

ASSESSMENT OF CONSTRAINTS OF WOMEN IN FISH PROCESSING AND ACCESSIBILITY TO EXTENSION ACTIVITIES IN LAGOS STATE, NIGERIA

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Abstract: This paper assessed the constraints of women in fish processing and accessibility to extension activities in Lagos State, Nigeria. The study 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; and determined the benefits derived by the women in fish processing from the use of the improved technologies. The study was conducted 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 analyse the data. Chi-square (χ^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. Constraints perceived as impediments by the women include lack of electricity (96.65%), non availability of improved oven (77.03%), and lack of training on financial management and loan acquisition (77.03%). Other constraints were lack of transportation facilities (66.51%), non availability of extension agents (65.07%), lack of adequate capital (61.24%) high cost of inputs (49.76%) and inadequate fish landing (25.36%). Hypotheses testing showed that significant associations existed between accessibility to extension activities and age ($\chi^2 = 22.45$, $p < 0.05$); level of education ($\chi^2 = 28.87$, $p < 0.05$); contact with extension agents ($\chi^2 = 13.72$, $p < 0.05$). Significant relationships also existed between constraints of women in fish processing and accessibility to improved technologies ($\rho = 0.66$, $p < 0.05$). The result is indicative of constraints influencing the women's accessibility to extension services. The association between the income of the women in fish processing and availability of improved fish processing techniques was significant ($\chi^2 = 112.06$, $p < 0.05$). In view of the findings of this study, it is recommended that the Lagos State Government ensures an improvement in the present state of agricultural extension services delivery to women in fish processing in the study area; There is an urgent need by stakeholders in the fishery sub-sector of the agricultural economy of the nation to ameliorate the constraints faced by women in fish production which include among others 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 and that LSADA must serve women participating in fish processing in Lagos state better through employment of more agents, and improving the communication support unit of the authority.

Keywords: Accessibility, Constraints, Extension Activities, Nigeria, Women in fish processing

Introduction

Agriculture can be an important engine of growth and poverty reduction. But the sector is underperforming in many countries (including Nigeria) in part because women, who are often a crucial resource in agriculture and the rural economy, face constraints that reduce their productivity (Food and Agricultural Organisation FAO 2010). According to the Federal Government of Nigeria FGN(2008), Agriculture remains a key component of Nigeria's economy, and currently contributes about 40.0% of the GDP and employing about 70.0% of the active population, the sector, has however, significantly underperformed its potential. Women's participation in agricultural production is consistently expanding and in the face of this, women continue to face traditional restraints. Women lack access to input supplies, extension advice, credit and the most important agricultural resource-land. This continues despite their increased participation rates. Women now have heavier responsibilities and perhaps a strong presence but their say is still largely unheard. Rural women still don't have ownership on land and due to this they can't take independent decisions on various agricultural aspects (Afzal, *et.al.* 2009).

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 Nigeria, the women folk constitute a formidable and significant source of labour in small-scale agricultural production activities. Despite being the major silent contributors of agricultural production, women face many problems and obstacles in accessing extension education services related to livestock production, management and its care (Luqman *et.al.* 2013). In most parts of the developing countries, female agricultural practitioners face a lot of constraints with respect to access to extension services, for example, according to Sadaf *et. al.*, (2005), lack of access to agriculture extension services is another constraints faced by the Pakistani rural women.

Although women play very important role in the subsistence oriented farming but they are facing many problems and constraints which hinder women empowerment. For instance due to conservative nature of society female's mobility is restricted (Shahbaz, *et al.*, 2010). This assertion is supported by Tanko (1994) that women contribute 60% of the labour 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 realisation of potentials by women in fish production and is responsible for the high level of poverty among such group of 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 developmental intervention 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 latest information, necessary education, skills and technology to farmers (male and female) to enable them improve their productivity, eradicate poverty and hunger through sustained growth in agriculture and fisheries, however, agricultural extension is geared primarily to male agricultural practitioners and male-operated agricultural outfits; fewer women are reached by extension (Olayiwole, 1984; Mijindadi, 1993; Chale, 1990; Goldey, 1987; Saito and Spurling, 1992;. Butt, 2010). 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 (Oladele, 2002). Most of the extension services and programmes that provide training and assistance are still targeting men by overlooking the fact that 70% of the world's farmers are women. Globally, only 5% of extension services are targeted at being women (Lanz, *et.al.* 2012). 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 (FAO, 1993). This imbalance has made it difficult for extension services to reach women farmers (Lahai *et.al.* 2000). There is that tendency therefore to neglect and perceive as insignificant the contributions and role of women in agriculture. At present, 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 (Young 1993). 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 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 Nauen (1989) and Ifeka (1989) the role of women is predominant in the post harvest sector, and this starts from landing to processing and marketing. Women constitute overwhelming population of those who are involved in agricultural produce marketing as against the men who focus more on artisan, subsistent farming and civil service occupations (Enugu State Agricultural Development Programme ENADEP, 2009).

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.

Objectives of the study

The general objective of this paper is to assess the constraints faced by women in fish processing that prevent accessibility to extension activities of the Lagos State Agricultural Development Authority (LSADA).

Specifically, the study attempted to,

- (i) describe the personal characteristics of women in fish processing
- (ii) identify improved fish processing techniques introduced to the women fish processors extension;
- (iii) determine the accessibility to improved methods of processing by the women fish processors;
- (iv) ascertain the constraints encountered by women fish processors.

Hypotheses of the study

The hypotheses of the study are stated as follows:

Ho1: There is no significant relationship between the personal characteristics of the women in fish production and their accessibility to extension activities.

Ho2: There is no significant relationship between constraints of women in fish processing and accessibility to extension activities.

Ho3: There is no significant relationship between the income of the women in fish processing and accessibility to improved fish processing techniques.

Methodology

There are 50 fishing villages spread across the entire southern border of Lagos State, Nigeria (LSADA (2005), National Institute of Oceanography and Marine Research (NIOMR) (1996). These villages are located on the shoreline; they have high concentration of diverse inland fishery resource, as well as fishing and fish processing activities. This study covered 8 selected villages out of the 50 villages spread across 3 agricultural divisions of the State; two villages were randomly selected from a list of the fishing villages in each of four contiguous Local Government Areas (Lagos Island, Eti-Osa, Lekki and Epe) to make a total of eight villages in all. 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 Local Government Areas, a simple random sampling technique was used to select twenty six respondents from a list of women fish processors in each village; a total of 208 respondents were thus selected 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 characteristics, level of involvement in fish processing, contact with extension agents, teaching methods adopted by extension agents in reaching the women in fish processing, the impact of such methods on the fish processing activities of the women and the innovation(s) adopted so far as well as the constraints.

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.

The data collected were analysed using averages, percentages, frequency counts and graphically illustrated with charts. For test of significance, Chi-square (χ^2) test of significance was used for Hypotheses 1: There is no significant relationship between the personal characteristics of the women in fish processing and their accessibility

to extension activities; and 3: There is no significant relationship between the income of women in fish processing and the accessibility to extension activities; while Spearman's rank correlation co-efficient was used to determine the type and degree of relationship in hypothesis 2: There is no significant relationship between the constraints of women in fish processing and accessibility to extension activities. The resultant χ^2 values for hypotheses 1 and 2 were used to calculate the Contingency Coefficient (C) to show the degree of association between the selected independent and dependent variables.

Results and Discussion

The first objective of the study was to determine the personal characteristics of women in fish production. The personal characteristics considered were age, level of education, marital status, years of experience in fish processing activities, social participation, contact with extension agents and secondary occupation. The result in Table 1 showed that majority (75.96%) of the women in fish processing activities were in the age range 21-50 years; this shows that those in their prime were more in fish production activities among women in the area of study.

The results showed that 48.56 percent of the women in fish production had primary education. Also 20.67 percent of the women in fish processing had secondary education, and 10.57% 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.

The implication of this is that the majority of the women in fish processing activities would be highly productive and responsive to innovation understanding and adoption because the individual's horizon would have been broadened and there would be a more objective assessment of issues and the immediate environment. As a corollary, high improvement in terms of increase in output and productivity can be expected from an educated social group; about 90 % had one form of education or the other (some up to tertiary level), it is expected that this fairly high literacy level of women in fish production would provide a conducive atmosphere for innovation adoption such that the production process could be improved.

While about 9.62percent had never married, the remaining 90.38percent had experienced or still experience marriage, the implication of this on women in fish processing is the availability of the supports of the spouse in the processing activities.

The result revealed further that all the respondents belonged to community organisations and 30.29% of them held offices in the various organisations they belonged to. While they contributed to the organisations, they also derived benefits from such organisations, apart from this; membership of such social organisations makes it easier communicating with women fish processors.

The family size of the women in fish processing activities was revealed to in the range of 1 and more than 6, with majority (86.06%) being between 1and 6, the implication of this large family size is that , the women in fish production would be compelled to engage more in reproductive activities which could affect negatively the time they would have for economic activities and leisure and by extension their participation in agricultural extension activities, however, a large family size is also a ready source of labour for the women in fish processing. Also all the respondents had other occupations apart from fish processing which makes their activities to be more of part-time than full-time.

A large majority (88.44%) had been in the fish processing activities for more than 5 years. The implication of this is that the women in fish processing are assumed to be well knowledgeable in the technicalities and methods of fish production, therefore extension would find it convenient starting off the innovation introduction process to this category of clientele. The women in fish production reported their monthly average income to be (35.58%) had an average income within the range of ₦18, 000 - ₦35, 000; about 26.92 percent earned between ₦36, 000 and ₦50, 000 per month. The results showed further that 18.27 percent of the women earned income that was less than ₦18, 000 in a month while 12.02 percent of the women in fish processing earned above ₦70, 000.

However, about 7.21 percent earned between ₦51, 000 - ₦70, 000. It was observed and upon enquiry that the income claimed by the women in fish processing was said to be from various sources and not only from fish processing, hence this made it impossible to adequately quantify the specific income that could be said to have come from fish processing activities alone, as the women indicated various other occupations (as shown in Table 1) from which they derive income.

Table 1 Personal Characteristics of Women in Fish Processing n=208

Characteristics	Frequency	Percentage
Age		
21 – 30	22	10.57
31 – 40	75	36.06
41 – 50	61	29.33
Above 50	50	24.04
Marital Status		
Single	20	9.62
Married	188	90.38
Level of Education		
No Formal Education	21	10.10
Adult Education	22	10.57
Primary	101	48.56
Secondary	43	20.67
Tertiary	21	10.10
Family Size		
1 – 3	60	28.85
4 – 6	119	57.21
>6	29	13.94
Years of Experience		
1 – 5	23	11.56
6 – 10	47	23.62
11 – 15	49	20.10
Above 15	89	44.72
Monthly Income Distribution		
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	7.21
Above ₦70,000	25	12.02
Secondary Occupation *n=295		
Crop Farming	24	11.54
Livestock Rearing	17	8.17
Petty Trading	110	52.88
Civil service	58	27.88
Fish Rearing	86	41.35
Membership of Social Association		
Membership with Office	63	30.29
Ordinary Membership	145	69.71

*Multiple Responses

The implication of the several sources of income on the fish processing activities is that there will be divided interest between the fish processing activities and the others sources from which the women claimed to have derived income. The second objective focused on identifying the improved fish processing techniques introduced to the women fish processors extension, the result, revealed that awareness of the technologies was mostly through other producers/processors as stated by 51.20 percent of the respondents. The sequence for Fish production/Processing as observed among the respondents are sorting, washing, eviscerating, salting and smoking and then storage in basket. Also a large percentage (51.20%) of the women in fish processing indicated lack of access to extension workers. The improved fish processing techniques introduced to the women fish processors by extension agents include Construction of Smoker, Construction of Smoking Trays, Use of Smoker, Maintenance of Smoker, Use of Smoking Trays, Maintenance of Smoking Trays, Hygienic Handling of Wet Fish, Processing Techniques, Storage of Wet Fish, Management of Storage Pests, Marketing Strategies, Fish Packaging, Record Keeping, Time Management, Workings of Cooperatives, Credit Acquisition, and Financial Management

The third objective focused on the accessibility, availability and usage of the improved methods of processing by the women in fish processors. On accessibility, the improved technologies were perceived as being easily accessible by 32.99 percent of the women in fish production. 36.81 percent perceived the technologies as seldom accessible while 14.54% of the women in fish production stated the technologies were not accessible; 47.90 percent of the respondents indicated that the improved technologies were readily available, 33.68 percent rated the technologies as being seldom available, while 18.42 percent viewed the technologies as not available. Constraints faced by the women were however found to influence the accessibility to the improved technologies.

The fourth objective was to ascertain the constraints encountered by women fish processors. The study showed as reflected in Table 2, that electricity (96.55%) constituted a major constraint as claimed, lack of electricity prevented proper storage of the landings; adequate knowledge of training on financial management and loan acquisition was ranked second as 77.03 percent of the women saw this as a constraint. Most of the women claimed they could not expand the level of production due to inadequate financial capability and their lack of knowledge of accessing credit facilities from formal sources.

Non availability of improved oven was also ranked second by the women in fish processing as an impediment to their effective processing of fish; Lack of transportation facilities was cited by 66.51percent of the women as a constraint. This no doubt increased the cost of production, while non availability of extension agents as a constraint by 65.01percent of the women, the women claimed there was no means by which they could have direct access to credible source of information on improved methods of processing and government programmes.

Lack of adequate capital was reported by 61.24 percent of the women in fish processing as a constraint towards improving the level of fish processing, this as a limiting effect on the scale of fish processing; High cost of inputs was ranked as seventh by the women in fish processing, this high cost could act as impediment to adoption of improved methods of processing because the higher the cost of an innovation, the more slowly it is adopted. An innovation may call for other investments even though by itself it may not be very costly. Cost however is not only in financial/monetary value; it may also be calculated in terms of time spent on sourcing inputs; inadequate fish landing was seen as constituting constraint by 26.00percent of the women in fish processing to their processing enterprise.

Test of Hypotheses

Test of hypothesis one that there is no significant relationship between the personal characteristics of the respondents and accessibility to extension activities indicated that social organisation membership was not significant as no association existed between the social organisation membership of women in fish processing and their accessibility to extension activities ($\chi^2=5.84$, $P>0.05$). The coefficient of contingency revealed a deviation of 17.0 percent from the accessibility to extension activities by women in fish processing as shown in Table 3. However, there were significant association between the accessibility to extension activities by women in fish processing and their age ($\chi^2 = 22.45$, $P<0.05$), education ($\chi^2=28.88$, $P<0.05$), Contact with Extension Agent ($\chi^2 = 13.72$, $P<0.05$), these are shown in Table 3. With the above, the null hypothesis is therefore not accepted while the alternative hypothesis that there is significant association between the socio-economic status and demographic characteristics of the women in fish processing is accepted.

Table 2: Distribution of Constraints Faced by Women in Fish Processing

Constraints	Frequency	Percentage	Rank
High Cost Inputs	104	49.76	7
Electricity	202	96.65	1
Lack of Adequate capital	128	61.24	6
Non-availability of Improved Oven	161	77.03	2
Non-availability of Extension Agents	136	65.07	5
Inadequate Fish Landing	53	25.36	8
Lack of Transportation Facilities	139	66.51	4
Lack of Training on Financial Management and Loan Acquisition	161	77.03	2

Table 3: Summary of Tests of Relationship between personal Characteristics of the Women in Fish Production and their accessibility to extension activities

Characteristics	X ² calculated	Degree of Freedom	Level of Confidence	X 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
Soc.Org. Membership	5.842949	4	0.05	9.488	0.17	NS
Contact with Extension Agent.	13.72188	2	0.05	5.991	0.26	S

Source: Field Survey, 2004.

The second hypothesis that there is no significant relationship between the constraints of women in fish production and accessibility to extension services as shown in Table 4 indicated that there was significant relationship between the constraints of the women in fish processing and accessibility to extension services this implied that constraints/challenges faced by women in fish production influence the ease of understanding and use of improved fish processing technologies. The Coefficient of Determination is $r^2 = (0.659)^2$ or = 0.433; this means that 43.3percent of the variation in accessibility to extension services is due to constraints faced by the women fish processors.

The empirical value of the “t” test is 2.318, which is greater than the critical value of 1.94 showed that there is significant relationship between the constraints of women in fish processing and accessibility to extension services. The implication of this result is that constraints faced by women in fish processing has a great influence on the women’s accessibility to extension services, since the more the constraints, the greater the need of the women for extension services.

Table 4: Tests of Relationship between the Constraints of Women in Fish Production and Accessibility to Extension Services

		RANK 1	RANK 2
Spearman's rho	RANK 1 Correlation Coefficient	1.000	.659*
	Sig. (1-tailed)	-	.038
	N	8	8
	RANK 2 Correlation Coefficient	.659*	1.000
	Sig. (1-tailed)	.038	-
	N	8	8

*Correlation is significant at the .05 level (1-tailed)

The third hypothesis that there is no significant relationship between the income of women in fish processing and their accessibility to extension services showed that a significant association existed between the socio economic status of women in fish processing and their accessibility to extension services ($\chi^2=112.06, P<0.05$).

Table 5: Test of Relationships between the Income of Women in Fish Processing and Accessibility to Extension Services.

<i>Item</i>	X ² calculated	D.o.f	L of C	X ² tabulated	Contingency Coefficient	Remarks
Accessibility to extension services	112.06	4	0.05	9.488	0.19	S

Conclusion and Recommendations

From the findings of the study on women in fish processing, the following conclusions can be drawn. Majority of the women in fish processing belonged to various social associations but only a few of them held one office or the other in such social associations. Most of the women fish processors belonged to the low socio-economic status cadre. Sources of information on improved methods of fish production were poor, as most of the women in Fish processing got information on improved methods of processing from fellow women fish processors. 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. Women in Fish production/Processing have not had much contribution from LSADA 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 LSADA.

Recommendations

Based on the findings of this study, the following recommendations are suggested to assist with improving the effectiveness of extension activities on women in fish processing.

1 The Lagos state government should put in place measures to improve on the present state of agricultural extension services to women in fish production in the study area. This can be achieved through participatory planning, decision-making and evaluation with respect to fish production should be encouraged between the women in fish production and extension personnel, as this will go a long way in the effectiveness of extension delivery and innovation adoption.

2 The constraints reported by women in fish processing are; 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; these constraints should be addressed with a view to improving the productivity of the women in fish processing.

3 The importance and potentials of women in fish production should be recognised and developed through mobilisation, training, sensitisation. Self-help groups among women in Fish production/Processing should be promoted and supported with a view to capacitating and empowering the members thereby reducing poverty among the women in fish processing in Lagos State

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