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Fishing: Training and Retraining of Fisheries Artisan to Enhance Harvest Output

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ABSTRACT

Fishing in most part of the country is carried out by artisanal fishery where fishes are harvested from Marine, rivers, lakes, streams, and ponds by fishermen who fish on a small scale using both traditional and modern fishing gears. As a result, fishing is characterized by low productivity and income as they lack infrastructural backing and credit; they occur mainly in developing nations and are essential to livelihoods and food security. This study therefore investigated the impact of training and retraining of fisheries artisan to enhance harvest output. The study adopted a descriptive survey research method in which questionnaire was distributed to 80 fisheries artisans within Ikorodu area of Ogun state. The instrument was designed using a four likert scale format and addressed the research questions formulated to guide the study. Research assistants were engaged in the distribution of questionnaires, as some of the fish artisans required assistance in understanding the questions asked. The data collected was descriptively analyzed using frequencies and percentages. The result of the study indicates that fishing the study area is characterized by low productivity and income as they lack infrastructural backing and credit. Other challenges include: climate change; inadequate equipment; obsolete methods of fishing and preservation; lack of funds; Ineffective channels of distribution; Poor storage; and high cost of materials. Given this situation, there is need for training to help upturn productivity. Again, the study indicated that fisheries required the following training needs: modern methods of preservation; record keeping; Marketing skills; Enhancement of fishing skills; Diversified income opportunities; Boat building, maintenance and construction; and Alternative sources of funds. It is clear that once the aforementioned training and retraining are carried out, it will improve fishing output. In view of this result, the study recommended the need for constant training and retraining of fisheries artisans to help improves their harvesting outputs.

Keywords: training, retraining, fisheries artisan, harvest output

Introduction

The quest for food security globally and especially in Nigeria is one that is challenged by difficulties, which is made even more so by the constant focus on increasing food production alone without considering the reduction of post-harvest losses of fish. Small scale fishers in Nigeria bear the burden of making fish available locally in order to ensure food security. However these small scale fishers also known as artisans are confronted by the challenge of huge fish losses, as a result they are unable to produce a bountiful harvest and quality preservation (Akintola&Fakoya, 2017).

Fishing plays significant role globally; as it is estimated by FAO (United Nations Food and Agriculture Organization) that the number of people engaged in aquaculture production, globally is about 43.5 million. It was further reported that other fish related activities of the sector such as processing, marketing and distribution engages over 125 million people, a figure which implies that a large number of people are dependent on the sector. This gives an indication of the importance of the sector.

Artisanal fishery is fish harvesting from streams, rivers, ponds and lakes by fishermen who fish on a small scale using both traditional and modern fishing gears (Ogunremi, 2016). According to Daniel and Monsi (2019), they are characterized by low productivity and income as they lack infrastructural backing and credit; they occur mainly in developing nations and are essential to livelihoods and food security.Nigeria is bestowed with a variety of aquatic systems used in fish production, however, there is a gap in the production capacity, to which end the demand for fish is met only through importation (Akintola&Fakoya, 2017). The expansion of local fish supply to meet growing demands appears to be

challenging, to this end it is deemed more appropriate to train fishing artisans on modern production and preservation methods, in order to increase their harvest output. Given the perishable nature of fish, it is important to ensure the use of effective processing methods towards the attainment of food security.

Statement of research problem

The Small-scale fisheries sector in Nigeria are often challenged by post-harvest loss, which is accrued from the various stages involved in fish production. Low quality fish products are a problem to food security because of the severe economic loss it brings to fishing artisans on a yearly basis. The poor situation witnessed by fishing artisans in post-harvest fishery has resulted in the decreased number of fishing artisans in recent years. This low post- harvest output can be attributed to factors such as ignorance, negligence, lack of awareness, and inadequate operation, which challenges any plans made for post-harvest activities. Given this issues, it is important to formulate a program targeted at the training of fishing artisans to enable them improve their harvest output of quality fish products, minimize losses and increase profit margin.

Statement of research objectives

The general purpose of the study is to examine the extent to which training and retraining of fisheries artisan can be used to enhance harvest output. Specifically, the study seeks to;

1. Identify the challenges of fisheries artisans to productive harvest output.

2. Identify the training needs of fisheries artisans.

3. Assess the extent to which training of fisheries artisans can enhance harvest output.

Research questions

1. What are the challenges of fisheries artisans to productive harvest output?

2. What are the training needs of fisheries artisans?

3. To what extent will training and retraining of fisheries artisans enhance harvest output?

Literature review

Artisanal fisheries according to Daniel and Monsi (2019) are small-scale fisheries which utilizes local fishing techniques and small boats in their fishing activities. Artisanal fishery characterized by low income, poor productivity, low credit and absence of infrastructural backing; are found mainly in developing nations. They are important sources of livelihoods and contribution to food security; and are dependent on human effort in carrying out their activities. Fishing is an activity that is energy and time consuming yet is in a high demand both locally and globally. The market for fish is a very vast market as fish products are food requirements consumed by the population (Adisa et al., 2021).

Training refers to the acquisition of skills and ideas that can be used to enhance performance in a specific environment (Famuwagun, 2015). The inability fish artisans to achieve a productive harvest have been attributed to the lack of initiatives that can add value to fishing activities (Olorunfemi, et al., 2017). Training is of importance to human performance as it enables the acquisition of vital information and skills that can either prepare or enhance ones' productivity. The effectiveness of training lies in the ability of the trainees to apply information obtained to replacing obsolete practises (Umunna et al., 2019).Artisan fishers are challenged by problems such as inadequate infrastructure for storage or preservation of harvested fish. Furthermore, the state of the roads hinders effective transportation and causes delay which eventually leads to spoilage of fish products. Another form of challenge encountered by fishing artisans is in the area of marketing of fish products post-harvest period. Fish artisans on their own have no direct access to the final processors, which means reliance on middlemen for supply (Sogbesan&Kwaji, 2018). Other challenges include lack of training, inadequate safety equipment leading to loss of life, poor safety practice at sea and Lack of modern fishing equipment. The foregoing challenges are factors that have contributed to the inability of fishermen to achieve a productive harvest and face constant declining fishery resources. The effect of all this is the adoption and implementation of unsustainable fishing methods (Sogbesan&Kwaji, 2018).

Most developing countries such as Nigeria make use of unsustainable fishing practices such as dynamite fishing, use of poisons, gears with small mesh sizes and electro fishing which are not sustainable in the long term and are a threat to the fish and the environment. To this end, the

provision of sustainable management of fisheries ensures the provision of employment opportunities. Furthermore, equipping fishing artisans with safety training enhances their knowledge and prepares them for difficulties at sea.

Empirical review

Famuwagun (2015) conducted a study identifying the training needs of fish artisans in Ikorodu LGA of Lagos State. The study employed the use of descriptive research survey in examining the respondents which consisted of eighty randomly selected respondents to whom questionnaires were administered to and interviews conducted. Analysis was done using descriptive statistic tools and inferential statistic tools. The study identified the training needs of the fish artisans to include record keeping, while the identified constraint was the increased cost of fish feed. From the findings, it was concluded that there was a significant and negative relationship between training needs and knowledge level of the fish farmers. The impact of training on the knowledge level of fish artisans in Nizamabad district, Telangana, India were examined by Muddam et al., (2020). The study examined 50 fish farmers selected from various fishing communities and interviews conducted. It was found that Findings revealed that there was a low level of knowledgeregarding scientific fish culture and composite fish culture; to which training was seen as an efficient tool to improve their knowledge and understanding.

Theoretical framework: Expectancy theory

The Expectancy theory was propounded by Edward C. Tolman and Victor H. Vroom (Vroom, 1964) and was developed on three components; Valance, Instrumentality and Expectation. The proposition of this theory is that the perception of an individual is that effort leads to performance and eventually, desired outcomes. Based on this, it is opined that individuals become motivated to do something when they believe their actions will result in a desired outcome. Expectancy is the belief that the effort of an individual will aid in the attainment of a desirable outcome, while instrumentality has to do with the view that when performance expectations are met, there will be reward; and valance is the value placed by an individual on the reward (Osadebamwen, 2015). In applying the expectancy theory to this study, the impact of training of fishing artisans on food production should be seen as significant to the enhancing food productivity. This implies that the willingness of artisans to be trained in modern fishing techniques is totally dependent on their perception of the benefits.

Methodology

Descriptive survey research method was adopted in examining the extent to which training and retraining of fisheries artisan can be used to enhance harvest output. The study's population was selected from Ikorodu area of Ogun state, given the number of fish artisans that can be found within the environment. Random sampling method was used in selecting 80 fishermen, to whom questionnaires were distributed to. The instrument was designed using a four likert scale format and addressed the research questions formulated to guide the study. Research assistants were engaged in the distribution of questionnaires, as some of the fish artisans required assistance in understanding the questions asked. The data collected was descriptively analyzed using frequencies and percentages.

Data presentation, analysis and discussion

RQ1: What are the challenges of fisheries artisans to productive harvest output?

Table 1: The challenges of fisheries artisans to productive harvest output

S/N	ITEMS		SA	A	D	SD	Total % in agreement
1	Climate change	F	55	21	4	0	**95.1**
		%	68.8	26.3	5.0	0	
2	Inadequate equipment	F	39	34	6	1	**91.3**
		%	48.8	42.5	7.5	1.3	
3	Obsolete methods of fishing and preservation	F	49	27	4	0	**95.1**
		%	61.3	33.8	5.0	0	
4	Lack of funds	F	70	10	0	0	**100**
		%	87.5	12.5	0	0	
5	Ineffective channels of distribution	F	53	21	6	0	**92.6**
		%	66.3	26.3	7.5	0	

6	Poor storage	F	73	6	1	0	
		%	**91.3**	**7.5**	**1.3**	**0**	**98.8**
7	High cost of materials	F	**46**	**29**	**4**	**1**	**93.8**
		%	**57.5**	**36.3**	**5**	**1.3**	

Field survey (2021)

Table 1 above presents the opinion of the respondents on the challenges facing fisheries artisans. As indicated in the Table, with all the items exceeding 90% of the total percentage of agreement, the following are identified as challenges confronting fisheries artisans in the studied area: Climate change; inadequate equipment; obsolete methods of fishing and preservation; Lack of funds; Ineffective channels of distribution; Poor storage; and High cost of materials. The result of this study confirms Daniel and Monsi(2019);Hussaini, Gadaka, Ishaku, Gadzama,Lewami, and Usman(2018) respectively who also identified some of the aforementioned challenge as major challenges facing fisheries artisans.

RQ2: What are the training needs of fisheries artisans?

Table 2: The training needs of fisheries artisans

	Items		SA	A	D	SD	Total % in agreement
8	Modern methods of preservation	F	63	13	4	0	**95.1**
		%	78.8	16.3	5.0	0	
9	Record keeping	F	33	41	6	0	**92.6**
		%	41.3	51.3	7.5	0	
10	Marketing skills	F	44	33	0	3	**96.3**
		%	55.0	41.3	0	3.8	
11	Enhancement of fishing skills	F	56	20	0	4	**95.0**
		%	70.0	25.0	0	5.0	
12	Diversified income opportunities	F	43	31	0	6	**92.6**
		%	53.8	38.8	0	7.5	
13	Boat building, maintenance and construction	F	23	45	7	5	**85.1**
		%	28.8	56.3	8.8	6.3	
14	Alternative sources of funds	F	33	42	5	0	**93.8**
		%	41.3	52.5	6.3	0	

Field survey (2021)

Table 2 above present the training needs of fisheries artisans. As indicated in the table more than 90% of the respondents are in support that fisheries artisans needs training in the following areas: modern methods of preservation; record keeping; Marketing skills; Enhancement of fishing skills; Diversified income opportunities; Boat building, maintenance and construction; and Alternative sources of funds. This result confirms the findings of earlier studies such as:Alam, Nowsad. (2013); Famuwagun (2015);Ogunremi (2016); Olorunfemi, Adekunle, Oladipo and Oladele (2017); and Umunna, Adeeko, Adigun, Adebayo, and Awoleke (2019) respectively.

RQ3: To what extent will training and retraining of fisheries artisans enhance harvest output?

Table 3: the extent to which training and retraining of fisheries artisans enhance harvest output

	Items		SA	A	D	SD	Total % agreement
15	It will enable identification of likely challenges during harvest	F	30	45	2	3	93.8
		%	37.5	56.3	2.5	3.8	
16	It will enable them improve their safety practices	F	55	21	0	4	95.1
		%	68.8	26.3	0	5.0	
17	Training and retraining will improve their preservation methods	F	43	27	4	6	87.6
		%	53.8	33.8	5.0	7.5	
18	Training and retraining equips them with updated knowledge associated with their trade	F	61	10	5	4	88.8
		%	76.3	12.5	6.3	5.0	
19	Training and retraining will influence the quality fish products produced	F	73	4	1	2	96.3
		%	91.3	5.0	1.3	2.3	

Field survey (2021)

The table above presents the respondents opinions on the extent to which training and retraining of fisheries artisans enhance harvest output. With above 80% in agreement, the study revealed that training and retraining of fisheries artisans will enhance harvest output by enabling identification of likely challenges during harvest; enabling them improve their safety practices; improving their preservation methods; equipping them with updated knowledge associated with their trade; and influencing the quality fish products produced. The result of this study supports the findings of Adisa, Ifabiyi, and Opeyemi (2021)that also identified training and retraining as one of the ways to capacity building of artisanal fishers. In same vein, the study confirms the result ofMuddamet al (2020) who shared similar view.

Conclusion and Recommendations

Fishing in most part of the country is carried out by artisanal fishery where fishes are harvested from streams, rivers, ponds and lakes by fishermen who fish on a small scale using both traditional and modern fishing gears. As a result, fishing is characterized by low productivity and income as they lack infrastructural backing and credit; they occur mainly in developing nations and are essential to livelihoods and food security.However, fishing at this scale in Nigeria is confronted with several challenges which according to the result of this study include: climate change; inadequate equipment; obsolete methods of fishing and preservation; lack of funds; Ineffective channels of distribution; Poor storage; and high cost of materials. Given this situation, there is need for training to help upturn productivity. Some of the training needs identified in this study include:modern methods of preservation; record keeping; Marketing skills; Enhancement of fishing skills; Diversified income opportunities; Boat building, maintenance and construction; and Alternative sources of funds. It is clear that once the aforementioned training and retraining are carried out, it will improve fishing output. In view of this result, the study recommends that there should be constant training and retraining of fisheries artisans to help improves their outputs. This is necessary because training will lead to expansion of local fish supply to meet growing demands of fish in Nigeria. Training fishing artisans on modern production and preservation methods is essential to increase their harvest output.

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APPENDIX

TRAINING AND RETRAINING OF FISHERIES ARTISAN TO ENHANCE HARVEST OUTPUT

REQUEST FOR INFORMATION

Dear Respondent,

I am carrying out a study on "Training and Retraining of Fisheries artisan to enhance harvest output", and you have been chosen to be part of the study. This questionnaire is only for academic purposes. Kindly select the response which applies to you and all information will be kept confidential

SECTION B:

Instructions: Please tick **(√)** as appropriate where

> SA   = Strongly Agree (SA), A   = Agree, D   = Disagree (D), SD = Strongly Disagree (SD)

Key: Strongly agree (5), Agree (3), Disagree (2), and strongly disagree (1).

S/N	ITEMS	SA	A	D	SD
RQ1	**What are the challenges of fisheries artisans to productive harvest output?**				
1	Climate change				
2	Inadequate equipment				
3	Obsolete methods of fishing and preservation				
4	Lack of funds				
5	Ineffective channels of distribution				
6	Poor storage				
7	High cost of materials				
RQ2	**What are the training needs of fisheries artisans?**				
8	Modern methods of preservation				
9	Record keeping				
10	Marketing skills				
11	Enhancement of fishing skills				
12	Diversified income opportunities				
13	Boat building, maintenance and construction				
14	Alternative sources of funds				
RQ3	**To what extent will training and retraining of fisheries artisans enhance harvest output?**				
15	It will enable identification of likely challenges during harvest				
16	It will enable them improve their safety practices				
17	Training and retraining will improve their preservation methods				
18	Training and retraining equips them with updated knowledge associated with their trade				
19	Training and retraining will influence the quality fish products produced				