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A SURVEY OF PRESERVED FISH AND FISHERFOLKS IN THE DISTRIBUTIONS AND MARKETING IN GWAGWALADA TOWN, FCT ABUJA, NIGERIA

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ABSTRACT
A study on the socio economic impact, distribution and marketing of preserved fish in Gwagwalada town, Federal Capital Territory of Nigeria was investigated through personal interview, complete enumeration and direct observations. A total of 7986 individual fishes were encountered and 23 fish species belonging to 20 families were identified. The most preferred preserved fish of commercial importance is *Clarias gariepinus* (12.71%) while the most preferred family was Clariidae (12.71%), followed by Mormyridae (11.59%) and Mochokidae (8.76%). Fifty nine respondents were involved, majorities (54.24%) were female and 88.2% married. Most of the respondents (59.32%) had no western education, 67.81% were between the ages of 41-60 years and 49.15% had 11-20 year experience. Those respondents that purchase preserved fish in Cartons constituted 49.15% while others purchases in Basket, Basin and Jute bags. All the respondents were self-sponsored with 89.83% retailers while wholesalers constituted 10.17%. Preserved fish business has impact on financial security of the respondents. However, provision of credit and transport facilities would enhance the socio economic status of fishmongers in the community.

Keywords: *Socio-economic, Preservation, Fisherfolk, Fish, Distribution*

Introduction

The occurrences of wide varieties of fish populations in the aquatic ecosystem have provided mankind with the opportunity to exploit fish for food, income and livelihoods in general for many centuries. Fish, fishing and fisheries are an integral part of the culture and economy of many peoples and countries in Africa, with significant historical linkages which provided an important back- drop to more recent fisheries development programmes pursued by various governments (FAO, 2004). In Nigeria, over 80% of fish harvested is preserved by various methods of curing to prolong shelf life and these cured fishery products are highly acceptable by the local consumers (Salawu *et al*., 2004). Fish supply is from four major sources which include artisanal fisheries, industrial trawlers, aquaculture and imported frozen fish (Akinrotimi *et al*., 2011). The principal processing methods are smoking, drying, salting, canning, fermentation, roasting, boiling and frying or any combination of these processes (Babalola, 2015; Whittle, 2002). With the ever growing world population and the need to store, transport and distribute food from one place to another where it is needed, food preservation becomes necessary in order to increase its shelf life, maintain its nutritional value, texture and flavor (Ghaly *et al*., 2010). Improved food security is a necessary precursor for global initiative towards reduction of hunger, poverty and for economic development and Fisheries is an important part of food security, particularly for many poor people in coastal areas and around major rivers in developing countries (FAO, 2005).

Information on the socio economic activities of preserved fish mongers continues to present problems owing to the lack of reliable information on preserved quantities and species composition. It is base on the above that this study was undertaking in the study area for effective management by the F.C.T in particular and the Nigerian government in general. Hence, the aim of the study is to assess the preserved fish in Gwagwalada town and the people involved in the distribution and marketing processes.

Materials and Methods

Study area

The study was conducted in Gwagwalada the headquarters of Gwagwalada area council, which is one of the six area councils in Abuja the federal capital territory (FCT) of Nigeria. Abuja is located in the centre of Nigeria with a land area of 8 000km^2. It lies between the Latitude of 8°25″ and 9°25″N and Longitude 6°45″ and 7°45″E. It is bounded to the North by Kaduna and Niger States, to the South by Kogi State, East by Nasarawa State and West by Niger State (Fig.1). From its Central location its vegetation combines the savannah grassland type of the North and middle belt with the tropical rain forest type of the South of Nigeria.

Gwagwalada with an area of 1 043km^2 is one of the largest satellite towns in the FCT with a population of 157 770 as at 2006 population census. Due to the large influx of people on a daily basis and the presence of River Usuma which is an important tributary of River Gurara in the study area besides numerous tributaries with a lot of fishing activities make Gwagwalada town an important commercial fish market (Dankishiya *et al*., 2013).

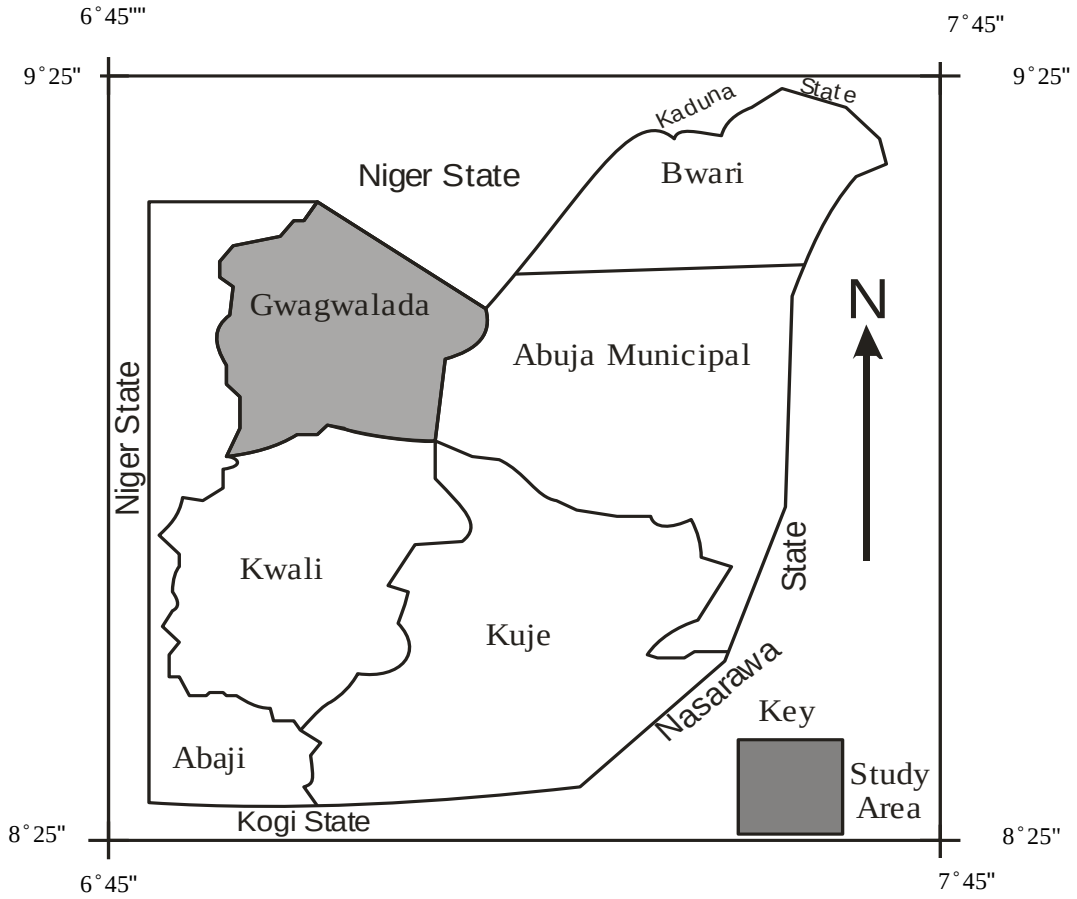

Fig.1. Abuja, Federal Capital Territory of Nigeria Showing the Study Area (Dan-kishiya *et al*., 2013)

Sampling Sites

Four densely populated locations within the study area with a lot of commercial activities including the sale of preserved fishes were marked for the survey and these include: Gwagwalada main market, Dagiri, Kutunku and Gwako.

Data Collection

Data were collected from fish vendors (women / men) in the sampling locations through personal interviews, complete enumerations and direct observations of the samples. Fish vendors (women / men) were asked to identify the fishes in their local names. Also attempt was made to find out whether respondents knew other names by which the fish specimen were called in other dialects such as Hausa, Igbo, Yoruba, Gwari and Egbira. Images of freshly caught specimens were also used where necessary to make identification easy. Respondents were interviewed and the data generated was analyzed using simple percentages

Results and Discussion

Fish Species Composition

The percentage composition of preserved fish species by number as well as their distribution in the study area is as shown in Table 1. A total of 7986 individual fishes were encountered and 23 fish species belonging to 20 families were identified. The most preferred preserved fish of commercial importance is *Clarias gariepinus* (12.71%) followed by *Gymnarchus niloticus, Synodontis eupterus, Alestes dentex dentex* and *Citharinops distichodoides* each represent 7.51% of fish sampled during the study respectively. The most preferred fish family is Clariidae (12.71%), followed by Mormyridae (11.59%) and Mochokidae (8.76%) while the least was Sciaenidae (0.39%). In terms of distribution, most of the fishes ware sampled in Gwagwalada market (87.41%) followed by Kutunku (4.76%) while Dagiri and Gwako had 4.42% and 3.41% respectively.

Table 1: Percentage composition of Preserved Fish Species by number and distribution in Gwagwalada town.

S/N	Family/Species	Composition by number (%)				Total (%)
		Gwagwalada Market	Dagiri	Kutunku	Gwako	
	Clariidae					
1	*Clarias gariepinus* (Burchell,1822)	765(10.96)	60 (17.00)	115 (30.26)	75(27.57)	1015(12.71)
	Gymnarchidae					
2	*Gymnarchus niloticus* (Cuvier, 1829)	600 (8.60)	0	0	0	600 (7.51)
3	Mochokidae	600 (8.60)	0	0	0	600 (7.51)
4	*Synodontis eupterus* (Boulenger, 1901) *Synodontis schall* (Bloch and Schneider, 1801)	100 (1.43)	0	0	0	100 (1.25)
	Characidae					
5	*Alestes dentex dentex* (Linnaeus, 1758)	600 (8.60)	0	0	0	600 (7.51)
	Citharinidae					
6	*Citharinops distichodoides* (Pellegrin, 1919)	600 (8.60)	0	0	0	600 (7.51)
	Cichlidae					
7	*Oreochromis niloticus* (Linnaeus, 1758)	250(3.58)	50(14.16)	50 (13.16)	0	350 (4.38)
	Mormyridae					
8	*Hyperopisus bebe occidentalis* (Gunther, 1866)	550 (7.88)	0	0	0	550 (6.89)
9	*Mormyrus rume* (Cuvier and Valencier, 1846)	250 (3.58)	0	0	0	250 (3.13)
10	*Mormyrus macropthalamus* (Gunther, 1866)	125 (1.79)	0	0	0	125 (1.56)
	Chanidae					
11	*Channa obscura* (Gunther, 1861)	515 (7.38)	0	0	0	515 (6.45)
	Osteoglosidae					
12	*Heterotis niloticus* (Cuvier, 1829)	400 (5.73)	0	0	0	400 (5.01)
	Distichodontidae					
13	*Distichodus rostratus* (Gunther, 1864)	350 (5.01)	0	0	0	350 (4.38)
	Protopteridae					
14	*Protopterus annectens* (Owen, 1839)	300 (4.30)	0	0	0	300 (3.76)
	Cyprinidae					
15	*Labeo senegalensis* (Cuvier and Valenciennes, 1842)	250 (3.58)	0	0	0	250 (3.13)
	Centropomidae					
16	*Lates niloticus* (Linnaeus, 1758)	175 (2.51)	0	0	0	175 (2.19)
	Bagridae					
17	*Porcus bayad* (Forskal, 1715)	150 (2.15)	0	0	0	150 (1.88)
	Scombridae					
18	*Scomber scombrus* (Linnaeus, 1758)	60 (0.86)	55 (15.58)	55 (14.47)	47 (17.28)	217 (2.72)
	Gadidae					
19	*Micromesistius poutassou (Risso, 1827)*	105 (1.50)	50 (14.16)	60 (15.79)	50 (18.38)	265 (3.32)
	Carangidae					
20	*Trachurus trachurus* (Linnaeus, 1758)	65 (0.93)	38 (10.76)	0	40 (14.71)	143 (1.79)
	Prochilodontidae					
21	*Prochilodus lineatus* (Valenciennes, 1837)	35 (0.50)	0	0	0	35 (0.44)
	Sciaenidae					
22	*Pseudotolithus elongatus* (Bowdich, 1825)	31 (0.44)	0	0	0	31 (0.39)
	Clupeidae					
23	*Clupea harengus* (Linnaeus, 1758)	105(1.50)	100 28.33)	100 (26.32)	60 (22.06)	365 (4.57)
	TOTAL	6981 (87.41)	353 (4.42)	380 (4.76)	272 (3.41)	7986

Socio economic characteristics

The socio economic characteristics of respondents are as shown in Table 2. The result showed all respondents to be self-sponsored with more female (54.24%) than their male (45.76%) counterpart and 89.83% are married. Majority has been marketing fish for over 10years and 67.80% are between the ages of 41-60 years. However, 59.32% had no formal or western education. The mode of distribution was Cartons, Basket, Basin or Jute Bags. From the data collected showed 49.15% purchase fish in cartons, 38.98% in Basket, 6.78% in jute bags and 5.08% in Basin. While in terms of marketing, 89.83% were retailers and only 10.17% are whole sellers. All the respondents (100%) use road as the major means of transportation.

Table 2: Socio- Economic Characteristics of Respondents

Characteristics	Number of Respondents				Frequency (n= 59)	%
	Gwagwalada Market	Dagiri	Kutunku	Gwako		
Gender						
Male	27	0	0	0	27	45.76
Female	6	10	8	8	32	54.24
Age Group						
21-40	8	2	3	4	17	28.81
41-60	24	8	5	3	40	67.80
61 & above	1	0	0	1	2	3.39
Educational Level						
No Education	22	3	5	5	35	59.32
Primary School	5	2	2	3	12	20.34
Secondary	5	4	1	0	10	16.95
Tertiary	1	1	0	0	2	3.39
Years of Experience						
0-10	8	6	4	1	19	32.20
11-20	17	3	4	5	29	49.15
21-30	6	1	0	2	9	15.25
31 & Above	2	0	0	0	2	3.39
Pattern of Purchase						
Basket	20	1	1	1	23	38.98
Basin	3	0	0	0	3	5.08
Carton	9	8	6	6	29	49.15
Jute Bags	1	1	1	1	4	6.78
Sponsors						
Self	33	10	8	8	59	100
Marital Status						
Married	30	9	8	6	53	89.83
Widowed	3	1	0	2	6	10.17
Mode of marketing						
Whole Sellers	5	1	0	0	6	10.17
Retailers	28	9	8	8	53	89.83

The diversity of species in the present study compared favorably with other findings in Nigeria (Dan-kishiya, 2012; Mustapha, 2010; Komolafe and Arowomo, 2008). The African catfish (*Clarias gariepinus*) is the most preferred preserved fish of commercial importance in the study area and this was attributed to the fact that the species is generally considered to be one of the most important tropical catfish species for aquaculture and is easily cultured in Nigeria with large economic gains because of their air breathing and hardy nature, suitable reproductive strategy, nutritional efficiency and attainment of large size in a short time (Fagbenro *et al*., 1993). In fact *Clarias gariepinus* has an almost Pan African distribution, ranging from the Nile to West Africa and from Algeria to South Africa (Osibona *et al*., 2006). The socio economic characteristics of respondents have shown female to dominate the business. The contribution of female in fisheries development cannot be undermined. They participate in active fishing such as the use of traps and nets to catch fish in most fishing communities in Nigeria (Williams, 2006). Also, 55.5% of old women are participating in most of the traditional fish smoking process in Lagos State (Adeyeye *et al*., 2015). Using level of education as a factor for sustainability, 59.32% of the respondents in the present study had no formal education and these might have contributed to their inability to attract sponsorship in Banks and other government credits facilities which resulted in predominance of retailers with lower volume of sales as also observed in

Ogun state (Babalola *et al*., 2015). Shortage of credit facilities has been reported to be among the major constraints to artisanal fishermen (Anyanwu *et al*., 2009). For example, Clark *et al*. (2005) reported that the non-availability of a credit scheme taking into full consideration the peculiar circumstances of small-scale fisheries affects the growth of infrastructure.

Conclusion

The socio-economic impact of preserved fish on fisher folk in Gwagwalada town was studied and the result obtained had shown that the business has impacted positively on financial security of the respondents over the years. Hence, there is the need for government to make policies that will reach the rural communities particularly those with no formal education whom cannot express themselves to enhance capacity building.

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