integrity Research Journals

Global Journal of Fisheries Science
Volume 2(1), pages 1-7, April 2020
Article Number: 90D56CBA1
https://doi.org/10.31248/GJFS2020.016
https://integrityresjournals.org/journal/GJFS

Full Length Research

Entrepreneurship skills required by Niger Delta youths for success in fish preservation and marketing enterprises

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Received 3rd March, 2020; Accepted 4th April, 2020

ABSTRACT: This study explored the entrepreneurship skills required by Niger Delta youths for success in fish preservation and marketing enterprise. Six purposes and 6 research questions guided the study with one hypothesis. The study adopted descriptive survey design and research and development. The population of the study was 2763 while 551 of the population was sampled with proportionate stratified sampling technique. A structured questionnaire was used for data collection, this was validated by 4 experts, 2 from the Department of Food and Nutrition, University of Nigeria, Nsukka and 2 fish farmers, while Cronbach alpha was used in determining the internal consistency of the instrument and this yielded a reliability coefficient of 0.80. Data was collected by the researcher with the aid of 7 research assistants. The Standard deviation was used to answer the research questions while one-way Analysis of Variation [ANOVA] was used in testing the hypothesis at 0.05 level of significance. The findings of the study revealed that skill in planning, preparing, salty and drying, smoking, marketing and storage, where required by youths for success in fish preservation and marketing enterprise. It was recommended that the entrepreneurship skill identified be packaged and used for training youths for fish preservation and marketing enterprise.

Keywords: Fish farming, fish marketing, fish preservation.

INTRODUCTION

There has been an increase in activity of fish farming and harvesting in the Niger Delta States due to the numerous water bodies that it is endowed with. Fish farming in the view of swift (2007) is the rearing of fish in man-made ponds or lake, according to him, fish farming has been in practice for many years using ponds and fenced-off enclosure of rivers and this has been an alternative solution to the increasing demand for fish. Adewuyi et al. (2010) stated that Nigerian fishing industry comprise of three major sub sections, namely artisanal, industrial and aquaculture. They describe fish farming as the culture of fish in enclosure such as tanks.

The spoilage of fish begins almost as soon as it dies, except it is preserved or processed into other forms. Preservation is defined by Cole and Rogers in Dumbiri (2011) as preventing or rather slowing down of the changes involved in spoilage. In the tropic, complete spoilage of fish occurs within 12-20 hours depending on the species and the method of capture. It is estimated that as much as 20% of the fish caught from sea and fresh water do not reach the consumer due to spoilage (Aihonsu and Shittu, 2008). According to one of the valuable research conducted by Eyo (2001), harvested fish should be preserved immediately in order to prevent spoilage and subsequent loss of fish. He described rigor mortis (stiffening of fish muscle) caused by post mortem biochemical processes as very important characteristics that determines shelf life and quality of fish, this can be affected by the manner of death, therefore suggested stunning piercing of fish brain with a pen knife or cutting off the fish head after being harvested as a remedy to spoilage before preservation and marketing.

Marketing of the fish involves offering fish product in proper form, time and place desired by the consumers.

The product marketing of production system is a core activity upon which the future of the industry depends considerably and in the case of fish, marketing assumes greater importance because of the perishable nature of the products (kumar, 1992). With the demand for fish increasing due to the awareness of the value of fish protein above other protein source, marketing of fish has been given priority. Oluah (1997) opined that fish marketing is an integral part of post-harvest activities in the fisheries sub-section, he added that fish marketing appears to be the most lucrative as it brings the fish and the fish products to the final consumer. Due to the attention fish preservation and marketing is attracting, there is a need therefore to acquire the relevant skills in order to make profit. Skill as defined by Osinem and Nwoji (2005) is the ability to perform an activity expertly, they further stated that skill is a well-established habit of doing things and involves the acquisition of performance capability through repetitive performance of an operation. The people of the Niger Delta States of Nigeria are engaged in one form of fish preservation and marketing activity and their marginal entrepreneurship skill could not make them successful and break even. Entrepreneurship is defined by Adetokunbo (1997) as the willingness and ability of individuals to seek out investment opportunities and to establish and run an enterprise successfully based on identified opportunities. The enterprise in question is presentation and marketing farm enterprise.

A farm enterprise, according to Enome (2003) is any farm activity (or identifiable sector of the farm business) for which there are specific returns. The running of farm enterprise successfully for returns on investment will not only encourage the Niger Delta Youth to take up the enterprise, but will help them to become more productive and reduce restiveness in the area. There have been a lot of waste in fish product due to poor preservation and marketing of these products. The youth equally have been underemployed in this area because they have not acquired appropriate skill and therefore could not take advantage of the value chain in this fish enterprise. If the skill in fish preservation and marketing are properly harnessed and packaged for the youth, it will make them more productive and increase the returns on investment in fish farming.

Purpose of study

The main purpose of the study is to find out the entrepreneurship skills required by Niger Delta youths for success in fish preservation and marketing enterprise. Specifically, the study was initiated to identify the skills required in: planning fish preservation and marketing enterprise; preparing fish for preservation; salting and drying; smoking of fish; marketing of fish; and storage of fish.

Research questions

The following research question guided the study. What are the skills required for: (a) planning for fish preservation and marketing? (b) preservation of fish? (d) salting and drying of fish? (e) smoking fish? (f) marketing of fish? and (g) storage of fish?

Hypothesis

There is no significant difference in the mean ratings of the responses of the teachers of Agricultural Sciences, fish extension agents and fish preservers and marketers on the entrepreneurship skill modules required by youths for success in fish preservation and marketing enterprise.

METHODOLOGY

Design of the Study

The design of the study was descriptive survey and research and development (R&D). The respondents were surveyed on their respective location on what their opinions were in the identified skill, while the researcher tried out the skills identified and improved on them for success in the preservation and marketing enterprise.

Population, Sample and sampling techniques,

The population of the study was made up of 2112 teachers of Agriculture in four Niger Delta State, 501 extension agents and 150 fish preservers and marketers. The population was from four states in Niger Delta State noted for fish farming, which include (Akwa-ibom, Bayelsa, Delta and Rivers). The sample of the study was made up of 421 teachers of Agricultural Sciences, including 100 extension agents and 30 fish preservers and marketers. Proportionate stratified sampling technique was used in sampling 20% of the entire population of each group.

Data collection and assessment

The instrument used for data collection was a 53 item structured questionnaire with 4 point rating scale, highly required (HR), averagely required (AV), moderately required (MR) and not required (NR). Face and content validation was done by giving the instrument to 2 experts in the Department of Food and Nutrition at the University of Nigeria, Nsukka and 2 fish farmers. Cronbach alpha was used in determining the internal consistency of the questionnaires and this yielded a reliability coefficient of 0.80. Data was collected by the researcher with the

Table 1. Mean and standard deviation of response score of teachers of Agricultural Science, extension agents and fish preservers and marketers on the planning skills required for success in fish preservation and marketing enterprise.

S/N	Items (Planning activities)	$\bar{x}$	S.D	Remarks
1	Set goals for preservation and marketing enterprise	3.31	0.64	Required
2	Identify major activities to be carried out to meet the objectives of the enterprise	3.32	0.62	Required
3	Identify appropriate equipment to be used in the enterprise	3.29	0.61	Required
4	Identify quality personnel	3.32	0.62	Required
5	Identify market for fish	3.30	0.63	Required
6	Decide on how to get credit	3.33	0.62	Required
7	Decide on how to dispose off waste	3.33	0.61	Required
8	Budget for the enterprise	3.26	0.63	Required
	Mean	3.33	0.61	

$\bar{x}$, Mean, S.D Standard deviation.

Table 2. Mean and standard deviation of response scores of teachers of Agricultural science, extension agents and fish preservers and marketers on the skills required in preparing fish for preservation.

S/N	Items (Preparing fish for preservation)	$\bar{x}$	S.D	Remarks
1	Store harvested fish in watertight container	3.18	0.62	Required
2	Stun harvested fish to avoid rigor mortis	3.17	0.62	Required
3	Behead the fish to avoid depletion	3.17	0.62	Required
4	Wash the killed fish properly	3.15	0.61	Required
	Mean	3.17	0.61	

assistance of 7 research assistants that were briefed. The research assistant includes extension agents and teachers of Agricultural Science. Cronbach alpha was used in determining the internal consistency of the questionnaires and this yielded a reliability coefficient of 0.80.

Method of data analysis

The data collected was analyzed using mean and standard deviation to answer the research questions while one-way Analysis of Variance (ANOVA) was used in analyzing data for testing the hypothesis at 0.05 level of significance. Any item whose weight mean is 2.50 or above was judged as required, while any item whose weight mean is less than 2.50 was judged as not required. ANOVA was used for hypothesis, any item whose p-value was greater than 0.05 indicates that the hypothesis of no significant difference was upheld otherwise it was rejected for p-value of less than 0.05.

RESULTS

Research question 1: *What are the skills required in planning for fish preservation and marketing?* Data in Table 1 revealed that the 8 skill items on the planning for fish preservation and marketing have mean value ranged from 3.26 to 3.33 which was above mean value 2.50; which indicated that all the skills are required by the youth for success in preservation and marketing enterprise. The items had a standard deviation range from 0.61 to 0.64, indicating that the respondent were not far from each other in their responses, this validated the mean.

Research question 2: *What are the skills required in preparing fish for preservation?* Data in Table 2 revealed that the 4 skills in preparing fish for preservation have mean value ranged from 3.15 to 3.18 which was above mean value 2.50; this indicates that all the skills are required by the youths in preparing fish for preservation. The items had a standard deviation range from 0.61 to 0.62, indicating that the respondents are not far from the mean and from each other in their responses. This added value to the mean.

Research question 3: *What are the skills required for salting and drying of fish?* Data in Table 3 revealed that the 9 skill items on salting and drying of fish have mean value range from 3.15 to 3.23 which were above 2.50, thus indicating that all the skills were required by the youth for success in salting and drying of fish. The items had

Table 3. Mean and standard deviation of response score of teachers of agricultural science, extension agents and fish preservers and marketers on the skills required for salting and drying of fish.

S/N	Items (Salting and drying of fish)	$\bar{x}$	S.D	Remarks
1	Get granulated salt ready in the bowl	3.15	0.60	Required
2	Cut and split the fish	3.17	0.61	"
3	Remove the offal	3.19	0.61	"
4	Rub granulated salt evenly on the fish	3.21	0.65	"
5	Add crystalline salt in the barrel of water until the saturation point is reached	3.18	0.65	"
6	Introduce the fish into the brine	3.21	0.64	"
7	Leave the fish in the brine for eight days	3.21	0.64	"
8	Remove fish from brine	3.23	0.66	"
9	Dry fish on a slab in the sun	3.23	0.64	"
	Mean	3.20	0.62	

Table 4. Mean and standard deviation of response of teachers of agricultural science, extension agents and fish preservers and marketers on skills required for smoking of fish.

S/N	Items (Skills needed for smoking of fish)	$\bar{x}$	S.D	Remark
1	Gut the fish	3.20	0.66	Required
2	Remove the offal	3.17	0.64	"
3	Split the fish to specification	3.14	0.64	"
4	Rub salt evenly on the fish	3.21	0.70	"
5	Prepare the smoke house	3.11	0.68	"
6	Burn the wood to produce smoke	3.13	0.68	"
7	Place slab on the wood	3.09	0.68	"
8	Place prepared fish over smoking slab	3.03	0.68	"
9	Turn the fish every 2 hours based on the heat	3.12	0.67	"
10	Leave the fish for 6 hours	3.15	0.66	"
11	Remove the smoked fish from the slab and air to cool	3.13	0.65	"
	Mean	3.13	0.63	

standard deviation range from 0.60 to 0.66, this indicated that the respondents were not far from each other and from the mean. This added credence to the mean.

Research question 4: *What are the skills needed for smoking of fish?* Data in Table 4 shows that the 11 skill items needed for smoking of fish have mean value range from 3.03 to 3.21 which was above the cut-off of 2.50, indicating that all the skills were required by the youths for smoking of fish. The items had standard deviation range from 0.63 to 0.70, thus indicating that the respondents were not far from each other and from the mean, this helped to add value to the mean.

Research question 5: *What are the skills required for marketing of fish?* Data in Table 5 revealed that the 10 skill items on marketing of fish have mean value range from 3.05 to 3.15 which was above 2.50, this shows that all the skills were required by the youth for success in marketing of fish. The items had standard deviation range from 0.04 to 0.72, this indicated that the respondents were not far from each other and from the mean in their responses

Research question 6: *What are the skills needed for the storage of fish?* Data in Table 6 shows that the 11 skill items on storage of fish have mean value range from 2.96 to 3.17 which were above 2.50, this indicates that all the skill were needed for storage of fish. The items have standard deviation range from 0.61 to 0.72; this also revealed that the respondents are not far from each other and from the mean in their responses.

Hypothesis

Ho1: there is no significant difference in the mean ratings of the responses of the teachers of Agricultural science, fish extension agents and fish preservers and marketers

Table 5. Score of teachers of Agricultural science, extension agents and fish preservers and marketers on skills required for marketing of fish.

S/N	Items (Marketing of fish)	$\bar{x}$	S.D	Remark
1	Carry out market survey for cost of fish	3.14	0.63	Required
2	Keep fish production records	3.05	0.65	"
3	Obtain delivery van to distribute the fish	3.15	0.65	"
4	Advertise for the sale of fish	3.11	0.62	"
5	Package fish in the most appealing form	3.12	0.62	"
6	Grade fish for the market	3.11	0.62	"
7	Pack fish according to weight	3.09	0.62	"
8	Sell fish at farm gate where necessary	3.11	0.63	"
9	Cut big fish into small pieces for sale	2.50	1.04	"
10	Sell fish to wholesalers	3.10	0.72	"
	Mean	3.05	0.64	

Table 6. Mean and standard deviation of response score of teachers of Agricultural science, extension agents and fish preservers and marketers on skills needed for storage of fish.

S/N	Items (Storage of fish)	$\bar{x}$	S.D	Remark
1	Obtain a container like big basket	2.96	0.72	Required
2	Flood them with dry, soft mat, but slightly air tight	3.06	0.64	"
3	Oil the fish slightly before storing	3.11	0.62	"
4	Arrange dry fish in the basket in layers with large fish at bottom	3.15	0.61	"
5	Cover the top with dry mat or light tarpaulin	3.17	0.62	"
6	Tie the top with rope to prevent the cover from flying off	3.09	0.65	"
7	Store them in cool and dry storage room on the platform ready for marketing	3.15	0.63	"
8	Check regularly for any offensive odour	3.12	0.64	"
9	Treat and repack	3.06	0.65	"
10	Stock stack fish in rows in oblong and rectangular baskets	3.05	0.65	"
11	Remove rancid or decaying fish from the stored ones	3.05	0.65	"
	Mean	3.09	0.62	

Table 7. Entrepreneurship skills in fish preservation and marketing.

Module No	Module Statement	Total sum of square	Residual	F-ratio	p-value	E^2	Remark
1	Planning activities (8 items)	208.33	0.61	0.31	0.45	0.99	N.S
2	Repairing fish for preservation (4 items)	209.52	1.45	1.91	0.15	0.99	N.S
3	Salting and drying of fish (9 items)	2.13.20	0.33	0.43	0.65	0.99	N.S
4	Smoking of fish (11 items)	232.42	1.80	2.14	0.19	0.99	N.S
5	Marketing of fish (10 items)	230.77	4.86	5.90	0.00	0.97	S
6	Storage of fish (11 items)	213.53	1.59	2.06	0.13	0.99	N.S

Note: S = significant; N.S = Not Significant.

on the entrepreneurship skill modules required by youths for success in fish preservation and marketing enterprise. Data in Table 7 revealed that 5 enterprises (1,2,3,4 and 6) out of 6 enterprises had p-value ranged from 0.13 to 0.65, which were greater than 0.05, this indicated that there is no significant difference in the mean ratings of the responses of the teachers of Agricultural Science, extension agents and fish preservers and marketers on the 5 enterprise in fish preservation and marketing required by the youth of Niger Delta for success in fish preservation

and marketing. One of the enterprise (5) has p-value of 0.00 which was less than 0.05, this indicated that there was a significant difference in the mean ratings of the responses of the respondents, therefore the hypothesis of no significant difference was rejected.

DISCUSSION

The finding of the study on planning skill for success in fish preservation and marketing enterprise which were as follows: set goals for preservation and marketing enterprise, identify activities to be carried out to meet the objectives of the enterprise, identify appropriate equipment to be used in the enterprise among others, was in agreement with the view of Alawa (2016), that listed skills required for planning fish enterprise as identify: source of finance, personnel for the enterprise, appropriate equipment, budget for the enterprise and set goals for the enterprise. The finding also agrees with Olaitan and Mama (2001) who listed activities involved in planning to include formulate specific objectives for the enterprise, draw up program plan for different enterprise, select appropriate equipment for specific operation among others. This is also in consonant with Ndem and Ogbonna (2016) that listed activities in management skills in distribution and marketing of fish and fish products to include: advertise fish products patronage and create awareness, identify profitable markets and prospective fish buyers, carry out market survey to determine the price of fish in the market and the public demand, forecast when best to supply fish in the market for maximum profit, fix the price of different sizes of fish, carry the life fish to the market, keep accurate records of sales of the fish, determine when profit is made. The finding in Research question 2 which were: store fish in water tight container, stun harvested fish to avoid rigour mortis, behead fish to avoid depletion of glycogen and wash killed fish properly was in consonance with Eyo (2001) which recommended handling techniques for correcting spoilage to include: stun fish after capture, cut off head of fish after harvest and preserve treated fish immediately. The finding in Research question 3 which include cut and split the fish, rub granulated salt evenly on fish and dry fish on a slab in the sun among others was in agreement with Eyo (2001) who listed skills in salting and drying to include: cut and split fish, apply granulated salt and place fish on slab among others.

The findings on skill required for smoking of fish which include: cut the fish, place prepared fish on the slab, leave fish for 6 hours in smoking slab among others was in agreement with Chakroff (1978) who slated that smoking involves: cut fish, place prepared fish over the smoking house, and smoke the fish for 6 hours among others. The finding also agrees with Nwaigwe (2017) finding on smoking and salting which include: put fish on wood, turn fish every five minutes on the fire, keep smoked fish in aerated container, pack fish in packages wrapped in dry leaves and reinforce with sticks.

The findings on the skill in storage and marketing in the study, which include: package the fish in the most appealing form, grade fish for the market and sell fish to wholesalers among others is the agreement with the opinion of Kumar (1992) who enumerated marketing functions to include: grading of fish, package fish in the right form, distribute fish to wholesalers among others. The findings also aligned with that of Ndem and Ogbonna (2016) that the following skills are needed in preservation and storage of fish: ability to select effective and economical preservation techniques, preserve fish by drying, keeping them in refrigerator and in cold rooms, salting, smoking and, canning. The views and opinions of the authors above helped affirm the finding of this study on the entrepreneurship skill required by Niger Delta youths for success in fish preservation and marketing enterprise.

Conclusion and recommendation

Based on the findings of the study, it was discovered that the entrepreneurship skills identified in the study are required by youth in Niger Delta States for success in fish preservation and marketing enterprise (planning, salting and drying, smoking of fish, marketing and storage). These skills that are identified if packaged and integrated in training the youths of Niger Delta State, they will have success in the enterprise and this will also reduce restiveness and militancy among the youths, thereby making them effective and productive.

REFERENCES

Adetokunbo, A. A. (1997). Start your own business today. *Lagos: Network Resource Concept Nigeria*.

Adewuyi, S. A., Phillip, B. B., Ayinde, I. A., & Akerele, D. (2010). Analysis of profitability of fish farming in Ogun State, Nigeria. *Journal of Human Ecology*, 31(3), 179-184.

Aihonsu, J., & Shittu, A. (2008). Value addition: Comparative economic analysis of fish processing technologies in two fishing communities in Lagos State, Nigeria. In: *Prospects and Challenges of Adding Value to Agricultural Products: Proceeding of the 22nd Annual National Conference of Farm Management Association of Nigeria* (pp. 315-321), Makurdi.

Alawa, D. A. (2016). Entrepreneurship skills required by youth in fish production for reduction of insurgency and economic development of South-South Nigeria. *Education for Today*, 12(1), 1-4.

Chakroff, M (1978). Freshwater fish pond culture and management. U.S: Volunteer in Technical Assistance.

Dumbiri, D. N. (2011). Skill training modules for capacity building of teachers and youths in the fish industry in selected Niger Delta States. Unpublished Ph'D thesis, Department of Vocational Teacher Education, University of Nigeria, Nsukka.

Enome, E. O. (2003). *Agricultural terms A-Z*. Onitsha: Jenison Publishing Company.

Eyo, A. A. (2001). *Fish processing technology in the tropics*. National Institute for Freshwater Fisheries Research (NIFFR).

Kumar, D. (1992). *Fish culture in undrainable ponds: A manual for extension*. Food and Agriculture Organization.

Ndem, J. U., & Ogbonna, E. (2016). Management skills in fish farming needed by retired civil and public servants for sustainable income in Ebonyi State. *Journal of biological, agricultural and healthcare*, 6(4), 26-31.

Nwaigwe, U. V. (2017). Fish preservation and processing. Retrieved from https://www.researchgate.net/publication/316918904_fish_preservation_and_processing.

Olaitan, S. O., & Mama, R. O. (2001). Principles and practice of school farm management. *Owerri: Cape publishers International Limited*.

Oluah, N. S. (1997). Strategies adopted by women folk in fish marketing. In *Proceeding of workshop on women in fish handling, process, preservation storage and marketing. Awka: UNDP Assisted*.

Osinem, E. C., & Nwoji, C. U. (2005). *Students industrial work experience in Nigeria: Concepts, principles and practice*. Cheston Agency Limited.

Swift, D. R. (2007). *Aquaculture training manual (2nd edition)*. London Oxford University Press.