



ANALYSIS OF SOCIO-ECONOMIC CHARACTERISTICS AND CONSUMERS' PERCEPTION ON FRESH AND SMOKED (*Clarias* and *Tilapia Species*) FISH CONSUMPTION IN LOKOJA, KOGI STATE, NIGERIA



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**Abstract:** This study examined the analysis of socio-economic characteristics and consumers' perception on fresh and smoked (*Clarias* and *Tilapia species*) fish consumption in Lokoja, Kogi State, Nigeria. A multi-staged random sampling technique was employed in selecting one hundred and fifty (150) respondents; structured questionnaire and scheduled interview were used to obtain data which were analyzed through the use of frequency, percentage, mean score and Chi Square. The results showed that 54.0% were female, 56.7% were married, the mean age was 34 years and #46.819 was the average monthly income. Respondents perceived that fish prices are generally affordable ( $\bar{X} = 2.52$ ) and that fish is not likely to pose health challenge if not killed through poison ( $\bar{X} = 2.33$ ). Challenged faced by the respondents in the consumption of fish include price instability ( $\bar{X} = 3.20$ ), perish ability ( $\bar{X} = 2.94$ ), inadequate marketing information ( $\bar{X} = 2.86$ ) and low product quality ( $\bar{X} = 2.73$ ). It is recommended that efforts should be made by Government to increase capital investment in the fishery sector so as to create enable environment for increase in fish production that will make fish to be adequately supplied at an affordable price. It is not only fish farmers that should engage in fish farming, households with backyard spaces can raise fish by constructing ponds, earthen or concrete tanks for small scale fish farming, this will help in making fish to be available for consumption.

**Kew word:** Assessment, consumption, fresh, house hold, smoked

### Introduction

Fish is one of the most important sources of animal protein available all over the world for human consumption. Fish, among all other important protein foodstuffs (such as eggs, milk, meat and other animal products), constitute an excellent source of protein of high biological value (Aromolaran, 2014). Fish is an essential source of food and relatively cheap source of animal protein to many people across developing nations, especially Nigeria. People in some communities in various regions and States in Nigeria derived their livelihood from fishing and related activities as a result of their closeness to Ocean and river (Adeola *et al*, 2016) Fish is an important part of the diets of people in these regions. It has been reported that fish consumption accounts for about 35% of animal protein consumption in Nigeria and this could mean that fish farming is a vibrant and dynamic commercial sector in Nigeria, ripe with investment and employment opportunities (USAID, 2014). Fisheries are considered to be an important economic activity for generating income and gainful employment and to ensure nutritional security of rural masses. (Das *et al*, 2013). Utilization of fish varies for food and non-food purposes across countries and regions. More importantly, the utilization of fish for direct human consumption increased significantly over the years from 67 percent in 1960 to 88 percent in 2016 (Onyeneke *et al*, 2020). Hence, the consumption patterns for fish have peculiar implications for the sub-sector in various economies. Disparities exist for fish consumption between and within countries, regions and areas due to location specific varieties, per capita consumption quantity, and geographic concentration of production and more importantly, the trade and international trade realities (Tveterås *et al*, 2012). Considering the upsurge in population growth, urbanization and demographic dynamics fish consumption (demand) raises enormous challenges for economies (Barange *et al*.2018). Currently, people are more enlightened with the growing awareness creation on the nutritional and health value of fish food supplies, contributing to the upsurge in

disproportionate demand for fish. The study therefore considered the analysis of socio-economic characteristics and consumers' perception on fresh and smoked (*Clarias* and *Tilapia species*) fish consumption in Lokoja, Kogi State, Nigeria Specific objectives are: (i) described the socio-economic characteristics of the respondents (ii) examined consumers' perception on fish consumption (iii) identified the challenges faced by fish consumers

### Materials and Methods

The study was carried out in Lokoja Local Government Area of Kogi State. Lokoja is a city in Nigeria. It lies at the confluence of the Niger and Benue Rivers and is the capital of Kogi State. Lokoja lies about Latitude 7.8°23' North of the Equator and Longitude 6.73°33' E of the Meridian. It is about 165 Km Southwest of Abuja as the crow flies, and 390 Km Northeast of Lagos by same measure. Residential districts are of varying densities, and the city has various suburbs such as Felele, Adankolo, Otokiti and Ganaja. A multi-staged random sampling technique was employed in selecting the respondents for this study. The first stage was selection of densely populated and less densely populated areas. Later, seventy five respondents were randomly selected from each of the identified areas to give a total sample size of one hundred and fifty respondents (150). Data were collected using a structured questionnaire and scheduled interview administered to the fish consumers. Data obtained were analyzed using descriptive and inferential statistics

### Results and Discussion

#### *Socio-economic characteristics of fish consumers*

The socio-economic characteristics of the respondents are contained in Table 1. Only 54.0% of the respondents were males while 46.0% were females. The age distribution showed that those within the age range of 20-29 years were 39.3% with an average age of 34 years. The marital status showed that majority of the respondents 56.7% were married, while 35.3% were single. The respondents with

tertiary education as the highest educational qualification were 46.0% while those without formal education were only 15.3%. In terms of household size, 40.0% had 3-4 persons per household while 63.3% earn a monthly income of #10,000 - #15,000 monthly and an average of #46,819. An increase in income leads to a higher dietary diversity: individuals tend to consume more high-valued products such as fish. Age could be an important determinant in the quality and quantity of protein requirement of an individual and households because food consumption pattern generally follows the body composition (Amao *et al.*, 2016). Can and Can (2015) reported that fish consumption preferences are affected by individuals' socioeconomic characteristics.

Table 1: Socio-economic characteristics of fish consumers

Socio-economics variables	Frequency	Percentage	Average
<b>Gender</b>			
Female	81	54.0	
Male	69	46.0	
<b>Total</b>	150	100.0	
<b>Age</b>			
20-29	59	39.3	34 years
30-39	46	30.7	
40-49	19	12.7	
50-59	15	10.0	
60 above	11	7.3	
<b>Total</b>	150	100.0	
<b>Marital status</b>			
Single	53	35.3	
Married	85	56.7	
Divorced	5	3.3	
Widow	7	4.7	
<b>Total</b>	150	100.0	
<b>Level of education</b>			
No formal education	23	15.3	
Primary education	18	12.0	
Secondary education	40	26.7	
Tertiary education	69	46.0	
<b>Total</b>	150	100.0	
<b>Household size</b>			
1-2	27	18.0	4
3-4	60	40.0	
5-6	40	26.7	
6 above	23	15.3	
<b>Total</b>	150	100.0	
<b>Monthly income (₦)</b>			
10-50000	95	63.3	₦46, 819.87k
51000-100000	40	26.7	
100001-150000	10	6.7	
above 151000	5	3.3	
<b>Total</b>	150	100.0	

Source: Field Survey, 2021

### Types, species, and reasons for fresh and smoked fish consumption

Table 2 showed that only 44.00% consumed *Clarias species*, 16.7% consumed *Tilapia species* while 39.3% consumed both species of fish. However, 57.2% consumed smoked and fresh *Clarias species* and *Tilapia species*. The reason for fish consumption of both species as either fresh or dried was because of the nutrient it supplied (45.3%) while 29.3% attributed it to taste and few (7.3%) to availability. Decisions on the type of fish and how much to purchase and consume are believed to be affected by various factors. Fish consumption levels could be influenced by socio-economic and geographic characteristics of consumers (Pieniak *et al.*, 2011). For a balanced and healthy nutrition, it is beneficial to consume fish and seafood due to its nutritional value, its therapeutic and preventive effects on major diseases (Kizilaslan 2019). It was found that health issues play a pivotal role for selecting fish consumption (Noimur *et al.*, 2020). Studies showed that fish consumption aids in stopping various health diseases, including bacterial infections, Alzheimer's disease, metabolic disorder, protein-calorie malnutrition, high blood pressure, cardiovascular and coronary heart diseases (Samoggia and Castellini, 2018; Balami *et al.*, and 2020; Li *et al.*, 2020).

Table 2: Types, species, and reasons for fresh and smoked fish consumption

Items	Frequency	Percentage
<b>Type of fish consumed</b>		
Smoked fish	48	32.0
Fresh	23	15.3
Both	79	52.7
<b>Total</b>	150	100.0
<b>Species of fish consumed</b>		
Clarias	66	44.0
Tilapia	25	16.7
Both	59	39.3
<b>Total</b>	150	100.0
<b>Reason for consuming fish</b>		
Taste	44	29.3
Nutrient	68	45.3
Affordable	27	18.0
Availability	11	7.3
<b>Total</b>	150	100.0

Source: Field Survey, 2021

### Consumers' Perception on fish Consumption

Table 3 indicated consumers' perception on fish consumption; fish prices are generally affordable ( $\bar{X}$  = 2.52). This implied that majority of the consumer agreed that fish prices are generally affordable, this is because fish is often considered to be a 'rich food for poor people' Fish is the most accessible and affordable source of animal protein, providing many of the key nutrients and calories that are needed for physical and mental development (Béné *et al.*, 2015), respondents perceived that fish is not likely to pose health challenge if not killed through poison ( $\bar{X}$  = 2.33), availability throughout the year ( $\bar{X}$  = 2.07). This implied that fish killed with poison is dangerous to health of consumers (Pieniak *et al.*, 2011).

Table 3: Consumers' Perception on fish Consumption

	SA	A	UD	D	SD	Mean
I get fish supplied to me when I need it	83	49	7	10	1	1.65
Fish prices are generally affordable	40	44	25	30	11	2.52
Good quality fish is available for me to purchase	50	68	14	17	1	2.01
I get the fish I want throughout the year	50	72	2	19	7	2.07
Fish is not likely to pose health challenge if not killed through poison	51	40	19	38	2	2.33

Key: SA = Strongly agree, A = Agree, UD = Undecided, D = Disagree, SD = Strongly Disagree

### Challenges to fish consumption

Challenges to fish consumption are those factors indicated by the consumers as presented in Table 4. Price instability ( $\bar{X}$  = 3.20), perish ability ( $\bar{X}$  = 2.94), inadequate marketing information ( $\bar{X}$  = 2.86) and low product quality ( $\bar{X}$  = 2.73) were rated high as challenges to fish consumption by the respondents. Fish being a perishable food item, its freshness can be kept intact by increasing its local production which can be supplied to local consumers in shortest possible time frame. Debnath *et al.*, (2014) reported in a similar study that price as a challenge to fish consumption is an important factor to be considered for improvement in fish consumption. Das and Kumar (2020) opined that major challenges to fish consumption are price (level and fluctuation) followed by availability.

Table 4: Challenges to fish consumption

Constraints	VS	S	NS	UD	Mean
Price instability	64	56	26	4	3.20
Seasonal in nature	23	54	72	1	2.66
Low product quality	25	68	48	9	2.73
Inadequate marketing information	34	59	49	7	2.86
Perish ability	40	68	35	7	2.94
High incidence of storage pest	41	34	64	11	2.70

Source: Field Survey, 2021

Very Sevier (VS), Sevier (S), Not Sevier (NS) Undecided (UD)

### Relationship between socio economic characteristics and perception of fish among fish consumers

From the results presented in Table 5 age, level of education and monthly income are strong determinants on perception of fish consumption among the respondents. Perception generally depends on age as older people have high level of perception compared to the younger ones. The

higher the level of education the more customers perceived fish consumption either fresh or smoked which affected the overall demand for it. Monthly income contributed to customers' perception on fish consumption because purchase of fish is a function of income if the income is high and regular consumers have the tendency of right perception and high demand.

**Table 5: Relationship between socio economic characteristics and perception of fish among fish consumers**

Hypotheses	Parameter	t-value	Decision (HO)
1a	Age	21.068	Accepted
1b	Gender	11.274	Rejected
1c	Marital status	29.962	Rejected
1d	Level of education	13.531	Accepted
1e	Monthly income	30.705	Accepted

### Conclusion and Recommendation

*Clarias species* are mostly consumed by the respondents while perception on fish consumption showed that consumers believed that the fish prices are generally affordable and nutrient composition was a major reason for fish consumption. Price instability was the severe challenge faced by fish consumers in the study area. It is recommended that efforts should be made by Government to increase capital investment in the fishery sector to create enable environment for increasing fish production that will make it to be adequately available and at affordable price. Provision of jobs and entrepreneurship training by Government, private sectors and other Cooperate bodies to the jobless are means that ensures income generation which invariably can increase the purchasing power of fish consumers. This will contribute positively to improvement of nutritional status of the people. Government and relevant Institutions involved should make credit easily accessible to fish farmers, provision of inputs like fish feeds at subsidized rate and enabling environment to ensure increase production of fish to reduce price of fish. It is not only fish farmers that should engage in fish farming, households with backyard spaces can raise fish by constructing earthen ponds, concrete tanks or fibre tanks for small scale fish farming; this will help in making fish to be available for consumption.

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