

# Commonly patronized fish species in Iseyin Local Government Area, Iseyin, Oyo State

Bankole, A. F.<sup>1\*</sup>, Adeosun, O.<sup>1</sup>, Adelodun, O. B.<sup>1</sup> and Taiwo, A. M.<sup>2</sup>

<sup>1</sup>Department of Fisheries Technology, Oyo State College of Agriculture and Technology, Igboora, Nigeria.

<sup>2</sup>Department of Cooperative Economics and Management, Oyo State College of Agriculture and Technology, Igboora, Nigeria.

\*Corresponding author. Email: flakybanks@gmail.com; Tel: 08034302842.

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**ABSTRACT:** The study analysed commonly patronized fish species and fish form in 7 markets in Iseyin, Iseyin Local Government Area of Oyo State. A total of 105 respondents were randomly selected; data was analysed using simple descriptive and Chi square analysis. Women are the major fish sellers (75.24%). Age distribution showed that majority of respondents (41.90%) falls between 41 to 50 years, both married (73.33%) and singles (3.81%) are involved in the business, majority of who has being in the trade for over a decade. A wide range of fish species were sold in their markets such as; Small/medium sized hake (28.44%) (most patronized), horse mackerel (21.10%), mackerel (17.43%), bonga (14.67%), sardines (13.76%), big sized hake (10.09%), catfish and other dried marine fish. Frozen fish has the highest patronage (41.90%). Factors determining species and forms of fish sold are; paucity of funds for investments (98.09%), consumer's choice (93.37%), demand for frozen fish (54.29%), demand for smoked fish (50.48%), demand for dried fish (39.05%) and demand for fresh fish (10.48%). Constraints to fish retailing are; financial incapability (98.09%), inadequate storage facilities (96.19%), epileptic power supply (91.43%), consumer's choices (86.67%), transportation (77.14%), and price fluctuation (67.62%). The chi square analysis revealed that factors determining fish sold such as: consumer's choice ( $X^2=24.450$ ,  $p<0.05$ ), demand for frozen fish ( $X^2= 34.589$ ,  $p<0.05$ ) and paucity of funds ( $X^2=8.828$ ,  $p<0.05$ ) have a significant relationship with type of fish sold in the study area. Fish marketing in Iseyin is a lucrative venture; a wide range of fish species are marketed in different product presentations. Hence, Government and private organizations should encourage fish marketers by investing more in the provision of facilities that will enhance sales.

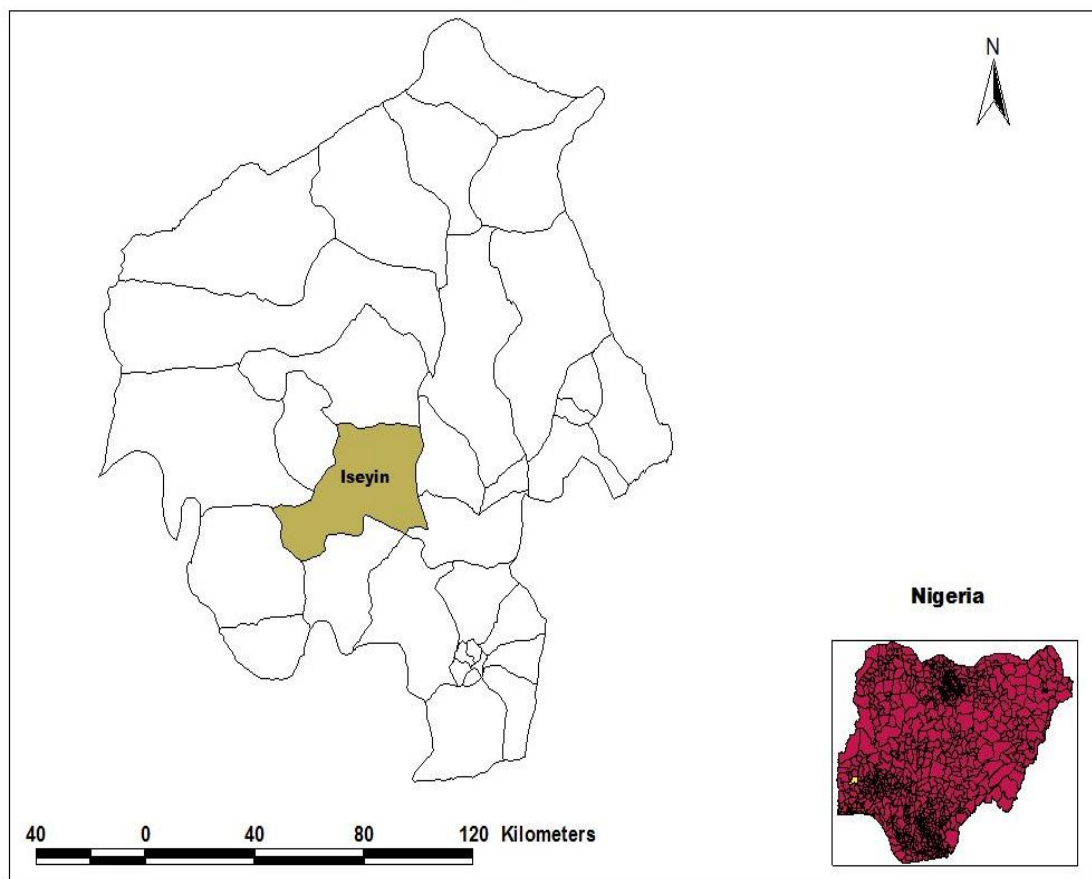
**Keywords:** Fish marketers, fish product, frozen fish, market.

## INTRODUCTION

Fish is a major source of protein food item in the diet of many Nigerians, because it is relatively cheaper than beef, and other animal proteins. In Nigeria, fish and fish products contributes averagely about 20 to 25% per caput animal intake and could be as high as 80% in coastline and riverine communities. The minimum annual demand for fish in Nigeria in 2006 was estimated to be 2.66 million metric tonnes (FDF, 2007). Akinrotimi et al. (2011) explained that fish supply in Nigeria is from four major sources via artisanal fisheries, industrial trawler, aquaculture and imported frozen fish. Most of the commonly consumed species in the coastal and inland

rural areas are sandinella, bonga, moonfish, ilisha and tilapia (Tobor, 1990; Coster and Otufale, 2010).

Since fish is a good source of protein in human diets, efforts should be geared to boost its production and availability to the populace especially in the developing countries. Marketing is a process of exchanging goods and services from one person to another with reference to price. A fish market is a marketplace used for marketing of fish and fish products. However, fish marketing essentially consists of all the activities involved in delivering fish from the producer to the consumer. (Ali Rahim et al., 2008). An efficient marketing system allows perishable products



**Figure 1.** Oyo state map showing Iseyin Local Government Area.

such as fish products to reach consumers in good quality. In addition, when a marketing system is efficient, it gives producer and the seller a good profit margin and consumer satisfaction for the fish purchased. In Nigeria, fish system varies depending on type of fish product and the distance between producer and source of supply of fish product and retailer and consumer (Coster and Otufale, 2010).

Fish has been established has been cheapest animal protein source and according to Adekoya (2004), fish and fish products constitute more than 60% of the total protein intake in adults especially in rural areas. However, having a deeper understanding of fish consumption, patronage and preference pattern will provide good market information. Thus, this study aims at analyzing the socio-economic characteristics of the fish retailers, identify the fish species they sell, forms in which fish are sold as well as the form and fish majorly preferred, examine factors determining the species sold and constraints to retailing business in Iseyin LGA area.

### Hypothesis of the study

$H_0$ : There is no significant relationship between the factors determining fish sold and the type/form of fish sold.

## METHODOLOGY

### Study area

Iseyin Local Government Area of Oyo state is bounded by latitude  $7^{\circ}58'N$  and  $8^{\circ}17'N$  with longitude  $2^{\circ}45'E$  and  $3^{\circ}37'E$ . It shares boundaries with Ojogbodu, Kajola, Ifedapo and Ibarapa Local Government Areas of Oyo State (Figure 1). Agriculture and native cloth looming are the main occupation in this area. Some of the food crops cultivated include maize, okra, yam, cassava and various leaf vegetables. Their secondary occupations are trading, craftworks, soap making, garri and oil palm processing.

### Data collection and analysis

The study was carried out in 7 markets in Iseyin town, these are: Atori, Ita epo, Kaara, Oja agbe, Oja oba, Oluwole and Yaara. Quantitative data was collected using a well-structured questionnaire across the markets. Simple random sampling method was adopted to gather information from 105 fish retailers spread across the markets. Fifteen (15) fish sellers were randomly selected in each market. Data collected covered, demographic

information, distribution of specie sold, factors determining specie and form of fish sold, and constraints to fish trading business. The data collected were analysed using simple descriptive statistics and Chi-Square analysis to test the relationship between type of fish sold and factors determining fish sold

## RESULTS AND DISCUSSION

### Demographic profiles of the respondent

Table 1 presents the demographic profiles of the respondents. Majority (41.90%) of whom falls between 41 to 50 years of age, 25.71% are between 31 to 40 years of age, 14.29% are between 21 to 30 years of age while those from 50 years old and above is 18.10%. The results revealed that middle aged of 41 to 50 years are the ones selling fish the most. The table showed that both male (24.76%) and female (75.24%) are involved in the trade, though women are more predominant. The work of Madugu and Edward (2011) revealed that both men (50%) and women (50%) are involved in fish marketing in Adamawa State. Weeratunge and Snyder (2009) also stated that women dominate local markets for fish and other agricultural commodities in many parts of Africa. Majority (73.33%) of the respondent were married, 26.67% were single; this indicates that the trade is lucrative enough to support households. The 3 major religions were represented among the respondents; this could be attributed to the fact fish as a product is generally acceptable and void of religion barrier. However, Christianity is the predominant religion practised among the respondents (47.62%). A larger percentage of them are literates with cumulative of 76.19% while only 23.81% had no formal education. This high literacy level of the respondents will ensure proper book and record keeping, support innovations and technology use and profit is better maximised.

Response on years of experience in fish selling indicates that 38.09% of the total fish sellers have more than 15 years of experience, 30.48% had 10 to 15 years of experience, 17.14% had 5 to 10 years of experience, and 9.52% of the sellers had less than 5 years of experience. This is an indication that risk will be well managed since they have gained mastery of the business over the years. Krause (1995) supported that experience reduces management risk, while Sevilleja (2000), Edwards (2000), and Dey et al. (2000) agree that experience is crucial and is contributing to the success of Asian aquaculture.

### Fish species sold

Varieties of fish is sold within the study area, based on this, different choices arise. This includes hake (big and small size), mackerel, horse mackerel, bonga, catfish (fresh) and other dried fish sold by the local vendors (Table 2).

**Table 1.** General profile of fish sellers in Iseyin markets.

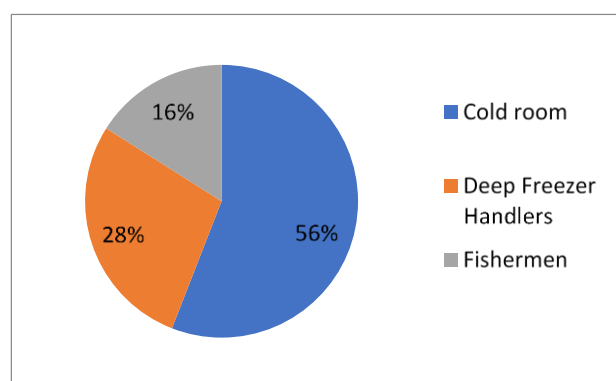
General profile	Frequency (f)	Percentage (%)
Age		
20-30	15	14.29
31-40	27	25.71
41-50	44	41.90
>50	19	18.10
Sex		
Male	26	24.76
Female	79	75.24
Marital status		
Single	28	26.67
Married	77	73.33
Religion		
Islam	41	39.05
Christianity	50	47.62
Traditional	14	13.33
Level of education		
Primary education	25	23.81
Secondary education	40	38.09
Tertiary education	15	14.29
No formal education	25	23.81
Marketing experience intervals		
<5years	10	9.52
5-10years	18	17.14
10 -15years	32	30.48
>15 years	40	38.09

### Commonly patronised specie

The data generated revealed that major species of fish patronized mostly by the consumer are hake small/medium size (28.44%) and horse mackerel (21.10%). Others are mackerel (17.43%), sardines (13.76%), hake big (10.09%), bonga (14.67) and catfish (3.67%) which demand is low because of cost. The high demand for small-medium sized hake (which is usually smoked) could be attributed to the relatively low price attached to fish which makes it affordable by the general populace (Table 2). This result contradicts the findings of Amao et al. (2006) who reported a large proportion of their Lagos respondents (53%) preferring cat fish to any other fish type, about 22% preferred tilapia, while 18% and 7% preferred mackerel and stock fish respectively. Felly et al. (2017) observed that tilapia (*Oreochromis niloticus*) was consumed by majority (95%) of those who buy and consume fish from fish markets in Nakuru town, Kenya. Other widely consumed fish species were Silver sardine (*Rastrineobola argentea*), Nile perch (*Lates niloticus*) and

**Table 2.** Distribution of species sold and most patronized fish in Iseyin markets.

Categories	Respondents	Percentage
Types of fishes most patronized		
Horse mackerel	23	21.10%
Hake-small size	31	28.44%
Catfish	4	3.67%
Mackerel	19	17.43%
Hake- big size	11	10.09%
Sardines	15	13.76%
Bonga	16	14.67%
Others	4	3.67%
The form it is sold		
Smoked	29	27.62%
Fresh	8	7.62%
Dry	9	8.45%
Fried	14	13.12%
Frozen	45	43.02%
Sources of fish sold		
Fishermen	17	16.02%
Wholesaler (Cold room)	58	55.92%
Deep freezer	30	28.06%
Sources of fund		
Personal savings	57	54.28%
Friends and relations	12	11.42%
Banks	7	6.67%
Cooperatives	29	27.61%

**Figure 2.** Fish source distribution.

lungfish (*Protopterus aethiopicus*). Additionally, fish species grouped as 'others' consumed by only 8% of fish consumers were haplochromis, cray fish, trout, cichlids and *barbus spp.* All the variations observed among the different authors and reports can be traced to differences

in geographical location, cultural differences, and family background among others

### The form sold

The data obtain shows that fish marketers within Iseyin sell their products in different forms ranging from fried, fresh, smoked, dry, frozen (Table 2). The frozen being the commonest form (41.90%), followed by smoked (27.62%), fried (14.29%), dry form (8.57%) and fresh form being the least preferred 7.62%. It was observed that majority of the consumers demand for frozen fish which they believe is cheaper when compared with other fish product forms and farm raised fish; also frozen fish gives the consumers the leverage of cutting the fish into portions that seems convenient for family consumption unlike processed fish. This result is line with Adeosun and Bankole (2012) who reported frozen fish (60%) constituted a majority of the fish marketed followed by smoked fish (24%), fried fish (13%) while the remaining 3.0% were live fish in Ibarapa area of Oyo State. In a study carried out Ibadan, Oyo State; frozen fish is the fish form majorly sold (58.34%), smoked fish had 33.33%, while fresh fish had 8.33%. The retailers assert that frozen fish is cheaper, affordable and consumed mostly by their customers (Adeosun et al., 2019).

### Source of fish sold

The data generated and presented in Table 2 reveal that there are three sources of fish found in Iseyin market which includes the fisherman (16.82%), deep freezer (28.06%) and cold room 55.76%. Majority of fish marketers in Iseyin got their fish from the cold room. This aligns with Adeosun and Bankole (2012) and Adeosun et al. (2019) findings on distribution channel of frozen fish in Ibarapa and Ibadan regions of Oyo state that cold room dealers are the major distributors of frozen fish. Though in Ibarapa, consumers either purchase frozen fish from the retailers or directly from the cold room while smoked fish is purchased from fish processors or fishermen wife (Figure 2).

### Source of fund

The data shows that the major source of fund for fish marketers within the study area are from their personal savings (54.28%), few of them source their fund from friends and relatives (11.42%), banks (6.67%) and cooperatives (27.61%) (Table 2). This shows that operational fund is based on personal effort. This agrees with the findings of Akinwale et al. (2014) who reported 93% of fish farm holders operate with funds obtained through personal or self-effort, thus limiting their scope to small scale operations despite the availability of land for physical expansion.

**Table 3.** Factors determining fish sold by fish marketers in Iseyin.

Factors	Yes	Percentage (%)	No	Percentage (%)
Financial Capacity	103	98.09	2	1.91
consumer's taste and preference	98	93.33	7	6.67
Cost of fishes	78	74.28	27	25.72
Poverty of the consumers	44	41.90	61	58.10
Unavailability of fishes	32	30.48	73	69.52
Frozen fish are more demanded	57	54.29	48	45.71
Fresh fish are more demanded	11	10.48	94	89.52
Dried fish are more demanded	41	39.05	64	60
Smoked fish are more demanded	53	50.48	52	49.52
Problem of smoking fish	74	70.48	31	29.92

**Table 4.** Constraints to fish marketing.

Factors	Yes	Percentage (%)	No	Percentage (%)
Cost of transportation	81	77.14	24	22.86
Financial Constraints	103	98.09	2	1.91
Inadequate storage facility	101	96.19	4	3.81
Epileptic power supply	96	91.43	9	8.57
Price fluctuation	71	67.62	34	32.38
Union activities	21	20.00	84	80.00
Activities of government tax/agent	11	10.48	94	89.52

**Table 5.** Chi-square analysis of relationship between type of fish sold and factors determining fish sold.

Variable	X <sup>2</sup>	P- value
Paucity of funds	8.828	0.021
Demand for frozen fish	34.589	0.018
Consumer's choice	24.450	0.042

\*Significant at 5% (p<0.05).

### Factors determining fish sold by fish marketers in Iseyin

Accepted factors determining species and forms of fish in the fish markets are paucity of funds for investments (98.09%); this is largely attributed to the fact that operational funds are based on personal effort. Bank loan is usually avoided due to high interest rate and the cumbersome process of obtaining the said loan. Consumer's choice (i.e. consumer's preference for fish consumption) (93.37%). Usually consumers' preference for goods dictate the marketers' stock in order to make quick returns. Demand for frozen fish (54.29%) and demand for smoked fish (50.48%) ranks close because they are believed to be relatively cheaper than fresh fish and can be cut into sizeable portions unlike the dried fish. Demand for dried fish (39.05%) when compared to the forms mentioned above is low; because dried fish are

usually taken as condiments to enrich soups and stews and not as the main fish in the soup. Demand for fresh fish (10.48%) is low because it is believed to be expensive and does not give room for bargaining since price is usually determined on kilogram basis (Table 3). Higher demand for frozen fish and smoked fish over other fish forms analysed corroborates the findings of Adeosun et al. (2019) among fish retailers in Ibadan, Oyo State.

### Constraints of fish marketing in the study area

The constraints identified with fish marketing in the study area on a Yes and No decision rule are; Financial incapability (98.09%), inadequate storage facility (96.19%), epileptic power supply (91.43%), cost of transportation (77.14%), and price fluctuation (67.62%). Other options identified as minor constraints are union

activities (20.00%) and Government tax/agent (10.48%) (Table 4). The findings here align with the works of Adeosun et al. (2019) and Adeosun and Bankole (2012) where unstable power supply (33.33%), problem of storage facilities (18.34%) and government tax rate (12.50%) were reported as major problems facing fish traders in Oyo State.

### Relationship between type of fish sold and factors determining fish sold

Chi-square analysis (Table 5) of relationship between type of fish sold and factors determining fish sold showed significant relationship exist ( $p < 0.05$ ) between the types of fish sold in Iseyin market and three of factors determining fish sold: Paucity of fund ( $X^2 = 8.828$ ,  $p < 0.05$ ), the retailers lack financial backbone, funds were mainly sourced from personal savings thus limiting the stock purchased. Demand for frozen fish ( $X^2 = 34.589$ ,  $p < 0.05$ ), since frozen fish is the preference of most of the people in the study area, thus immediate need for cash and profit propels what will be offered for sale. Consumer's choice ( $X^2 = 24.450$ ,  $p < 0.05$ ), a larger proportion of the populace had an appreciable preference for fish over other animal proteins since fish is considered cheap and readily available.

### Conclusion and recommendation

Fish marketing in Iseyin is a lucrative venture that displays a wide range of fish species which are marketed in different forms (fresh, smoked, frozen or dried fish). Since frozen fish is mostly consumed here like many other places in Nigeria and for the business to thrive; government and private organizations should encourage fish marketers by investing more in the provision of facilities that will facilitate better sales such as provision of credit scheme and soft loan facilities to the fish marketers association and individual marketers so as to further the expansion of their scale of operation; making assessing loans less burdensome and cumbersome (friendly interest rate), provision of constant supply of electricity and provision of storage facilities to minimize spoilage among others. Fish marketers should be encouraged to form cooperative societies so that they can be privileged to access large amount of loan to effectively run their business.

### CONFLICT OF INTERESTS

The authors declare that they have no conflict of interest.

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