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A Survey on *dambun kifi* (Shredded Fish Muscle) Consumers in Sokoto Metropolis, Nigeria

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ABSTRACT

The study was conducted in Sokoto metropolis to evaluate the perception of *dambun kifi* consumers. Sokoto metropolis was purposely chosen for the study and was stratified into different areas. 10% of the consumers were used for this study. A total of 150 questionnaires were administered to consumers of *dambun kifi* to evaluate their socioeconomic traits and perception of *dambun kifi*. Data collected were subjected to simple descriptive analysis. The results showed that Majority (59.33%) of the respondents preferred to buy *dambun kifi* from stores, while 18.67% of the respondents like buying *dambun kifi* from markets and only 13.33% of the respondents like *dambun kifi* being hawked. Most (68.66%) of the respondents consume *Danbun kifi* solely. The major (40.67%) turn-off for *dambun kifi* consumption was hygiene. The study concludes that *dambun kifi* is a well-known recipe in the study area, it is available mostly on request and a little bit costly, most consumers consume it for its taste.

Keywords:
Dambun kifi, survey, consumers, fish

Introduction

Fish is one of the most valuable sources of food worldwide (Magawata, 2015). Fish has consistently been among the most commonly used and comparatively cheaper source of animal protein for most people across the globe. In most developing countries, fish is one of the key sources of animal protein and a source of direct and indirect employment opportunities to rural communities. African catfish (*Clarias gariepinus*), a freshwater fish with higher biological value protein than other protein sources, is the most widely produced fish species in Nigeria (Edet Afia *et al*., 2020). Fish post-harvest activities within the fisheries value chain have always received less attention in rural community development programs despite them being a critical component of the livelihood structure (Kitinoja, 2016). According to the Food and Agriculture Organization FAO (2018), Fish and fish products currently constitute the most traded food products globally. Ward (2017), reported that, Globally, fish losses are estimated to be ten to twelve million tons per year, accounting for around ten percent (10%) of the total production from capture fisheries and aquaculture. Hence, the fight against hunger requires more than just increasing production and total food supply but also improving food systems, a full understanding

of the local conditions and factors affecting the value chains for the products, and more attention to the barriers limiting investment in improved post-harvest handling practices, technologies, and policy Kitinoja, (2016). One of the main goals of the technologies is to look for processes or combined procedures to maintain good quality fish products (Magawata, 2015). In the healthy live fish, all the complex biochemical reactions are balanced, and the fish flesh is sterile. After death, however, irreversible change (rigor mortis) that results in fish spoilage begins to occur.

Food and nutrition security challenges in Nigeria have led to the development of innovation through food processing. Shredded Dehydrated African Catfish Muscles SDACM (Danbun Kifi) is one of such innovation with the potential to fill the gap in national food and nutrition security. The Quality and safety assessment of processed food products are critical to the development of knowledge based on their nutrient and health benefits. However, information on the perception and consumption of SDACM has not been well documented.

Materials and methods

Site of the study

The study was conducted in Sokoto metropolis, Sokoto State, Nigeria. It is located in the Sudan savannah zone of the extreme Northern western part of Nigeria (Mamman *et al*., 2000).

Sampling procedure:

Sokoto metropolis was purposely chosen for the study and was stratified into different areas. 10% of the consumers were used for this study. All major *dambun kifi* product markets and superstores were identified within each of the LGA that comprise the metropolitan area for the study. Sokoto Metropolis has 8 local governments. Forty (40%) of the 8 local governments were randomly selected in each of the local governments. One major market in each local government was visited. The consumers were interviewed using snowball techniques.

Instruments for data collection

A total of 150 questionnaires were administered to consumers of *dambun kifi*. Section A of the questionnaire seeks demographic information of the consumer (such as sex, age, marital status, education, income and production cost). Section B seeks consumption patterns and information on (taste, preference) of the product.

Data analysis

Data collected were subjected to simple descriptive analysis using the SAS (1999).

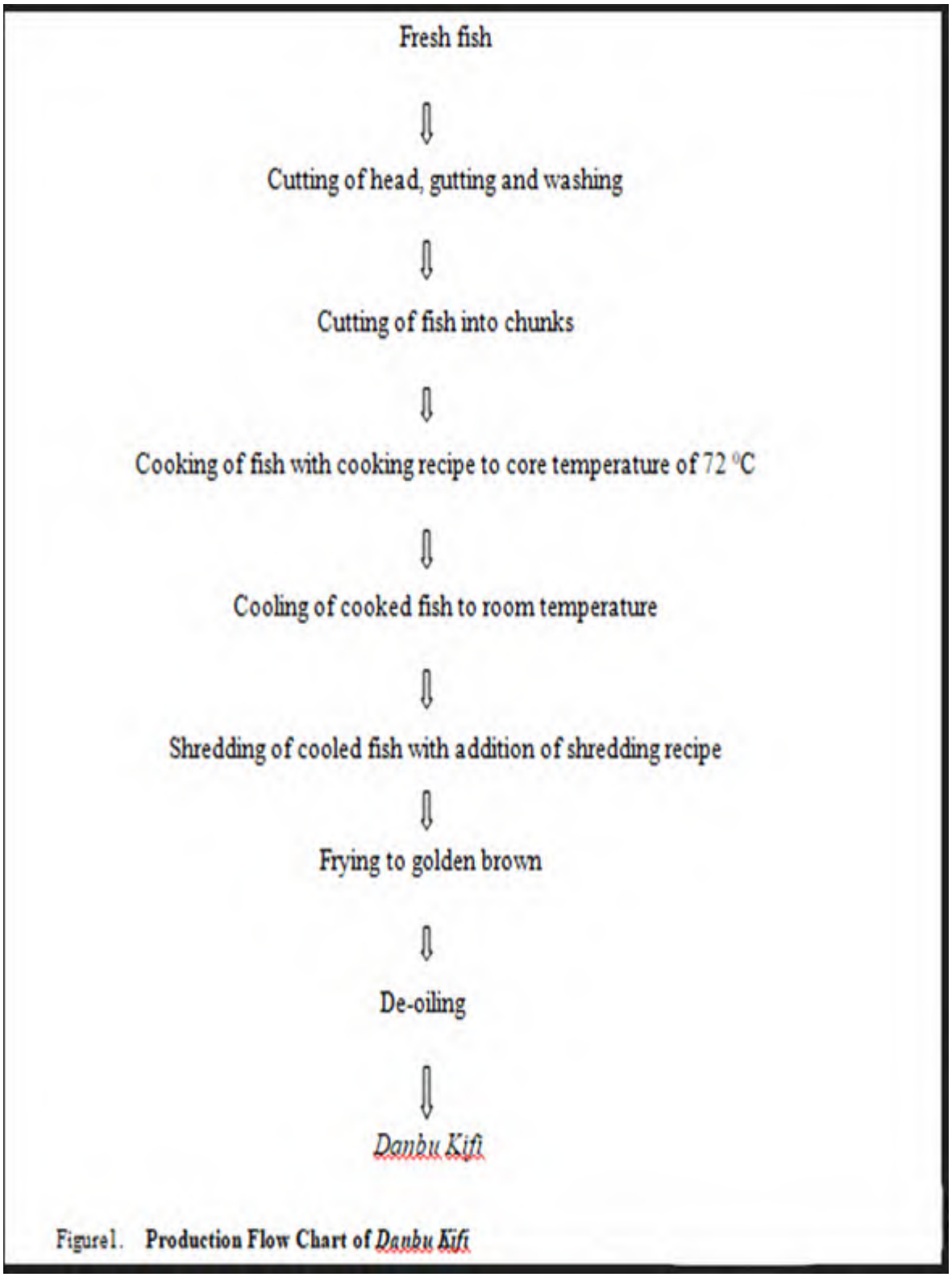

Figure1. **Production Flow Chart of *Danbu Kifi***

Source: Ogunsola, O. O. and Omojola, A. B. (2008).

Results and Discussions

Socio-demographic information of *dambun kifi* consumers in Sokoto State

The results of Socio-demographic information of *dambun kifi* producers were presented in Table 1

Parameters	Frequency	Percentage
Gender		
Male	108	72.00
Female	42	28.00
Total	**150**	**100**
Age		
15-25	29	19.33
26-40	53	35.33
Above 41	68	45.33
Total	**150**	**100**
Marital Status		
Single	33	22.00
Married	117	78.00
Total	**150**	**100**
Level of Education		
Adult education/ Qur'anic	22	14.67
Primary	29	19.33
Secondary	40	26.67
Tertiary	59	39.33
Total	**150**	**100**
Occupation		
Trading	123	82.00
Civil servants	27	18.00
Total	**150**	**100**
Average Monthly income		
1,000-20,000	22	14.67
21,000-40,000	27	18.00
41,000-60,000	40	26.67
Above 60,000	61	40.66
Total	**150**	**100**

Source: field survey.

1. *Sex*

from the results it showed that 72.0% of the respondents were males compared to the females (28.0%). This disagrees with the findings of Imam, (2013) and Irini, (2012) who asserted that majority of the consumers of fish and fish products at various market outlets were women/females, which might be due to the locality settings as most women were mostly located indoors, thus assessing will be difficult.

2. *Age*

Majority of the respondents (45.33%) were above 41 years of age, while 35.33% of the respondent falls between 26-40 age bracket, and only 19.33% being within age bracket of 15-25. This suggests that adult respondents are more in the purchasing and consumption of fish products which is in line with Dorota, (2013), who posited that older people have better purchasing experience than the younger ones. And contradicts Mugaonkar *et al*., (2011) reported that most fish and fish products purchasers were between the age of 25 and 30 years. Age could be an important determinant in the quality and quantity of protein requirements of an individual and households (Amao et al., 2006).

3. *Marital Status*

The findings of the survey shows that 78.00% of *dambun kifi* consumers were married while the rest (22.0%) being single, Studies by Quisumbing *et al*. (2014) and Doss and Morris (2001) emphasized the significance of family dynamics in agricultural production, where married couples often work together in managing and operating farms. In many cases, marriage can contribute to increased labor availability and shared responsibilities, positively impacting agricultural productivity.

4. *Level of Education*

On level of education of the consumers, majority (39.33%) had post-secondary eductaion and only 14.67% (lower fraction) having only Qur'anic/adult education, primary (19.33%), and Secondary (26.67%) complete the category. Studies by Mwaura and Qaim (2012) and Spielman *et al*. (2011) suggest that education can significantly influence individuals' participation in markets. Educated buyers may have better information-processing capabilities, enabling them to make informed decisions, negotiate prices, and contribute to the overall efficiency of the value chain.

5. *Occupation*

Trading is the major occupation in the study location, with only 18% of the respondents being civil servant.

6. *Average Monthly income*

Most of the consumers of *dambun kifi* average more than 60,000 Naira as their monthly income, and only 14.67% of the respondents get between 1,000- 20,000 Naira monthly an indication that majority of the respondents were low to average income earners. This may influence their choice of market outlet because the respondents had low purchasing power and this may prompt the consumers to purchase from markets outlets with low prices.

Perception of consumers to *dambun kifi* in Sokoto State

The results of consumer perception on *dambun kifi* were presented in Table 2

parameters	**Frequency**	**percentage**
Knowledge of dambun kifi		
yes	150.	100.00
No	0.	0.00
Total	**150**	**100**
First encounter with dambun kifi		

Snacks in a party	21	14.00
Shop/ market place	83	55.33
Hawked (road side)	46	30.67
Total	**150**	**100**
Availability of dambun kifi in your area		
yes	45	30.0
No	105	70.0
Total	**150**	**100**
Reason for consuming dambun kifi		
Taste	61	40.67
Availability	38	25.33
Affordable	37	24.66
Low in cholesterol	14	09.33
Total	**150**	**100**
Preferred place of purchase		
Market	28	18.67
Stores/shops	89	59.33
roadsides	13	08.66
From producers	20	13.33
Total	**150**	**100**
Cost of dambun kifi		
Expensive	82	54.67
Fair	46	30.67
Cheap	22	14.66
Total	**150**	**100**
Frequency of purchased		
Frequently	28	18.67
Once in a while	122	81.33
Total	**150**	**100**
Mode of consumption		
Solely	103	68.66
With snacks	21	14.00
With tea	26	17.33
Total	**150**	**100**
Constraints to consumption		

Packaging material	42	28.00
Availability	21	14.00
Flavour	08	05.33
Hygiene	61	40.67
Oily	14	09.33
Texture	04	02.67
Total	**150**	**100**

Source: field survey

Knowledge of dambun kifi

The findings of the study showed that all (100%) the respondents where familiar with *dambun kifi*, this is because the survey was purposive and set to target only respondents that know about *dambun kifi*.

First encounter with dambun kifi

From the survey 55.33% of the respondents came across *dambun kifi* in shops/market place, while 30.67% of the respondents said they first saw it hawked and only 14.0% of the respondents first encounter of the product *(dambun kifi)*, served as snack in a party. Because it might be cheaper at the local market since the consumers can buy directly from the producers or wholesalers thereby reducing the numbers of actors in the supply chain and price. In addition, consumers may be inclined to buying *dambun kifi* because of the freedom to bargain in local markets and also the availability of varieties of other non-fish products which are seldom available in the organized retail markets.

Availability of dambun kifi in your area

dambun kifi is not readily available in the study area, 70% percent of the respondents attest to that, this is mostly so because *dambun kifi* is not a staple food but rather a snacks or appetizer and couple with the fact that it's not the major fish product in the study area. Again, the cultural background of the consumers may have influence on the market outlet been patronized.

Reason for consuming dambun kifi

The study revealed that taste (40.67%) is the major reason for *dambun kifi* consumption, while availability (25.33%) and affordability (24.66%) and only 9.33% of the respondents consume *dambun kifi* because it has low cholesterol, because most of the consumers buys it as snacks.

Preferred place of purchase

Majority (59.33%) of the respondents preferred to buy *dambun kifi* from stores, while 18.67% of the respondents like buying *dambun kifi* from markets and only 13.33% of the respondents like *dambun kifi* being hawked, consumers may be inclined to buying the fish and fish products because of the freedom to bargain in local markets and also the availability of varieties of other non-fish products which are seldom available in the organized retail markets.

Cost of dambun kifi

The results of the study showed that 54.67% of the respondents were of the opinion that *dambun kifi* is expensive, 30.67% thinks the cost is fair while 14.66% of the respondents sees it as a cheap product. This might be due to the nature of their income which may influence their purchasing power.

Frequency of purchased

Majority (81.33%) of the respondents consumed *dambun kifi* once in a while, while 18.67% of the respondents consumed *dambun kifi* frequently.

Mode of consumption

Most (68.66%) of the respondents consume *Danbun kifi* solely, while 17.33% take it with tea and only 14.0% of the respondents take it with other snacks.

Constraints to consumption

The major (40.67%) turn-off for *dambun kifi* were hygiene, while packaging materials (28.0%), availability (14.0%), oily (9.33%), flavour (5.33%) and texture (2.67%) were the other constraints to *dambun kifi* consumers, because consumers place priority more on their health and satisfaction derived from the commodity bought.

Conclusions

The study concludes that *dambun kifi* is a well-known product in the study area, it is available mostly on request and a little bit costly, most consumers consume it for its taste.

Recommendation

Further research should to be carried out to know the strategies for optimizing hygiene in producing *danbun kifi* to enhance overall quality and shelf life.

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