



Assessment of Marketing Practices and Strategies of Smoked Fish within Selected Markets in Benin City, Edo State, Nigeria

¹ABOLAGBA, OJ; ²*OGBORU, RO; ²JOSHUA, DK; ¹AMADIN, DA

¹Department of Aquaculture and Fisheries Management, University of Benin, Benin City, Edo State, Nigeria

²Department of Planning, Research and Statistics: Forestry Research Institute of Nigeria, Ibadan, Oyo State, Nigeria

*Corresponding Author Email: rachov44@gmail.com

Co-authors Email: abolagbaoj@uniben.edu; kuyetorcas@gmail.com; deborahamadin0@gmail.com

ABSTRACT: This study investigates the marketing practices of smoked fish within selected markets in Benin City, Edo State, Nigeria. The research findings highlight a predominant presence of married female marketers in the 25-30 age bracket, primarily equipped with secondary school education. Catfish (*Clarias gariepinus*) emerge as the favoured fish species, and the primary mode of transportation to these markets is public. Notably, refrigeration stands as the preferred storage method for unprocessed fish, with peak sales occurring in the afternoons during the dry season. Among the key discoveries, inadequate financial resources surface as the predominant external challenge faced by marketers, impacting the efficiency of their operations. To address these findings, we recommend the formation of cooperatives to facilitate access to financial resources through banks and government agencies. Additionally, investments in essential infrastructure such as smoking facilities (smoking kilns) are essential to mitigate adverse health effects on marketers. Furthermore, government intervention through educational seminars and awareness programs is suggested to empower smoked fish marketers to enhance their marketing strategies. Lastly, the implementation of price control measures is advised to mitigate price fluctuations faced by producers, retailers, and consumers, fostering a more stable and equitable market environment.

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Nigeria has over approximate extent of the major inland water systems. The major rivers, approximately at 10,812,400 hectares, create up about 11.5% of the total surface area of Nigeria which is estimated to be approximately 94,185,000 hectares (FAO., 2023) out of which about 1.75 million hectares are accessible and apposite for aquaculture. Fisheries and aquaculture are predominantly extensive land land-based, practised existence levels in fresh waters across Nigeria (Anyawu-Akeredolu, 2005). According to Onoja, and Achike, (2011.), aquaculture and fisheries majorly contribute immensely to food production among others in Nigeria. Great and expansive water bodies are to

be exploited for fish production in Edo State. Catfish farming in artificial and natural fish tanks is also majorly raised for income and food in Edo. Smoked *Clarias gariepinus* has the highest consumers' priority level followed by *Oreochromis niloticus*. This aligns with previous work done by Ahmadu and Imade (2022) that most fish consumed from coastal and inland rural areas in Nigeria are *Clarias* and tilapia. This might be because the majority other of water bodies in Nigeria have first Tilapia and then *Clarias* as the most dominant fish (Ogbeide *et al.*, 2019). In addition to the high relative dominance of *Clarias* in capture fisheries, it is also the most cultured species in Edo State; hence, the fish dominance in markets might

*Corresponding Author Email: rachov44@gmail.com

have influenced consumer priority for it. According to Abolagba and Osifo (2004), an estimated 20-50% of fish produced in isolated coastal areas and several tropical countries perish before they get to the consumers due to poor handling and preservative processes adopted by the artisanal fishermen and fisheries entrepreneurs. This fish processing is a vital task in ensuring that the fish and fish products meet the set standards of the consumers (Eyo, 2011). In Nigeria, predominantly where the power supply is defective, at best about 70 to 80% of domestic catfish is smoked as an inexpensive and workable method of fish preservation (Akinyemi *et al.*, 2012) as such, smoking is the most common and practicable method of preservation (Eyo, 2011). Therefore, it is imperative to examine the marketing aspects of smoked fish. Fish marketing has created job opportunities as well as means of livelihood for many Nigerians. Thus there is a need to assess the trade status of smoked fish sellers by ascertaining their earnings, standard of living as well and social status. Problems encountered or constraints in marketing of smoked fish in the study area will also be identified and possible recommendations will be provided. The results may go a long way in justifying the need for more smoked fish marketers. This study aims to assess the marketing techniques and strategies adopted in marketing smoked fish in terms of preferred fish species, packaging and demand of preferred fish in selected markets in Benin-city.

MATERIALS AND METHODS

Study Area: The markets selected for this study were the Uselu market, Ekiuwa market, Oregbeni market and Ekiosa markets which are located in Ikpoba-Okha, Egorand Oredo Local Government Areas in Edo-State. Do State is situated in the South-South geopolitical zone in Nigeria. The current population is 1.9 million, a 3.48% increase from 2022 (Macrotrends 2023). It is a city approximately 40 kilometres (25mm) north of the Benin River and 320 kilometres (200 m) by road east of Lagos. The capital of the Edo state province has a latitude of 6.3399185 and longitude of 5.6174475 (Silokoet *al.*, 2021). It is a commercial centre of Edo state. The city is also linked by roads to Sapele, Siluko, Okene and Ubiaja, Koko and other towns in Delta State. It is one of the largest Cities in Nigeria after Lagos, Kano and Ibadan

Data collection: Purposive sampling was used to obtain the data for the study from smoked fish sellers in Benin City, which cuts across three local government areas using a well-structured questionnaire that was administered to smoked fish sellers in various markets within the study area. Focussed Group Discussion (FGD) was conducted in

both English and the local language (Bini). The survey was carried out in four markets in the study area which include Uselu, Ekiuwa, Oregbeni, and Ekiosa markets. A total of twenty smoked fish sellers were selected from each of the markets for FGD and questionnaires were distributed to them, giving a total sample size of eighty questionnaires for smoked fish sellers. Descriptive statistics which comprises tables, bar-chart was used for data representation.

RESULTS AND DISCUSSIONS

The socio-economic characteristics considered in this study include the sex of respondents, age, marital status, religion, educational status, type of trading, source of fish supply, and year. The results from the sampling are as follows:

Table 1: Socio-Economic Characteristics of the Respondents

Category	Frequency (#)	Percentage (%)
Gender		
Male	24	30%
Female	56	70%
Age in years		
Below 25	7	8.8%
25-30	29	36.3%
31-40	27	33.8%
41-50	9	11.3%
Above 50	8	10%
Marital status		
Single	32	40%
Married	42	52.5%
Divorced	3	3.8%
widow/widowers	3	3.8%
Educational Level		
Non-formal	7	8.8%
primary education	7	8.8%
secondary education	21	26.3%
adult education	17	21.3%
tertiary education	28	35.5%
Total	80	100%
Nature of trading		
full time	60	75%
per time	20	25%
Total	80	100%
Source of fish supply		
from the wild	14	17.5%
fish farmers	33	41.3%
from personal farm	18	22.5%
cold room	15	18.8%
Total	80	100%
Trading experience		
less than 5 years	26	32.5%
5-10 years	26	32.5%
11-15 years	21	26.3%
16-20 years	6	7.5%
21 years and above	1	1.3%
Total	80	100%
Do you own a farm?		
Yes	23	28.7%
No	57	71.3%
Total	80	100%

Source: Field survey 2022

Table 1 above shows the socioeconomic characteristics of the 80 respondents. The survey showed that 24(30%) of the respondents were males and 56 (70%) were females. This finding is supported by research done by Abolagba *et al.*, (2018), Ajibade *et al.*, (2022) and Sawasawa *et al.*, (2016) that woman has more passion for searching for greener pastures than men.

Table 2: Smoking and Marketing Practices in Selected Markets in Benin City, Edo State

Category	Frequency	Percentage%
Means of transportation to market		
head/hand	16	20%
Wheelbarrow	12	15%
public transport	40	50%
private transport	12	15%
Total	80	100%
Specie of preferred fish species		
<i>ScambarScombrus</i>	27	33.8%
<i>Tilapia</i>	13	16.3%
<i>Merlucciusmerluccius</i>	7	7.5%
<i>Clariasgariepinus</i>	33	41.3%
No record	1	1.2%
Total	80	100%
Storage method of unprocessed fish		
Refrigerate	31	38.8%
Expose 2 sunlight	14	17.5%
Re-smoke	12	15%
Smoking clean	5	50%
Void	19	23.8%
Total	80	100%
Marketing Strategy		
Online	22	27.5%
Marketing Sales	36	45%
Private store/home	12	7.5%
Supply to malls and mini-marts	4	5.0%
Total	80	100%
Kind of Buyers		
Consumers	55	68.75
Wholesalers	11	13.75
Marketers/consumers	10	12.5
Retailers	4	5
Total	80	100%
Preferred time of day sales are made		
Morning	21	26.30
Afternoon	38	47.50
Evening	21	26.30
Total	80	100%
Rate of Demand for Smoked Fish		
low demand	10	12.5%
average demand	35	43.8%
high demand	35	43.8%
Nature of packaging		
Exposed on tray	33	41.3%
From bowl	8	10.0%
Packaged	39	48.8%
Total	80	100%
During the season they sell higher		
Dry	62	77.5%
Rainy	14	17.5%
Harmattan	4	5
Total	80	100

Source: Fieldwork 2022

Adam *et al.*, (2023) in their studies found that within the aquaculture value chain, there is inequality between the two genders but females most times are involved in the processing and marketing of fish. The highest age range of fish processors and marketers fell between 31-40 years. This was similar to the research work done by Bolarinwa *et al.*, (2018) where 42 (52.5%) of the respondents were married. The level of literacy was relatively fair since only 8.8% had no formal education. About 26.3% had up to secondary school education. 75% of the respondents had fish farming as full-time time trading. The majority of the farmers also had their source of fish from fish farmers within and around Benin City. 32.5% of the farmers have been trading fish for 5-10% years; it is a lucrative source of income and also the increasing unemployment rate (Ebukiba *et al.*, 2019). Various authors have revealed similar trends for their level of literacy, source of fish and years of trading (Viswanathan *et al.*, 2023; Offor *et al.*, 2017; Magudu and Edward, 2011). 71.3 % of the respondents in this study do not own farms while 28.7% own farms. Aquaculture is filling the gap in the seafood supply and will affect the marketing of the product (Asogwa and Asogwa, 2019). This was similar to research done by Ijatuyi *et al.*, (2016) in Osun State.

Table 2 above expansively shows the smoking and marketing practices in the various markets in Egor Local Government Areas, in Edo State. The means of transportation to the various markets by respondents was majorly by public transport around the vicinity of the market. This was also similar to research done by Azeez *et al.*, (2021) on the marketing and distribution of fish in the Ido local Government area of Oyo State Nigeria, The category of fish species preferred for marketers across the study area was *Clariasgariepinus*. This species is the most widely cultivated fish species in Nigeria because of its air-breathing ability, fast growth rate, high feed conversion efficiency and high fecundity (Wingkeong., 2021; Dan-Kisshiya *et al.*, 2017). For marketing, the smoked fish has a great shelf life which makes it last over a long period (Abolagba *et al.*, 2018) and has various preservation techniques. Refrigeration using deep freezers is the most ideal means of storage for unprocessed fish in this study. Fish preservation is required to amplify its shelf life /storage time and maintain its nutritional value, texture and flavour as stated by Ayuba *et al.*, (2015). 45% of respondents sell their smoked dried fish in the market as a means of marketing strategy as shown in this study. This is in agreement with Abolagba and Nuntah (2011b); and Fapohunda (2012). Consumers are the highest kind of buyers from this study as 55 respondents come to purchase smoked fish in various markets. The

preferred time for sales of smoked fish was in the afternoon within these markets as indicated by the 47.50 % of respondents in this study thus most times changes are determined by the arrival of the fish marketers or when customers make themselves available to the market and also whether or not the weather choose to favour them for the marketers during sales. Availability of fish to the consumers at the right time and right place requires an effective marketing system. This result is in agreement with the findings of Ali *et al.*, (2008) and Abolagba and Akise (2011a) Marketing of fish passes through various market participants and exchange points before it reaches the final consumers. Data analysis carried out on the rate of demand analysis of smoked fish marketers in the study areas shows that 12.5% of respondents have a low demand rate of smoked dried fish, 43.8% have an average demand rate of smoked dried fish, while 43.8% have high demand rate of smoked dried fish. The study revealed that the respondents have a specific demand rate as there is an average and very high demand for fish in the study area, dominating the sample with an equal percentage of 43% each. Data analysis carried out on the Nature of packaging analysis of smoked fish marketers in the study areas shows that 41.3% expose their smoked fish on the tray, 10% expose their smoked dried fish from the bowl while 48.8% package their smoked dried fish for marketing. The study revealed that the respondents package their smoked dried fish for marketing. This had a higher percentage dominating the sample with 48.8%. Also, fish breakage due to the nature of customary packaging materials is not impermeable to moisture, insects and microorganisms and offers little protection from physical damage (Nwanbuike, 2015; Sefa-dede *et al.*, 2004). The preferred season of sales of smoked fish marketers was during the dry season as 77.5% of the respondents demanded it., 17.5% of respondents demanded smoked fish during the harmattan season, while 5% of respondents demanded

smoked fish during dry the season. The study revealed that respondents' demand for smoked fish during the dry season dominated the sample with 77.5%, it is said that the dry season is more favourable and conducive for the arrival of the fish marketers and also when customers make themselves available to the markets

External factors to efficient marketing of smoke-dried fish: The results as shown in the chart in Fig 1 below indicate that 18 respondents (22.5%) had inadequate marketing information about the smoked fish business. 10 respondents (12.5%) had ineffective pricing marketing of smoked dried fish, and 9 respondents (11.3%) cited high local government levies on them as a problem to them. 21 respondents (26.3%) insufficient financial resources was a problem faced by marketers of smoked dried fish, 9 respondents (11.3%) highlighted the high cost of transportation as the external problem faced by efficient marketing of smoked dried fish, 4 respondents (5%) stated that adverse smoke effect to the eyes/body affected them. The study revealed that respondents the highest external factor faced in marketing/distributing smoked dried fish was inadequate financial resources dominating the sample with 26.3%. This result is in agreement with the findings of Nwabunike (2015). It was further revealed According to Jibrin *et al.*, (2023)in a study in Bornu State that fish supply and marketing suffer from various setbacks ranging from a shortage of supply, price fluctuations due to poor distribution high transportation cost sources of processing, labour, bad weather, storage and spoilage issues with lack of improved technology. These external factors serve as constraints militating against the marketing of smoked fish in the study area. These findings were also in agreement with the study by Fapohunda (2012) in Owo local government areas of Ondo State, Nigeria and by Nwabeze *et al.*, (2019) in a study of fish marketers in the Kianji Lake basin, Nigeria.

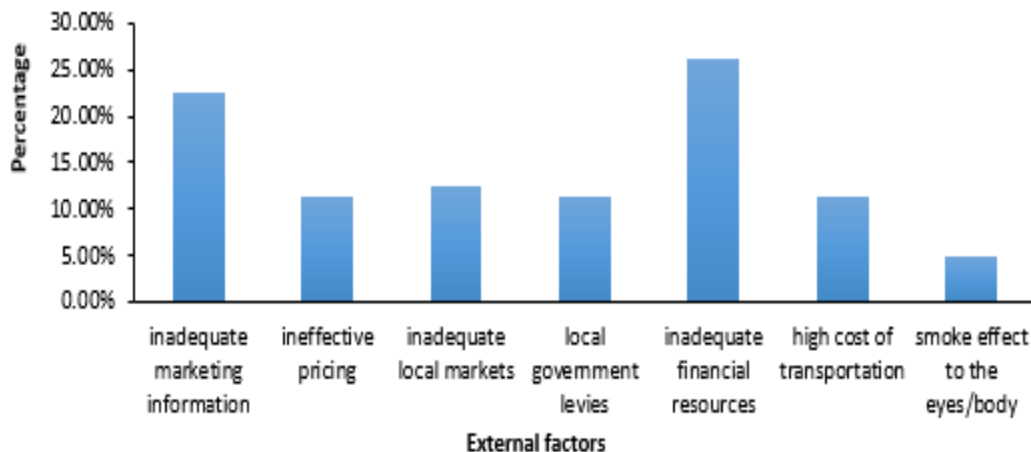


Fig 1: External factors to efficient marketing of smoke-dried fish
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Conclusion: Assessment of Marketing Practices and Strategies of Smoked Fish within Selected Markets in Benin City, Edo State revealed that Catfish (*Clarias gariepinus*) emerge as the favoured fish species for both marketers and consumers. The study revealed that respondents the highest external factor faced in marketing/distributing smoked dried fish was inadequate financial resources. Fish marketers should be encouraged to form co-operatives to enable them to obtain resources/loans from banks and government agencies and the government should bring in fisheries experts to tutor them on how they can improve their marketing strategies through seminars and awareness programs.

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