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Fish Preference among Residents of Sokoto Metropolis, Sokoto State, Nigeria

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Abstract: This study examined fish preference in Sokoto metropolis. Primary data were collected from a total of 180 fish consumers using simple random sampling. Data were collected on household consumption activities between October and December 2007. The Data were analyzed using descriptive statistics. The results showed that 52, 26, 13 and 9% of the respondents preferred fish to other animal protein sources due to its affordability, nutritive value, availability and palatability, respectively. The results showed also that 26% of the respondents preferred Tilapia species while 23, 19 and 9% preferred *Clarias*, *Mormyrid* and *Bagrus* sp., respectively. It also revealed that fresh fish was preferred by 77, 34 and 74% of the low, medium and high income respondents, respectively. Major constraints to fish demand in the study area include insufficient number of fish markets, low level of consumer's income and small number of fish farmers among others.

Key words: Preference, fish, forms of fish, Sokoto metropolis,

INTRODUCTION

Fish products are highly diversified in the sense that there are many species of edible fish and each species differs significantly from each other in terms of taste, price, production volume and location (Fox, 1992). An increase in consumers' taste and preferences for a particular product tends to increase the quantity demanded for that product. Consumer's tastes and preferences affect demand for a given product and in measuring taste and preferences, only the qualitative impact on demand can be evaluated not the quantitative impact.

There is a widening gap between production and demand due to inadequate demand information which is capable of hindering optimization of production and marketing in the fish production sub-sector (Ajana, 1999). In order to balance the shortfall between fish production and high increase in fish demand, there is the need for analyzing fish demand. Sokoto state, among others is recognized for consumption of fish but fish demand has received little or no research attention resulting in insufficient knowledge on consumers' preferences in terms of forms of fish. The researcher maintained that investigation in fish demand is important in several respects, among them is the fact that the producers will improve on marketing and processing of fish because when they know the form of fish preferred by the consumers (fresh, frozen, fried or smoked), they could focus exactly on the taste of the consumers. This would reduce fish spoilage as a result of low demand by the consumers. Therefore, a study of this nature is imperative to determine consumers' tastes and preferences with a view to finding the form of fish preferred by the consumers (fresh, frozen, fried or smoked).

MATERIALS AND METHODS

The study was conducted in Sokoto State of Nigeria. The state consists of 23 local government areas with the capital and the seat of government located at Sokoto. The state is bounded in the North and West by Niger Republic, in the South and East by Kebbi and Zamfara states, respectively. The state is located in the North-West geographical zone of Nigeria within longitudes 11°30'-13°50'E and latitudes 4°-6°40'N. It covers a land area of 26, 648.48 km^2. The population of Sokoto state is estimated at 3,696,999 million people (NPC, 2006). The people of the state are Hausa, Fulani, Zabarmawa and Tuareg.

Simple random sampling was used to select 12 out of the 23 electoral wards that made up Sokoto metropolis. A purposive sampling technique was further used to select 35 fish consuming households in each of the 12 electoral wards and later 15 households were randomly selected from the 35 households in each ward. Therefore, a total of 180 respondents were selected for the study. The data for

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the study were collected from primary and secondary sources. The primary data were collected through administration of questionnaires which were designed to contain close and open ended questions. Descriptive was used to analyze the data.

RESULTS AND DISCUSSION

Consumer's preference for fish: Fish products are highly diversified in the sense that there are many species of edible fish and these species differ significantly from each other in terms of taste, price, production volume and location (Fox, 1992). An analysis of consumers' preferences for fish is therefore of paramount importance for fish production planning, marketing and distribution. This study examined the tastes and preferences of consumers for fish.

Reasons for preferring fish to other animal proteins sources: Table 1 shows that 52, 26, 13 and 9% of the respondents preferred fish to other animal protein sources due to its affordability, nutritive value, availability and palatability, respectively. The results in Table 1 show that most of the respondents preferred fish to other animal protein sources mainly for its affordability. This conforms to the observations of FAO (1996) that with awareness of fish nutritional values, peoples' consumption may switch to fish or fishery products if they can economically afford them.

Preferred fish species: The results shown in Table 2 SHOWS that 26% of the respondents preferred Tilapia species while 23, 19 and 9% preferred Clarias, Mormyrid and Bagrus, respectively. The less preferred species were Herrings (5%), Sydonontis (5%), Mackerel (4%), Scombrus (3%), Heterobranchus (3%) as well as Malapterurus (2%) and Hydrocynus (1%). Therefore, the variety of fish most preferred was Tilapia followed by Clarias (catfish). This is probably due to the fact that Tilapia and catfish species were in abundance, highly purchased and offered at acceptable prices to consumers. This is in line with the findings of Onanyade who investigated supply, marketing and distribution of fish species in a local market (Ita-Oshin), Abeokuta in Ogun state.

The Chi-square results in Table 2 shows that at $p<0.05$, there was no significant difference among the various income groups in terms of consumed fish species. Therefore, the hypothesis that there is no relationship between income level and preference for fish species is accepted. This implies that there is no difference in the consumption of fish species among different categories of income groups. This means that preference of fish species by the respondents is the same among different categories of income level. This is in contrast to Joseph who found a significant difference between income level and consumed fish species.

Table 1: Reasons for preferring fish to other animal protein sources

Reasons	Frequency	Percentage
Affordability	94	52
More nutritious	53	29
Availability	36	20
Palatability	28	16
Total	211*	117*

*Multiple responses, field survey (2007)

Table 2: Distribution of the respondents according to the relationship between income groups and preference for fish species

	Income			
Fish species	Low	Medium	High	Total
Clarias (Tarwada)	14 (18)*	11 (19)	17 (40)	42 (23)
Synodontis (Kurungu)	5 (6)	3 (5)	1 (2)	8 (5)
Tilapia (Gargaza)	24 (30)	16 (28)	5 (12)	47 (26)
Mormyrid (Kuma)	19 (24)	11 (19)	4 (9)	34 (19)
Bagrus (Shambami)	4 (5)	7 (12)	6 (14)	17 (9)
Malapterurus (Majirya)	2 (3)	1 (2)	1 (2)	4 (2)
Hydrocynus (Tsege)	1 (1)	1 (2)	1 (2)	2 (1)
Heterobranchus (Ramboshi)	3 (4)	1 (2)	1 (2)	5 (3)
Mackerel	2 (3)	2 (3)	3 (7)	7 (4)
Herrings	4 (5)	3 (5)	2 (5)	9 (5)
Scombrus (Sadinella)	1 (1)	2 (3)	2 (5)	5 (3)
Total	79 (100)	58 (100)	43 (100)	180 (100)

$\chi^2 = 21.19^{NS}$ at $p<0.05$, df = 20, *Figures in parenthesis are percentages, field survey in 2007

Table 3: Distribution of the respondents according to forms of fish preferred among income groups

	Income groups			
Forms of fish	Low	Medium	High	Total
Fresh	61 (77)*	43 (34)	32 (74)	136 (75)
Frozen	8 (10)	4 (7)	2 (5)	14 (8)
Smoked	7 (9)	12 (7)	7 (16)	21 (12)
Fried	3 (4)	4 (7)	2 (5)	9 (5)
Total	79 (100)	58 (100)	43 (100)	180 (100)

$\chi^2 = 3.19^{NS}$ at $p<0.05$, df = 6, *Figures in parenthesis are percentages, field Survey in 2007

Forms in which fish is preferred: The results shown in Table 3 shows that fresh fish was preferred by 77, 34 and 74% of the low, medium and high income respondents, respectively. Also, 10, 7 and 5% of the low, medium and high income respondents respectively preferred frozen fish. At the same time, 9, 7 and 16% of the low, medium and high income groups preferred smoked fish, respectively. Similarly, 3, 7 and 5% of the low medium and high income respondents, respectively preferred fried fish.

Furthermore, Table 3 shows that a total of 75, 8, 12 and 5% of the respondents preferred fresh fish, frozen fish, smoked and fried fish, respectively. This shows that majority of the respondents (75%) preferred fresh fish to other forms of fish. The Chi-square result revealed that there was no significant difference in consumers' preference in terms of fresh, smoked, fried and frozen fish.

The hypothesis that consumers are indifferent to the form in which fish is presented is therefore, accepted. This implies that there is no difference in the preference of forms of fish among different categories of income groups. This means that respondents consume any form of fish of their choice regardless of their income level. This is does not conform to Joseph who found that there was significant difference in forms of fish consumed by different income groups.

CONCLUSION

The study showed that the variety of fish most preferred was tilapia followed by Clarias (catfish) and in fresh form. Similarly, most of the respondents preferred fish to other animal protein sources mainly for its affordability, nutritive value, availability and palatability, respectively.

RECOMMENDATIONS

- Grants, loans and subsidies should be given to fish farmers and marketers to enable them purchase modern equipments in order to increase supply
- Tilapia and Clarias were the most preferred among species of fish as a result, production of fingerlings of these species should be enhanced for onward distribution to fish farmers
- More fish markets at strategic locations should be established in Sokoto metropolis so that people don't have to go long distances to buy fish

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