This is because this would waste the time of the processors and fish smoking folks do not regard more so the need for this stage as essential. Fish are then sorted into different sizes- small, medium large and extra large and treated as follows. Small whole fish were smoked singly or in multiples (either on sticks in fives or tens). Ten pieces of medium sized fish of the same species were arranged side by side on sharp sticks before smoking commenced. Large sized fish are smoked singly or in twos and threes. Small, Medium and large-sized fish were not gutted before smoking. Extra large fish are gutted and cut into chunks. (After washing, cutting, gutting and sticking) fish are allowed to drip on the same spherical wire mesh trays on which the fish would be smoked.

### **2.4.1 Smoking kilns:**

The two types of smoking kilns in use by fish processors of either full or half drum

#### **A.) Smoking on oil drum kilns**

Only single combustion chamber is made in the oil drum. The kilns are not permanently erected in the smoking room. Chunks of wood are placed in-between two wire mesh trays as fish support. Smoke drying on oil drums takes between 5 and 8 hours. With intensive heat smoking about two or three sets of fish can be smoked within a day. When large quantities of fish were processed

smoking may be done through out the night when mesh trays would be replaced or interchanged periodically

#### **B.) Smoking on racks**

Racks are locally made from wood stumps on which sticks are arranged. Such platforms are usually raised to a height of about 1-1.2 meters above ground. Such' racks are permanent structures inside the smoking kitchen. Close arrangement of sticks to form the platform prevents fish from falling off the rack.

Unlike the oil drum double combustion chamber could be prepared under the racks.

Heat is first produced under the rack before the fish are arranged on top. The fish laid are covered with woven mats produced by the women. Smoke drying on racks takes between 18 to 24 hours depending on the number and size of fish smoked at a time and the intensity of the fire. Only a set of fish could be smoked per day. Firewood and kerosene are the main combustion

### **2.5 Concept of marketing**

American marketing association (AMA) defines marketing as the performance of business activities that direct the flow of good and services from producers to users. It includes surprisingly wide range of activities.

According to Rewoldt (1977). Marketing can be defined as those activities involved in getting goods and services from the producers to the consumers this definitions sees marketing as essentially a bridge between two other economic functions. Its purpose is to make it possible for the utilities created by the production process to meet the ultimate economic purpose of serving the consumption process

Marketing can be defined as the process of planning and executing the conception, pricing, promotion and distribution ideas, goods and services to create exchanged that satisfies the individual and organizational objectives (Gregor *et al.*, 1994)

Kotler (1989,) proposed that the societal market conceptualized more recent versions of ethnic marketing and green marketing.

In summary marketing is the process in a society by which the demand structure for economic goods and services is enlarged and satisfied through the conception, promotion, exchange and physical distribution of such goods and services (Rewoldt, 1977)

## **2.6 Origin of marketing**

Drunker (1974) reported that marketing started in Japan in the 7<sup>th</sup> century by Mitsaw family of Tokyo. The west started marketing in the middle of the 19<sup>th</sup> century visible in the academics and business scenes. In America, it took another fifty years later. Marketing research surfaced in the early 20<sup>th</sup> century. It entered the consciousness of different organization at different times.

According to the renowned marketing scholar Drunker (1974), Marketing is so basic that it cannot be considered separate functions. It is a whole business seen from different view of its final result, that is, from consumers point of view .Various definitions of marketing have been given over the time, some have called it business activity, a group of related business activities, others have seen it as a frame of mind, a process of buying and selling as a process of exchange or transferring of ownership of product and as many other things.

Marketing involves creating product, pricing of the product and putting them in the place of where they can be found and promoting the product which communicates the marketing message to a selected audience (Akinwusi, 1995)

Marketing not only ensures that goods and services are produced but also make sure that the right kind of goods and services are produced in the right amount or quality

Fish marketing involves the performances of all business activities involve in the flow of fish from the one point of initials production until they arrived in the hand of the consumers in order to satisfy consumption and accomplish the company's objectives

### **2.6.1 History of marketing**

The history of marketing parallels the civilization for it is both a cause and effect of the civilizing process .man tend to build, culturally and technologically on the foundations laid by the other generations and other societies.

According to Ames, (1970), marketing is affected by the process of civilization that is must constantly adopt new strategies and new techniques as society and its problem become more complex.

Possibly, the first marketing transaction took place when caveman who enjoys making arrows but did not like to hunt ,persuaded a fellow cave dweller who like to hunt but did not enjoy making arrows to accept some arrows in exchanged for some animal skin; we call this “barter”. Since that time long ago, marketing has become very sophisticated.

As elementary civilization spreads, one tribe learned to trade good with another tribe. The invention and acceptance of money as medium of exchange was a giant step forward .Gradually, Man began to learn that he could live better if he specialize in the production of one good and traded his surplus of that good to the other man who specialized in producing something else.

### **2.6.2 Roles of marketing**

The role of marketing in economics development cannot be overemphasized.

According to Adrika (1977). Marketing performs so many roles in an economic system which includes the followings:

1. Links buyers and sellers, thus makes it possible for exchange relationship.
2. Increase the standard of living: aggressive, marketing has been largely responsible for the high marital standard of living of most advanced economics. Through mass low- cost marketing, people today enjoy products which were once considered luxuries and which are still considered as such in the societies where marketing is in its infancy
3. Create employment: Marketing functions or activities need people to be effectively involved, hence means more jobs for the people. Also since marketing does not operate in isolations, hence more jobs for the other areas of the business to function.

### **2.6.3 Marketing functions and services**

Marketing functions can be categorized into three major classes:

#### A.) **Exchanged functions**

Exchanged functions are the buying and selling functions. The buying and selling functions involves all the process involved in seeking out the source of supply, assembling the product and the activities with the purchase of goods. Selling on the other hand involves the processes of making good available for sale. It involve advertisement and acceptability of prices offered. The various activities that are called merchandising can be grouped under the selling functions

#### B **Physical Functions**

Physical functions are those activities that involve ranking movement and physical exchange of the actual commodity itself. They are involved in solving problem of “which” “what” “where” in marketing. These functions are the transportation functions, the storage functions and the process function. They are the functions involve in the movement of goods from the point of production to the point of consumption. They equally ensure product quality through proper storage and also changing the form of the product to another through processing.

C **Facilitating function:** This include the standardizing and grading, risk bearing, market information intelligence and financing.

Marketing information deals with the process of having access to large varieties of data necessary for the smooth operation of marketing system.

#### **2.6.4 Marketing mix**

According to Max k. Adlei in his work on modern market research, marketing mix is a description of the various element of the marketing process that must be co-ordinate to make up the marketing effort.

These elements are commonly termed as 4p's viz:

- Product
- Price
- Place and
- Promotion

#### **2.6.6 Marketing efficiency**

Marketing efficiency is the movement of goods and service from the producer to the consumer at the lowest cost consistent with the provision of the service that consumers desire and are able to afford.

This holds true because it is natural for everybody to seek after his own interest i.e. the farmers would be after the sales of his produce at the highest price possible while the consumer would be purchasing quality goods and services at the lowest price possible. According to Adegeye and Dittoh (1985) the following are the indicators that are usually identified with efficiency.

- Marketing margin
- Consumer prices

- Availability of physical marketing facilities and
- Marketing competition

While the others are self explanatory, marketing margin appear a little ambiguous.

#### **A.) Marketing Margin**

Adekanye (1988) defined marketing margin as the difference between what the farmer gets and what he sells. Marketing margin differ form commodity to commodity, it also differs from one market level to another such as retail, wholesale or for the whole marketing system.

Marketing margin is usually accepted as the utility or value created in the marketing process. If the margin is high producers generally thinks that they have been deprived of a substantial part of the consumer's pay, Low margins are regarded as proof that the distribution system does not exploit the producers.

#### **B.) Marketing Channels**

A distribution channels can be defined as a sequence of markets or discrete exchanges which a given product passes through under the supervision and control of middlemen from the production location to the final consumer. Four major channels of distribution were identified in reference to developed economies

- From producer to consumer
- From producer to one middleman

- From producer to wholesaler to retail to consumer (This is the traditional marketing channel of distribution for consumer goods).

The shorter a marketing channel, the more efficient is the marketing [profit maximization, a producer or trader selects that channel of distribution which promise to yield the highest possible net profit on his sales (Anthonio, 1988). As output increases along the distance between the producer and the final consumer, more level will usually be added to the system (of distribution) as additional intermediaries become choice is to select the distribution path most likely to ensure the availability of product at the purchase point utilized by farmer's price determination under perfect market at wholesale level by reference to general level of prices in the market; and through the market forces of demand and supply. At retail level, bargaining is the most popular social principle in setting market price. Under imperfect market competition pricing decision by firms are based on cost orientation pricing, demand oriented and competition oriented pricing (Chaston 2000)

Fish marketing does not usually involve the fishermen and consumers only but there are other players in the fish distribution channels especially middlemen (Lawal and Idega, 2004). Consequently, prices of fish change as it passes through these middlemen such that by the time it reaches consumers, it becomes expensive. Bryceson, (1993) who reported that the middlemen performing the role of marketing are being accused of earning higher profits in the marketing system. As the fishermen approach their landing sites, fish marketers come around to purchase the fish, though the number of intermediaries or middle men may range from one to three.

Marketing and distribution channels are important characteristics in the process of getting produce from source to consumers. Olukosi and Isitor (1990) categorized marketing channels into centralized and decentralized channels. Centralized channels deals with agents who serve as

middlemen between producers and consumers while decentralized is a kind of channel where both consumers and agents can buy directly from the producers. Fish distribution channel is common to most developing countries with series of middlemen between producers and consumers (Moses, 1992).

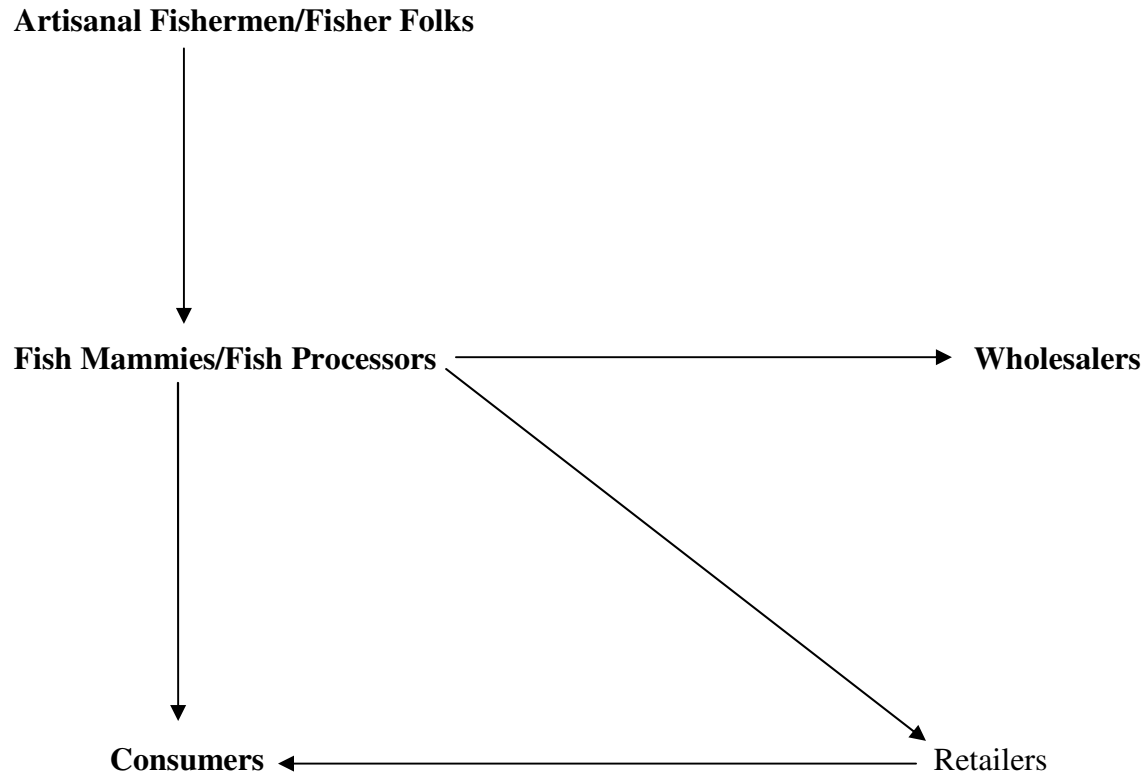


Figure1: A Typical Smoked Fish Marketing Channel in South Western Nigeria

Source: Babalola, (1976)

## 2.7 Marketing structure, conduct and performance

The structure, conduct and performance are some of the suitable character of defining an adequate market situation optimizes social welfare and maximizes the efficiency of the marketing system. A detail study of the marketing system for any product will require an elaboration of structure, conduct and performance therefore stands for the way of life, mode of operation, the acceptance practices and the business facilitating arrangement involve in marketing.

A) **Structure:** These are the economic variable that characterizes an organization. It refers to certain characteristic that influence the nature and competitiveness of a market in the process of price formation. The elements of market structure are

1. brief history of the industry
2. barrier to entry
3. product differentiation
4. size and number of buyers and sellers
5. growth rate of the market
6. elasticity of demand

B) **Conduct:** This is the behaviour of industries of interest with reference to its activities. The element of conduct also embraces polices, regulation and action with respect to pricing, standardization advertisement, promotion and physical distribution

C) **Performance:** this is the outcome of the behaviour arising from the interaction of structure and conduct. It is the assessment of the how well the process of marketing is carried out successfully its aims are accomplished. The element include marketing margin(profit), operational efficiency, pricing efficiency, price stability, technical progressiveness, product quality, employment generation, reduction of risk and cost of sales promotion.

## 2.8 Marketing Philosophy

Five marketing philosophy are commonly used in expressing marketing concept

- production concept: This assumes that the consumers will favour those product which are available and affordable
- production concept: This assumes that the consumers will favour those product that offers the most quality for the price
- Selling concept: This assumes that consumer will not buy or buy enough of the product unless efforts are made to stimulate the interest in the product.
- Marketing concept: It holds that the key task of the marketing organization to delivering the desired satisfaction more effectively and efficiently than its competitors.
- Social marketing concept: It holds that the key task of the organizations to determine the needs and wants of the target market.

## 2.9 Smoked Fish Distribution and Marketing

The fish processors buy fish from the artisanal fishermen for smoking (Bah, 1976). Hot smokings are exported by air to ethnic market in Europe and USA in chilled and wrapped in a plastic film

packed in polystyrene boxes (Njai, 2000). Smoked fish is transported in trucks to inland markets or the port for export to neighboring countries by sea. The smoked fish is wrapped in paper and packed in locally weaved baskets or wooden crates. However, recent studies have shown that traditional packages are generally not impermeable to moisture, insects and microorganisms and also offer little protection from physical damage. These problems highlight the need for future research on paper packing materials for smoked fish

## CHAPTER THREE

### 3.0 MATERIALS AND METHOD

#### 3.1 Study area

The study was conducted in Ogun State in south- western Nigeria. The state has an estimated population of over 3 million people according to National Population Commission (N.P.C, 2006). The state is located in the rainforest vegetation belt of Nigeria within longitude 2° 45' E and 3° 55' E and latitudes 7° 01' N and 7° 8' N in the tropics.

It is bounded in the west by Benin Republic, in the south by Lagos state and Atlantic Ocean, in the east by Ondo State, and in the North by Oyo and Osun States. It covers a land area of 16,409.28 square kilometers, less than two percent (2%) of the country's landmass (Olaoye *et al.*, 2007). The rainy season starts around the middle of March and continues until late October. The dry season starts in November and lasts until February in most locations in the state. Rainfall ranges between 1600mm and 900mm annually. The state is warm throughout the year with a temperature of between 28°C and 35°C, humidity is between 85 percent and 95 percent (Oloruntoba and Adegbite, 2006).

The state has marine and riverine biotopes estimated at 173.8 square kilometers (Adekoya, 2001; Ita 1984) covering 12, 482,640 Ha, lacustrine biotopes totaling 4,404.35 Ha and estuarine biotopes covering a total of 767.3 km<sup>2</sup> (Ayansowo, 2003; Olaoye *et al.*, 2007) and is well endowed with natural water bodies such as springs, perennial flowing rivers, lakes and brackish waters.

There are twenty local government areas in the state. The capital of the state is Abeokuta. The main occupations of the people in the state are: agriculture, fishing, clothing, textiles and civil service.

The study covered the agricultural extension zones as classified by the Ogun State Agricultural Development Programme (OGADEP). The state was divided into four Agricultural extension zones namely: Abeokuta, Ilaro, Ijebu-ode and Ikenne (OGADEP, 2005).

The four agricultural zones are well known as best ecological suitable areas for fish production and hence the state is referred to as the basket of fish for the nation because of abundance of wetland with annual growth rate of 3% per annum. As at 2008, farmed fish produced by 6, 664 productive fish farmers was found to be synchronous with the growth trend of aquaculture and the resources in Ogun State within the same period (OGADEP, 2009).



### **3.2 The Study Population**

The study population consists of eighty smoked fish Traders from four spatially separated markets in the following geographical area which are makun Omi, (ijeju ode) Olomore fish market (Abeokuta) Itoku market( Abeokuta) Kuto market( Abeokuta). Average of twenty smoked fish traders were interviewed in each of the Markets.

### **3.3 Source of data**

The data used in this study include the following:

- Primary Data
- Secondary Data

The Primary data: This was obtained with the use of a comprehensive structured questionnaire with interviews. The questionnaire was administered in a major market using selected respondent.

### **3.4 Analytical procedures**

Combinations of statistical, budgetary and parametric analysis were used to analyze the obtained data. These include descriptive analysis, gross margin analysis and analysis of difference of means.

### **3.5 Descriptive statistical tools**

Tables, frequencies, pie-charts, bar charts and percentages were used to describe the socio-economic characteristics of the respondents. The characteristics included the ages of the farmers, marital status, educational attainment, marketing experience, sex etc.

### 3.6 Gross margin analysis

The budgetary technique was used to determine the gross margin income of smoked fish marketers using t-test for two sample assuming unequal variances.

Model used in estimating the gross margin is:

$$GMI = \sum TR - \sum TVC \dots\dots\dots (i)$$

$$TR = P_y \cdot Y_i \dots\dots\dots (ii)$$

$$TVC = P_{x_i} X \dots\dots\dots (iii)$$

$$TC = TVC + TFC \dots\dots\dots (iv)$$

$$NI = GM - TFC \dots\dots\dots (v)$$

Where,

GMI= Gross Margin Income (₦)

TR= Total Revenue (₦)

TVC= Total Variable Cost (₦)

TC=Total Cost (₦)

NI= Net Income (₦)

$P_y$ = Unit Price of Output Produced (₦)

Y= Quantity of Output (kg)

### **3.7 Socioeconomic characteristics**

In order to determine the socio-economic characteristics of the (fish farmers), the questionnaire was designed with respect to

- i. Age: Was measured at interval level by obtaining the specific age of the respondents and categories in range as follows.
- ii. Gender: was assessed at nominal level as male and female
- iii. Marital status: was measures at nominal level and responds were categorized into single, married, divorced and widow.
- iv. Household Size: This was measured at interval; level of indication of the specific number of persons living and feeling under the same roof
- v. The level of education: This was measured at ordinal level by indication of level of education attained and the respondents were categories into: No formal education, Adult education, primary education, secondary education and tertiary educations
- vi. Religious affiliation: This was categorized into Christianity, Islam, traditional, and other religion not mentioned.
- vii. Major occupation
- viii. Secondary occupation
- ix. Length of involvement in the smoked fish business: Experience was measured by indication of actual number of years in smoked fish marketing

### **3.8 Source of the smoked fish**

Data collected from the smoked fish traders include the source of the smoked fish supply, various species of smoked fish, quantity bought, cost of the fish bought, mode and cost of transportation to the source market and to the sales market.

Also in the primary data, the channel of the smoked fish was obtained from the correspondents.

Secondary Data: this was obtained from printed materials such as Published data, textbooks, journals, internet and from institution relevant to the study.

## CHAPTER FOUR

### 1.0 RESULTS

#### 4.1 Socio-economic characteristics of the respondents

##### 4.1.1 Age distribution

Entries in the Table showed that 37.5% of the respondents were within the age group of 41-50 years while 25% were 61 years and above.

Table 1: Age Distribution of respondents

|                | <b>Freq</b> | <b>%</b>     | <b>Mean</b>  | <b>S.E</b>   | <b>Std</b> |
|----------------|-------------|--------------|--------------|--------------|------------|
| 21-30          | 17          | 21.3         |              |              |            |
| 31-40          | 18          | 22.5         |              |              |            |
| 41-50          | 30          | 37.5         |              |              |            |
| 51-60          | 13          | 16.3         |              |              |            |
| 61&above       | 2           | 2.5          |              |              |            |
| <b>Total</b>   | <b>80</b>   | <b>100.0</b> | <b>42.75</b> | <b>0.120</b> |            |
| <b>1.07731</b> |             |              |              |              |            |

**Source:** Field survey, 2011

#### 4.1.2 Sex of respondents

It was gathered from the result that 75.0% of the respondent were females while 25.0% were males

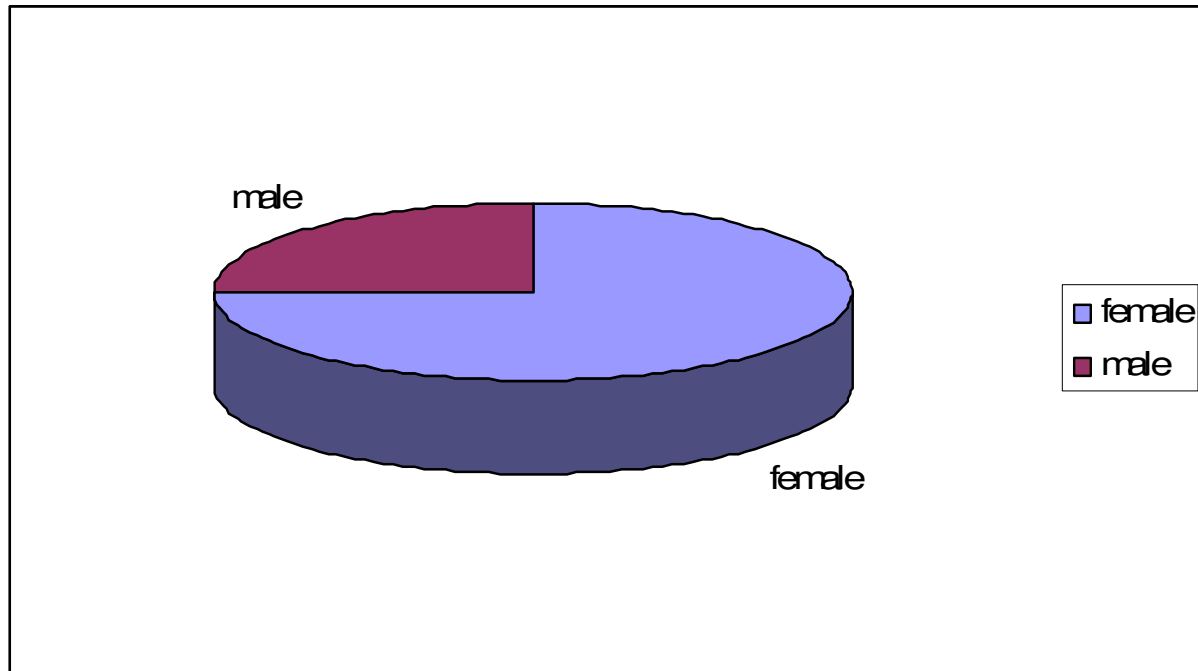
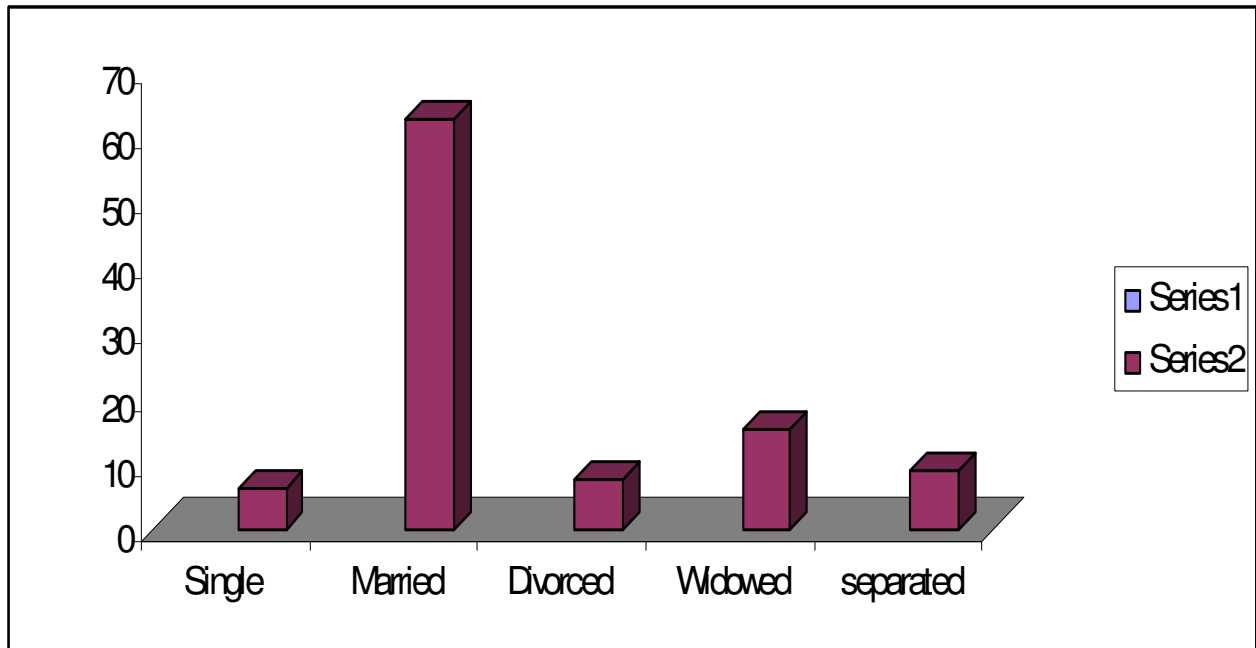


Figure 3: Pie chart representation of Sex of Respondents

**Source:** Field survey, 2011

#### 4.1.3 Marital status

It was gathered from the result that 62.5% of the respondent were married, while 6.3% were single.



**Figure 4:** Bar chat representation of Marital Status of respondents

**Source:** Field survey, 2011

#### 4.1.4 Tribe

The table below showed that the tribe of the respondent comprises of Yoruba, Hausa, and Ijaw, In which 60% of the respondent were Yorubas

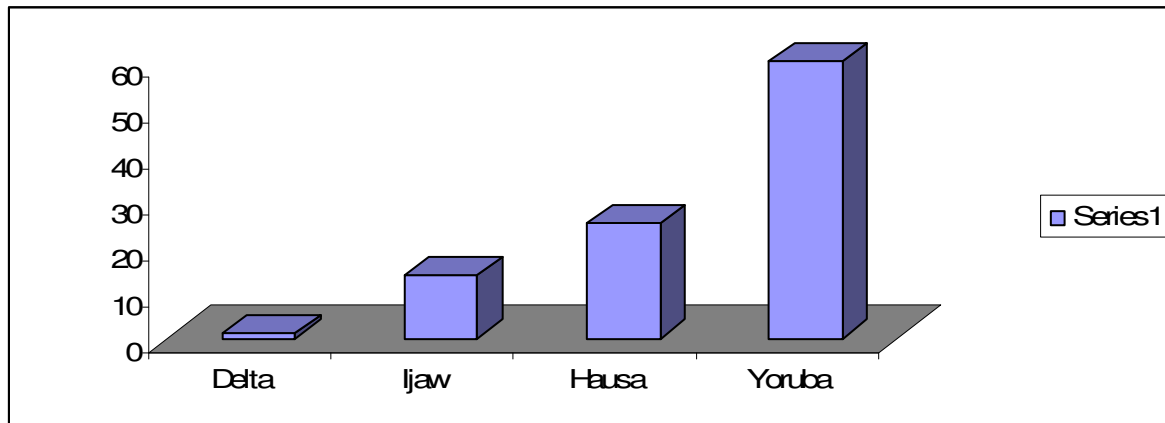


Figure 5: Bar chat representation of Tribe of respondents

**Source:** Field survey, 2011

#### 4.1.6 Number of spouse of the respondent

The number of spouse of respondent showed that 81.3% of the respondent had one spouse while 18.3% had 2 spouses. This is illustrated in figure 6 below

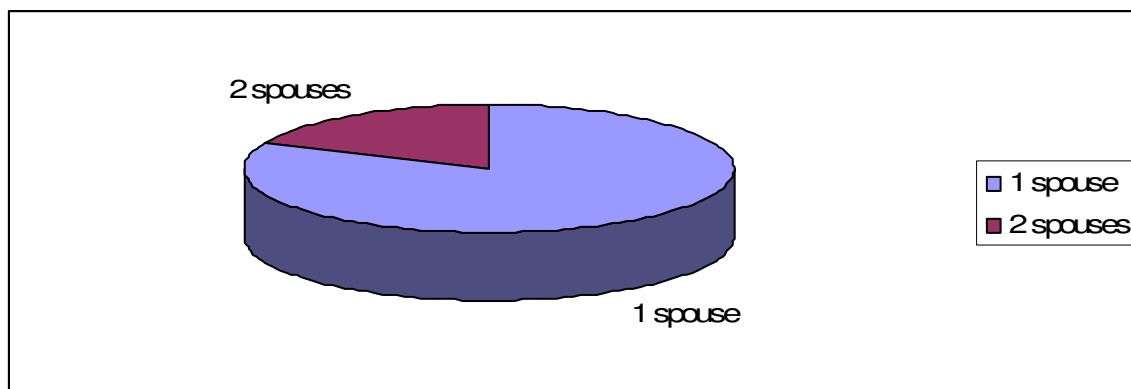


Figure 6: Pie chart representation of spouse respondents

**Source:** Field survey, 2011

#### 4.1.7 Household Size

The average household size of the respondent was found to be 7.0 person, (57.5%), having 6-10 members.

**Table 2:** Household size distribution of the smoked fish sellers

|              | <b>Freq</b> | <b>%</b>   | <b>Mean</b> | <b>S.E</b> | <b>Std</b> |
|--------------|-------------|------------|-------------|------------|------------|
| 1-5          | 21          | 26.3       |             |            |            |
| 6-10         | 46          | 57.5       |             |            |            |
| 11-15        | 13          | 16.3       |             |            |            |
| <b>Total</b> | <b>80</b>   | <b>100</b> | <b>6.73</b> | <b>0.7</b> | <b>0.6</b> |

**Source:** Field survey, 2011

#### 4.1.8 Educational level

Table 3 below shows that 76.3% of the respondent had no formal education while only 1.3% of the respondent had tertiary education.

**Table 3:** Percentage distribution of the educational level of the smoked fish sellers

|                     | <b>Freq</b> | <b>%</b> |
|---------------------|-------------|----------|
| No formal education | 61          | 76.3     |
| Primary education   | 11          | 13.3     |
| Secondary education | 7           | 8.8      |
| Tertiary education  | 1           | 1.3      |
| Total               | 80          | 100      |

**Source:** Field survey, 2011

#### 4.1.8 Number of years spent in school

Table 4 below shows the number of years spent in school 73.8% did not go to school at all while 6.3% spent between 11 and 16 years.

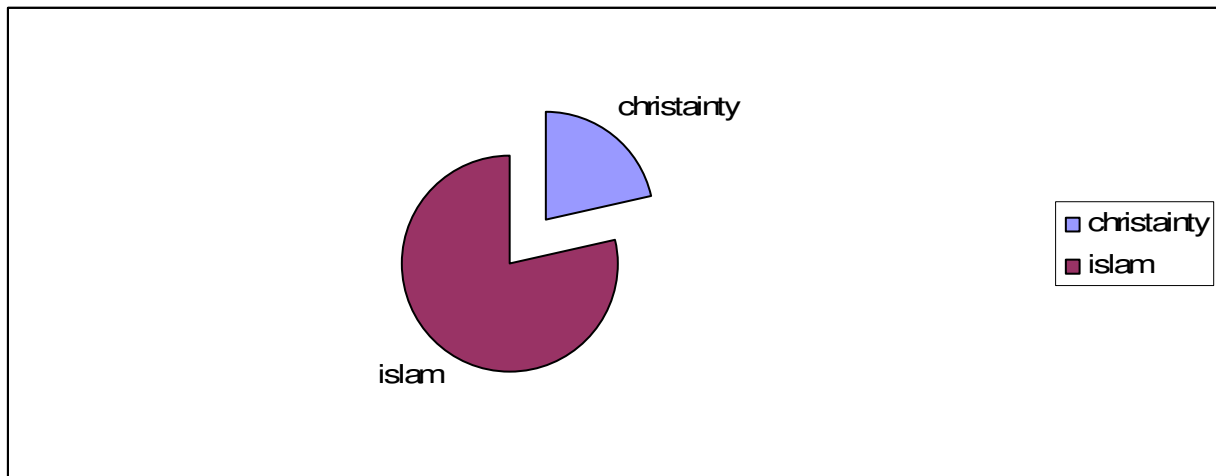
**Table 4:** number of years in school of the smoked fish sellers

| <b>Number of yrs</b> | <b>freq</b> | <b>%</b>   | <b>Mean</b> | <b>S.E</b>  | <b>Std</b> |
|----------------------|-------------|------------|-------------|-------------|------------|
| 0-5                  | 59          | 73.8       |             |             |            |
| 6-10                 | 16          | 20.0       |             |             |            |
| 11-16                | 5           | 6.3        |             |             |            |
| <b>Total</b>         | <b>80</b>   | <b>100</b> | <b>8.7</b>  | <b>0.73</b> | <b>3.4</b> |

**Source:** Field survey, 2011

#### 4.1.9 Religion affinity

Out of the sampled smoked fish sellers, 21.3% were Christians and 78.8% were Muslim.



**Figure 7:** Pie chart representation of religion affinity of the respondent

**Source:** Field survey, 2011

#### 4.1.10 Secondary occupation

Most (52.5%) of their primary occupation was smoked fish business, though some of the respondents were involved in other income generating activities that supplement their primary income. For instance, 7.5% of the respondent were into fish farming as against 5.0% that was involved in poultry farming as shown in Table below

**Table 8:** Secondary occupation of the smoked fish sellers

|                 | <b>Freq</b> | <b>%</b>   |
|-----------------|-------------|------------|
| Nil             | 42          | 52.5       |
| Fish farming    | 18          | 22.5       |
| Poultry farming | 4           | 5.0        |
| Tailoring       | 6           | 7.5        |
| Trader          | 10          | 12.5       |
| <b>TOTAL</b>    | <b>80</b>   | <b>100</b> |

**Source:** Field survey, 2011

#### **4.2.1 Years of experience of the smoked fish business**

Table below showed the marketing experience of the smoked fish traders

| <b>Years</b> | <b>freq</b> | <b>%</b>     | <b>mean</b>  | <b>S.D</b>  | <b>S.E</b>   |
|--------------|-------------|--------------|--------------|-------------|--------------|
| 10-15        | 28          | 35.0         |              |             |              |
| 16-20        | 18          | 22.5         |              |             |              |
| 21-25        | 4           | 5.0          |              |             |              |
| 26-30        | 16          | 20.0         |              |             |              |
| 31-35        | 0           | 0            |              |             |              |
| 36-40        | 12          | 15.0         |              |             |              |
| 41-45        | 2           | 2.5          |              |             |              |
| <b>Total</b> | <b>80</b>   | <b>100.0</b> | <b>22.35</b> | <b>1.28</b> | <b>11.48</b> |

**Source:** Field survey, 2011

#### 4.1.12 Type of smoked fish business

It was gather that respondent were either involved in small scale (31.3%), medium scale (23.8%), or large scale (45.0) smoked fish trading. This is represented in figure 8 below

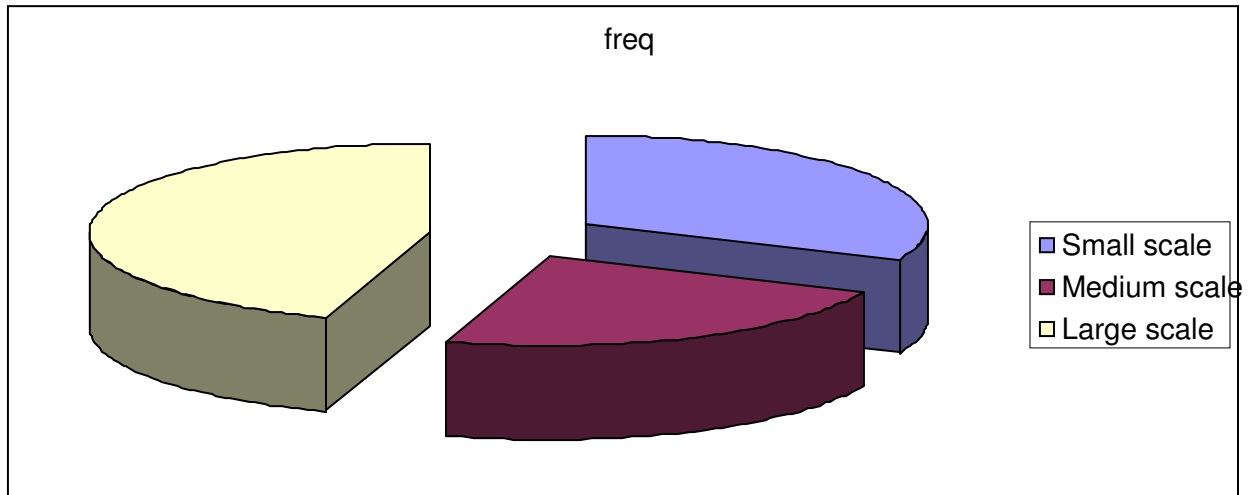


Figure 8 Pie chart representation of the level of the smoked fish business

**Source:** Field survey, 2011

#### 4.1.13 Source of capital

Table 7 below shows the different source of capital the respondent adopted for the marketing of the smoked fish. The source include family, friends , bank loan and other(self) .

| Source        | freq      | %            |
|---------------|-----------|--------------|
| Family        | 2         | 2.5          |
| Friend        | 8         | 10.0         |
| Bank          | 1         | 1.3          |
| Co-operative  | 14        | 17.5         |
| Others (self) | 55        | 68.5         |
| <b>Total</b>  | <b>80</b> | <b>100.0</b> |

**Source:** Field survey, 2011

#### 4.1.14 Source of labour

As shown in figure below, 62.5% of the respondent preferred to use self labour while 2.5% preferred hired labour

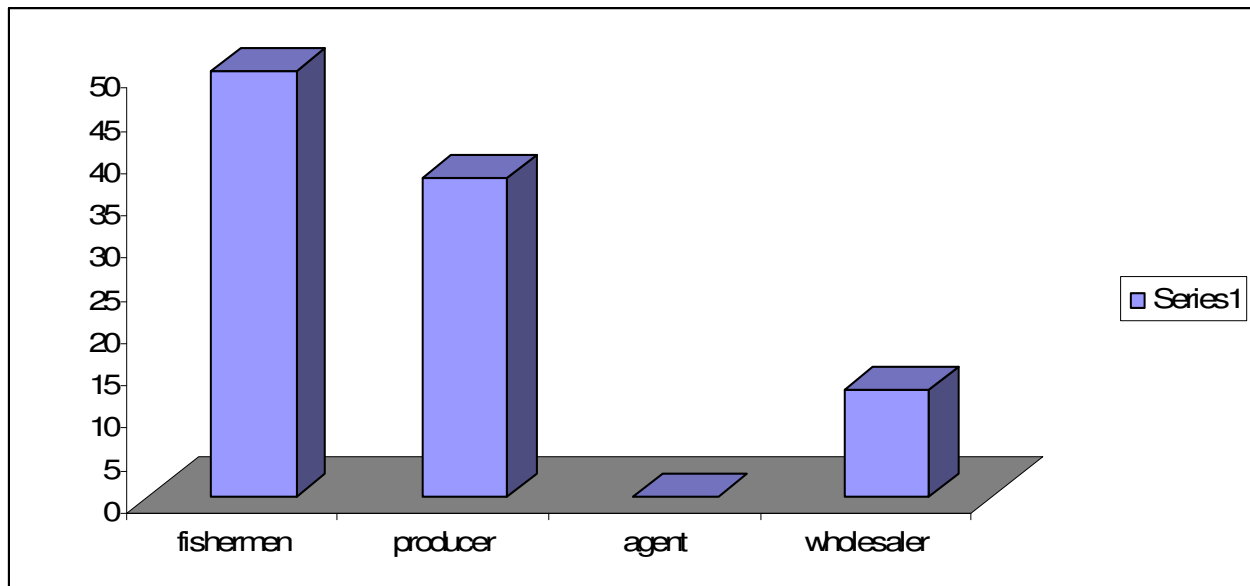


Figure 9 pie chart representation of source of labour

**Source:** Field survey, 2011

#### 4.2. Source of the smoked fish sold

The figure below shows the various source of the smoked fish sold .Most of the respondents obtained their fish from the fishermen (50%) while some from the producer (37.5%) and others from the wholesaler (12.5%). None of the smoked fish traders obtained their fish from agent



**Figure 10:** Bar chart representing source of smoked fish sold

**Source:** Field survey, 2011.

#### 4.2.2 Quantity of fish purchased

---

|              | Frequency | Percent    |
|--------------|-----------|------------|
| 1-10         | 46        | 57.5       |
| 11-20        | 2         | 2.5        |
| 21-30        | 2         | 2.5        |
| 31-40        | 30        | 37.5       |
| <b>TOTAL</b> | <b>80</b> | <b>100</b> |

---

**Source:** Field survey, 2011.

#### 4.3 Channel of smoked fish

##### 4.3.1 Distribution of channel of smoked fish

It was gathered that most of the respondent distributed their smoked fish directly to consumer (77.5 %), some to retailer and consumer, some to retailer only, while some to wholesaler. This is show in the table below.

Table 9: Distribution channel of smoked fish

|                       | <b>Frequency</b> | <b>Percent (%)</b> |
|-----------------------|------------------|--------------------|
| Directly to consumer  | 62               | 77.5               |
| Retailer and consumer | 11               | 13.8               |
| Retailer only         | 3                | 3.8                |
| wholesaler            | 4                | 5.0                |
| <b>Total</b>          | <b>80</b>        | <b>100</b>         |

**Source:** Field survey, 2011

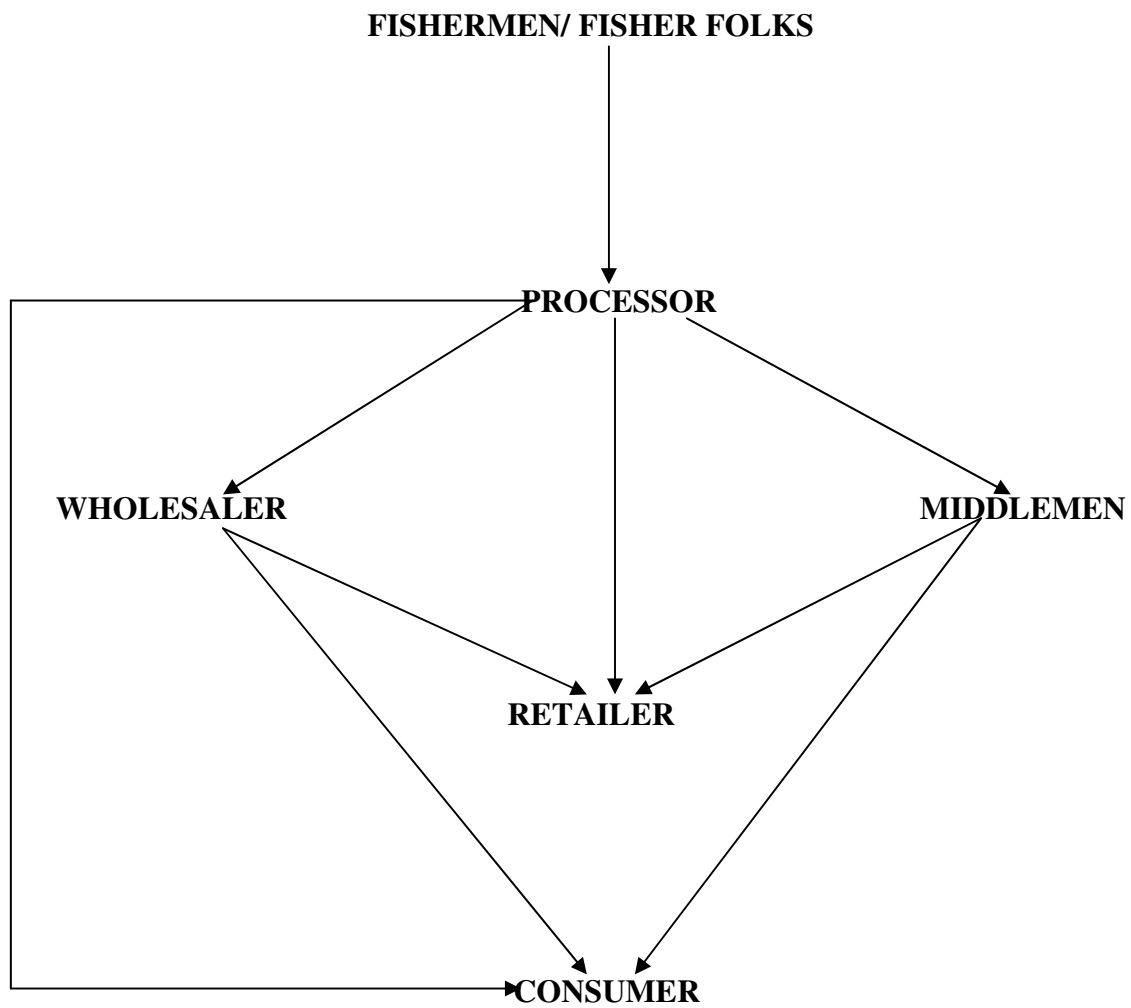
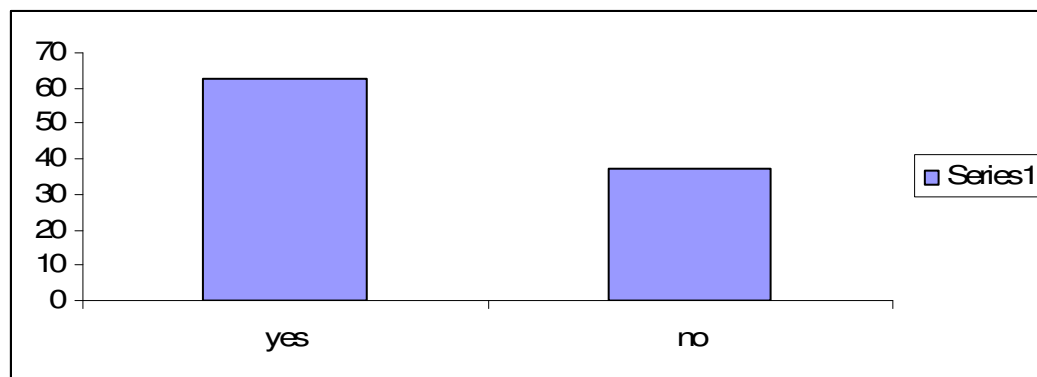


Figure 11, Distribution Channel of Smoked Fish in Ogun State

Field survey, 2011

#### 4.5.2 Involvement of middlemen in the sales of smoked fish

It was gathered that none of the smoked fish trader make use of the middlemen in the distribution of the few of them make use of middlemen.



**Figure 12.** Bar chart representing involvement of middlemen in the distribution of smoked fish

**Source:** Field survey, 2011

#### 4.3.3 Distribution of respondents' daily income

Table 10 below show the respondent income per day in which (60% ) of the respondent earned above 40000 in one market day.

**Table 10 daily income of smoked fish sellers**

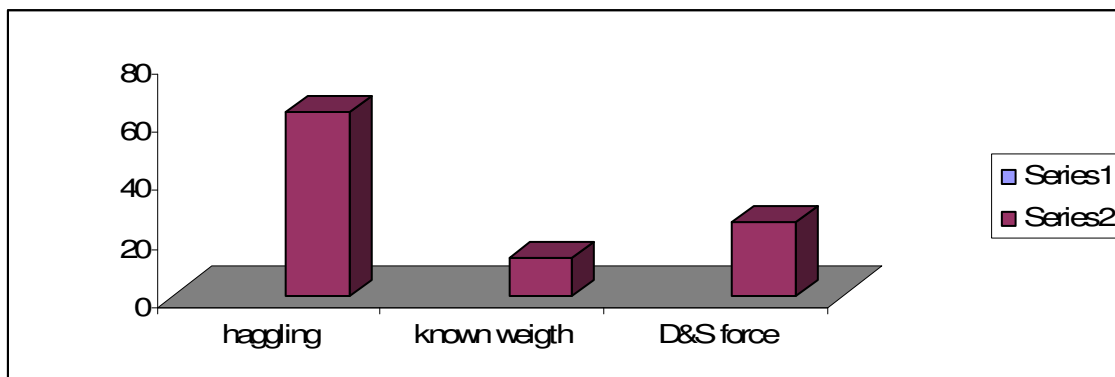
|              | <b>Freq</b> | <b>%</b>   | <b>mean</b>    | <b>S.E</b>   | <b>S.D</b>   |
|--------------|-------------|------------|----------------|--------------|--------------|
| 1000-10000   | 30          | 37.5       |                |              |              |
| 100001-20000 | 2           | 2.5        |                |              |              |
| Above 40000  | 48          | 60         |                |              |              |
| <b>Total</b> | <b>80</b>   | <b>100</b> | <b>3,456.0</b> | <b>21.13</b> | <b>19.43</b> |

**Source:** Field survey, 2011

#### **4.4.0 Price determination**

##### **4.4.1 Method of price negotiation**

It was gathered that the consumer made use of different form of price in the purchase of the smoked fish. some made use of haggling method (62.5%) between the seller buyer and some priced the smoked fish by paying for known amount (12.5%) and also the demand and supply force determines the way the smoked were priced This is represented in the diagram below

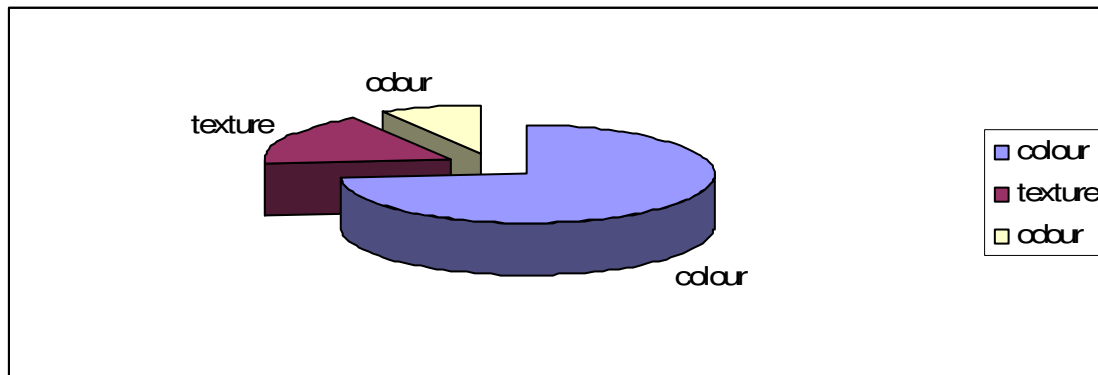


**Figure 13: Bar chart Representation of mode of price negotiation of smoked fish**

**Source:** Field survey, 2011

#### 4.4.2 Factors that determine price of smoked fish

There were different factors that determine the price of the smoked fish such as colour of the smoked fish (73.8%) texture of the smoked fish (17.5%) and its odour (8.8%).this represented in the diagram below.

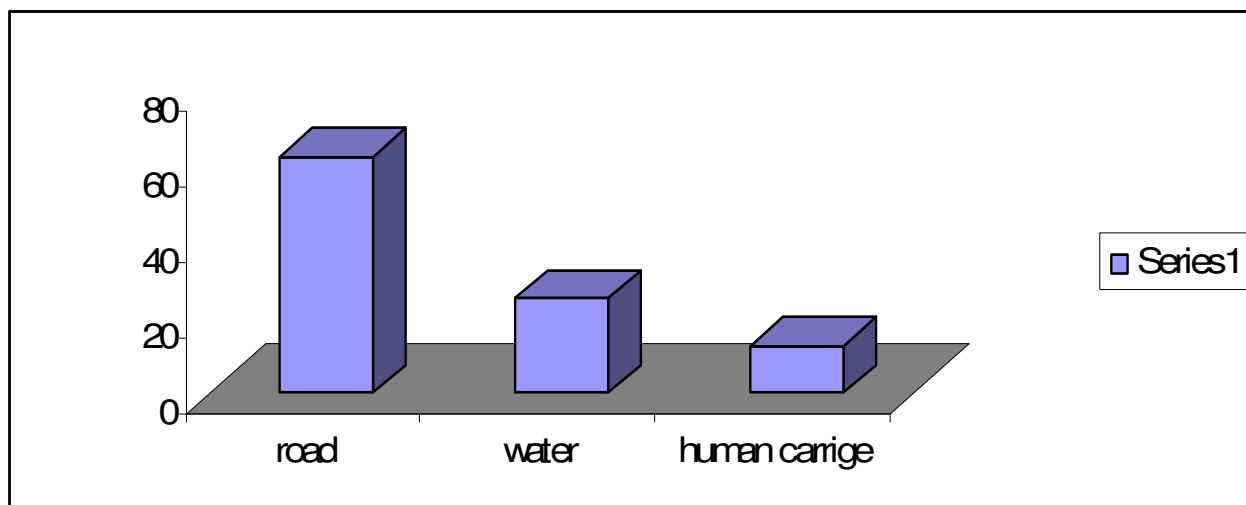


**Figure14: Pie chart representation of factors determining price of smoked fish**

**Source:** Field survey, 2011

#### 4.6 mode of Transportation of the smoked fish to the market

It was gather that the respondents made use of different mode of transportation of their smoked fish to market. Some transported their fish by human carriage (12.5%), some by road transport (62.50%) while some by water transportation (25%). This is illustrated in figure14 below.

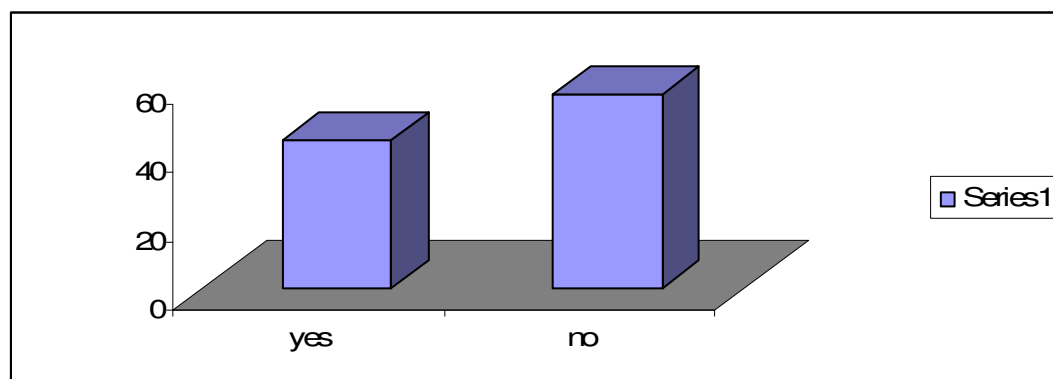


**Figure 15: bar chart representation of mode of transportation of smoked fish**

**Source:** Field survey, 2011

#### **4.7 storage facilities**

It was discovered from this result that more than half of the respondent did not have storage facilities for their fish (56.6%) while few of the respondent had storage facilities. This is represented in figure 15 below

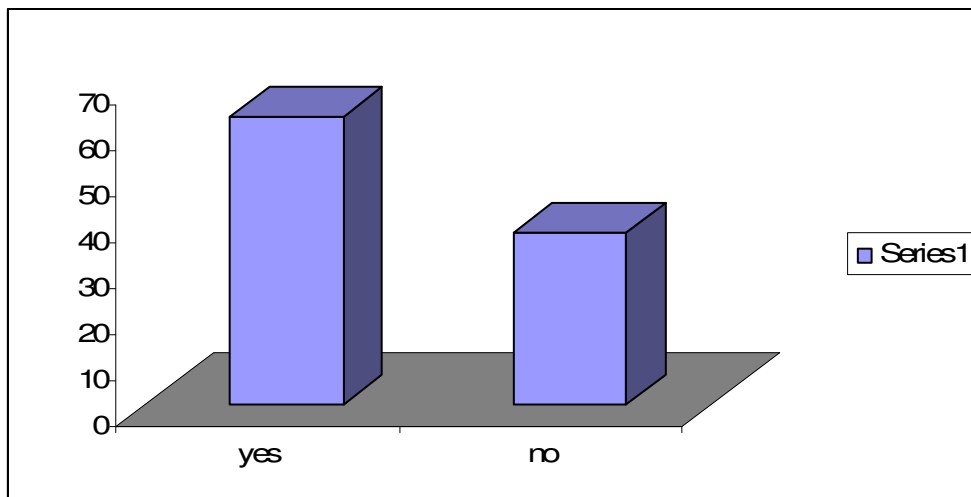


**Figure 16: Bar chart representation of storage facilities**

**Source:** Field survey, 2011

#### 4.6 Association of marketers

Figure 16 below shows the distribution of the smoked fish traders belonging to one association or the other 62.5% of the respondent belong to the market association while 37.5% did not belong to any association.



**Figure 17: Bar chart Representation of association of marketers**

**Source:** Field survey, 2011

**4.7 Table 11:** Cost element of the respondents

| <b>Items</b>                         |                  |                     |
|--------------------------------------|------------------|---------------------|
|                                      | <b>Amount ₦</b>  | <b>% total cost</b> |
| <b>Variable cost</b>                 |                  |                     |
| Firewood                             | 2,600.00         | 1.45                |
| Fish                                 | 36,066.67        | 89.75               |
| Kerosene                             | 1,243.33         | 0.80                |
| Transportation in obtaining the fish | 2,096.67         | 3.30                |
| Transporting the fish to the market  | 1,566.67         | 4.6                 |
| <b>TVC</b>                           | <b>43,572.74</b> | <b>100</b>          |
| <b>Fixed cost</b>                    |                  |                     |
| Processing equipment                 | 8,466.67         | 20.40               |
| Processing shed                      | 12,033.33        | 38.62               |
| Bowls                                | 1,523.23         | 3.67                |
| Basket                               | 2,510.30         | 6.05                |
| Wire gauze                           | 1,833.37         | 4.42                |
| Knife                                | 1,110            | 26.86               |
| <b>TFC</b>                           | <b>27,482.67</b> | <b>100</b>          |
| <b>Total cost</b>                    | <b>71,055.41</b> |                     |
| <b>Gross margin</b>                  | <b>29,558.39</b> |                     |
| <b>Net income</b>                    | <b>1,775.9</b>   |                     |
| <b>Marketing efficiency</b>          | <b>40.17%</b>    |                     |

**Source:** Field survey, 2011.

**4.8. Table 12:** Distribution of constraints militating against smoke fish marketing in Ogun State

|                             | <b>Very serious</b> | <b>Serious</b> | <b>Not a problem</b> | <b>I don't know</b> |
|-----------------------------|---------------------|----------------|----------------------|---------------------|
| <b>Lack of capital</b>      | 52.5                | 11.3           | 11.3                 | 23.8                |
| Price fluctuation           | 32.5                | 10.0           | 51.3                 | 5.3                 |
| High cost of transportation | 7.5                 | 11.3           | 65.0                 | 16.3                |
| Lack of storage facilities  | 27.5                | 8.8            | 38.8                 | 25                  |
| Inadequate supply of fish   | 38.8                | 8.8            | 42.5                 | 9.0                 |
| Others                      | 0.00                | 0.00           | 0.00                 | 0.00                |

**Source:** Field survey, 2011.

#### **4.9. Seasonal changes in the sales of smoked fish**

It was gather that the season of highest sale of smoked fish is between October-December (62.5%).

This is illustrated in the table 13 below.

| <b>Months/Season</b> | <b>frequency</b> | <b>percent</b> |
|----------------------|------------------|----------------|
| January-march        | 5                | 6.3            |
| April-June           | 10               | 12.5           |
| July-September       | 15               | 18.8           |
| October-December     | 50               | 62.5           |
| <b>Total</b>         | <b>80</b>        | <b>100</b>     |

**Source:** Field survey, 2011

## Hypotheses testing

**H<sub>0</sub>1:- There is no significant difference between the socio-economic characteristics of the smoked fish marketers and their daily income**

Table 14 revealed that out of four variables tested, all were significant at  $P < 0.05$ . Therefore, socio-economic variables were significant to the daily income of the smoked fish marketers.

**Table 14: T-test result of the socio-economic characteristics of the respondents' to daily income**

|                    | <b>T</b> | <b>df</b> | <b>Sig 1</b> | <b>Decision</b>       |
|--------------------|----------|-----------|--------------|-----------------------|
| Age (yrs)          | -2.958   | 79        | 0.004        | Reject H <sub>0</sub> |
| Sex                | -7.003   | 79        | 0.000        | Reject H <sub>0</sub> |
| Marital status     | -3.403   | 79        | 0.001        | Reject H <sub>0</sub> |
| Educational status | -9.199   | 79        | 0.00         | Reject H <sub>0</sub> |

\*= Decision criterion is reject null hypothesis when  $P < 0.05$ : Df= Degree of freedom.

**H<sub>0</sub>2: There is no a significance difference between the mode of the distribution of the smoked fish and the daily income of the of the smoked fish marketers**

The t-test with a value of -6.811 and a significance of 0.000 showed that there is no significant difference between the mode of the distribution of the smoked fish and the daily income of the of the smoked fish marketers

**Table 15 T-test results of the mode of distribution and daily income of the smoked fish**

**sellers**

|                      | T      | Df | Sig 2 | Decision     |
|----------------------|--------|----|-------|--------------|
| mode of distribution | -6.811 | 79 | 0.000 | Accept $H_1$ |

\*= Decision criterion is reject null hypothesis when  $P < 0.05$ : Df= Degree of freedom

## **CHAPTER FIVE**

### **6.0 DISCUSSION**

The result assessed marketing channel and marketing efficiency of the marketing system of smoked fish in Ogun state which covered the following market (Makun omi, Itoku, Kuto and Olomore)

Most (37.5%) of the respondent in the sampled areas were between the mean age of 41 and 50 years respectively

It can be concluded that, most of the marketers are in their economic active years. This is also in line with the assertion of Bello (2000) that age has positive correlation with acceptance of innovations.

The result further reveals that majority of the respondents comprise of more females (75%) than male (25%).

This means Females participate more in the marketing of smoked fish than the males. A similar study in Benue State found about 90% women participation in fish marketing. (Lawal and Idega, 2004). This is further supported by Williams and Awoyemi (1998) who observed that women in small-scale riverine fishing villages also perform other types of income earning activities to supplement the household income, such income sources were earned through sales of fisheries products and social services in fish distribution and marketing.

It was gathered from the result that marketers with family size that range between 6-10 persons have the highest percentage (57.5%). This implies that the lower the number of family dependant

on marketers the better the market performance because less time is spent on family issues and more on marketing.

The result showed that majority of the respondent were married (62.5%). And this implies that sufficient influence of the family unit on the marketing of the smoked fish. Thus marriage limit migration and enhances labour.

From the result it was illustrated that majority of the marketers had no formal education (76.3%). Only a few (1.3%) of the respondents have education up till the tertiary level, implying that illiteracy level of smoked fish marketers in the area was very high. This is contrary to Dogondaji and Baba (2010) who observed that high literacy level could have positive impact on the adoption of technologies. This could be as result that smoked fish marketing does not require any special skill.

Marketers with experience of about 10- 15 years and 16-20 years constituted about 35% and 22.5% of the total respectively. This is substantiated by the findings of Ali et al., (2008) who observed that marketing experience is important in determining the profit levels of marketers, the more the experience, the more the marketers understand the marketing system, condition, trends, prices etc.

The daily income of the smoked fish marketer from the result showed that 60% of the respondents earned above 40000 per day. This indicative that there is high trends of return on investment on the marketing of smoked fish and this implies that higher income generation leads to more business expansion.

The participants in the channel of smoked fish marketing were identified based on the mode of distribution of their product. Results revealed the Retailer had the highest percentage of 77.5%.

This was followed by the wholesalers with 13.8%, and the least were the producer 5.0%. It was gathered that only few marketers make use of the middlemen in the distribution of their product

Figure II shows that both wholesalers and consumers buy directly from the producer/processors (that is, fishermen processors, female processors and middlemen processors). The Retailers buy from wholesalers and finally gets to the consumers. This chain reveals that the distribution channel in the area is decentralized. i.e. both consumers and agents (middlemen) buy directly from the producers. A decentralized channel is usually a short chain which reduces the activities of middlemen, thereby reducing exploitation

The result reveal the season of the highest sale of smoked fish which was reported to be between October-December as 62.5% indicated by the respondents. This is in agreement with the findings of Abolagba Olabitan(2005).

From the result is discovered that most (62.5%) smoked fish were priced by haggling between the seller and the buyer, also it was gathered that colour (73.8%) was the highest determining factor in the pricing of smoked fish in the study area.

The major problem that militate against smoked fish marketing in the study area are a combination of lack of capital, lack of storage facilities and high cost of transportation represented in table 12

From the hypotheses, it was discovered that there is no significance difference between the socio-economic characteristic of the smoked fish marketers and their daily income. Also there is no significance difference between mode of distribution and their daily income

From the result, it was gathered that marketing efficiency depicts the ratio that determines the gap between producer and consumer prices. For this study, the total selling price was 72,831.13

while the total cost or purchase price was N71, 055.41 therefore, the market margin was found to be 40.17%. It can be concluded that marketers in the study area are making profit

## **Conclusion**

This study has shown that the distribution channel of smoked fish in Ogun state is a decentralized channel in which the consumers can also obtain their fish directly from the producer that is there was liberty of distribution to every individual with little involvement of middlemen in the distribution. Furthermore it was concluded that smoked fish marketing in Ogun state is profitable despite the problem the problem encountered. From this study it was also discovered that most of the marketers were female with little or no education

## **Recommendation**

To forestall the problems associated with smoked fish marketing in Ogun state Area, the following recommendations are proffered:

- The financing of smoked fish marketing requires access to affordable credit facilities to forestall spoilage in storage.
- High cost of transportation as a result of rising fuel price and bad roads, the Government should address this by rehabilitating and where possible constructing new roads. This will make road transport easier and go a long way in reducing the cost of transport.

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