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Gender Analysis of Processing Activities among Commercial Catfish Processors within Ibadan Metropolis, Oyo State South-Western Nigeria

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Abstract

The study investigated possible occurrence of gender differences in processing activities among commercial catfish processors in Ibadan metropolis. A total of 110 respondents were sampled, twenty seven (27) of whom were females while eighty three (83) were males. Five popular processed fish markets were purposively selected while 30% of processors in each of the markets were randomly sampled. Data collected were analysed using descriptive and inferential statistics. Results reveal that 36.1% of male and 33.3% of the respondents were within the age of 41-50, and so are still in the actively productive stage of life. 83.1 percent of males and 40.7% of females were married. Majority of the respondent 83.1% male and 66.7% female respectively got their information on processing activities/techniques from family and friends but never from television programmes. Chi square analysis showed that significant difference exist between male and female gender in terms of their level of involvement in fish processing activities ($p<0.05$). Gender sensitive capacity building programmes are therefore suggested to be conducted on a regular basis for the catfish processors.

Keywords: Gender; Processing activities; Commercial catfish processors; Ibadan metropolis

Introduction

Fish is an important source of protein and its harvest, handling, processing and distribution provides livelihood for millions of people as well as providing valuable foreign exchange earnings to many countries [1]. The Food and Agriculture Organisation reported that fish accounted for about one-fifth of world total supply of animal protein sources [2]. The quantity of fish consumption has increased five-fold, over the years resulting in world fish crisis. The importance of fish in human's nutrition in particular and for animal feed (fish-meal) as well as for other purposes cannot be gainsaid [2]. Its high biological value in terms of high nitrogen and other nutrient retention in the fish flesh, bones and scales is responsible for the consumption of fish flesh, bones and scales is responsible for the consumption of fish products for health reasons, and also for its high protein, which is easily assimilated when compared with other animal protein [3,4]. Fish has also been found to be low in cholesterol content, which allows for the enhancement of improved human nutrition [5]. In addition, fish is noted to be one of the safest sources of calories, protein, fat, calcium, iron, vitamin and essential amino acids [2]. As important as fish is to Nigerian, high degree of fish spoilage still occur due to the absence of storage facilities and serves a major constraint to the development of fishing industry in Nigeria. According to Akinola et al. [6] some of the different types of preservation methods employed to arrest fish spoilage include: drying, smoking, freezing, chilling and brining. The role of women in food production, processing and marketing has become more relevant as a way of fighting poverty and ensuring food security [7]. Women play a crucial role in fisheries; their main activities are processing and marketing of fish products [8]. Women participate actively in the fish preservation sector on small scale, private and cooperative associations' levels [2]. Despite the role of women in fisheries subsector, most developing countries like Nigeria, still practice patriarchal systems of social setting. In this tradition, men hold the sovereign power, control household and the society as a whole while women are ascribed to a lower hierarchy compared to men [9].The status of women in our society over the ages and all over the culture had always been considered inferior to men. They are regarded as weaklings capable of doing nothing except child bearing and home making [10]. Thus the need to carry out this study in Ibadan, Oyo State South-West Nigeria so as to identify the socio-economic characteristics of catfish processors in the study areas, to assess the level of involvement of male and female gender in processing activities in the study area, asses the source of information on cat fish processing activities available to the respondent in the study area, ascertain the constraints faced by gender among cat fish processors in the study area.

Methodology

The study was carried out in Ibadan city, the largest indigenous city in Sub-Saharan Africa. Ibadan, the capital of Oyo state is located between longitude70 20' and 70 40'East of the Greenwich meridian and between latitude 30 55' and 40 10North if the equator. The city lies in the equatorial rain forest belt and has a land area of 445-445 km. Ibadan land has 11 local government made up of five within the metropolis and six at the periphery of the metropolis. The study area has heterogeneous population of Yoruba, Igbo and Hausa along with other ethnic groups. Agricultural activities in Oyo state include livestock production, prominent among which is fish farming and processing. The study population comprises of all catfish processors in Ibadan metropolis. Primary data was collected with the use of interview schedule. Face validity was conducted by professionals in the field of Extension and Fisheries. A pre-test was also conducted. The data from pre-test was

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subjected to a test of reliability which yielded a reliability index of 0.826 (R=0.826).

Sampling and sample size

Five fish market were purposively selected due to their popularity with processed fish. The markets selected are; Sabo, Eleyele, Arapaja, Ministry of Agriculture and Natural Resources (fishery department) and Officer's mess fish markets. 30 percents of the processors were randomly selected from each market. The independent variables measured for this study include: gender, age, marital status, educational qualification, religion, sources of information and constraints to fish farming while the dependent variables is the processing activities of Cat fish.

Data analysis

The data collected were analysed using appropriate statistical tools with the aid of SPSS (statistical package for social science research). The personal characteristics were analysed using descriptive statistics (percentages and frequency counts). Hypothesis 1 was tested using Chi-square, while Hypotheses 2 and 3 were tested using the student t-test.

Variables	Female		Male	
Age	**Frequency**	**Percentage %**	**Frequency**	**Percentage %**
11–20	1	3.7	2	2.4
21–30	4	14.8	17	20.5
31–40	8	29.6	30	36.5
41–50	9	33.3	26	31.3
51–60	5	18.5	8	9.6
Marital Status				
Single	4	14.8	14	16.9
Married	11	40.7	69	83.1
Divorced	7	25.9	0	0
Widowed	5	18.5	0	0
Level of Education				
Non formal	7	25.9	57	68.7
Primary	10	37.0	15	18.1
Secondary	3	11.1	0	0
Tertiary	7	25.9	11	13.3
Religion				
Christian	14	51.9	12	14.5
Islam	13	48.1	68	81.9
Traditional	0	0	3	3.6
Ethnicity				
Yoruba	22	81.5	13	15.7
Igbo	1	3.7	1	1.2
Hausa	4	14.8	69	83.1
Access to Credit Facilities				
No	13	48.1	77	92.8
YES	14	51.9	6	7.2
Sources of Credit Facilities				
Banks	0	0	1	1.2
Cooperative	4	14.8	1	1.2
Contribution	11	40.7	3	3.6
Personal saving	8	29.6	66	79.5
Friends	0	0	1	1.2
Government	4	14.8	11	13.3

Table 1: Distribution of Personal Characteristics of Respondents.

Results and Discussion

The result of the analysis as shown in Table 1 shows the distribution of respondents according to their personal characteristics. The result shows that a large population of the male (36.1%) and female (33.3%) processors are between 31–40 and 41 and 50 years respectively. The disparity in age of male and female processors may be due to the household responsibility that is placed upon the female processors than their male counterparts at early stage of life especially as it concerns children upbringing and some other household responsibilities as may be expected of the female gender many of whom may also be fending for the household with little or no assistance. This is in line with the report of International Labour Organization 'ILO' (2008) that despite the increase in women's participation in paid work, women continue to bear the primary responsibilities for unpaid work in the households, including both the provision of care to family members and domestic tasks, yet there is declining availability of family assistance as the traditional help that dual-earner couples or single parent gets which usually come from non-working women relatives and kin (sisters, mothers, aunts, co-wives and sometimes daughters) is now rare in industrialized countries. The study shows that 88.3% of the respondents were between 21 and 50 years old which coincided with the age for economic activity in humans [11] meaning that most of the catfish processors are still in their productive age while 9.6% were between the ages of 51 and 60 years (Table 1). The result of the analysis shows that 68.7% of male processors and female (25.9%) has no form of formal education while about (25.9%) of female processors had attained secondary education attended. The result also depicts that 25.9% of these female had tertiary level of education unlike their male counterpart (13.3%) in the same educational category. This implies that the female processor stands a higher chance than their male counterpart in terms of accessing information from a wide range of sources. This is in agreement with the opinion of Alison (2010) that there are instances where more women have access to ICT and greater knowledge of the Internet than men, such as in South Africa, Mozambique and Cameroon. The marital status of the respondents as presented in table 1shows that majority of the respondent (83.1%) of male and (40.7%) of female are married. Only a small percentage is single and divorced/widowed. The implication is that the Catfish processors have the support of their family as far as processing activities is concerned. The result also shows that the catfish processors are predominantly Christians (Male 51.9% and female 14.5%) and Muslims (Male 81.9% and female 48.1%). Traditionalists are also present among the processor. This reveals that most religion group did not forbid Catfish processing in the study area. It is therefore a business venture accepted across board, this is in accordance with the report of Eyo [12] that fish is highly acceptable with little or no religious bias, which gives it an advantage over pork or beef [12]. Majority of the respondent (79.5%) male and (29.6%) female respectively in the study area get their credit facility through their personal savings and (14.8%) and (1.2%) got theirs through cooperative while (14.8%) of female and (13.3%) of male got their source of credit facilities through the government lending. Low access to credit facilities has been the problem that the female gender faces in their business as reported by many researchers. Hossain [13] reported low access to bank loans in some developing countries such as Gambia, Kenya and Bangladesh where data gathered from 800 randomly selected households found only 2.8% of women as borrowers of formal credit. While Ayo-Olalusi et al. [11] reported that lack of access to credit facilities is one of the major constraints faced by women fish mongers in Liverpool fish market, Lagos Nigeria. Majority of Male processors (83.1%) are Hausas unlike their female counterparts (81.5%) who were Yoruba. A very small percentage of the respondents

Sources of Information	Male				Female			
	Always		Occasional		Always		Occasional	
	Freq	%	Freq	%	Freq	%	Freq	%
Family & Friends	69	83.1	14	16.9	18	66.7	9	33.3
Radio	1	1.2	82	98.8	27	100	27	100
Market/Customer	48	57.8	35	42.2	18	66.7	9	33.3
Television	-	100	-	100	-	-	27	100
Agric Ext. Agent	11	13.3	72	86.7	6	22.2	21	77.8
Research Institutes	11	13.3	72	86.7	6	22.2	21	77.8
Poster Handbill	-	-	83	100	-	-	27	100

Sources: Field survey 2012

Table 2: Distribution of gender according to the sources of Information.

Involvement	Male						Female					
	Always		Occasionally		Never		Always		Occasionally		Never	
	F	%	F	%	F	%	F	%	F	%	F	%
Sourcing	74	89.2	4	4.8	5	6.0	20	74.1	0	0	7	25.9
Slaughtering	63	75.9	16	19.3	4	4.8	10	37.0	10	37.0	7	25.9
Folding	61	73.5	15	18.1	7	8.4	7	25.9	3	11.1	17	63.0
Washing (Fish)	61	73.5	17	20.5	5	6.0	8	29.6	12	44.4	7	25.9
Sorting	81	97.6	0	0	2	2.4	21	77.8	0	0	6	22.2
Salting	80	96.4	1	1.2	2	2.4	17	63.0	3	11.1	7	25.9
Smoking	61	73.5	17	20.5	5	6.0	8	29.6	2	7.4	17	63.0
Air-drying	58	69.9	20	24.1	5	6.0	6	22.2	4	14.8	17	63.0
Washing (Tools)	56	67.5	8	9.6	19	22.9	4	14.8	15	55.6	8	29.6
Sweeping	44	53.0	16	19.3	23	27.7	6	22.2	11	40.7	10	37.0
Packaging	46	55.4	17	20.5	20	24.1	10	37.0	10	37.0	7	25.9
Marketing	66	79.5	6	7.2	11	13.3	21	77.8	3	11.1	3	11.1
Storage	32	38.6	2	2.4	49	59.0	7	25.9	1	3.7	19	70.4

Sources: Field Survey 2012

Table 3: Gender distributions of respondents according to processing activities involved in Catfish processing.

Constraints	Male						Female					
	Severe constraint		Mild constraint		Not a Constraint		Severe constraint		Mild constraint		Not a Constraint	
	F	%	F	%	F	%	F	%	F	%	F	%
Lack of storage facilities	4	4.8	37	44.6	42	50.6	1	3.7	10	37.0	16	59.3
Inadequate information	4	4.8	55	66.3	24	28.9	0	0	14	51.9	13	48.1
Lack of contact with Ext. agents	18	21.7	38	45.8	25	30.1	6	22.2	11	40.7	10	37.0
Inadequate Transportation	3	3.6	23	27.7	57	68.7	0	0	7	25.9	20	74.1
Far market	3	3.6	27	32.5	53	63.9	0	0	1	3.7	26	96.3
Labour market	1	1.2	4	4.8	78	94.0	2	7.4	4	14.8	21	77.8
Seasonality	10	12.0	40	48.2	32	38.6	7	25.9	10	37.0	10	37.0
Heat and Smoke	6	7.2	48	57.8	27	32.5	4	14.8	15	55.6	8	29.6

Sources: Field Survey 2012

Table 4: Distribution of Gender according to the constraint to involvement in Catfish processing.

were Igbo. This is an indication that the female gender that are indigenes of South Western Nigeria are involved in fish processing activities as their means of livelihood than their male counterpart while it is vice-versa for the Northerners (Hausas). In the survey on the Indigenous fish processing and preservation practices amongst women the South-western Nigeria, Oluwatoyin et al [2] reported similar result that a substantial percentage (52%) of the women engaged in fish preservation as their sole business. Ibrahim et al., [7] also reported that the role of women in food production, processing and marketing is more relevant as a way of fighting poverty and ensuring food security. Women play a crucial role in fisheries, their main activities are processing and marketing of fish products [8].

Table 2 shows the frequency and percentage of how the Catfish processors in the study area get their information on fish processing activities. The analysis shows that majority of the processors both male (83.1%) and female (66.7%) get there information through their family and friends while lower percentage of the respondents (13.3%) and (22.2%) respectively got information occasionally from the Agricultural extension agents. This result is similar to report of Akpabio and Ekanem [14] on Extension Needs of Fish Marketers in Akwa Ibom State, Nigeria where they reported that majority of fish marketers in Akwa Ibom state, nigeria (43.90%) need information on "value-added management of fish marketing activities. It is therefore necessary for relevant agencies to conduct capacity building activities for fish processing groups on the latest information on how to process their fishes. The analysis also shows that neither the male nor female respondents, got information from television programmes. This implies that the respondent will

Variables	χ^2	Df	P	Decision
Sex	14.200	1	0.000	S
Religion	2.122	2	0.346	Ns
Educational qualification	14.199	3	0.033	S
Marital status	9.625	3	0.022	S
Labour source	22.124	2	0.000	S
Ethnicity	17.344	2	0.000	s

Table 5: Chi-square analysis of relationship between respondents' sex, religion, educational qualification, marital status, labour source and ethnicity and level of involvement in fish processing activities.

not have access to the latest news on the processing activities until someone bring the information to them. Therefore information on Catfish processing should be aired on the radio, Television and several other educative sources in order to enhance processing and improve the livelihood of fish processors in the study area.

Table 3 reveals that majority of male and female catfish processors (89.2% and 74.1% respectively) were always involved in fish sourcing, sorting (96.4% and 77.8%) , salting (96.4% and 63.0%) , and marketing (79.5% and 77.8%). However, disparities existed in other activities such as slaughtering (75.9% and 37.0%), folding (73.5% and 25.9%), and air drying (69.9%) and washing of tools (69.9% and 22.2%) among male and female processors respectively. The study implies that male were more involved in various processing activities than female, this may be due to domestics and care giving roles that women also perform at homestead. Nwabueze [15] reported similar report on women involvement in sustainable aqua cultural development in delta state, where he reported that women have not been fully involved in sustainable aqua cultural development, from statistics women have only about one tenth involvement in sustainable aquaculture development in Delta state. Effort should be made by relevant agencies to encourage full participation of women in fish processing activities to achieve improved development of aquaculture and, hence, economic emancipation of women, which will eventually translate to better living conditions of the female gender.

Table 4 shows the various constraints faced by male and female Catfish processing in the study area. The result shows that both male and female processors saw inadequate information as a mild constraint. While seasonality of the fish (Scarcity of Catfish between September–January) was considered as an important constraints to fish processing. The study also shows that the respondents do not have constraints with labour market [male (94.0%), female (77.8%)]. This may be because the business is not a large business that they will not be able to handle themselves. The study does not show any appreciable difference in the views of male and female fish processors with regards to constraints except lack of storage facilities with percentage of 44.6 and 37.0 for male and female processors respectively.

The study (Table 5) reveals that sex of respondent significantly affect their level of involvement in fish processing activities (χ^2=14.200, $p<0.05$). The study also shows that education (χ^2=14.199, $p<0.05$) has a significant relationship with level of involvement in fish processing activities. Respondent with low level of education may see fish processing activities as a source of income to the households. The study also reveals that the marital status of respondents affect their involvement in fish processing activities (χ^2=9.625, $p<0.05$) while married households may involve in less processing activities, due to division of labour among household member. Labour source also shows significant relationship with respondents' level of involvement in fish processing. Respondents who use hired labour source are expected to be involved less than those who rely on family labour source for catfish processing activities.

Conclusion

Fish smoking was found to be the most preferred fish processing activity practised by fish processors in the study area which is similar to the report of Oluwatoyin et al. [2] where he reported that fish smoking is the most preferred indigenous fish preservation technique practiced amongst women as they claimed that it enhances desirable taste when such smoked fish are consumed. Also, the male gender was found to be more involved in catfish processing activities in the study area. Educational status of the processors was generally low; constraints experienced by government processors were less than those of individual processors. Most of the respondents do not get information on fish processing activities from electronic media. Therefore, there should adequate information on both print and electronic media for the fish processors on how to improve their processing techniques. Modern and improved techniques and technology on fish processing should be developed and introduced to the fish processors in order to ameliorate the constraints experienced by the fish processors. Gender sensitive capacity building programmes should be organised for catfish processors on a regular basis in order to mitigate against further marginalisation of the female gender in fisheries activities in general and in fish processing subsector in particular.

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