integrity Research Journals

Global Journal of Fisheries Science
Volume 2(1), pages 8-13, April 2020
Article Number: 0A75D6232
https://doi.org/10.31248/GJFS2019.014
https://integrityresjournals.org/journal/GJFS

Full Length Research

Challenges of women involved in fishing activities (a case study of Otuocha, Anambra State, Nigeria): A SWOT analysis

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Received 23rd December, 2019; Accepted 21st January, 2020

ABSTRACT: The study was focused on the challenges of women involved in fishing activities in Otuocha community, Anambra-East Local Government Area, Anambra state, Nigeria. The study examined the strengths, weaknesses, opportunities and threats of the stated women and analysed their roles and operations. Data collection was through the administration of 60 structured questionnaire and scheduled interview. Data were analyzed using simple percentages, tables and frequency while the SWOT analysis was employed in the deduction of the strengths, weaknesses, opportunities and threats. The study revealed their challenges to be financial, lack of basic amenities, health issues, fluctuating sales and demand, land tenure system, low literacy and training, high indebtedness, family responsibilities and gender inequality. Their strengths were: Population of the women, skills and experience, diversity of fishes in Otuocha community, location of natural water body, Omambala river and low production cost in the study area. However, their opportunities were; producers of successors, presence of fisheries organizations, large market for the fish, creation of value-added fish products, and geographical location of the community market. Their threats were: Competition from other women fisherfolks, lack of modern processing equipment, cultural/traditional forces limiting women from active fishing and seasonal flooding. Availability of loan by financial institutions is therefore recommended to enable women acquire needed facilities. Awareness should be created on gender issues affecting fishing activities of women in Otuocha. There should be periodic training and workshop for the women fisherfolks, there should be formation and strengthening of women's organizations on professionalization of both harvest and post- harvest activities. Women should be involved in decision making in all aspects of fish value chain processes.

Keywords: Fishing activities, gender equality, Otuocha, Nigeria, SWOT analysis.

INTRODUCTION

Fisheries sector is an important source of food and livelihood for many people around the world (Cheke et al., 2012). Fish provides a vital source of protein and income for many families in the developing countries (Kolawole et al., 2010). About 200 million people throughout the world are estimated to depend on fish for all or part of their income (De Silva, 2011). Women play important roles in fisheries and in maintaining households and communities. Although fish production is traditionally considered as masculine enterprise, women's role in fisheries is complementary and crucial (Di Ciommo and Schiavetti, 2012). One of the most important commodities handled by women is fish (Onyango and Jentoft, 2011). In the harvest sector, FAO (2012) estimated that 5.4 million women worked either as fishers or fish farmers because women account for half of the workforce in inland fisheries in Asia and women market 60 percent of the seafood in West Africa. FAO (2010) also estimated that at least 30 percent of the people employed in fisheries (harvest and post-harvest) were women. The majority of fishers (womenfolk's)

Figure 1. Map showing the study area local government Anambra-East.

are poor, small scale fishers, their poverty and challenges encompass more than just low income; It includes land ownership, high degree of indebtedness, poor access to health, education and financial capital and political and geographical marginalization (Porter et al. 2010). Fishing is often seen as a masculine activity, especially when it involves seas or rivers but women play important roles in maintaining equipment, processing and marketing of the fish even though women's roles are often less acknowledged (Nunan and Scoones, 2017). In Africa, for example women are charged with 80 percent of the food security (Ramachandran, 2012) and 90 percent of the water security in rural and coastal communities (Torell et al., 2012).

Women are crucial to fisheries and aquaculture sector worldwide (Håkansson et al., 2012). Fisheries and aquaculture production activities provide an estimated 155 million people of whom a substantial proportion is female in developing countries as most fishing activities fall into the small-scale fisheries sector employing roughly 37 million people and directly affecting the livelihood, poverty prevention and alleviation and food security of approximately 357 million others (Fröcklin et al., 2012). However, it has become clear that the challenges women are facing need to be addressed and evaluated at their various levels. There is enormous need to study the challenges of artisanal women fisherfolks as they are regarded as the backbone of fisheries and aquaculture. The engagement of women is particularly in coastal communities, as women represent almost 50% of the total workforce engaged in fisheries around the world, though women have been generally overlooked in marine conservation and fisheries management in developing countries (Siason et al., 2010). This study highlighted the roles and potentials of women across small-scale fisheries and aquaculture development, to identify the challenges facing the women fisherfolks and to make recommendations that will enhance the productivity of the women in the study area.

METHODOLOGY

Study area

The study was carried out in a fishing community in Otuocha Anambra-East local Government Area of Anambra state, Nigeria (Figure 1). Anambra State of Nigeria is located between latitudes 50.521N and 60.451N and longitudes 60.45E and 70.151E respectively and has an estimated land area of 4,762 sqkms and bound in the North by Kogi State, in the East by Enugu State, Delta State in the West and Imo State in the South. It has 21 Local Government Areas and 177 communities. It has a population of about eight million, three hundred and fifty-two thousand, nine hundred and eleven (8,352,911) based on the 2016 National Census. Otuocha comprises of three communities Aguleri, Umuleri and Umuoba Anam. Otuocha has a viable market called "Eke" market. It is located within the heart of Otuocha at the bank of the Great Omambala River. Though market activities go on daily in the market, "Eke" market day is a special market day as traders and buyers from surrounding towns come for business.

Sampling population and questionnaire administration

The study targeted only females that are involved in fisheries activities in study area. Otuocha was purposively selected for the study due to the abundance of women fisher folks and their daily fishing activities. A total of 60 respondents were randomly selected. Simple random sampling and purposive sampling techniques were employed in selection of respondents for the study. Respondents covered areas such as the fish landing sites, marketing centres and off-shores of a fishing town and community.

Data collection

Data for the study were collected from primary sources and were obtained from the field through direct observation, the use of structured questionnaires and scheduled interviews. Respondents were allowed to express their opinion freely and were assured of confidentiality. Data were collected on the socio-economic characteristics of the respondents such as sex, age, marital status, household size, education level status and religion. Data were also collected amongst others the kind of fishing activity the women fisher folks were involved, their years of experience in fishing industry, their source of capital for the fishing business, the market strategy of the fisherwomen etc.

Data analysis

The data collected were subjected to descriptive statistics; including percentage, frequency table and SWOT analysis. The SWOT analysis indicates the strengths, weaknesses, opportunities and threats of the population studied.

RESULTS AND DISCUSSION

The socio-demographic characteristics of the respondents is presented in Table 1. It was observed that 5.00% of the respondents were within the range of 15 to 25 years, 38.33% of the respondents were under 26 to 40 years, 41.67% of the respondents were within 41 to 60 years while 15.00% were above 60 years old. This implied that the majority of the women fisherfolks were within their productive age range of 26 to 60 years. This agrees with the work of Sanni (2009). A greater percentage (51.67%) were in the household size category of 5 to 8 persons which is similar to the reports of Fröcklin et al. (2012). This implied that the relatively small household size may increase the labour needed. Fifty percent of the respondents had primary education indicating a partially literate population in the study area.

Since education is adjudged as catalyst for innovation in

Table 1. Socio-demographic characteristics of respondents.

Parameters	Frequency	Percentage (%)
Age		
15-25	3	5.00
26-40	23	38.33
41-60	25	41.67
Above 60	9	15.00
Total	60	100
Marital status		
Single	4	6.67
Married	37	61.67
Divorced	5	8.33
Widow	14	23.33
Total	60	100
House-hold size		
1 to 4	5	8.33
5 to 8	31	51.67
9 to 12	9	15.00
Above 12	15	25.00
Total	60	100
Educational attainment		
No formal Education	16	26.67
Primary Education	30	50.00
Secondary Education	14	23.33
Tertiary Education	0	0.00
Total	60	100
Religion		
Traditional	10	16.67
Christianity	49	81.67
Islam	1	1.67
No Religion	0	0.00
Total	60	100
Years of experience		
0 to 10	27	45.00
11 to 20	21	35.00
21 to 30	9	15.00
Above 30	3	5.00
Total	60	100
Source of capital		
Personal savings	33	55.00
Microfinance bank	1	1.67
Cooperative	3	5.00
Government	0	0.00
Family	23	38.33
Total	60	100

Source: Field survey, 2019.

agriculture (Porter et al., 2010). The majority (81.67%) were Christians, this is also similar to the report of Onyango and Jentoft (2011). Greater percentage (45.00%) of respondents had experience in the business spanning 11 to 20 years. Similar result was obtained from the study of Sanni (2009).

The information on respondents to fishing practices is presented in Table 2. It was observed that 63.33% of the respondents maintained that fishing is their primary source of income while 36.67% of the respondents posited that fishing is not their primary source of income. This showed that 36.67% of the women are also involved in some other occupation such as farming and petty trading. 8.33% of the respondents maintained that they were engaged in active fishing, 31.67% of the respondents were engaged in processing and marketing, 8.33% were involved in only fish processing while 51.67% were engaged only in marketing of fish. This is in line with the report of Håkansson et al. (2012). Majority of the women (51.67%) are into marketing of fish products while least of them are actively involved in fishing (8.33%). Majority of the respondents (86.67%) maintained that their reason for engaging in fishing activities was for survival and income, none of the respondents took fishing activities as their hobby (0.00%), 10.00% are involved in fishing activities because it is their family business while 3.33% are engaged because it is the responsibility of their family to engage in fishing activities. 11.67% of the respondents maintained that their season for most fishing activities is rainy season, 70.00% of the respondents posited that it is dry season and 18.33% are most involved in fishing activities all year round. It implied that the majority of them are actively involved in fishing activities during dry season. 15.00% of the respondents maintained that they were skilled in fishing business, 48.33% were semi-skilled and 36.67% were unskilled. It implied that majority of the women have distinct knowledge on the fishing operations. 61.67% of the respondents were full time operators in fishing activities that while 38.33 were part-time operators and none are occasional operators. 93.33% of the respondent employ open market strategy, 5.00% market their fish products by hawking and 1.67% of the respondent market at landing sites and jetties. These results agree with the work of Nunan and Scoones (2017) who reported that women play key roles in maintaining equipment, processing and marketing.

The data on respondents' support is presented in Table 3. It was observed that 96.67% of the respondents maintained that there was no form of support from the government and no respondents mentioned training agents as a way of government support on fishing activities. 41.67% of the respondents maintained that financial constraint was a major weakness they were facing, 26.67% posited basic amenities, 8.33% posited health constraint as their weakness,16.67% mentioned fluctuating sales and demand and 6.67% posited competition as their constraint and weakness. 95.00% of the respondents maintained that they experienced gender inequalities in their fishing activities while 5.00% did not face gender inequalities in their fishing activities. 61.67% of the respondents maintained that they belonged to women cooperatives called "Onye Aghana Nwanneya Union of Fisheries" meaning 'let us move together" while 38.33% posited that they did not belong to women

Table 2. Responses on aquacultural activities.

Parameters	Frequency	Percentage (%)
Fishing as their Primary Source of Income		
Yes	38	63.33
No	22	36.67
Total	60	100
Aqua-cultural activity		
Active fishing	5	8.33
Processing and marketing	19	31.67
Processing only	5	8.33
Marketing only	31	51.67
Total	60	100
Reasons for engaging in fishing activities		
Survival and income	52	86.67
Passion/Hobby	0	0.00
Family business	6	10.00
Family responsibility	2	3.33
Total	60	100
Season for most of the fishing activities		
Rainy season	7	11.67
Dry season	42	70.00
All year round	11	18.33
Total	60	100
Skills in the aqua-cultural business		
Skilled	9	15.00
Semi-Skilled	29	48.33
Unskilled	22	36.67
Total	60	100
Mode of operation		
Full time	37	61.67
Part time	23	38.33
Occasionally	0	0.00
Total	60	100
Market Strategy adoption		
Open market display	56	93.33
Hawking	3	5.00
Landing and jetties	1	1.67
Total	60	100

Source: Field survey, 2019.

Table 3. Responses on supports.

Parameters	Frequency	Percentage (%)
Ways of Government support		
Capital	1	1.67
Basic facilities/technology	1	1.67
No support at all	58	96.67
Total	60	100
Weakness and constraint		
Financial Constraint	25	41.67
Basic amenities	16	26.67
Health constraint	5	8.33
Fluctuating sales/demand	10	16.67
Competition	4	6.67
Total	60	100
Gender difference/inequalities in their fishing activities		
Yes	57	95.00
No	3	5.00
Total	60	100
Women organisation/cooperatives		
Yes	37	61.67
No	23	38.33
Total	60	100
Form of fish product marketed		
Fresh	27	45.00
Smoked	33	55.00
Frozen	0	0.00
Sundried	0	0.00
Total	60	100
Demand level of fish in their area		
Very high	35	58.33
Moderate	16	26.67
Low	9	15.00
Total	60	100
Number of fish species they deal with		
One	1	1.67
Two	6	10.00
Three	25	41.67
> 3	28	46.67
Total	60	100

Source. Field survey, 2019.

organisation/cooperatives in Otuocha community. 45.00% of the respondents maintained that they market fresh fish products while 55.00% market smoked products. 58.33% of the respondents maintained that the demand for their fish was very high, 26.67% posited moderate demand while 15.00% opined low demand. 1.67% of the respondents maintained that they dealt with one species of fish, 10.00% posited two species, 41.67% posited three while 46.67% opined that they dealt with more than three species of fish. These results implied that there are diversities of fish species in the study area as reported by the respondents. The fish species and their native names include: *Oreochromis niloticus (ikpopko), Citharinus citharinus (orowo), Clarias gariepinus (Alila), Heterobranchus longifilis (*Ikele), *Heterotis niloticus*(Okpo), *Gymnarchus* niloticus (Asa), *Parachana obscura* (Efin), *Synodontis membranaceus (*okpor), and *Malapterus electricus (electric fish).*

The results from the SWOT analysis are presented in Table 4. The strengths and opportunities are helpful while the weaknesses and threats are harmful (Ovidijus,2013). Their strengths were population of the women, women skilled and experienced in fish business, diverse species of fishes, availability of natural water body, low production cost and gender equality between men and women in the community. Their weaknesses were; health challenges**,** issue of land tenure system**,** lack of education and training**,** lack of processing equipment, lack of capital, high degree of indebtedness and family responsibilities. Their opportunities were; producers of successors**,** presence of fisheries organization**,** large market for the production, creation of value-added fish products**,** geographical location of the community and market, limited opposition from the male gender in fisheries and location of the water body. Their threats were; competition from other women fisher folks, fluctuating number of customers**,** acquiring of land by only male gender**,** lack of modern processing equipment/facilities, cultural /traditional forces limiting women from active fishing and marketing. The predominant weakness was their level of educational attainment, lacking of training from fisheries extension agents to improve their skills in fish value chain activities. This is supported by the work of Kolawole et al. (2010). The respondents also need to invest in storage facilities and processing equipment such as smoking kiln as it is a common factor that a high degree of spoilage occurs due to the absence of storage facilities especially during peak harvest.

The women opined that they had relatively large competitors thus reducing their turnovers for more profit. Moreover, they are faced with fluctuating number of customers due to seasonality. One significant threat facing the women respondents is their lack of modern equipment for both processing and storage, as generally majority of them make use of the traditional method of smoking using drum, wire gauze and firewood which poses some health challenges ranging from eye defects, heat stress and burns from handling. However, there are some traditional laws and taboos restricting women from fishing in the natural water body. Another challenge which is also significant in the study is flooding which disturbs the women from actively engaging in fishing activities due to the fact that the Omambala river is prone to seasonal flooding during the peak of the rainy season every year.

Table 4. The SWOT analysis matrix.

STRENGTHS	**WEAKNESSES**
*Population of women	*Lack of finance
*Basic skills and experience	*Lack of basic amenities
*Diversity of fishes	*Health challenges
*Availability of natural water body	*Fluctuating sales and demand
*Low production cost	*Lack of extension agents
*Producers of successors	*Competition from other women
*Presence of fisheries organizations	*Lack of modern equipment
*Available market for fish	*Gender inequality
*Available fish value chain	*Seasonal flooding
*Geographical location of market	
OPPORTUNITIES	**THREATS**

SWOT analysis matrix (Ovidijus.2013).

Conclusion

It is strongly believed that if the strengths and the opportunities of the women engaged in fishing activities are maximized while their threats and weaknesses are minimized to the barest, it will help increase production of fish and edible aquatic species. It is therefore, recommendded that there should be availability of loan by financial institutions to enable women acquire needed facilities. Awareness should be created on gender equality issues affecting the activities of the women in fisheries in Otuocha. There should be periodic training and workshop for the women fisher folks, there should be formation and strengthening of women's organizations on professionalization of both harvest and post-harvest activities. Women should be involved in decision making in all aspects of fish value chain processes.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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