

# Assessment of Accessibility of Women in Fish Processing to Extension Activities in Lagos State, Nigeria

Jaji, M. F. O

Department of Agricultural Extension and Management, Lagos State Polytechnic, Ikorodu, Nigeria

[mfoj1@yahoo.com](mailto:mfoj1@yahoo.com)

## ABSTRACT

The study assessed the accessibility of women involved in fish processing in Lagos State, Nigeria to extension activities, it examined the personal characteristics of the women in fish processing; investigated the approach through which the improved technologies are transferred to the women in fish processing; determined packages of the improved technologies. The study was carried out in eight purposively selected villages out of the fifty fishing villages in Lagos state, structured interview schedule was administered on two hundred and eight women in fish processing selected through the simple random sampling technique. Descriptive statistics like frequency counts, percentages, and charts were used to analyze the data. Chi-square ( $\chi^2$ ) and correlation analysis inferential statistics were used to determine the association among some variables. The results indicated that majority of the women in fish processing (76.1%) were between the age range 21 – 50 years. Most (90%) of the women in fish processing had one form of education or the other. Most of the women (90.4%) were married with 56.94 percent having family size of an average of five persons. All the respondents were members of social associations, with 30.14 percent holding offices in the various associations. Only 45% had contact with extension agents. Majority of the women had been in the enterprise for more than five years, while 50.72 percent of the women were in low socio-economic status. Significant associations exist between accessibility to extension activities and age ( $\chi^2=22.45$ ,  $p<0.05$ ); level of Education ( $\chi^2=28.87$ ,  $p<0.05$ ); social organizations' membership ( $\chi^2=13.72$ ,  $p<0.05$ ). Towards an improvement in the level of accessibility to improved techniques by the respondents, it is recommended that effort be made to have more contacts between the women in fish processing and the extension workers in Lagos State

**Keywords:** *Accessibility, Extension Activities, Fish Processing, Lagos State, Women*

## 1. INTRODUCTION

Agriculture covers all human activities from production of raw food and fiber to processing, storage and marketing. A large percentage of these is carried out by women and about 75 percent of the income of women is derived from this bundle of activities [1].

Although agriculture has now fallen heir to advanced technology in the production of agricultural consumer goods, nevertheless, women are and will continue to make great contribution in the final analysis. In fact women have been found to play a prominent role in agriculture [2,3,4]. Yet they face particular gender-related constraints in gaining access to agricultural extension services [5].

In Nigeria, the women folk constitute a formidable and significant source of labor in small-scale agricultural production activities.

This assertion is supported by [6] that women contribute 60% of the labor force, and produce 80% of the food while they earn 10% of the money income and own one percent of the assets". This no doubt has a hindering effect on the realization of potentials by women in fish production and is responsible for the high level of poverty among women.

Religious, traditional and socio-cultural dictates also place women within the ambit of men and as such, they are faced with various obstacles in their participation in fish production, particularly with respect to benefits derived from such Development Programmes as

agricultural Development Programmes (ADP), which are accessed through the men folk thus further aggravating the marginalization of women from the implementation process.

Agricultural extension aims at the provision of necessary education, skills and technology to farmers to enable them improve their productivity and is geared primarily to male agricultural practitioners and male-operated agricultural outfits; fewer women are reached by extension [7,8,9,10,11,12]. For farmers and fishers to adequately benefit from extension, the issue of access to extension must be addressed. However, this issue has not been fully addressed in Nigeria as emphasis was placed on male farmers by predominantly male dominated extension service with the assumption that the trickle down approach would take the technology teachings to women [13]. The provision of extension services is conducted predominantly by males; only 15% of the world's and 7% of Africa's extension agents are females [14]. This imbalance has made it difficult for extension services to reach women farmers [5]. There is that tendency therefore to neglect and perceive as insignificant the contributions and role of women in agriculture. Presently extension information directed at women have focused mainly on family living and home economics.

Sustainable development cannot occur without equal opportunities for women and men in the economic, social and political sphere [15]. He stated further that the greater attention attracted by the involvement of women in agriculture especially in fish production in the country has resulted in the modification of extension system to address the specific needs of this prominent group of

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farmers and fishers who by circumstances suffered neglect in receiving extension attention.

The areas of post fish landing/post harvest activities lie in the domains of women. According to [16] the role of women is predominant in the post harvest sector, and this starts from landing to processing and marketing. To mitigate the effect of the post harvest loss on the population and the economy, there is the need not only to develop but also to disseminate effectively innovative and value adding post-harvest technologies to those engaged in fish processing and preservation activities. Such innovative and value-enhancing technologies aimed at obtaining good quality fish products, which can only be brought about through agricultural extension were more often than not targeted at women, rather men had always been the more beneficiaries. Technical support has been discriminating against women because of their limited socio-economic resource level.

The objectives of this study are to:

- (i) Determine some selected personal characteristics of women in fish processing, (age, marital status, level of education, family size, experience, income level, secondary occupation);
- (ii) Identify improved fish processing techniques introduced to the women fish processors extension;
- (iii) Determine the accessibility of the improved methods of processing by the women fish processors;
- (iv) Ascertain the problems encountered by women fish processors.

The hypothesis, which is stated in the null form, is that there is no significant relationship between the personal characteristics of the women in fish production and their accessibility to extension activities.

## 2. METHODOLOGY

According to [17], there are 50 fishing villages spread across the entire southern border of Lagos State. This study covered 8 selected villages out of the 50 villages spread across 4 agricultural divisions of the State; two villages were randomly selected from a list of the fishing villages in each of the four divisions. Each of the villages was selected based on their location and concentration of diverse inland fishery resource, as well as fishing and fish processing activities.

The target population of this study consists of women fish processors in Lagos State. For selection of sample from among the women in fish processing in the fishing villages in each of the four divisions, a simple random sampling technique was used to select 52 respondents from each division to make a total of 208 respondents for the study.

Primary data were generated through the use of structured interview schedule administered to the women

in fish processing to elicit responses on their personal socio-economic characteristics and level of involvement in fish processing, contact with extension agents, teaching methods adopted by extension agents in reaching the women in fish production, the impact of such methods on the fishing activities of the women and the innovation(s) adopted so far as well as the source(s) of such innovation(s).

Secondary data were obtained from public libraries, textbooks, previous studies, various records, census reports, administrative records and reports, newspapers, journals, academic and non-academic publications that were found relevant to this study. Also data were obtained through personal communications, observations and interaction with professionals.

Data were collected between the last week of July and the first week of November 2012. This was achieved with the assistance of 8 Assistants/Enumerators who lived around the selected villages in order to reduce communication gap with the respondents.

The data collected were analyzed using averages, percentages, frequency counts and graphically illustrated with charts. For test of significance, Chi-square ( $\chi^2$ ) test of significance was used for the Hypothesis that there is no significant relationship between the personal characteristics of the women in fish processing and their accessibility to extension activities; The resultant  $\chi^2$  values for the hypothesis was used to calculate the Contingency Coefficient (C) to show the degree of association between the selected independent and dependent variables. According to [18], the Contingency Coefficient (C) is approximately of the same value as Pearson a Correlation Coefficient (r).

## 3. RESULTS AND DISCUSSION

The study showed that 36.50 percent of the women in fish processing were within the age range of 31 – 40 years, respondents in the age range of 21 – 30 years constituted 10.5 percent. Twenty nine percent were between 41 and 50 years while 24.0 percent were above 50 years. Most of the women in fish processing could be regarded as being in their youthful age when decisions relating to individual and societal development are made. The implications of this result are that the respondents are likely to have high productivity; other factors such as policy environment, institutions, land tenure, technology, infrastructure, credit, marketing, and labor remaining constant. This is because since majority of them (77.00%) were in the range 21-50 Years it is therefore, likely that there will be a high responsiveness to innovations. There is also the possibility of quick understanding and adoption of innovation by women in fish processing in the study area.

Majority (90.43%) of the women in fish processing in the area of study were married, while very few of the respondents were single (Table 1). The high percentage of married respondents is a reflection of the

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importance attached to marriage in most societies in Nigeria. This result is consistent with the opinion of [19] that Nigerian society places a high premium on marriage and by age 25 most rural women are married in most communities. In the same vein, [20] asserted that the vast majority of the adult population of any society consists of married people. Marriage is paramount to the continuous existence of man and the sustenance of the society, since members of a society have to form families through procreation. Marriage also makes available the support of the spouse in the fish processing activities in the study area, especially when viewed along the findings of [12] that most women (fish processors) were wives to fishermen and that the fishermen (husbands) turned the catch to their wives to process and sell the fish.

The results showed that 48.80 percent of the women in fish production had primary education. Also 20.50 percent of the women in fish processing had secondary education, and 9.50% had adult education. About 10.00 percent of the respondents had no formal education while 10.50 percent had tertiary education. From the results shown in Table 1, most of the women in fish processing had one form of education or the other. Though majority of the women attained lower levels of formal educational achievement, they were reasonably knowledgeable about their vocation. This study supports the findings of [22], that most women involved in fish processing in Lagos State were educated, though their level of education was low. The implication of this is that majority of the women fish processors have the propensity to adopt improved methods of processing.

**Table 1:** Distribution of Respondents' Personal Characteristics

Characteristics	Absolute Frequency	Percentage
<b><u>Age</u></b>		
21 – 30	22	10.58
31 – 40	76	36.54
41 – 50	60	28.85
Above 50	50	24.04
<b>Total</b>	<b>208</b>	<b>100.00</b>
<b><u>Marital Status</u></b>		
Single	20	9.62
<u>Married</u>	188	90.38
<b>Total</b>	<b>209</b>	<b>100.00</b>
<b><u>Level of Education</u></b>		
No Formal Education	20	9.62
Adult Education	22	10.58
Primary	102	49.04
Secondary	43	20.67
<u>Tertiary</u>	<u>21</u>	<u>10.10</u>
<b>Total</b>	<b>208</b>	<b>100.00</b>
<b><u>Family Size</u></b>		
1 – 3	60	28.85
4 – 6	118	56.73
>6	12	5.77
<u>No Response</u>	<u>18</u>	<u>8.65</u>
<b>Total</b>	<b>208</b>	<b>100.00</b>
<b><u>Years of Experience</u></b>		
1 – 5	23	11.06
6 – 10	47	22.60
11 – 15	40	19.23
<u>Above 15</u>	<u>98</u>	<u>47.12</u>
<b>Total</b>	<b>208</b>	<b>100.00</b>
<b><u>Monthly Income Distribution</u></b>		
Less than ₦18, 000	38	18.27
₦18,000 - ₦35,000	74	35.58
₦36,000- ₦50,000	56	26.92
₦51,000 - ₦70,000	15	07.21
<u>Above ₦70,000</u>	<u>25</u>	<u>12.02</u>
<b>Total</b>	<b>208</b>	<b>100.00</b>
<b><u>Secondary Occupation *</u></b>		
Crop Farming	24	8.16
Livestock Rearing	17	5.78
Petty Trading	109	37.07
Civil service	58	19.73
Fish Rearing	76	25.85
<u>No Response</u>	<u>10</u>	<u>3.40</u>
<b>Total</b>	<b>294</b>	<b>100.00</b>
<b><u>Membership of Social Association</u></b>		
Membership with Office	63	30.29
Ordinary Membership	<u>145</u>	<u>69.71</u>
<b>Total</b>	<b>208</b>	<b>100.00</b>

Source: Field Survey, 2012

### 3.1 Respondents' Initial Source of Awareness

The women in fish processing reported their initial sources of information on improved processing methods as including Radio, Television, Extension workers, other processors, social associations among others. From the results, 37.50percent of the women reported the initial source to be other women processors, this along with social associations, (28.84%) constituted the most important sources of awareness to the women. These sources should be targeted and encouraged with facilities towards improving on their present level of information sources as they are closer to the women in fish processing than any other information agency.

The results further showed that 16.83percent of the women indicated extension workers as their initial source of information; this is contrary to [23] that agricultural extension agents served as the (main) source of information for women.

**Table 2:** Distribution of Respondents' Contact with Extension Agents

Contacts with Extension Agents	Frequency	Percentage
Contact	94	44.98
No Contact	106	51.20
No Response	8	03.82
<b>Total</b>	<b>208</b>	<b>100.00</b>
Respondents' Willingness to Contact Extension Agents	Frequency	Percentage
Willing	138	66.35
Not Willing	39	18.75
No Response	31	14.90

Total	208	100.00
Frequency of Contact with Extension Agents	Frequency	Percentage
Weekly	11	05.29
Fortnightly	15	07.21
Monthly	38	18.27
Occasionally	30	14.42
Rarely	104	50.00
No Response	10	04.81
<b>Total</b>	<b>208</b>	<b>100.00</b>
Respondents' Initial Source of Awareness	Frequency	Percentage
Radio	26	12.50
Television	9	4.33
Extension Workers	35	16.83
Women in Fish Processing	78	37.50
Social Associations	60	28.84
<b>Total</b>	<b>208</b>	<b>100.00</b>

Source: Field Survey, 2012

### 3.2 Accessibility to Improved Technologies.

The women in fish processing were requested to state their opinion on the accessibility of the listed improved items/ methods of fish processing through ranking of the items, this was done because for a technology to be accepted, it must be such that can be easily operated and use by the clientele, this is also in line with [24] assertion that if any technology is to be widely adopted, it must be simple (to use).

The perception of the women on their accessibility to improved technologies is presented in Tables 3 and 4.

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**Table 3:** Ranking of Accessibility of Improved Technologies by Women in Fish Processing.

Technologies Transferred	Readily Accessible	Seldom Accessible	Not Accessible	Cumulative Ranking
Rank	3	2	1	
Construction of Smoker	50(24.04)	63(30.29)	95(45.67)	15
Construction of Smoking Trays	57(27.40)	135(64.90)	16(07.69)	13
Use of Smoker	72(34.62)	68(32.69)	68(32.69)	7
Maintenance of Smoker	87(42.65)	84(42.18)	33(16.18)	4
Use of Smoking Trays	58(27.88)	36(17.31)	114(54.81)	12
Maintenance of Smoking Trays	96(46.15)	73(35.10)	39(18.75)	1
Hygienic Handling of Wet Fish	90(43.27)	71(34.13)	47(22.60)	2
Processing Techniques	79(37.98)	80(38.46)	49(23.56)	5.5
Storage of Wet Fish	48(23.08)	90(43.27)	70(33.65)	16
Management of Storage Pests	80(38.46)	91(43.75)	38(17.79)	5.5
Marketing Strategies	42(20.19)	63(30.29)	103(49.52)	17
Fish Packaging	89(42.79)	66(31.73)	53(25.48)	3
Record Keeping	69(33.17)	57(27.40)	82(39.42)	9
Time Management	66(31.73)	96(46.15)	46(22.12)	10
Workings of Cooperatives	70(33.65)	60(28.85)	78(37.50)	8
Credit Acquisition	62(29.81)	109(52.40)	37(17.79)	11
Financial Management	51(24.52)	55(26.44)	102(49.04)	14

Source: Field Survey, 2012.

The listed items were perceived as being readily accessible by 32.99 percent of the women in fish production. Some of the women (36.81%) perceived the listed items as seldom accessible while 14.54% of the women in fish production stated the item were not accessible.

The study showed that maintenance of smoking trays, hygienic handling of wet fish and fish packaging were perceived as readily accessible by the women in fish processing. Marketing strategies, storage of wet fish, construction of smoker, financial management and credit acquisition were ranked not accessible.

The implications of the results is that while it may be understandable that construction of smoker may not be accessible to the women because of the expertise, technicalities and probably the cost involved, efforts should be made to encourage a partnership between associations of women in fish processing (on the one hand) and technicians, artisans, fabricators, Technical Colleges in Lagos State (on the other hand) towards improving accessibility to this item as well as reducing the cost of construction of the smokers.

The issue of financial management and credit acquisition could be solved through education and enlightenment by agencies and organizations like the FADAMA, National Agricultural Bank, Micro Finance Institutions and Commercial Banks, towards sensitizing the women to the various opportunities and benefits they could derive from the programmes of government with respect to loans and credit acquisition.

Also, this result showed that training needs exist for the women in fish processing with respect to storage of wet fish and marketing strategies.

**Table 4:** Distribution of Perception of Women in Fish Processing on the Accessibility of Improved Technologies

Item	Frequency	Percentage
Readily Accessible	1166	33.00
Seldom Accessible	1297	36.71
Not Accessible	1070	30.29
<b>Total</b>	<b>3533</b>	<b>100.00</b>

Source: Field Survey, 2012.

### 3.3 Hypothesis

**Ho:** There is no significant relationship between the personal characteristics of the women in fish processing and their accessibility to extension activities.

The personal characteristics selected are Age, Education and Membership of Social Organizations

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**Table 5:** Summary of Tests of Relationship between personal Characteristics of the Women in Fish Production and their accessibility to extension activities

Characteristics	$\chi^2$ calculated	Degree of Freedom	Level of Confidence	$\chi^2$ tabulated	Coefficient of Contingency	Remarks
Age	22.4495	6	0.05	12.592	0.32	S
Education	28.87775	4	0.05	9.488	0.32	S
Social Organizations Membership	13.72188	2	0.05	5.991	0.26	S

Source: Field Survey, 2012.

The results from Table 5 indicated that there were significant association between the accessibility to extension activities by women in fish processing and their age ( $\chi^2$  tab = 12.59, cal = 22.45  $p < 0.05$ ), education ( $\chi^2$  tab = 9.49, cal = 28.88  $p < 0.05$ ); and Social Organizations Membership ( $\chi^2$  tab = 9.49, cal = 13.72  $p < 0.05$ ). With the above, the null hypothesis is hereby rejected while the alternative hypothesis that there is significant relationship between age, education and Social Organizations Membership and accessibility is upheld. Also, the coefficient of contingency revealed the degree of deviation from the Y variable as brought about by each of the personal characteristics considered in the study.

The results implied that the older the women were, the more accessible they are to extension activities. This is evident in the age distribution of the women, as majority (77.00%) of them were between 21 and 50 years of age. The result showed a significant relationship between education and accessibility to extension activities; this implies that the more educated the women, the more they are accessible to extension activities, and the more the benefit they derive from embracing such activities.

It can be inferred from the result that the women in fish processing who belong to Social Organizations are more inclined to easy accessibility to extension activities.

To improve the accessibility of the women to extension activities, more women fish processors should have frequent contact with extension agents.

#### 4. CONCLUSION

This study has been able to establish that the Women in Fish production/Processing were faced with a lot of constraints such as high cost of inputs, inadequate electricity supply, lack of adequate capital, non availability of improved oven, non availability of extension agents, inadequate fish landing, lack of transportation facilities, lack of training on financial management and loan acquisition which affected adversely the level of output of women in Fish processing. Further the Women in Fish production/Processing have not had much contribution from the Lagos State Agricultural Development Agency to influence greatly their socio-economic status. This implies that the women in Fish processing's effectiveness is seriously hampered by this lack of contribution from the Lagos State Agricultural Development Agency.

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