



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

Danmaigoro Aliyu<sup>1\*</sup>, Gona Ayuba<sup>2</sup>, Danmaigoro Abdulkadir<sup>3</sup>, Audu Sanusi<sup>4</sup>

<sup>1</sup>Adamu Augie College of Education Argungu

<sup>2,4</sup>Kebbi State University of Science and Technology

<sup>3</sup>Usmanu Danfodiyo University

**Corresponding Author:** Danmaigoro [danmaigoroaliyu@gmail.com](mailto:danmaigoroaliyu@gmail.com)

### ARTICLE INFO

*Keywords:* Analysis,  
Smoked, Fish, Marketing

*Received :* 26, February

*Revised :* 20, March

*Accepted:* 25, April

©2024 Aliyu, Ayuba, Abdulkadir, Sanusi: This is an open-access article distributed under the terms of the [Creative Commons Attribution 4.0 International](https://creativecommons.org/licenses/by/4.0/).



### ABSTRACT

The study examined the marketing of smoked fish in a few Kebbi State local government areas. The study's main goal was to determine how profitable it was to sell smoked fish in a particular local government area in the state of Kebbi. Using a straightforward random sampling approach, information was gathered from 120 marketers of smoked fish. A well-structured questionnaire was used to gather the information. Both descriptive and inferential statistics were used in the analysis of the gathered data. According to the results, the majority of fish marketers (41.7%) fell between the ages of 21 and 30. Male respondents made up the majority of the sample (65%), while married respondents made up around 91.7%) and those without access to formal education made up about 51.7% of the sample. Further, the result revealed that (55%) of the respondents in the study area had 21-30 years of marketing experience. Additionally, the results show that small-scale businesses account for the majority (54.2%) of smoked fish marketers. According to the study, the distribution of smoked fish in a few local government areas (Bagudo, Bunza, and Yauri) is a decentralized system that allows customers to buy fish straight from the supplier. Notwithstanding the difficulties experienced, it was determined that the marketing of smoked fish in a few local government areas of Kebbi State is profitable. Recommendations were made as follows: In order to minimize the high cost of transportation caused by rising fuel prices and poor roads, financing the sale of smoked fish requires access to fast and reasonably priced loan facilities.

## INTRODUCTION

The marketing of fish products in Nigeria is contingent upon the nature of the product and the distance between the producer, the source of supply, the merchant, and the final consumer. Fish supply and marketing face a number of challenges, including a lack of availability, price fluctuations brought on by the source drying up, and spoiling during transit, to name a few.

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 Abdullai (1983) claim 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.

### *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:

1. describe the socio-economic characteristics of smoked fish marketers;
2. determine the costs and returns of smoked fish marketing in the study area;
3. describe the marketing channels of smoked fish marketing in the study area,
4. describe the constraints to smoked fish marketing in the study area.

## LITERATURE REVIEW

Nigeria is a nation endowed with an abundance of natural and human resources, yet in spite of this, 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 sizable population of team players. One of the main sources of animal protein in the nation might be considered to be fish. Adekoya (2004) states 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), The exchange of goods and services between parties based on pricing is known as marketing. A fish market is an establishment where fish and fish products are sold. But distribution offers the conduits that connect producers and marketing organizations, and fish marketing basically encompasses all the operations involved in getting fish from one producer to the customer. For the market processes to be effective in driving yield, they must be efficient. Therefore, a system that maximizes the ratio of marketing input to output or one that offers consumers affordable, satisfactory services qualifies as efficient. 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.

## **METHODOLOGY**

### ***Study Area***

A subset of the Nigerian state of Kebbi, specifically the Local Government Areas (LGAs) of Bagudo, Bunza, and Yauri, were chosen for this study. With a total land area of 36,800 km<sup>2</sup>, Kebbi State is situated in the northwest of Nigeria at GPS coordinates 11° 29' 39.121" N and 4° 14' 0.008 E (<https://latlong.info/nigeria/kebbi>, NPC 2007). Kebbi State shares boundaries with the states of Sokoto and Zamfara to the east and north, and with Niger State to the south. Its western boundary is shared with the Benin Republic for 103 km (64 miles), and with Niger for 207 km (129 miles). Kebbi State has diverse ethnic composition with the following [Fulani](#), [Hausa](#), and kambari as 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.

### ***Sampling Procedure and Sample Size***

All three types of smoked fish marketers who are present in a certain Local Government Area of Kebbi State comprised the study's population. The study's sampling frame, or population, consisted of 60 hawkers in the first class, 40 retailers in the second class, and 20 whole sellers in the third class. The study's sample was selected via simple random sampling with a purpose. Due to the concentration of smoked fish traders, three markets – Bagudo, Bunza, and Yauri – were purposefully chosen. The three categories of smoked fish marketers (hawkers, retailers, and wholesalers) were chosen by simple random selection.

### **Data Collection**

The majority of the data used in this study came from primary sources. In order to do this, the smoked fish marketers were given standardized questionnaires along with an interview schedule. However, the secondary data was gathered via the internet, journals, textbooks, and previous projects, among other sources. The questionnaire collected data on the socioeconomic traits of smoked fish marketers, the expenses and profits associated with smoked fish marketing, and the limitations of smoked fish marketing.

### **Analytical Technique**

The socioeconomic characteristics of the respondents and the obstacles related to the marketing of smoked fish were described using descriptive statistics (frequency counts, percentages, and averages), which correspond to objectives one and four. The second purpose was to evaluate the costs and profits of marketing smoked fish in the area using Net Farm Income (NFI). The Net Farm Income can be expressed mathematically as follows:

$$NFI = TR - TVC - TFC \dots\dots\dots (1)$$

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.

## **RESEARCH RESULT AND DISCUSSION**

### ***Distribution of the Socio-Economic Characteristics of Smoked Fish Marketer's***

Tables, frequencies, and percentages are examples of descriptive statistical tools that were used to study the socioeconomic features of the smoked fish marketers. Table 1 displays the gender distribution of respondents in the research area. It demonstrates that men are perceived as having controlled the business (65%), while women make up 35%. This conclusion was consistent with the research conducted by Nwaru (2011), which shows that the majority of marketers (66.67%) were men. It is also consistent with the findings of Abah et al. (2013), who discovered that men made up the majority of smoked fish marketers in Nigeria. 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. Because experience plays a significant role in determining a marketer's profit levels, this result implies that the more experience a marketer has, the better they understand marketing conditions, trends, and systems, which in turn ensures and secures their intention to maximize profits. Table 1 show 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 earn, 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%). Because experience plays a significant role in determining a marketer's profit levels, this result implies that the more experience a marketer has, the better they understand marketing conditions, trends, and systems, which in turn ensures and secures their intention to maximize profits.

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

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

Retailers	40	33.3
Small-scale traders	65	54.2

Field Survey 2024

### *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 area 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 offloading and offloading ranked third among the variable cost. The attributed 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 of 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.

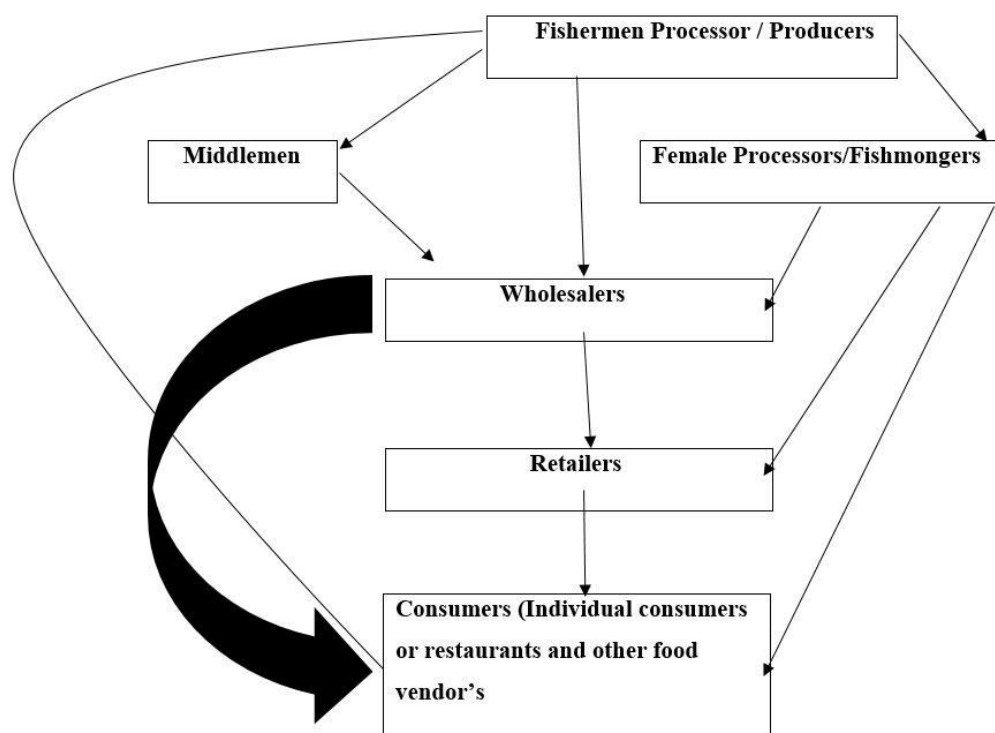
**Table 2 Cost and Returns Analysis of Marketing in the Study Area**

<b>Items</b>	<b>Amount/kg (₦)</b>
<b>Variable costs</b>	
Acquisition cost of 280kg 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 offloading	2,860.000
<b>Total Variable Costs</b>	<b>87,410.00</b>
<b>Fixed Costs</b>	
Baskets	750
Knife	500
<b>Total Fixed Cost</b>	<b>1,250.00</b>
<b>TC = TVC + TFC</b>	<b>88,660.00</b>
Revenue from selling of 280kg of smoked fish @ ₦900	252,000.00
<b>Total Revenue</b>	<b>252,000.00</b>
<b>Net Farm Income = TR - TC</b>	<b>163,340.00</b>

Field Survey 2024

### *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 above 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 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.



**Figure 1** Marketing Channel of Smoked Fish Marketing

### 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 constitute the most important constraint while inadequate shad/shop is the least constraints this result is in contrast with the finding of Amao, *et al.*, (2006), economics of fish demands in Lagos state, Nigeria.

**Table 3** Constraints to Smoked fish marketing

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

Field Survey 2024

## CONCLUSIONS AND RECOMMENDATIONS

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 was 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.

## ADVANCED RESEARCH

In writing this article the researcher realizes that there are still many shortcomings in terms of language, writing, and form of presentation considering the limited knowledge and abilities of the researchers themselves. Therefore, for the perfection of the article, the researcher expects constructive criticism and suggestions from various parties.

## REFERENCES

- Abah, D. D. B, Zaknayiba and Simon, E. (2013). Economic Analysis of Fish Marketing in Lafia Local Government Area of Nasarawa State, Nigeria: Production Agricultural Technology; 9 (2):53-62.
- Abdullai, A. (1983). The role of agriculture in reversing the present economic crisis in Nigeria. A public lecture organized by Nigerian Institute of Social and Economic Research (NISER) delivered at University of Calabar, November, 25.
- Adekanye, T. O. (1988). Readings in agricultural marketing. Lagos: Mexico Enterprises Ltd. Pp. 1, 2 and 12.
- Adekoya, B. B. and Miller, J. W. (2004). Fish Cage Culture Potential in Nigeria. An Overview. National Agriculture Focus. Vol. 1 No. 5, Pp10. An Agricultural News Magazine Published by Foundation Consultants Limited, Abuja
- Ajani, A.M., (2000). Overview of highlights and problems of fisheries extension. Niger. Agric., 4: 27-32.

- Amao, J.O., I.B. Oluwatayo and F.K. Osuntope, (2006). Economics of fish demands in Lagos State, Nigeria. *Journal of Humanitarian Ecology* 19: 25-30.
- Atanda, A.N., (2012). on cost and returns of smoked fish marketing in Kaduna state, Nigeria Annual Public Lecture pp: 21.
- Chaston, I. (2011). Marketing in fisheries and Aquaculture, Fishing News Books Ltd, English.
- Dauda, A.B., S.O. Yakubu and I. Kabir, (2013). Determinants of fish consumption in Dutsin-Ma LGA, Katsina State. Proceedings of the 47th Annual Conference of the Agricultural Society of Nigeria held at the Federal College of Animal Health and Production Technology, November 4-8, 2013, Moor Plantation, Ibadan, Oyo State, Nigeria, pp: 1106-1109.
- Eyo, A. A. (1998). An appraisal of the trading, fish handling and processing in Kainji lake area NIFFR, New Bussa, Kwara State, Nigeria.
- Eze, S. O., A. N. Ezeh and E. A. Onwubuya (2010). Women marketers' perceived constraints on selected agricultural produce marketing in Enugu South Local Government Area: challenges of extension training for women groups in Enugu State, Nigeria. *Agroscience journal of tropical agriculture, food, environment and extension*, 9(3): 215- 222
- FAO, 2013. The state of world fisheries and aquaculture. FAO Fisheries and Aquaculture Department, FAO, Rome, 2013
- Nwaru, J. C., A. C. Nwosu and V. C. Agummuo (2011). Socioeconomic determinants of profit in wholesale and retail in fish marketing in Umuahia agricultural zone of Abia State, Nigeria. *Journal of sustainable development in Africa*. 13(1) 200-210.
- Onubuogu, G.C., Esiobu, N.S., Nwosu, C.S. and Okereke, C.N (2014). Resource use efficiency of smallholder cassava farmers in Owerri Agricultural zone, Imo State, Nigeria; *Scholarly J. Agric. Sci.* 7(8): 142-152