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GENDER ROLE IN THE CONSTRUCTION AND OPERATION OF TRADITIONAL FISHING GEARS IN FISHING COMMUNITIES OF ANAMBRA STATE, NIGERIA

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ABSTRACT

The study focused on gender roles in the construction and operation of traditional fishing gears in three fishing communities (Otuocha, Ogbaru, and Ebenebe) of Anambra State, Nigeria. Sixty(60) structured descriptive questionnaires were used for data collection. Information from the various respondents in the study revealed that the mean age of the respondents was 37 years with the majority being literate and married with an average family size of 6. The data collected show that there are more males (58.3%) engaged in fish gear production and operation than females (41.7%).The result also showed that 82.9% of the respondents involved in active fishing were male while 17.1% of the respondent involved in active fishing were female. The study also revealed the challenges faced by fishing gear producers to include lack of access to credit, lack of access to materials, high cost of materials, and no formal training, while the major challenges faced by fishermen in the study areas includes insufficient gears, lack of canoes/boats, tedious nature, lack of cold room for storage, and no access to adequate market. Government involvement is hereby recommended to organize periodic training, distribution of loan facilities and inputs, to catalyze and co-ordinate activities in fish gear production and operation as well as other functions such processing and trading. More so, awareness should be created on gender equality and the need to involve more women in both professionalization of harvest and post-harvest activities to strengthen fishing activities in these communities.

Keywords: Gender role, fishing gear, gender equality, fishing communities, Nigeria.

INTRODUCTION

In 2015, fish accounted for about 17 percent of animal protein consumed by the global population. Fish also provided about 3.2 billion people with almost 20 percent of their average per capita intake of animal protein. Despite their relatively low levels of fish consumption, people in developing countries like Africa, have a higher share of fish protein in their diets than those in developed countries (FAO, 2018).

The need to study the traditional fishing gears produced and used in artisanal fisheries along the Anambra Rivers cannot be over-emphasized. This is because this is the only method of catching fish that provides a cheap protein source to the underdeveloped communities in Anambra state (Nwuba and Onuoha 2006). It has long been recognized that women are the primary users and potential stewards of many natural resources that provide the means for basic survival (FAO, 1998; FAO, 1996). In Africa, for example, women are charged with 80% of the food security (Madonsela, 2002) and 90% of the water security in rural and coastal communities (GWA, 2006).

Women are good mobilizers and advisers in communities. Imparting such talents into fisheries is essential. Women are crucial to the fisheries and aquaculture sector. Worldwide, fishery and aquaculture production activities provide revenues to an estimated 155 million people, of whom a substantial proportion is female.

In developing countries, 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. Gender analysis in fishing communities is still in its infancy and is mostly limited to the different occupational roles according to gender. The belief that men do the actual fishing, with women more involved in post-harvest and marketing activities, remains prevalent across most cultural, social, political, and economic strata. Global average figures, which support this perception, mask the real importance of women at the country level. In the world's two major fish-producing countries, China and India, women represent respectively 21% and 24% of all fishers and fish farmers (FAO, 2018and 2012).

Fishing communities in the Philippines, Nigeria, Ghana, etc., have clear roles for men, women, old, young, rich, and poor (Graziano *et al.,* 2018; Harper *et al.*, 2017). Gender relationships are determined by social structures and influenced by social relations (Choo and Williams, 2014; Chandra, *et al.,* 2017; Torell, *et al.,*2016).

Women make up at least half of the inland fisheries' workforce, with 60% and 80% of seafood marketed by women in Asia and West Africa (FAO 2012). Women in West Africa, Cambodia, and Thailand often own and manage fishing boats and may even have their fishing gear. In Ghana, income from fisher's wives is vital for supporting the entire fishing industry, as they invest in canoes and other gear and give out loans to husbands and other fishers. Fisherwomen in the Congo, Cambodia, Thailand, the Philippines, and most of the South Pacific islands, contradict the perceived role of

females as gleaners only. Women have also assumed a leading role in the rapid growth of aquaculture (fish, shrimps, mussel, seaweed, crab fattening), with their participation along the aquaculture value chains (production, transforming, and marketing) higher than in capture fisheries (Kleiber, 2014).

While researchers disagree on how to calculate poverty, there is consensus on three critical points: the majority of the world poor are women; over half of the world poor, live in rural and coastal areas and depend heavily on natural resources for survival; Resource degradation is an acute problem in rural and coastal areas with some 60% of the world's poorest living in ecologically vulnerable areas. The collapse of fisheries and degradation of other natural resources not only undermines food, health, energy, and water security (UNDP, 2009), it also increases the vulnerability and decreases the resiliency of rural women and their families to external forces such as rapid demographic shift, rapid economic growth, war, and conflict (USAID Oceans, 2018).

In addition to providing food, women collect fuel for energy in mangroves, rely on plants and herbs for medicine from coastal forests, and use coastal resources to support the economic stability of families and communities from both agriculture and fishing activities. Because the majority of the rural poor are women and because their social roles and responsibilities require them to rely heavily on the coastal goods and services that are provided by the natural world, women are disproportionately impacted by fisheries collapse and the degradation of other coastal natural resources.

Despite their reliance on farmland, forest, and fisheries for survival and livelihoods, the unique information that women have regarding resource use and management, and the potential stewardship role that they can play, women are not systematically engaged in the planning and implementation of natural resource management and fishing activities (Bene, 2003). To ensure the sustainability of poverty alleviation and natural resource management efforts in vulnerable rural ecosystems, women must be engaged in planning and implementation and they must share the benefits of management outcomes.

The engagement of women is particularly important in coastal communities. Women represent almost 50% of the total workforce engaged in fisheries around the world, and they have generally been overlooked in marine conservation and fisheries management, particularly in developing countries (Torrell *et al.,* 2021). They are often omitted from the conservation and resource management process. While the omission of women from planning, implementing, and monitoring conservation initiatives is sometimes following cultural norms, the majority of the time this omission is simple oversight.

Mounting pressure from unsustainable resource extraction, habitat modification, and impacts from nearshore development populations jeopardize the distribution and abundance of nearshore fish and invertebrates. Successful initiatives

must be taken into account and address the obstacles and constraints that inhibit women from managing their resource tenure, time poverty, educational/ training opportunities, lack of access to financing, increased exposure to health risks, and other social, cultural, political, and economic barriers.

Documentation is scarce on gender roles in the construction and operation of traditional fishing gears in populated fishing areas of Anambra State. Also, despite the pervasive involvement of women in fisheries activities, women's invaluable contribution is often overlooked and scarce documentation, such that women do not benefit from adequate working conditions, facilities, training, and access to information. A gender role analysis as a social science tool to identify, understand and explain inequities between males and females that exist in households and fishing communities within the Philippines as well as in other developing countries and the relevance of gender norms and power relations is a major concern. This study thus evaluated the gender role in the construction and operation of traditional fishing gears in three fishing communities of Anambra State, Nigeria, and proffer appropriate recommendations for improved fishing activities.

METHODOLOGY

The Study Area

The study was carried out in three fishing communities (Otuocha, Ogbaru, and Ebenbe) of Anambra State, Nigeria (Figure 1). Anambra State of Nigeria is located between Latitudes 50.521N and 60.451N and Longitudes 60.45·E and 70.151E respectively and has an estimated land area of 4,762sqkms 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 four million, one hundred and seventy-seven thousand, eight hundred and twenty-eight (4,177,828) based on the 2004 National Census. Otuocha is a town and headquarter of Anambra East Local Government of Anambra State, Nigeria. Otuocha is an important town in Nigeria-East of the Niger as it serves as the food basket to the entire people of the South-eastern State. Ogbaru (official name) native names (Ogbahu/Ogbesi) is a Local Government Area in Anambra State, South-central Nigeria. Ebenebe is a town in Awka North Local Government Area of Anambra State, Nigeria with an estimated population of 45,897 as of the 2006 Nigeria census. Ebenebe is 25km from Awka, the capital state of Anambra State and its rich soil makes it one of the highest producers of agricultural commodities in Anambra State. Ebenbe is bordered by Amansea to the South, Mgbakwu to the West, Ugbenu to the North, and Agbaja to the East. The three communities (Otuocha, Ogbaru, and Ebenebe) were purposively chosen because of their large population and also because of their active involvement in fishing activities.

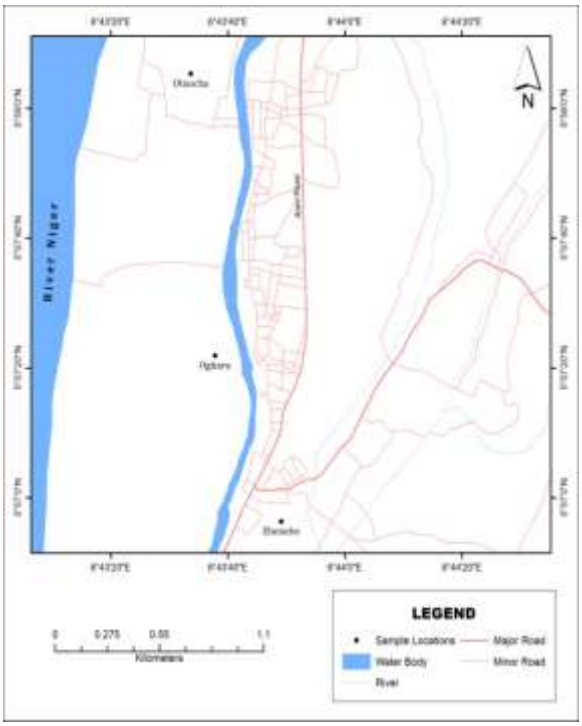


Figure 1: Map showing the study area (Source: Department of Geography and Meteorology, Nnamdi Azikiwe University, Awka.)

Sampling Technique and Plan

The sampling techniques used to select respondents for the study were both simple random sampling and purposive sampling techniques.

Three identified fishing Local Government Areas namely: Anambra East (Otuocha), Awka North (Ebenebe), and Ogbaru (Idemili)were purposively sampled for the study due to evidence of daily fishing activities. 20 respondents were selected from each of the Local Government Areas, giving a total of 60 respondents for the study.

Data Collection

Data for the study were collected from primary sources. The data collected from the primary source were gotten from the field through direct observation, the use of questionnaires which were structured based on the specific objectives of the study, and interview schedule information from the respondents. The interview schedule was used to collect information from illiterate respondents who cannot read nor write while a structured questionnaire was used to collect information from literate respondents.

Data were collected on the socio-economic characteristics of the respondents such as sex, age, marital status, household size, educational attainment, and religion. Data were also collected on the type of fishing gear produced and their years of experience in gear production and operation.

Data Analysis

The data collected were subjected to descriptive and inferential statistics, using descriptive statistical tools such as mean, percentage, frequency table, and bar chart while 5 points Likert scale and mean was employed to collate challenges encountered by the respondents. Statistical package for social science (SPSS) was used for the statistical analysis.

RESULTS AND DISCUSSION

The socio-economic characteristics of the respondents are outlined in Table 1.Itwas observed that 58.3% of the respondents are male while 41.7% are female. This implies that a greater percentage of the fish farming population in the study areas were performed by male folks. This meant that the fish gear production and operation were gender-biased in favor of men, this agrees with the works of Graziano *et al.,* (2018), Harper *et al.,* (2017), Siason *et al.,* (2010) and Benneth, (2005). By implication, it showed that fish gear production and operation were energy-sapping.

The majority (50%) of the respondents were in the age category between 31-40 years. The least (11.7%) were those that are greater than 50 years of age. The mean age was 37 suggesting that most of the respondents were in their active working age. Age is an important variable that influences people's attitude, skill, and aspiration which is in line with the reports of Nag *et al*., (2012).

The information on the respondents presented in Table 1 showed that the greatest percentages (43.3%) of the respondents were married while the least (5%) were divorced.

Marital status being one of the most prominent factors affecting the level of productivity in agriculture reported that the highest percentage of married people will provide the cheapest labour. This is in line with the report of Luwenya and Yongo, (2012). The majority (58.3%) of the respondents have a household size between 5-8 persons while the least (3.3%) of the respondents were those that have households greater than 12. The average size of the hold was 6. The size of the household is an important factor that determines how cheap the labour is which is in line with the records of Di Ciommo and Schiavetti, (2012). 46.7% of the population of the respondents in the areas of study was predominantly literate, which showed that education is an important variable because it enables individuals to gain knowledge and skills.

The information on respondents to fishing and fishing gear operations is presented in Table 2. It was observed that the majority of the respondents (51.7%) have a good fish gear production experience. Since experience is one of the factors that improve one's knowledge and skill, it now implies that they have acquired enough skills and knowledge on fish gear production and will also help them to make effective use of the gear to increase the fish catch. This is in line with the observation of Bagsit and Jimenez, (2006).

Table 1: Socio-economic characteristics of the respondents.

Parameters	Frequency	Percentage (%)
Gender		
Male	35	58.3
Female	25	41.7
Age		
<30	13	21.6
31-40	30	50.0
41-50	10	16.7
>50	7	11.7
Marital status		
Married	26	43.3
Single	13	21.7
Divorced	3	5.0
Widow(er)	18	30
Household size		
1-4	19	31.7
5-8	35	58.3
9-12	4	6.7
>12	2	3.3
Level of education		
No formal education	10	16.7
Primary education	12	20.0
Secondary education	28	46.6
Tertiary education	10	16.7
Religion		
Traditional	5	8.3
Christian	34	56.7
Islam	20	33.3
No religion	1	1.7

Source: Fieldwork, 2019

Information from the respondents presented in Table 2 also showed that the majority (66.7%) of the fishers have other activities in which they engaged in other than fishing such as farming, trading, etc., the reason is to have more sources of income to support their families and improve their standard of living. This was also agreed by Bene *et al*., (2007).

Table 2: Responses on fishing and fish gear operations

Parameters	Frequency	Percentage (%)
Years of Experience		
<10	15	25.0
11-20	31	51.7
21-30	10	16.0
>30	4	6.6
Full-Time Gear Producer		
Yes	14	23.3
No	46	76.7
Full-Time Fisher		
Yes	20	33.3
No	40	66.7
Other Businesses		
Trading	40	66.7
Civil servant	8	13.3
Farming	12	20.0
Source of Labour		
Family only	40	66.7
Hired labor only	8	13.3
Hired and family	12	20.0
Source of Capital		
Personal savings	52	86.7
Friends and relations	5	8.3
Cooperative	2	3.3
Microfinance bank	1	1.7

The majority of the fish gear producers/ operators (86.7%) relied on their savings to fund their business and utilized only a small percentage of opportunities available in the financial institution, due to possibly the problems in accessing funds such as lack of collateral, administrative bottlenecks, and high-interest rate was recorded by FAO,2006.

The information on the challenges encountered by the fishers and fishing gear operators is recorded in table 3.

The challenges recorded from the fish gear producers were lack of access to credit with the mean (5.0) was strongly agreed by the majority of the respondents as the major challenge they faced, followed by lack of access to materials with the mean (4.8), high

cost of materials with the mean (4.5), no formal training, (4.0), which were distant market, bad road, difficulty in the numbering of net mesh size, attack by wild animals such as snake, lack of access to credit, etc., were presented in table 3.

Table 3: Responses on Challenges

Challenges	Mean
Challenges of fishing gears producers	
Lack of access to credit	5.0
Lack of access to materials	4.8
High cost of materials	4.5
No formal training	4.0
Distant market	3.5
Bad road	2.5
Cuts from a sharp object	1.9
Tedious	1.8
Difficulty in the numbering of net mesh size	1.5
Challenges of fish gear operators/ fishers	
No sufficient gears	5.0
No sufficient canoes/boats	4.8
Tedious	4.5
No cold room	4.3
No standard market	4.0
Injuries from abandoned sticks and hook	3.5
Unstable price	3.0
Time-consuming	2.5
Attack by dangerous species such as water snake	1.2
Obstruction of the fishing site by an anchor (sand excavator)	1.0
Attack by wild animals such as snake	1.0

Figure 2 shows that the majority (82.9%) of the respondents involved in fishing were male while the least (17.1%) of the respondents were female. This implies that fishing is tedious and energy-sapping thereby, making men's activities dominate the extractive process (fishing) as recorded by (USAID Oceans, 2018; Yap *et al*., 2017; Bennett, 2005.) The least (17.1%) of the respondents representing the female were mostly widows who fished on inshore at subsistence level especially during the dry season using basket traps to support their families.

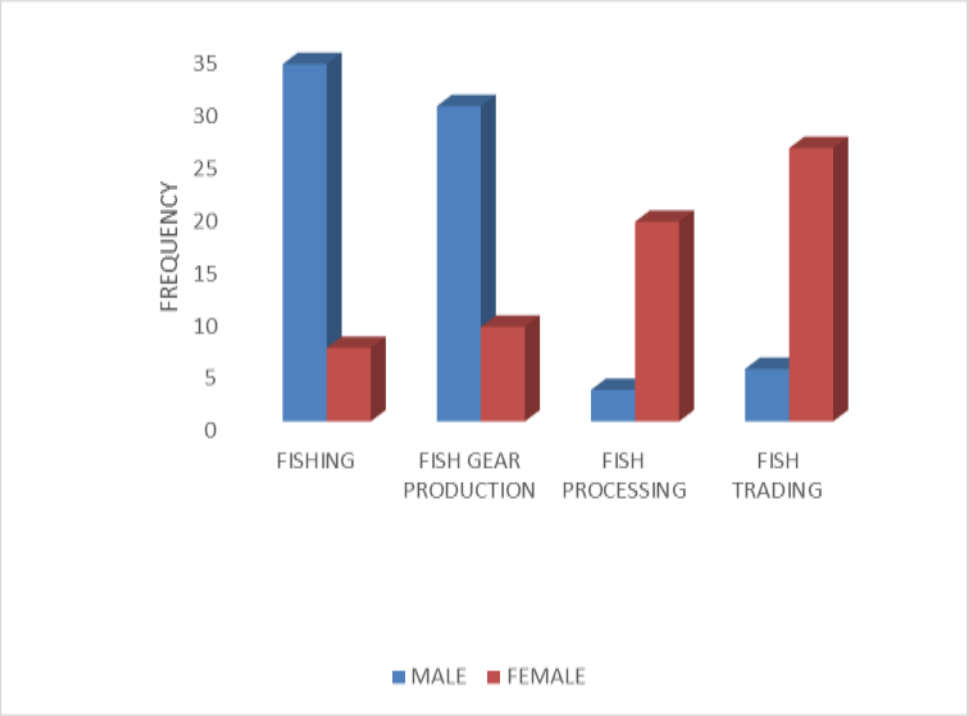


Figure 2: Roles played by men and women across small fisheries

In the fish gears production section, the majority (76.9%) of the respondents were male while the least (23.1%) of the respondents were female. This may be due to the tedious nature in the collection and cutting of raffia palm used in the gear production such as basket trap made the females not actively participate in the gear production(WEF, 2019).

In the fish processing (smoke drying) aspect the majority (86.4%) of the respondent were female while the least (13.6%) were male. This is in line with the records of Kolawole *et al.*, (2010). The reason is that women are often responsible for post-harvest activities such as processing, trading which frequently earn a narrower profit margin than that made by fish catchers, so the men see processing as a low gained business as was agreed by Luwenya and Yongo, (2012). Another reason why women populate this aspect is that the activities such as gutting, washing, cleaning, etc. require meticulous vision and proper handling of which most men may not have the patience for such activities. In addition, most men see fish processing as the usual cooking that women do which is in line with the gender norms record of Torell (2021). The women involved in this aspect make use of the traditional smoking kiln (drum type) in smoke drying of their products (fish).

In the fish trading aspect, the majority (83.9%) of the respondents were female while the least (16.1%) were male. This result is in line with the records of Prieto-Carolino *et al.*, (2016) and Siason *et al.*, (2010). This implies that that women populate this aspect and also in a fisher family, the role of the women can be crucial in fish marketing as they are often the sole

distributors of fish, meaning the fisher is dependent on the woman to covert the fish into money to buy other food and various necessities.

CONCLUSION

The role of women in fishing and fishing gear operations cannot be overemphasized as the success of fishing activities in any community is greatly determined by the involvement of women folks in key sectors of fishery activities thus alleviating under-nutrition and poverty. Based on the result of this study, government involvement is hereby recommended to organize periodic training, distribution of loan facilities and inputs, to catalyze and set up regulatory bodies to coordinating activities in fish gear production and operation as well as other functions such as processing and trading. More so awareness should be created on gender equality and the need to involve more women in both professionalization of harvest and post-harvest activities to strengthen fishing activities in these communities.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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