Analysis of Smoked Fish Marketing in Selected Local Government Area of Kebbi State

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Abstract: The study analyzed smoked fish marketing in selected local government areas in Kebbi State, Nigeria. The broad objective of the study was to assess the profitability of smoked fish marketing in selected local government areas , Kebbi state. Data was collected from 120 smoked fish marketers using simple random sampling techniques. The data was collected using a structured questionnaire. The data collected were analyzed using both descriptive and inferential statistics. The result revealed that the majority (41.7%) of the fish marketers fell within 21-30 years, the majority (65%) of the respondents were male, about (91.7 %) were married, about (51.7%) of the respondents in the study area do not have access to formal education. Further, the result showed that (55%) of the respondents in the study area had 21-30 years of marketing experience. Also, the result reveals that the majority (54.2%) of the smoked fish marketers are small-scale operators. The study has shown that the distribution channels of smoked fish in selected local government areas (Bagudo, Bunza and Yauri) are decentralized channels in which the consumers can also obtain their fish directly from the producer. It was concluded that smoked fish marketing in selected local government areas of Kebbi State is profitable despite the problems encountered. It is recommended that financing of smoked fish marketing requires access to affordable and timely credit facilities to facilitate and sustain efficient and effective marketing processes, to minimize high cost of transportation as a result of rising fuel price and bad roads.

Keyword: Analysis, Smoked, Fish, Marketing, Nigeria.

1.   Introduction

Nigeria is a nation endowed with an abundance of natural and human resources, yet, it continues to rank among the least protein-consuming nations in Africa (Ajani, 2000). Food is not distributed equally among Nigerian households, according to (FAO, 2013). This could be due to a number of factors, including high levels of poverty in some areas of the nation, logistics of distribution, the high cost of storing and preserving fish, transportation, post-harvest losses, and insufficient power.

Fish is a vital protein source for Nigeria's size-able population of team players. Fish is considered as one of the main sources of animal protein in the nation (Adekoya, 2004). It is stated that around 55% of Nigerians' protein intake comes from fish. Nigerians devour a lot of fish; the country's annual demand is estimated to be 1.4 million metric tonnes. It is well known that fish is a valuable source of animal protein and that it plays a major role in the survival and well-being of a vast number of people worldwide. It is well recognized for being an effective food converter for human consumption, preventing youngsters from contracting kwashiorkor as a result of inadequate protein intake and an unbalanced diet, and its consumption is largely or completely unrestricted by religious beliefs.

According to (Dauda *et al.,* 2013), marketing is a process of exchanging goods and services from one person to another with reference to price. A fish market is a place used for marketing of fish and fish products. However, fish marketing essentially consists of all the activities involved in delivering fish from one producer to the consumer, while distribution provides channels that link the marketing institutions and producers together. The market mechanisms have to be efficient to be able to play the role of propelling yield. An efficient market system is the one that provides satisfactory and cheap services to consumers or one that maximizes the ratio of input and output of marketing.

About N97 billion was spent on fish imports into Nigeria in 2016. Nigeria is now the largest importer of smoked fish in Africa as a result of the country's significant smoked fish importation (Atanda, 2012). Because of the inconsistent and declining supply from Nigeria's captured fisheries in recent years (FDF, 2007) and the insufficient development rate in aquaculture to meet the growing demand, Nigeria may still import smoked fish for some time. In Nigeria, fish marketing varies depending on the type of fish product and the distance between producer and source of supply of fish product and retailer and ultimately to consumer. Fish supply and marketing suffer from various

setbacks, ranging from shortage of supply, price fluctuation due to drying up of the source and spoilage in transit amongst others.

Fish supplies are not evenly dispersed, which leads to variations in price and location. Studying the Profitability Analysis of Smoked Fish Marketing and comprehending the variables that influence it is crucial and worthwhile. Adekanye (1988) and Abdullahi (1983) claimed that there are numerous flaws and issues with the food marketing industry in Nigeria. These issues affect distribution, packaging, processing, preservation, and transportation. According to (Eze *et al.*, 2010), the main obstacles that fish marketers perceive to be present are inadequate processing abilities, produce deterioration, and a lack of storage facilities.

2.   Objectives of the study

The broad objective of the study was to assess the profitability of smoked fish marketing in selected Local Government Area, Kebbi state while specific objectives were to:

2.1. describes the socio-economic characteristics of smoked fish marketers.

2.2. determine the costs and returns of smoked fish marketing in the study area.

2.3. describe the marketing channels of smoked fish marketing in the study area.

2.4. describe the constraints to smoked fish marketing in the study area.

3.   Methodology

3.1. Study Area

This study was conducted in selected (Bagudo, Bunza and Yauri) Local Government Area (LGA) of Kebbi state in Nigeria. Kebbi State is located on the north western part of Nigeria with the GPS coordinates of 11° 29′ 39.121′′ N and 4° 14′ 0.008 E., with a total land mass of 36,800 km² (https://latlong.info/nigeria/kebbi, NPC, 2007). Kebbi State is bordered east and north of Sokoto and Zamfara states, and to the south by Niger state while its western border forms part of the national borders with Benin Republic for 103 km (64 miles) and Niger for 207 km (129 miles).

Kebbi State has diverse ethnic composition with the following Fulani, Hausa, and kambarias the major tribes and the Local Governments they are mostly domiciled. The inhabitants are predominantly farmers who

produce animals like cattle, goat and sheep and crops like maize, rice, beans, sorghum, and soya bean.

3.2. Sampling Procedure and Sample Size

The population of the study was all the smoked fish marketers in the selected Local Government Area of Kebbi State which constitute three classes of smoked fish marketers. The first class were 60 hawkers, second class were 40 retailers and the third class were 20 wholesalers and this served as the sampling frame (population) of the study.

Purposive and simple random sampling was used to draw the sample for the study. Three markets namely: Bagudo market, Bunza market and Yauri market were purposely selected due to the concentration of smoked fish marketers. Simple random sampling was used to select the three classes of smoked fish marketers (hawkers, retailers and wholesalers).

3.3. Data collection

The source of data used for this study was basically primary data. This involved the use of an interview schedule with well-designed structured questionnaires administered to the smoked fish marketers. The secondary information was however, obtained from textbooks, internet, journals, past projects, etc. The information obtained in the questionnaire were socio economic characteristics of smoked fish marketers, cost and returns of smoked fish marketing and constraints of smoked fish marketing.

3.4. Analytical Technique

Descriptive statistics (frequency counts, percentages and means) were used to describe the socio-economic characteristics of the respondents and describe the constraints associated with smoked fish marketing that is objective one and four respectively. Net Farm Income (NFI) was used to estimate the costs and returns of smoked fish marketing in the area that is objective two.

The mathematical expression of the Net Farm Income is presented as follows:

$$NFI = TR – TVC – TFC \tag{1}$$

Where NFI = Net Farm Income , TR = Total Revenue (N) , TVC = Total Variable cost (N) ,

TFC = Total Fixed cost (N).

Flow chart was used to describe the marketing channels of smoked fish marketing in the area that is objective three.

Table 1: Distribution of the socio-economic characteristics of smoked fish marketers

Variables	Frequency	Percentage
Gender		
Male	78	65
Female	42	35
Age		
>20	25	20.8
21-30	50	41.7
31-40	20	16.7
41-50	10	8.3
Above 50	15	12.5
Marital Status		
Single	7	5.8
Married	110	91.7
Widow	3	2.5
Educational Status		
No formal education	62	51.7
Primary School	35	29.2
Secondary School	15	12.5
Tertiary Education	8	6.6
Source of Fund		
Personal saving	73	60.8
Money lender	23	19.2
Bank loan	14	11.6
Cooperative	10	8.3
Marketing Experience (years)		
1-10	28	23.3
11-20	18	15
21-30	66	55
Above 30	8	6.7
Scale of Operation		
Wholesalers	15	12.5
Retailers	40	33.3
Small-scale traders	65	54.2
Field Survey 2024		

4.   Results and Discussion

4.1. *Distribution of the Socio-economic Characteristics of Smoked Fish Marketer's*

Socio-economic characteristics of the smoked fish marketers were analyzed by employing the use of descriptive statistical tools which include the use of table, frequency, and percentage.

Table 1 presents results on the gender of respondents in the study area. It shows that males are seen to have dominated the enterprise (65%) while females constitute (35%). This result was in line with the research work carried out by (Nwaru, 2011) which indicates that majority (66.67 %) of the marketers were males and is also consistent with the findings of (Abah *et al.*, 2013) who found that majority of smoked fish marketers in Nigeria were males. This means that males participate more in smoked fish marketing than their female counterparts in the study area and the reason could be attributed to the tedious nature of the various activities before smoked fish is fit for consumption.

The age distribution of marketers of smoked fish revealed that 41.7% of respondents were between the ages of 21 and 30. The marketers' average age was 36, and their minimum and maximum ages were 15 and 60 years old, respectively. These results imply that a sizable number of the respondents were people who may be considered suitably energetic, nimble, and physically inclined to engage in marketing activities.

The findings showed that about (5.8%) are single, (91.7%) are married, and (2.5%) are widowed. According to (Onubuogu *et al.*, 2014), this suggests that married individuals who are responsible by society's standards and hence probably have some life experience, dominate the fish marketing industry in the area. The high proportion of married individuals suggests that the respondents are long-term residents of the area and that migration is not a factor to be taken into consideration because all of their economic activities center around the area.

The results showed that about (51.7%) of smoked fish marketers do not have access to formal education, which is an essential issue and consistent with the prevalent belief that most marketers are illiterate or semi-illiterate, with the majority having fallen out of the formal school system. Furthermore, it is thought that an individual's educational attainment influences how quickly and succinctly they will interpret or comprehend information.

Credit facilities were not available to smoked fish sellers in the study area, as the majority (60.8%) rely primarily on personal savings. The respondents do

not have access to credit facilities from financial institutions, which may be due to bureaucracy, excessive interest rates, low literacy, or a lack of awareness. Since loans are a necessary component for starting and growing a business, they have undoubtedly had a significant negative impact on output.

The data indicates that the majority of marketers spent 21-30 years (55%) in business, with those with 1-10 years of experience making up 23.3%), those with 11-20 years of experience making up 15%, and those with over 30 years of experience making up 6.7%. This was in line with the results of a survey conducted by (Chaston, 2011), which showed that the majority of smoked fish marketers (40%) had between 21 and 30 years of experience in marketing, with the remaining respondents (22.5%) having more than 30 years of experience. Experience is important in determining the profit levels of marketers; hence the implication of this result is that the more the experience, the more marketers understand the marketing systems, conditions, trends and thus, the profit maximization intention of the marketers is assured and secured etc.

Table 1 shows that the respondents in the study area operate on scale of production wholesalers (12.5%), retailers (33.3%) and small-scale traders (54.2%) Scale of Production is one of the major determinants of income to be earned; this can be characterized into small- and large-scale marketing. Hence, the small- scale traders composed the majority of the marketer's population with about (54.2%). Thus, this is in line with the study of Eyo (1998). Majority of the marketers 75.5 % are small-scale marketers selling between 0-10 cartons per week while 15.6% and 8.9% sales between 13-14 and 15 cartons or more signifying the low purchase in the study area. This implies that the study area comprises mostly small-scale marketers. Thus, individuals with little amount of income can still venture into this business and still make maximum profit in the small scale category.

4.2. Costs and Returns Analysis of Smoked Fish Marketing in the Study Area

Table 2 below also reveals the costs and returns associated with smoked fish marketing in selected local government areas of Kebbi State. It reveals a Net Income (NI) of N163,340.00 per basket, Total Variable Cost (TVC) N87,410.00 and Total Fixed Cost (TFC) N1,250.00. The acquisition cost of fish ranked first, cost of transportation ranked second and cost off loading and off loading ranked third among the variable cost. The attribute of Fixed Cost which is N1,250.00 was very low impaired to the total variable costs incurred. The Total Revenue (TR) generated from selling 280 kg of smoked fish at N900 per kg was

Table 2 : Cost and Returns Analysis of Marketing in the Study Area

Items	Amount/kg (₦)
Variable costs	
Acquisition cost of 280 kg of smoked fish	75,850.00
Cost of storage	500.00
Cost of tax	2,300.00
Cost of transportation	5,900.00
Cost of loading and off loading	2,860.000
Total Variable Costs	87,410.00
Fixed Costs	
Baskets	750
Knife	500
Total Fixed Cost	1,250.00
TC = TVC + TFC	88,660.00
Revenue from selling of 280 kg of smoked fish @ ₦900	252,000.00
Total Revenue	252,000.00
Net Farm Income = TR – TC	163,340.00

(Field Survey, 2024)

Table 3 : Constraints to Smoked Fish Marketing

Variables	Frequency	Percentage	Ranking
Inadequacy of Capital	50	41.7	1st
Price fluctuation	39	32.5	2nd
Inadequate Storage facilities	18	15	3rd
Inadequate Shed/Shop	13	10.8	4th

(Field Survey, 2024)

N252,000. This shows that smoke fish marketing in the area is profitable in terms of monetary value by the positive sign of the net income.

4.3. Marketing Channel of Smoked Fish

A marketing channel is a collection of procedures or actions required to move the ownership of products from the producing location to the consumer location. It is how goods and services are delivered to the final customer. A marketing channel is an important tool for managers to have, and it is essential to developing a well-thought-out and successful marketing strategy.

Therefore, Figure 1 depicts the fish marketing channels in the study area for smoked fish, from the fisherman to the final consumer. The relationship between fishmongers, fishermen, and consumers is the most significant marketing channel for smoked fish. In the chosen local government areas (Bagudo, Bunza, and Yauri), the marketing channel for smoked fish was a little
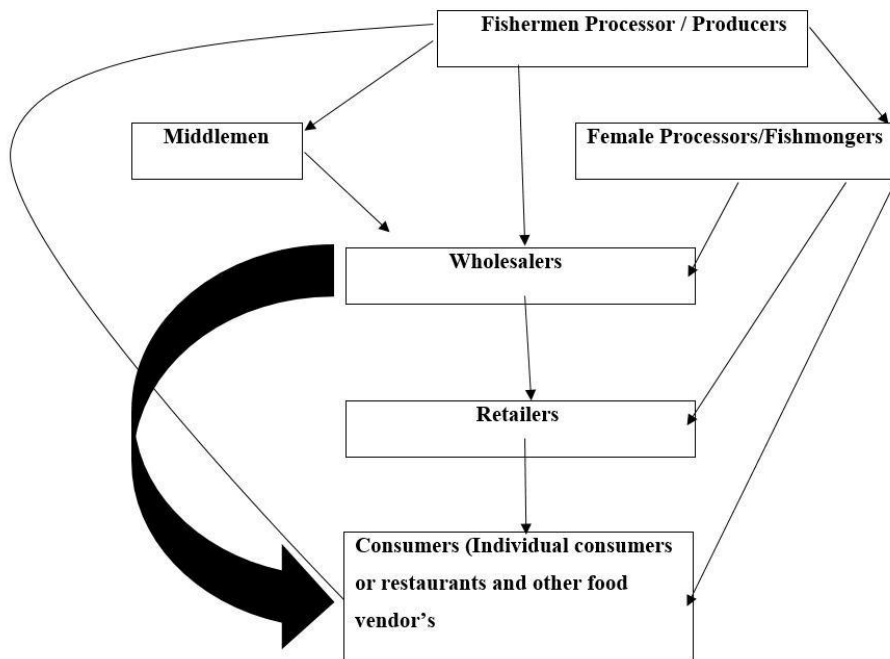
Figure 1: Marketing Channel of Smoked fish marketing

more complicated. This was most likely due to the fact that, in order to get to the consumer, they had to deal with a network of middlemen starting at the source and going via several market outlets.

4.4. Constraints to Smoked Fish Marketing

The result in table 3 shows the constraints to smoked fish marketing in the study area shows that inadequacy of capital ranked first (41.7%), price fluctuation ranked second (32.5%) inadequate storage facilities ranked third (15%), while inadequate shad/shop ranked fourth (10.8%). The implication of this result is that shortage of funds or capital constitutes the most important constraint while inadequate shad/shop is the least constraint. This result is in contrast with the finding of (Amao *et al*., 2006), economics of fish demands in Lagos state, Nigeria.

5. Conclusion

The study concludes that smoked fish marketing is profitable. Additionally, it demonstrates the decentralized nature of the local smoked fish market, where buyers can purchase fish straight from producers, suggesting that there were

little to no middlemen involved in the distribution process. Furthermore, despite being profitable, it was determined that the smoked fish marketing industry in the area still faces a number of issues, such as low capital, high transportation costs, and inadequate storage facilities. If these issues are resolved, the industry will see an increase in revenue and the well-being of its participants.

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