

# Artisanal Fishing in Coastal Communities: Socioeconomic Profiling and Fishing Practices in Southern Ijaw Local Government Area (SILGA), Bayelsa State

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**Abstract:** This study was conducted in the Southern Ijaw Local Government Area (SILGA) of Bayelsa State, Nigeria to assess the socioeconomic characteristics of artisanal fisherfolks. It was a cross-sectional survey adopted to gather primary data from 132 randomly selected respondents with a structured questionnaire from the study area. Descriptive statistics were employed to analyze demographic and operational data, while seasonal variations in catch volume were also assessed. The results of the socioeconomic characteristics of the fisherfolks indicated that most of them were between the ages of 41 and 50, then those in the 31 to 40 age range. There was an equal distribution of males and females, 79.5% of them were married with most respondents reporting a household size of 6-10 members (51.5%). 81.1% had a form of formal education while 18.9% had none whatsoever. The religion mostly practiced was Christianity (94.7%), 71.2% took fishing as their full-time profession, and 31.8% had 11-20 years of experience. Most of the fisherfolks owned their own craft (62.5%) which was mostly a canoe with a paddle (97.5%) and made use of the passive methods of fishing (75%). Catch volumes peaked between October and December (40.8%), while July to September represented periods of lowest catch (46.7%). This study therefore highlights the urgent need for spending money on fishing infrastructure and access to credit facilities. The study also outlined some recommendations beneficial to the artisanal fishing community in this area.

**Keywords:** Artisanal Fishing; Fishing Gears and Craft; Post-Harvest; Socioeconomic Characteristics, Coastal Region.

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## I. INTRODUCTION/LITERATURE REVIEW

The fisheries sector is a viable sub-sector of agriculture that involves the commercial exploitation of aquatic products (Kaleem & Abudou-Fadel, 2021). Its contribution to Nigeria's economy is enormous, such as providing income to fishermen, employment opportunities, the cheapest protein source, and foreign exchange earnings (Odioko & Becer, 2022). Fisheries contribute 85% of domestic fish consumption in Nigeria (Fregene, n.d.), with more than 98 percent of people living in fishing communities are dependent on fishing and activities related to fishing. (Saba et al., 2024). Marine artisanal fishing generally involves a good knowledge of local geography for effective and professional marine fishing. The fisheries development in the state is tailored along the available land and water resources with well-developed marine artisanal fisheries targeting the demersal and pelagic species within 0-5 nautical miles.

Bayelsa State as one of the Niger Delta states is characterized by heavy fishing activities. Housing a delta to

the Atlantic Ocean through which fresh waters empty into the Ocean implies the presence of the three major aquatic ecosystems (marine (coastal waters from the sea); brackish (lagoons, estuaries, and mangrove swamps); and freshwater (rivers, shallow lakes, and swamps) ecosystems) in the state (Izah, Aigberua, & Srivastav, 2022). The presence of the Atlantic Ocean being a marine environment entails the existence of a brackish water zone connecting the freshwater to the saltwater creating a different habitat for diverse aquatic species. Thus, fisheries activities through the value chain from production/fishing to marketing for both fresh and marine environments are meant to provide the citizens with fish and fish products with little or no fish importation. On the contrary, Bayelsa still imports fish despite the rich aquatic resource endowment (Ese, 2025; Oluwarore, 2018).

Lack of proper monitoring and management of these resources results in cases of fishing operations that are unlawful, unreported, and unregulated. (Adam & Nowar, 2022; Mozumder et al., 2023) and the use of prohibited fishing gears and methods in territorial waters (author). This

implies that the aquatic resources will be faced with heavy fishing pressure if not well managed which can lead to the collapse of the existing fisheries. Again, the absence of proper knowledge and records of fishing efforts and operations in the waters makes it more difficult to make data-driven decisions to deploy management best practices for sustainable development. The goal of the study was to characterize the socioeconomic traits of artisanal fisherfolks in SILGA, Bayelsa State.

#### ➤ Problem Statement

There is a need to boost the local production of fisheries products at our grassroots. One way to manage a resource is to have good planning and management structure for the resources and this can only be effected by access to proper information on the existing resource status. The Niger Delta area lacks detailed data on the fisheries activities in the states of which Bayelsa State is major. Lack of proper information hinders managerial measures due to insufficient data for reference. This project is therefore proposed to enhance data availability and accessibility to key stakeholders to aid informed evidence-based managerial decision-making to drive the deployment of fisheries management best practices and promote resource sustainable management.

#### ➤ Justification

Making informed evidence-based decisions to enhance management practices can only come from data. Data collection, analysis, and reporting to communicate findings for the right applications to boost sustainable development and management is the primary focus of the suggested research and that is what the nation needs at the moment to help meet the United Nations Sustainable Development Goals (SDGs) and Renewed Hope agenda of the present government of Nigeria.

#### ➤ Study Area

The research was carried in the Southern Ijaw Local Government Area, of Bayelsa State with a geographical position of 4° 48'17"N and 6° 04'44"E. It has about 2,682 sq. km surface area and 60 kilometers of coastline on the Bight of Benin (Iyama, Waribo, & Okpara, 2016) with a population of over 300,000 people (NPC, 2006).

The major communities in the LGA are Igbomotoru, Peremabiri, Opuama, Eniwari, Angiama, Diebu, Ondewari, and Azia, (2023) other communities are Amassoma and Ekowe where the State University and Federal Polytechnic are situated respectively. The LG Council is located at the Oporoma community.

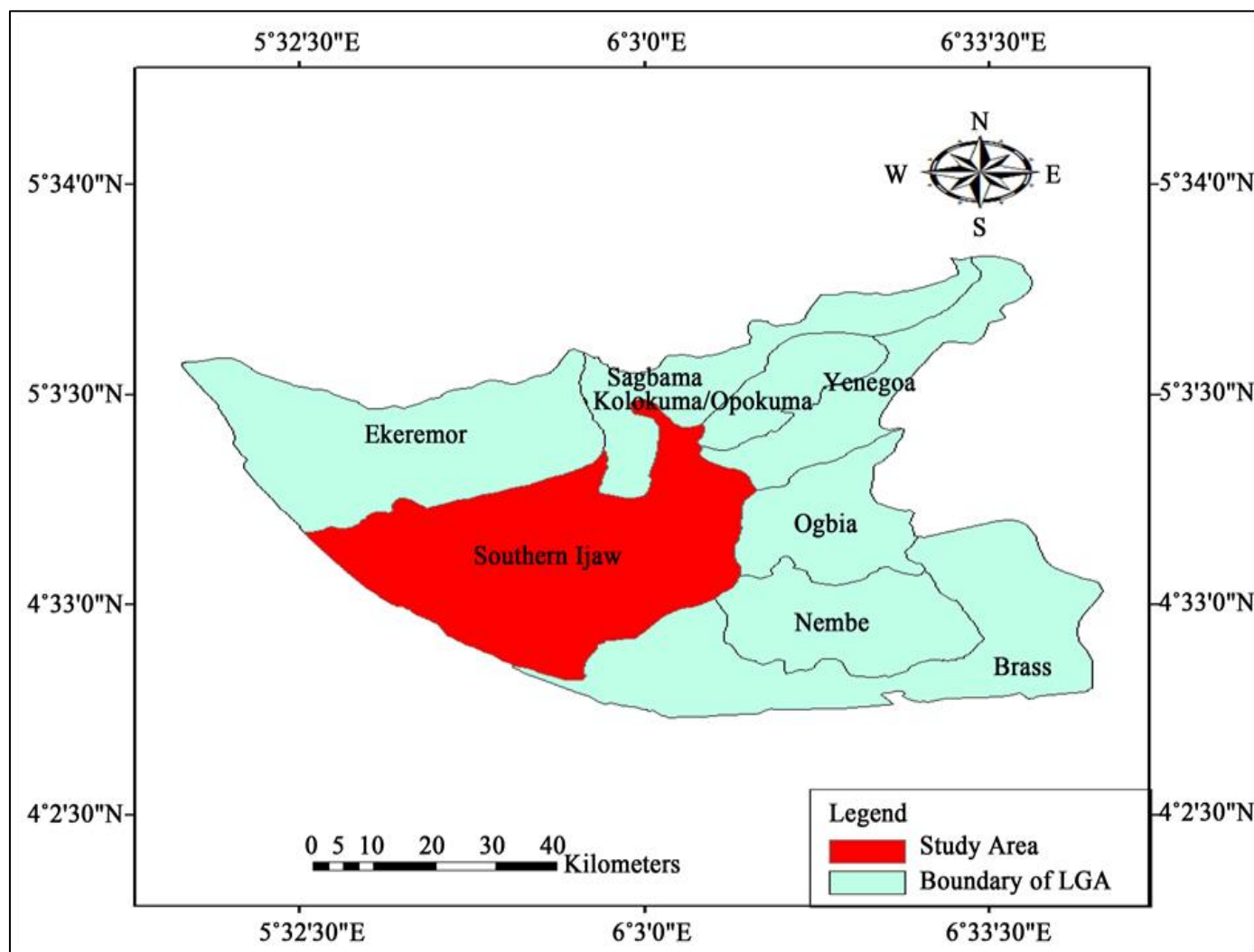


Fig 1 Map of Bayelsa State Showing the Study Area (Southern Ijaw LGA). Source: (Akintoye et al., 2016).

## II. METHODOLOGY

### ➤ Materials

Materials for field work include data collection instruments (e.g. questionnaire), stationery, spiral binding materials, pens, markers, masking tape, camera, recorders, boat, life jackets, containers and formalin to preserve marine species, hand gloves, nose masks, etc.

### ➤ Methods

The study was carried out in Bayelsa State's SILGA communities, (basically an artisanal fishing community) which are a coastal settlement. The communities were sampled, during which observations were made on the fishing operations and structured questionnaires were used to gather data and personal interviews. One hundred and twenty respondents in all were sampled through random selection in different communities in SILGA.

## III. RESULTS

Table 1 Socio-Economic Characteristics of Respondents

Characteristics	Frequency	Percentage (%)
<b>Age (years)</b>		
21-30	25	18.9
31-40	32	24.2
41-50	51	38.6
51 & above	24	18.2
<b>Gender</b>		
Male	66	50
Female	66	50
<b>Origin</b>		
Indigene	109	82.6
Non-indigene	23	17.4
<b>Marital status</b>		
Married	105	79.5
Widow/widower	9	6.8
Divorced	7	5.3
Single	11	8.3
<b>Household size (Number of people)</b>		
1-5	42	31.8
6-10	68	51.5
11-15	14	10.6
16 & above	8	6.1
<b>Educational Qualification</b>		
None formal	25	18.9
Primary	44	33.3
Secondary	56	42.4
Tertiary	7	5.3
<b>Religion of respondents</b>		
Christianity	125	94.7
Islam	3	2.3
Traditional	2	1.5
None	2	1.5
<b>Occupation</b>		
Fishermen	109	82.6
Fish farmer	12	9.1
Both	11	8.3
<b>Duration of years in the business</b>		
1-10	31	23.5
11-20	42	31.8
21-30	38	28.8
31 & above	21	15.9
<b>Full-time/Part-time</b>		
Full-time	94	71.2
Part-time	38	28.8

Source: Field Survey

Table 2 Distribution of Respondents by Fishing Activities

Characteristics	Frequency	Percentage (%)
<b>Type of fishing craft used</b>		
Canoe with paddle	117	97.5
Motorized canoe	3	2.5
<b>Ownership of craft</b>		
Owned	75	62.5
Rented	39	32.5
Inherited	4	3.3
Gifted	2	1.7
<b>Number of craft</b>		
1	86	71.7
2	22	18.3
3	12	10.0
<b>Type of fishing gear used</b>		
Passive	90	75.0
Active	22	18.3
Inherited	5	4.2
Gifted	3	2.5
<b>Ownership of the fishing gear used</b>		
Owned	90	75.0
Rented	22	18.3
Inherited	5	4.2
Gifted	3	2.5

Source: Field Survey

Table 3 Description of the Periods of Catch

Characteristics	Frequency	Percentage (%)
<b>Period of lowest catch</b>		
Oct-Dec	21	17.5
Jan - March	28	23.3
July - Sept	56	46.7
April - June	15	12.5
<b>Period of highest catch</b>		
Jan - Mar	37	30.8
April - June	20	16.7
July - Sept	14	11.7
Oct-Dec	49	40.8

Source: Field Survey

#### IV. DISCUSSION

A total of 132 respondents (fishermen and fish farmers) were interviewed in SILGA during the period of the research. This consisted of an equal distribution of 66 females and males. This finding is in disagreement with the collection of information on fishing in Nigeria. This is because males are known to make up the majority of the fishing population as women are more suited to post-harvest fishing activities like processing, packaging, and marketing of fish products (Adeleke, 2013). Women are less suited for the risks associated with being close to the sea or lakes for capturing fish (FAO, 1998).

From Table 1, the highest percentage of fisher folks representing 38.6% of the population are between the ages of 41 and 50, followed by those in the age bracket of 31-40 years which is 24.2%. This indicates that more than half of the population of fisher folks in SILGA are between the ages of 31-50 which is the active age bracket who are physically

capable of paddling the canoes and handling fishing gear. This result aligns with the findings of Aminu, Ojo, & Adekunle (2017), who discovered that the majority of fishermen in Lagos State are in their economically active years (below the age of 46) to conduct activities associated with fishing. This is also in accordance with the results of Ifejika et al. (2007) whose findings indicated that 60% of the fisher folks in Borgu LGA of Niger state were between the ages of 41-50 and could take risks and accept innovation related to their occupation.

The findings of the study indicated that 79.5% of the sampled fisher folks in SILGA were married. This shows that a majority of the sampled households carry a significant amount of family responsibilities. The study also revealed that more than half of the sampled households (51.5%) had 6-10 people in their household and a lower proportion (31.8%) had between 1-5 people as their household size. A lower percentage of the sampled population had between 11 to above 16 people in their household. This indicates that the

household head has a lot of responsibilities for catering to the people in his household. However, research has indicated that the higher the household size, the greater the probability of efficient labor (Adegbite & Oluwalana, 2004). Additionally, Akanni (2010) posits that household size has a direct relationship with the productivity of artisanal fisheries.

Only 18.9% of the sampled respondents lacked formal education while the majority (81.9%) possessed formal education from elementary school through tertiary education. This indicates that the sampled population is more open to the adoption of technology, and is relatively literate so they can understand the technicalities of the business as well as buy into opportunities. This is in agreement with the findings of Aminu, Ojo, & Adekunle (2017), whose findings indicate that 68.3% of fishermen in Lagos State, Nigeria had formal education. This is also in line with the findings of Adeleke (2017) whose findings stated that the majority of fisher folks in Ondo State (96.25%), Nigeria had at least one form of education and this increases the chances for sustainable development in the area.

Most of the fisherfolks in SILGA sampled in this study were Christians (94.7%), while other groups were Muslims (2.3%), traditional worshippers (1.5%), and a negligible percentage that had no religion (1.5%). This corroborates with the general knowledge that there are more Christians in the Southern part of the country (Adeleke, 2017). Additionally, most of the fisherfolks were Indigenous (82.6%) which means that they were familiar with areas of better catch. The majority of the respondents in the study area (82.6%) were fishermen while some combined fish farming with being a fisherman (8.3%). This is probably done to boost the income realized from fishing activities to cover the expenses of their household. The majority (60.6%) of the fisher folks have been in the business for 11-30 years which means they are very vast in knowledge and experience. This aligns with the results of Aminu, Ojo, & Adekunle (2017) who said that in Lagos State, Nigeria, artisanal fisher folks had an average of 19 years of experience. Also, 71.2% of them are working full-time in the fishing business. This is in line with the findings of Olaoye et al. (2010) who posited that the more the years of fishing experience, the more understanding fishermen have of the system, the prices, trends terrains, and conditions.

From Table 2, which shows the distribution of respondents by fishing activities, the majority of respondents only had canoes with paddles (97.5%). This implies that only a few of the respondents (2.5%) could afford a motorized canoe. This is in agreement with the findings of Aminu, Ojo, & Adekunle (2017), showing that there is a low level of capital investment in artisanal fish production in Nigeria. The majority of the respondents (62.5%) have personal canoes, 32.5% rent canoes for their business, 3.3% inherited theirs and a negligible 1.7% were gifted canoes to carry out their fishing activities. Furthermore, most of these fishermen only have one canoe (71.7%), 18.3% have 2 canoes and only 10% have 3 canoes for fishing. The findings of this study also indicated that fishing gear was mostly used passively (75%), active usage accounted for 18.3%, and a small percentage was

inherited (4.2%) while a negligible amount was gifted (2.5%). This also applies to the ownership of the gear used in fishing in SILGA. This all points to the need for capital investment in the study area to equip these artisanal fisherfolks and promote better fish production.

Table 3 shows that the period of the lowest catch was between July to September (46.7%) while the period of the highest catch was between October to December (40.8%). There are several factors affecting the catch production of fish including the time of day, season, number of fishermen, amount of effort exerted, etc. (Mangi & Roberts, 2007). This study indicates that more fish were caught between October and December, with 30.8% of the respondents also stating the next period where there is a high catchment of fish is between January to March, this may be due to the changing season. In Nigeria, November to April represents the dry season and fishing efforts are intensified during this season (FAO, n.d.).

## V. CONCLUSION

The findings of this study indicate that in the Southern Ijaw Local Government Area of Bayelsa State, Nigeria, both men and women engaged in fishing activities. The majority of the fisherfolks were between 31-50 years old which indicates that they are in their economically active ages, they also had at least one form of education which shows that they are open to technological advancements in the field. The following suggestions have been made in light of the study's findings:

Cooperative societies should be created by the artisanal fishermen in the study area to enjoy the benefits of bulk purchase of fishing inputs and to have a unified price of sales. This will also help them to access government loans, equipment, and tools and to have a unified voice in fighting against bad fishing practices.

This study found that most artisanal fisher folks had 6-10 people in their household and they considered fishing their full-time work, one can deduce that their living standard may be poor. So to improve their living standard, this study suggests diversification of activities.

The Government should show more interest in the livelihoods of the artisanal fishing population and support them with grants, loans, subsidies, and other forms of assistance to motivate better fish production.

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