

ENTREPRENUERIAL SKILLS NEEDED BY WOMEN FISH FARMERS FOR PRESERVATION AND MARKETING OF FISH AND FISH PRODUCTS

By

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Abstract

Fish industry is one of the important vocation in agriculture wherein many women are involved due to its economic advantage, nutritional value and daily demand by consumers. This paper attempted to look at the value of fish and the contribution of fish in the economy (food, employment and income generation). The paper focused on the needed skills for preservation and marketing of fish in order to improve its value and generation of more income. Two research questions were stated, a survey design was used and a sample of 100 respondents were purposively selected for this study. The data was analysed using Likert's scale which consist of four rating scale (strongly agreed=4, agreed =3, strongly disagreed=2 and agreed=1 ($10 \div 4 = 2.50$). A mean scores of 2.50 and above was accepted and below 2.50 was rejected as not skill needed for fish preservation and marketing. The findings revealed that the skills needed for fish preservation includes identification of matured fish, store fish at chilled temperature condition, operate deep freezer, smoke and sun drying, and carryout routine maintenance practices. Furthermore, it was found that the skills for fish marketing includes advertisement, sorting, grading, fix prices, sell fish alive or processed and keep accurate records. Recommended offered includes; the government should make concerted efforts in promoting fish production, micro credit be given to women and there should be mass awareness on preservation and marketing entrepreneurship skills to facilities the development of fish enterprise by women in Nigeria. This will facilitates women's involvement in improving Nigerian economy through fish industry.

Key words: Fish, skills, entrepreneurship, preservation, marketing,

Introduction

Fish farming is the act of rearing fish in commercial quantities, under scientifically controlled condition in enclosed bodies of water, such as ponds, streams and rivers. Fish is an animal that lives in water and uses its fins and tail to swim. Fish is cultured for a number of reasons and most women that engaged in its production do so at a subsistence or commercial level as occupation (Adekigbe, 2017), Fish can be processed into several products of industrial market value which includes fish meal, bone meal and oil (Gupta, 2016). These products are important raw materials for livestock feed, pharmaceutical and confectionary industries. According to Osinem (2015), occupation is any type of Job, business, career or trade that

individuals undertake to earn a living. Fish farming occupation includes breeding, pond construction, processing, preservation, feed production and marketing. The various job opportunities in fish farming are referred to as fishery occupations; and effective acquisition of entrepreneurship skills in fishing occupation is bound to reduce poverty in the state, reduce youth restiveness, Kidnapping, human trafficking and other forms of social ills associated with joblessness (Adeigbe, 2017).

The concept of entrepreneurship is used to describe the managerial or organizational processes of combining human and material resources to create utility in goods and provide services desired by man (Uduma, 2014). Entrepreneurship is the process through which entrepreneurs create and develop enterprises. Entrepreneurs are persons who organize and manages a business and undertake risks for the sake of profit. It involves all activities and actions needed in identifying, exploiting business opportunities and developing the expertise in the management of an enterprise be it in the form of production, processing or marketing. It has to do with making a living by working for oneself instead of being employed by others (Bolarinwa, 2018).

Entrepreneurship involves a number of stages or processes such as the discovering of a business idea, planning the businesses and providing the resources for the business take off. Thus for individuals to acquire entrepreneurial skills in fishery occupations, they should be trained (Murphy, 2016). There are various ways through which individuals can be trained to acquire skills in fish farming. Training could be in form of short term courses, attendance to seminars, workshops, conferences and further educational programme (Okorji, 2015).

Statement of the problem

Most women engaged in fishery occupations especially those reared in ponds and natural waters as a means of earning a living. It has been observed that these farmers use traditional skills and techniques in their jobs consequently they obtain low returns for their efforts and sometimes drop out of the business. In addition, the current supply of fish and fish products harvested from fishes of ponds and natural water sources for domestic and industrial uses fall short of meeting the demand of consumers in Nigeria (Adeigbe, 2017). Despite the dominance of women in fish marketing and processing gotten from ponds and natural water bodies fishes, it is sad that the living conditions of our rural women and urban poor has not changed significantly (Okorji, 2015). Studies have shown that women participate extensively and actively in all phases of work performed on fish farms and fish farming throughout west Africa (Benec, 2015). They are more engaged in processing, preservation and marketing in small-scale level and earn low or minimal income annually (FAO, 2012). The foregoing information provides compelling need for a research to be conducted to address this issue or existing gap to enable women acquire entrepreneurial skills that will help improve methods of fish production and fish products preservation and marketing to enhance the contribution of fish industry in Nigerian economic condition.

A number of improved entrepreneurship skills are available to be used in the preservation and marketing of fish and fish products. The situation calls for research and studies with a view to proffer solutions. Scholars worked on studies but non or little has been done on entrepreneurship skills for fish preservation and marketing. For instance Malcom (2018) worked on market for edible fish products *and* prospects in fish industry for developing country exports. Therefore, this form the basis to conduct this research or study and make known through the findings of this research the improved skills for fish production, fish products preservation and marketing to improve fish occupation by women is needed to bridge the gap.

Objective of the study

The objectives of this study is to:

1. identify the improved entrepreneurship skills for preservation of fish produced in ponds and natural water bodies in Doma Local Government Area and
2. Ascertain the improved marketing skills for women to improve on marketing fish and fish products in Doma Local Government Area of Nasarawa State.

Research questions

The following research questions are pertinent for the realization of the objectives of this study:

- i. What are the improved skills for preservation of fish reared in both ponds and natural water bodies?
- ii. What are the improved entrepreneurial skills for the marketing of fish in the study area

Review of Literature.

Fish production is an important but delicate occupation because of the perishable nature of fish and therefore the need to market or preserve it as soon as they are harvested. Bolarinwa (2018) while affirming the delicate nature of fish business observed that fish starts to spoil within 24 hours of harvesting in the tropics at ambient temperature. He added that the spoilage mechanism makes the commodity unacceptable or unfit to the consumer.

Despite the dominance of women in fish marketing and processing, it is sad to say that the living conditions of our rural women and urban poor has not changed. Studies have shown that women participate extensively and actively in all phases of work performed on fish farms throughout west Africa. They are more engaged in processing, preservation and marketing especially in small-scale (FAO, 2012). The foregoing information provides compelling need for women to be trained in fish preservation and marketing to enable them acquire entrepreneurial skills that will help improve their production methods and economic condition. A number of entrepreneurship skills are needed to preserve and market fish products. In affirmation to this statement, Malcolm (2018) opined that the entrepreneur should produce clean fish of correct sizes, colour, taste and aroma and that fish and its products should be correctly packaged in an acceptable container and appropriately labelled. Kotler (2014) on his part outlined skills required for effective marketing to include the ability to:

1. Identify market channels.
2. Advertise fish and fish products to create awareness of their existence.
3. Sort and grade harvested fish and
4. Market fish in line with the standard approved by workers in fish industries.

In addition, a fish farmer should be able to identify mature fish for marketing, feed fish appropriately and harvest fish at the right time. The time for harvesting should be during the cool weather, especially in the morning hours.

Methodology

The research design

The research design is survey method of research design.

The study area

The study area is Doma Local Government of Nasarawa State

Population and Sample size

The population for this study consist of all women fish farmers in Doma Local Government Area. A sample of one hundred respondents were selected from the study area for the study using simple random technique.

Instrument for data collection

Primary data was collected using structured questionnaire using Likert's scale. A four points Likert's scale was used in the questionnaire administered. The questionnaire contained sections A and B. Section A dealt with skills for preservation of fish while section B dealt with fish marketing skills. The questionnaire were distributed to the respondents through the help of four (4) trained research enumerators who are agricultural extension workers from Nasarawa Agricultural Development Programme (NADP) in Doma Local Government Area. One hundred (100) questionnaire has been administered, It took three weeks to administered the questionnaire and all the questionnaire were collected back through the help of research enumerators extension workers who work directly with the respondents.

Validation of the Research Instrument

The research instrument for data collection for this study were validated by pilot testing and by passing it through experts in the Department of Agricultural Education College of Education, Akwanga to ensure it possesses both face and content validity. Their observations were harmonized and necessary corrections effected on the instruments before the commencement of administration and collection.

Reliability of the Instrument

The reliability of the research instrument was determined using test re-test method. This means the research instrument was administered twice to the same group of twenty (20) respondents from the study area at interval of two weeks. The scores obtained were correlated using Pearson Product Moment Correlation Coefficient for scores obtained at interval level, while Spearsman's Rank (rho) Correlation Coefficient was used for scores obtained at ordinal level. A Correlation Coefficient of value of 0.713 was obtained and the instrument was confirmed to be reliable.

Method of data analysis

Descriptive statistical tool was used using four point type of Likert's scale (strongly agreed=4, agreed=3 ,strongly disagreed=2 disagreed=1($10 \div 4 = 2.50$). Mean score was used to analyze the data. The mean of 2.50 was regarded and accepted as the entrepreneurship skills needed for fish preservation and marketing, while a mean of less than 2.50 was not regarded as entrepreneurship skills needed for fish preservation and marketing.

Results and Discussion

The data presented in Table 1 revealed that all the items are the skills required for the development of entrepreneurship skills for women and youths in fish preservation and processing. The mean scores above the bench mark of 2.50 indicates that they are relevant as skills required for the development of entrepreneurship skills in fish preservation and processing. The items include identification of mature fish(fishes) (3.54), proper feeding of fish (es) (3.07), harvesting in cool weather (3.14), cropping at due time (3.18), smoking adequately (3.26), proper preservation, less damage and reduction of cost (3.64), contract fish processors (3.10) and store at good condition (3.05). This result support the findings of (Bolarinwa,2018) who found that for effective fish preservation factors to be practiced are harvesting matured fish, smoking efficiently, proper storage in cold weather or refrigerator and routine care and maintenance. Similarly. Adebayo (2017) observed that an effective efforts of daily checking of frozen fisy is one of the activities prospective fish business women must not under mind or neglect, it determine the quality of fish preservation.

Therefore, this implies that all the items presented in the table 1 are the skills required for the development of entrepreneurship skills for women and youths in fish preservation and processing occupation. A well-established fish farm project should have adequate facilities for handling, processing, storing, transportation and marketing of fish (FAO, 2012). Preservation method therefore is to keep the fish in a fresh state so that changes in texture, taste and appearance are minimize. Fish spoilage are biological processes which operates only under certain optimum conditions (Okorji,2015). The alteration of these conditions can provide ways of preventing or reducing spoilage.

Table 1: Mean Responses on Entrepreneurial Skills for Fish preservation and Processing

No	Skills	Mean	Remarks
	Ability to:		
1	Identify mature fish	3.54	Accepted
2	Stop feeding fish 1-3 days before harvesting	3.07	Accepted
3	Harvest when the weather is cool especially in the early morning	3.14	Accepted
4	Crop within 6-9 months of stocking preferably during festive periods	3.18	Accepted
5	Smoke fish adequately and dry	3.26	Accepted
6	Preserve fish with less damage and at reduced cost	3.64	Accepted
7	Contract fish out to processors for smoking at a lesser fee before market	3.10	Accepted
8	Store harvested fish at different chilling conditions	3.05	Accepted
9	Operate deep freezer or cold room	3.09	Accepted
10	Carry out simple routine maintenance practices and preservation	3.11	Accepted

Strongly accepted=4, accepted=3, unaccepted=2, undecided,1

Entrepreneurial skills for Marketing of Fish and Fish Products

Table 2 revealed the results on the skills needed for marketing of fish by women. The result indicates that marketing skills for advertising fish had a mean score of 3.48, sorting and grading had a mean score of 3.48 and fixing the price had a mean score of 3.56. Furthermore, packaging had a mean score of 3.58, selling fish alive or processed had a mean score of 3.40 and keeping accurate records had a mean score of 3.67. This result affirmed the report of Kolter (2014) who discovered that effective marketing skills in business management required marketing functions such as advertisement, sorting, grading, packaging and fixing the price of the commodity. In a related findings Adebayo (2017) contributed that for high scale of sales of frozen fish, women have to ensure that proper marketing procedures are applied.

Therefore, the marketing skills identified in Table 2 are skills required for the development of entrepreneurial skill for marketing fish and fish products.

Table 2 Mean Responses on Entrepreneurial skills for Marketing of Fish and Fish Products

No	Skills	Mean	Remarks
	Ability to:		
	Advertise Fish 3-5 days ahead of harvest in previously identified markets	3.48	Accepted
	Sort and grade the harvested fish	3.48	Accepted
	Fix prices based on the cost of production and market situations.	3.56	Accepted
	Package fish well for easy transportation	3.58	Accepted
	Sell fish alive or processed	3.40	Accepted
	keep accurate records of yield and sales	3.67	Accepted

Strongly accepted=4, accepted=3, unaccepted=2, undecided,1

The findings of the study revealed that skills are required for the development of entrepreneurship skills training in fish preservation and marketing occupation which affirms the opinion of Adeigbe (2017) that describes preservation as a method of keeping fish in a fresh state so that changes in texture, taste and appearance is minimized. The above findings also agrees with Etuk (2013), that the first step in fish preservation is planning and it is done to avoid bad management practices that would result to financial loss. A number of entrepreneurship skills are used to market fish and fish products. In affirmation to this findings, Malcolm (2018) opined that the entrepreneurs should produce clean fish of correct sizes, colour, taste and aroma of fish, and its products should be correctly packaged in an acceptable container and appropriately labelled. Kotler (2014) on his part outlined entrepreneurship skills required for effective marketing to include the ability to identify market channels, sort and grade harvested fish, advertise fish and fish products to create awareness of their existence as well as market fish in line with the standard approved for fish industry. The above findings from the study calls for sustainable entrepreneurship skill training for women and youths in fish preservation and marketing occupation in the study area.

Conclusion

This study revealed the entrepreneurial skills needed by women for preservation and marketing of fish. The study brought to understanding that the skills needed by women for preservation of fish are harvesting matured fish, smoking efficiently, proper storage in cold weather or refrigerator and routine care/maintenance. The study further revealed that the marketing skills for effective marketing of fish and fish products are advertisement, sorting, grading, packaging and fixing the price of the commodity and keeping records of marketing activities. This implication for women fish entrepreneurs in that they should be disciplined to adopt the above discovered skills for fish preservation and marketing. Practicing the recommended skills discovered would enable the women at short and long run improve their business skills in fish industry. Women and other fish farmers need to be trained in order to acquire entrepreneurial skills that will empower them to enhance efficient and effective preservation and marketing of fish. Successful completion of the training will make them better, self employed and employable, hence enhancing the development of Nigerian economy through fish industry.

Recommendations

1. The government should make more efforts through formulation of favourable policies and programmes that would promote fish production and business in Nigeria,
2. Financial organization should give credit facilities to women fish farmers to enable them establish fish enterprise and be self employed in fish occupation.
3. Agricultural extension agencies should give mass awareness on the needed entrepreneurship skills and facilities for fish preservation and marketing across Nigeria to improve their productivity towards economic development in Nigeria.

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