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Factors Constraining Artisanal Fish Production in the Fishing Communities of Ibeju-Lekki Local Government Area of Lagos State

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Abstract:

Artisanal fishing has continually dominated Nigeria's domestic fish production even though it is constrained by amongst others, crude and energy consuming methods of operation. Ibeju-Lekki is located about 65 kilometers from the city of Lagos where high demand for fish and fisheries products could be assumed to drive local fish production, especially the commercially important species such as sardinella sp, sphyrnaea piscatorum sp, pseudolithus sp, arius heudeloti sp, penaeus, sp etcetera. The study showed that motorized canoes have become a major fishing input. While the least horsepower (HP) outboard engine (OBE) 15 HP cost as much as =N=300,000, the least cost for a new fishing canoe was =N=65,000 and for adequate fishing operation, a fisher requires a minimum bundle of net estimated at about =N=100,000. The all-male fishers characteristic of the area is due to the heavy beach waves that makes both setting out and landing a herculean task. The fishers operated on full time, maintain relatively moderate family sizes and gradually embracing western education as more children were being enrolled in higher schools. Basically, major constraints to fishing were fuelled by poor capital disposition of fishers, lack of government enabling environment and trawlers' encroachment. An assessment of these constraints provides useful information on the ways to improve artisanal fisheries for sustainability, and hence providing the basis for solving major social and economic problems.

Keywords: fish production, constraints, fishers, fishing inputs sustainability

1. Introduction

Even though Nigeria is blessed with a long coastline of about 853km and jurisdiction of 210,900km² over its coastal waters (EEZ), artisanal fish production which accounts for over 85% of the country's total has been unable to sustain national fish demand. Whereas Nigeria produces about 0.5 million metric tonnes of fish annually, it was estimated that by 2013, the over 160 million people of the country would demand about 3.32 million metric tonnes (FDF, 2007). This posed enormous strain on Nigeria's foreign reserve as government attempted to augment fish supply by relying heavily on importation. This failed to improve her development efforts for the sector because a more appropriate measure would be to increase domestic fish production especially through encouraging artisanal fishing (Oriakhi et al, 2011). Nigeria's industrial fishing has become precarious; therefore, a major hope for the country's domestic fish provision is the artisanal sector, which must be strategically positioned.

Various perspectives of constraints to artisanal fishing have been highlighted. Oriakhi et al (2011) discussed the prospects and constraints of artisanal fishing in selected communities of Delta State, Nigeria. Ayotunde et al (2012) studied the socio economic status of artisanal fishers in Cross Rivers, Cross River State, Nigeria. Abohweyere et al (2011) carried out the study of fishers and fisheries focusing on sustainable resource exploitation in the Bonny area of Rivers State, Nigeria and Adeleke (2013) looked at the socio economic characteristics of the artisanal fisher folks in coastal region of Ondo State, Nigeria. However, there is dearth of information on the factors militating against artisanal fish production in Ibeju-Lekki area of Lagos State especially in the current setting of the present administration's agricultural transformation agenda

Because artisanal fisheries rely mainly on “human effort” especially in the areas of setting out, landing, discharging catches, locating fish, etc., the entire activities associated with it become rudimentary making it cumbersome and energy consuming for the operators. Over several decades, Nigeria’s artisanal fisheries have witnessed very little or no development (Abohweyere et al 2011). In addition to man-made constraints, artisanal fishing is threatened by bad weather, fluctuation in fish stock, storms, to mention just a few. The fisher folks in the study area are dispersed in various communities along the western coast of Lagos State, Nigeria. Because of the nature of fishing which is carried out in the Atlantic Ocean, through very turbulent beach, only males practice fishing while the females participate in other fishing activities. Though fishing is their main occupation, it is being complemented in recent times, with upland farming, petty trading, and other economic activities. The Fisher folks depend on marine ecosystems, which are the basis for their settlement in the particular area, causing them to be vulnerable to natural and climatic conditions. Specifically, this study established that fishing in the area has seriously depleted and is being continuously threatened by both human and natural factors. Therefore, an understanding of the constraints to artisanal fish production is a prerequisite to purposeful development and sustainability of the sector to provide employment, improve fishers’ and national incomes, check population imbalances between the rural fishing communities and the Lagos urban area and provide the needed protein, fatty acid and oils required for healthy growth.

2. Materials and Methods

The study was conducted among adjoining communities of Idasho, Osoroko, Mofulu, Orimedu and Magbon-Alade situated along the Lagos west coastline of Ibeju-Lekki Local Government Area of Lagos State, Nigeria. 20 respondents (fishermen) were randomly selected from each community making a total of 100. Information were collected by use of questionnaires and structured interviews (S I) by trained researchers directly involved in the study. Through professionalism, all the questionnaires were retrieved for analysis. Both general and specific information collected during the study were analyzed and presented using descriptive statistics such as frequency distribution tables, percentages and charts.

3. Results and Discussion

Scientific name	Common name	% of total (Annual)
Sardinella sp	Sardines (sawa & bonga)	69%
Pseudotolithus sp	Croaker	9%
Cynoglossus senegalensis sp	Sole	2
Pomadasys sp	Grunter	0.9
Drepane Africana sp	Spade fish	0.8
Vomar setapinnis sp	Moon fish	0.8
Sphyaena piscatorum sp	Barracuda	2
Arius heudeloti sp	Cat fish	1.6
Galeoides decadactylus sp	Thread fin	2.8
Penaeus sp	Shrimps	11.1

Table 1: Some Commercially Important Species
Source: Survey

An evaluation of the constraints of artisanal fishery requires an assessment of the commercial importance of fish species produced in the area. The Sardines are of high demand across all social strata of Nigeria’s population. It constitutes 69% of annual total fish landed in the study area (Table 1) and at peak season sardine production could not be matched with processing and marketing thereby, causing huge post harvest losses. Other formidable species include the croaker family 9%, shrimps 11%, thread fins 2.8%, sole and barracuda 2% respectively; others included cat fish 1.6%, grunter 0.9 % and spade and moon fish 0.8 % respectively. Targeting these different fishes requires varying inputs such as nets, adequate OBE capacity and preservation. But fishers are handicapped in the area of funds to replace old nets, OBE and absolutely lack facilities to preserve their catches for future use or sale.

Type	Personal (qty)	Hire (qty)
Local motorized canoe	58	4
Ghana type motorized canoe	9	22
Local no motorized canoe	7	0

Table 2: Canoe types
Source Survey

From table 2, 74 members of the 100 fishermen had their personal fishing canoes while 26 were operated on hire. This also stems from the fact that not every fisherman could afford a fishing canoe and its accessories, especially as there were no facilities for credit and /or subsidy.

Age group	No
1-10	0
11-20	2
21-30	12
31-40	32
41-50	22
51-60	16
61-70	13
71-80	2
81-90	1

Table 3: Age Distribution of Respondents
Source: Survey

The concentration of active fishers in table 3 falls within the age bracket of 21-60. Poverty as a result of poor fishing, poor sales and poor investment capacities truncate the continued stay of able fishers in the profession. This gave rise to mass abandonment of fishing for other non fishing activities. Inadvertently, crime rate increases especially when the majority could not be sufficiently engaged otherwise. Informal businesses such as the operation of motor bikes for commercial purpose (okada) also increased but respondents asserted that income from the source was not sustainable.

Year	No
1-10	18
11-20	35
21-30	19
31-40	14
41-50	14

Table 4: Fishing Experience
Source: Survey

The highest experience gathered in fishing in the study area was between 41-50 years and only 14 fishers fell within the group (table 4). This means that as the years rolled by, experience increases but the number of people acquiring such fishing experience depleted due to switching over from fishing. The implication of this characteristic is that low level experience could not maximally exploit the fisheries for maximum catch and sales. Therefore, poor investments, poor fishing techniques, poor fish production and poor income from fishing continued to haunt the sub-sector.

Status	Variable	%
Gender	Male	100
	Female	0
Fishing status	Active	100
	Not active	0
Status of active fishers	Full time	92
	Part time	8
Marital Status	Married	85
	Single	2
	Divorce/ Living together	13

Table 5: Sex Component of Respondents
Source: Survey

All the respondents were male fishers and active in their various activities (table 5). The selection of all male fishers was based on the fact that only males go to sea in the study area. The regular turbulence nature of the beach makes it difficult for women to participate in fishing (Plate 1). The table (5) also shows that 92% of the respondents operated on full time while only 8% engaged in other economic activities to support their fishing.



Figure 1: Data Collection in Front of the Violent Beach
Source: Survey

House hold size	%
1-5	39
6-10	51
11-15	9
>15	2

Table 6: House hold size
Source: Survey

Fishermen are noted to maintain large households but this study (table 6) shows that the respondents maintained relatively moderate households. 39% maintained household range of 1-5 and 51% between 6-10 members. Larger families impact on income thereby making only a small portion of it (income) available for investment in fishing. Education of fishers began to improve with the emergence of free primary education and the distribution of free books by the Lagos State government. Majority of the fishers were primary school drop outs. While 36 respondents indicated they attained secondary school education, 21 did not have any form of education (table 7). The effect of this characteristic is on the social and economic orientation of the fishers.

Education	%
Vocation	1
Tertiary	0
Secondary	36
Primary	42
None	21

Table 7: Education Levels Obtained by Respondents
Source: Survey

Constraint	outcome
Insufficient capital	67
Fish stock problem	6
Fish sales problem	1
Fish spoilage (No storage)	11
Pollution	0
Piracy	0
Intrusion by trawlers	11
Militancy	0
Communal clashes	1
Absence of landing jetty	3

Table 8: Other Constraints to Fishing
Source: Survey

Table 8 presents the summary of other variables specifically constraining fish production in the study location. Respondents' views corroborates Oriakhi (2011) that insufficient capital for acquiring engines (OBE), gears (nets) and crafts (canoes) was the major obstacle faced by fishers. An operator requires between =N=300,000 and =N=1,000,000 for OBE; between =N=100,000 and =N=600,000 for craft and between =N=100,000 and =N=800,000 for net, depending on fishery, to be able to perform effectively.

Insufficient capital for artisanal fishing stems from poor returns on investment (in fishing) due to the following problems in addition to those earlier highlighted: depleting stock, poor marketing strategy for fresh fish, poor or inconsistent fisheries polices and management. Savings from fishing operations are insufficient for investment due to high costs of inputs. Credit for fishing has become politicized as they never get to the desired target. Funds provided for the purpose end up in the hands of officials who are least concerned about fishing. Worst still are subsidies purportedly offered sometimes by government. These subsidized materials were often high jacked by politicians and distributed to political parties' loyalists. They were thereafter, either offered for sale or hired to fishers at exorbitant prices. Sometimes these materials were substandard and rejected and in such cases, they end up rotting away in the stores.

Fish spoilage caused by lack of storage facilities both at inshore and offshore results in huge losses to fishers especially during peak when fishers claimed they bury tones of spoilt sardines in the sandy beaches. This was further aggravated by limited capacities of the traditional smoking kilns.

The study area also suffers from cases of trawlers' incursions as indicated by 11% of respondents (table 8). Fishing nets were either destroyed or dragged away by errant fishing companies. However, respondents claimed that some reported cases were adequately handled by the Federal Department of Fisheries.

The study revealed that the area is still, to an extent safe from oil pollution, piracy, militancy and communal clashes. These may be due to the nearness of the study area to Lagos metropolis where security challenges were squarely tackled by all arms of security agencies present in Lagos State.

4. Conclusion and Recommendations

The numerous constraint enumerated in this study have constantly punctuated development in the artisanal fishing sector. They act individually or combine in a complex fashion to reduce fish production, income of fishers, standard of living of fishers and investment in fishing and consequently, result in the vicious circle of underdevelopment and poverty in the Nigerian artisanal fishing sector. To further worsen the situation, government has failed to provide the enabling environment for the artisanal fishers. Most of the research findings which provide positive solutions to the seemingly cumbersome problems facing artisanal fishers rot away in library shelves of research institutes and universities. Little wonder then, why the consistent use of rudimentary methods of operation in the artisanal fishery sector and its poor contribution to the national economy.

This survey should spur further studies on cataloguing and inventory of Nigeria's artisanal fishers, fishing communities, crafts and gears with their corresponding areas (waters) of operation.

It is hereby recommended that:

- Government should provide the enabling environment for artisanal fishing.
- Inventory of all fishers in the artisanal sector should be conducted for the purpose of direct targeting during policy implementation.
- Fisher folks should be encouraged to organize themselves into cooperative societies
- Credits and subsidies should "earnestly" be extended to fishers.

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