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Factors Contributing to Poverty among Artisanal Fisherfolk of in Ahoada West Local Government Area of Rivers State, Nigeria

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Abstract

This study investigated factors contributing to poverty among artisanal fisherfolk in Ahoada Local Government Area of Rivers State, Nigeria. By exploring the livelihoods of artisanal fisherfolk, this paper analyzed different aspects of poverty and identify factors that contribute to poverty in these communities. This descriptive study was guided by two research objectives and questions. The population of study consists of 520 members of 3 fisherfolks cooperative society in Rivers State, out of which 240 members was randomly sampled. The research instrument used for the study was a structured 24 item questionnaire designed on a modified 4-poin Liker scale format. The findings of the study reveal that lack of access to loan facilities, reduction in catch and socio-economic factors contributed to poverty

among fisherfolk in Rivers State. This study came to the conclusion that poverty is pervasive in coastal communities in Rivers State because the majority of fishermen who live and work there have daily challenges that exacerbate rather than reduce their economic condition. Based on this the paper recommended that in order to give fishermen access to loans and free themselves from the shackles of payday lenders, the government of Rivers State urgently needs to expand the establishment of microfinance banks to coastal communities. Additionally, fishermen need to be properly educated on the importance of maintaining clean waterways and the proper application of government regulations governing effluent discharge on water bodies.

Keywords: Poverty, Artisanal Fisherfolks, Coastal Communities, Behavioural Theory

Introduction

Artisanal fishing is the major source of income to many coastal community members in Rivers State. Most of the coastal village's residents rely on fishing and other aquatic lives as a source of money and food. Due to the large number of rivers, seas, and oceans in Rivers State, there are many fishing communities that rely on artisanal fishing as a source of income. The artisanal fisheries is the main source of income for the locals. Men and women both work in the fishing, shrimp farming, seafood processing, and marketing industries. The fundamental characteristics of artisanal fisheries, according to FAO (2014)^[12], include low operational costs, local technology, minimal capital investment, and demanding work conditions that cause poverty among artisanal fishermen. Fishing is an ancient human habit that involves hunting and gathering aquatic lives for subsistence and this holds special place in the economy of Rivers State because it serves as the primary and most economical source of food. Artisanal fishers in Rivers State include fishers, shrimpers, seafood gatherers, primary fish mongers/processors, fish wholesalers, retailers, fish gear, and craft dealers, are connected to the country's fisheries resources. Majority of the fish and seafood consumed worldwide and in other countries may be attributed to this group of people.

The artisanal, industrial, and aquaculture subsectors make up the three main segments of Nigeria's fishing industry, but artisanal fishing is the one that's most prevalent. According to George, Akinrotimi, and Nwokoma (2012), Nigerian artisanal fishing contributes to the socioeconomic growth of the nation's economy. This finding supports the Federal Department of Fisheries (FDF, 2016) report, which found that the fishing industry creates jobs for many people involved in the production, processing, and marketing of fish as well as serves as a source of income. In most coastal villages in several states in Nigeria, including Rivers State, this small-scale fishing sector continues to be the foundation of fish production. Residents of the coastal communities in Rivers State make their living through artisanal fishing. They rely on aquatic resources for a diet high in

protein, for work, and for income. They gather fish, shrimp, periwinkle, and other aquatic species with small motorized and non-powered canoes for food and for a living. Markets for artisanal fish in Rivers State have continually seen a total reduction over the past few decades in various sections of the State. The decline in catch has significantly impacted how fishing communities and fisherfolk are seen.

In Ahoada Local Government Area, artisanal fishing provides residents of coastal communities with both direct and indirect employment opportunities. The majority of the residents work directly engaged in the production, processing, and sale of capture fisheries; however, some are also indirectly engaged in production and supply of fishing equipment, such as dugout canoes, gear, sinkers, fish feed mills, fishing vessels, floats, and nets. Artisanal fishing in the coastal communities of the local government area is characterized by use of local and rudimentary fishing tools, the fisherfolks uses conventional techniques for catching, conserving, and distributing fish and other aquatic product. Since artisanal fisherman do not use labor from outside the household to capture fish, efforts to improve the welfare of their households call for strategies that take into account how households make decisions (Purwanti, 2010). This supports the finding in Tanzania Coast Management Partnership (TCMP, 2001) ^[26] that the fishing industry has been plagued by subpar and inefficient fishing gear and vessels, a lack of capital, poor fisheries management, limited access to better markets combined with subpar handling facilities, poor infrastructure, high post-harvest losses, as well as a lack of resources. The availability of artisanal fish in Nigerian markets has steadily decreased over the past few decades in Rivers State. The drop-in catch has significantly impacted fishing communities and, in fact, the fishermen themselves, are perceived as among the lowest of the poor. The researcher was inspired to conduct this investigation by the high frequency of poverty in fishing communities.

Statement of the Problem

Practically in every fishing community in Ahoada West Local Government Area of Rivers State, poverty is evident. It is evident even during the bountiful harvest season, when it is anticipated that they will at least escape poverty because it is fishing's busiest time of year. Due to their level of poverty, some fishermen in fishing communities in the State have been observed to be unable to provide for the basic needs of their family members or educate their children beyond the basic primary or secondary level. The majority of fishermen work are artisanal fishers who uses local equipment and motorized boat for fishing. Most women work as fish processors and petty traders, some of the men are frequently crew members and don't own their own boats or equipment. Youths and children also engage in similar livelihood activities using local paddled canoes or motorized canoes, which are typically rented or purchased. The people who live in this riverine communities in Ahoada Local Government Area, who engage in fishing as means of livelihood are nonetheless impoverished; poverty surrounds their communities, and there is no obvious development. This is true even if they fish every day. The situation that fishermen in this part of Rivers State's coastal communities find themselves in, inspired the researcher to look at the variables that lead to their poverty.

Purpose and Objectives of the Study

The purpose of this study is to examine factors which contribute to poverty among fisherfolk of coastal communities in Rivers State. In other to achieve this purpose, the following objectives guided the study:

1. To examine the extent to which lack of access to loan facilities contributed to poverty among fisherfolk in Rivers State.
2. To examine the extent to which pollution of rivers contributed to poverty among fisherfolks in Rivers State.

Research Questions

1. To what extent has lack of access to loan facilities contributed to poverty among fisherfolk in Rivers State.
2. To what extent has Pollution Rivers contributed to poverty among fisherfolks in Rivers State?

Conceptual Review

This study is anchored on Behavioural Theory of Poverty. According to this theory, the poor and peasants in emerging nations over-exploit their surroundings out of pure necessity, which worsens their poverty position. The same is true for fishermen in Rivers State who entirely depend on aquatic resources for their livelihood and as a result over-exploit aquatic resources in a hostile manner to the environment. This has perhaps led to their low catch right now and the rise in poverty among fishermen's families. According to behaviorists, risk-taking or counterproductive behavior is the main factor directly contributing to poverty (AEI-Brookings 2015) ^[3]. This is why the poor are poor, according to Durlauf (2011) ^[8]. How some people spend their lives trapped in poverty and social dysfunction can be explained in part by behavioral poverty. The attitudes, values, and beliefs that support entitlement thinking, the denial of personal accountability, and the disregard for conventional social advancement methods are all examples of behavioral poverty. High levels of self-indulgence, poor self-control, taking advantage of others, and little drive and work are its defining traits. It can be linked to a variety of antisocial, immoral, and reckless behaviors, such as drug misuse, excessive gambling, financial difficulties, bad lifestyle choices, and criminality. The prevalence of these behaviors must be decreased, nevertheless, in order to lessen poverty (AEI-Brookings, 2015) ^[3]. The relevance of this theory to this study is that the behavioral lifestyles of fisherfolks, who typically are rooted in the culture of fishing as the only means of livelihood that they can fit in, lack basic education, and revolve around the same demographic characteristics as such large family size, contribute to their poverty status. They seldom ever practice sustainable fishing practices. All of these contribute to low fishing catch rates and low revenue levels, which result in a cycle of poverty for fishermen in Rivers State.

Concept of Poverty

Lack of needs is poverty in the broadest sense. Commonly held beliefs in human dignity lead people to believe that basic necessities like food, shelter, health care, and safety are essential. What is necessary to one individual may not always be necessary to another. living unable to obtain or supply a standard level of food, water, shelter, or

appropriate housing is the condition of living in poverty. According to the World Bank, poverty is defined as not being able to achieve "basic needs" and prerequisites for a meaningful life (Olatomide, 2012) ^[23]. Both structural (chronic) and cyclical poverty exist. When socio-economic deprivations are ongoing or permanent, they are considered structural poverty. This type of poverty is linked to a variety of variables, including a lack of productive resources, a lack of job-ready skills, ingrained socio-political and cultural norms, and gender. While it is transitory/temporary and connected to natural and man-made calamities, it is transient. Although temporary poverty is more reversible, if it persists, it may turn structural. Lack of access to necessities or goods is basically an economic or consumption-oriented problem. It establishes who is and is not poor by using consumption-based categories to define who is and is not poor and to define poverty in material terms. The poor are thus defined as those people or families in a given community who are unable to afford a given basket of essential goods and services. Basic necessities include food, clothing, housing, water, healthcare, access to productive resources including education, employment opportunities, and tools, as well as political and civil rights to vote on issues affecting socioeconomic situations. (Streeten and Burki in Olatomide, 2012) ^[23]. The traditional theory of poverty holds that it results from having insufficient money to pay for necessities like food and shelter. Others think that factors like health, life expectancy, education, and child mortality, among others, play a role in poverty.

In his reasoning, Adeyeye (2017) ^[2] argued that poverty might also result from the ineffective utilization of communal resources. This could be brought on by unfavorable governmental conditions, poor infrastructure, limited access to technology, credit, etc. Additionally, it might be the result of specific groups employing built-in mechanisms to bar "problem groups" from participating in democratic and economic progress. Poverty impacts various facets of human conditions, including physical, moral, and psychological ones, making it difficult to come up with a succinct definition that is accepted by all. As a result, different criteria have been employed to conceptualize poverty. In Adeyemo and Alayande (2001) ^[1], Lypton and Ravallion explained that poverty occurs when one or more people fall short of the standard of economic welfare that is considered to be a fair minimum, either in an absolute sense or by the standards of a particular culture. In light of this, Ewetan (2005) stressed that poverty may be persistent, organized, or speculative.

According to Ewetan (2005), structural or chronic poverty is long-lasting or pervasive, that it causes are more enduring, and it depends on a variety of factors, including a lack of productive resources, a lack of skill for gainful employment, geographic disadvantage, or endemic socio-political and cultural factors. Conversely, conjectural or transitory poverty is short-term or temporary, that it causes are more transitory and possibly more reversible. Natural disasters like drought, floods, earthquakes, and others cause it to happen. Oluwakemi (2012) ^[24] defined the poor as having an economic component that is centered on the nature and severity of the material afflictions that separate them from those who are not poor. In this instance, the non-poor are those who are at the top of the economic ladder and are not suffering from material deprivation, whereas the poor are

those who are at the bottom of the ladder. Not having enough money to pay for food and a decent place to live is a big sign of poverty. According to Ellwood and Jencks (2001) ^[9], water, food, shelter, clothing, and warmth are essential for human life, when a person's income is insufficient to cover their basic requirements, they must live in subpar housing, or they are homeless, they are deemed poor or living in poverty.

Poverty and fisherfolk

In accordance with Tawari (2002) ^[27], "fisher folk" are individuals who fish specifically for a living and occasionally relocate in search of fish. This depends on the type of fish required, the direction of the tide, and the time of year. The main activity of "fishers" is fishing; "boat and gear owners" are fishermen who rent out their boats and fishing equipment to other fishermen; "sellers/vendors" are primarily involved in selling the caught fish; meanwhile, "helpers" are involved in processing the fish by scraping off its scales, salting, drying, curing, and otherwise preparing it for sales by the fish "sellers/vendors." In Rivers State, where the bulk of coastal communities are shanty towns with few to no social facilities, it is obvious that poor fishermen live there. Artisanal fisherman, who make up the majority of the industry, employ common tools such nets, boats (powered and unpowered), and traps. Poverty among fishermen at the local level of the community cannot be fully understood in terms of monetary revenue. There are three different sorts of poverty criterion for fishermen, according to Andy, Neil, and Edward's (2007) ^[7] research. Poverty is brought on by a combination of social, economic, and behavioural factors. The predicament of fishing communities was brought up by Rabi-ul-Awwa (2006) ^[25], who noted that many of them were living in utter filth. He claimed that the steep drop in fish species and catch, along with the rising unemployment rate, were to blame for how challenging life had become for fisherman. He learned that a significant number of fishermen had lost their jobs as a result of the usage of trawlers and small nets in coastal areas.

Fishermen's poverty may be influenced by their living conditions as well as the activities they engage in while fishing. Many fishermen rely on rented or borrowed equipment to improve their fishing because they are short on funds. Others, who lack the funds to outfit their canoes with motorised boat motors, are indebted fishermen who work for intermediaries and loan lenders. The majority of fishermen rent a boat and a motor because they lack the funds to purchase their fishing gear. At the expense of the fisherman, who are the owners of the boats and motors, those who buy the fish determine the purchase price. They also lend money to the fishermen, who often also own the boats, and sell the catch right away to the lenders. Fish trading hubs that were supposed to be fish auction locations are now vacant as a result. This strategy has advantages and disadvantages. Fishermen may readily obtain the urgent loans they want because financing is informal and based on trust, which is a positive. The problem is that fisherman hardly ever comprehend the true value of their catches. They comply with the boat owners' directives and take the pay that is offered. The majority of fisherman are in poverty as a result of this issue. Janson (2007) ^[15] got to the conclusion that only intermediaries and boat owners can get wealthy and that fishermen will never be able to lead dignified lifestyles. People who toil in the heat outside will always be

underprivileged. The majority of the community's fishermen continue to live in substandard conditions in simple huts by the water that are devoid of modern conveniences, as Payne (2000) emphasised that poor schooling frequently stems from a lifestyle characterised by poverty in an environment with little financial support. This is consistent with Ahmed's (2013) [4] finding that fishermen reside in mud homes with thatched roofs devoid of radios or televisions. In a similar vein, Oladimeji, Abdulsalam, Damisa, and Omokore (2014) [21] found that institutional factors, household head living conditions, and socio-economic features of fisherfolks are among the factors determining the poverty of rural fisheries households. These seafaring peasants are not very monetarily rich. Due to a lack of suitable fishing equipment, such as fishing gear, outboard engines, and watercraft, the artisanal fisheries in the study area heavily rely on the use of non-motorized canoes, which occasionally leads to overfishing and the harvest of juvenile fish, which lowers fish capture levels.

Methodology

The study adopted descriptive survey design. This design

was chosen for this study because data was collected from a large sample drawn from the population of the study and the collected data was interpreted as they were collected not manipulated. The population for this study consists of 520 members fisher's cooperative society in Ahoada West, Local Government Area of Rivers State. The sample of this study comprised of 240 members randomly selected from the fisher's cooperative society in the area of study. The research instruments used for data collection was a validated 24-items questionnaire with a reliability index of 0.74% titled "Poverty among Artisanal Fisherfolk Questionnaire (PAAFQ)". The instrument was structured on a yes or no response scale. Data was collected by the researcher and out of the 240 copies of questionnaire administered, 218 was recovered as correctly filled and was used for data analysis. The data analysis was carried out by the use of descriptive statistics.

Result

Research Question 1: To what extent has lack of access to loan facilities contributed to poverty among fisherfolk t in Rivers State?

Table 1: Analysis of Extent to Which Lack of Access to Loan Facilities Contributed to Poverty among Fisherfolk

S. No	Statements	Members of FCBOs N=218			
		Yes	%	No	%
1	You can use the bank credit facilities.	50	22.9	168	77.1
2	Your fishing community is nearby a microfinance bank.	59	27.1	159	72.9
3	Lack of a collateral asset, such as land, prevents local fishermen from obtaining loans from banks.	189	86.7	29	13.3
4	You rely on money lender for a lending facility.	205	94.0	13	6.0
5	When you apply for a loan from the lenders, they take advantage of you.	132	60.6	86	39.4
6	Between fishermen and money lenders, there are unequal loan agreements.	146	67.0	72	33.0
7	For the purpose of the fishing season, the loan you obtain from moneylenders is regarded as an advance payment or loan.	139	63.8	79	36.2
8	The loan provider sets the daily price at which your catch will be purchased.	57	26.1	161	73.9
9	Banks are located close to your fishing community	30	13.8	188	86.2
10	You save your money in the nearest bank to enable you to access loan from the bank	69	31.7	149	68.3
11	You have registered cooperative society that you access government loan through	89	40.8	129	59.2
12	You have financial security because of your ability to access government loan facility.	29	13.3	189	86.7

Table 1 reveals that the absence of collateral assets, such as land, keeps local fishermen from being able to apply for bank loans, meaning that fishermen in the study area do not have access to bank credit facilities. Due to this, they were forced to rely on moneylenders for a lending facility. These moneylenders exploited them, and the loans they received from them are typically considered an advance payment for

the duration of the loans. The fishermen and their fishing towns remained impoverished as a result of this cyclical financial bondage.

Research Question 2: To what extent has pollution of rivers contributed to poverty among fisherfolks in Rivers State.

Table 2: Analysis of Extent to which Pollution Rivers Contributed to Poverty among Fisherfolk

S. No	Statements	Members of FCBOs N=218			
		Yes	%	No	%
13	The quantity of fish and aquatic animals caught has decreased due to pollution from the company's untreated effluent	192	88.1	26	11.9
14	The fish and fisheries catch in your area are being impacted by the rise in water level and rise in coastal water temperature	203	93.1	15	6.9
15	Annual flooding causes fish migration and this affect fish and fishery catch in your locality	159	72.9	59	27.1
16	The environment of fisheries has been altered by human activities such as the addition of physical structures like artificial reefs, oil rigs, and aquatic installations, which has decreased fisheries catch.	208	95.4	10	4.6
17	The destruction of aquatic life by plastic garbage indiscriminately disposed by man and transported through flood plains into coastal waters, degrade river and lowers fisheries catch.	205	94.0	13	6.0
18	The destructive tendency of chemical such as dichlorodiphenyltrichloroethane (DDT), carbide, dynamite and light used by some fishermen for fishing has contributed to the decline of fisheries and induced poverty among the fisherfolks	154	70.6	64	29.4
19	Fisherfolk in coastal communities rely on fishing as their main source of income, but ongoing oil pollution in rivers has caused a decline in fish reproduction, the death or extinction of some fish	134	61.5	84	38.5

	species, and an accumulation of low income among fisherfolk.				
20	Plastic contamination in the water bodies has impacted fish reproduction and catch, which has increased poverty among fishermen's communities.	161	73.9	57	26.1
21	There are large garbage products discharged into the sea that can easily capsize engine boats if they strike such deep waters, discouraging fishermen from traveling far to regions with abundance of fish to catch.	201	92.2	17	7.8
22	Unconscious human contamination of water bodies has led to a decline in native species and a rise of invasive fish species that are not surplus, which has resulted to poverty among fishermen.	168	77.1	50	22.9
22	Fishes are dying in numbers daily due to toxic, plastic, metals and debris deposited as waste into the rivers as waste by humans	176	80.7	42	19.3
23	Fisherfolks occasionally encountered accident due to wreckages in the rivers and such accident usually lead to loss of catch	190	87.2	28	12.8
24	The use of motorized boat in fishing in your area, limit the fisher from going deep into the sea for abundance catch and thus low income per capital income	200	91.7	18	8.3

Table 2 shows how company's untreated effluent pollution, rising sea levels and temperatures along the coast, human-induced habitat alteration (such as the addition of artificial reefs, oil rigs, and aquatic installations), the destruction of aquatic life by plastic waste that is carelessly disposed of by humans and finds its way into coastal waters through flood plains, and the harmful effects of chemicals like DDT, carbide, dynamite, and light that some fishermen use to fish have all contributed to a sharp decline in fish catch. The table also demonstrates how the state's regular floods contributes to fish migration and lowers daily catch rates for fishermen. Wreckages in the rivers can pose a threat to fishermen who troll far into the ocean in pursuit of fish, often resulting in accidents, lost catch, or even fatalities.

Discussions of Findings

The findings show that the dearth of loan facilities among fishermen in Rivers State is a contributing factor to their poverty. Because there are no government microfinance banks in the majority of their area, the fishermen confirm that they do not use the bank's credit facilities. Even government-owned banks rely on moneylenders for loan facilities since they lack collateral assets. They are then exploited by the moneylenders, who fix the daily price at which your catch will be bought and use the money they borrowed as advance payment for their daily catch. The financial situation in which fishermen find themselves makes them even poorer and feeds the vicious cycle of poverty that exists among them. Oladimeji (2015)^[20] said that since most fisherman complained about bureaucratic red tape, exorbitant interest rates associated with the former, and ridiculous fees associated with the latter, commercial banks and money lenders declined to provide loans. Similarly, Oladimeji, Abdulsalam, and Damisa (2013)^[19] claimed that, even accounting for the particularities of small-scale fisheries, the absence of a credit programme or nearly nonexistent fishing credit for fishermen is detrimental to capital-intensive expansion. This bolsters the argument made by Olaoye, Idowu, Omoyinmi, Akintayo, Odebiyi, and Fashina (2012)^[22] that artisanal fishermen are largely dependent on savings, family, and friends and are not eligible for formal lending. Since most fishermen were artisanal and lacked the funds to purchase modern fishing equipment for their operations, the lack of credit or its insufficiency was most likely to have a detrimental effect on fishing operations. The families of the fisherman may not have been able to improve their standard of living or escape poverty as a result of this. The majority of artisanal fishing in River State is done for subsistence, which has stunted the industry's growth and perpetuated poverty. Additionally,

because they lack access to state-of-the-art equipment and technology, their ability to catch fish effectively is hampered, making it difficult for them to make larger financial investments in their livelihoods.

According to the report, the primary causes of water body pollution in the study area are oil spills, plastic pollution, heavy waste objects, human careless residential trash disposal, and effluent discharge from multinational corporations operating in Rivers State. Fish populations in the area have experienced a decrease in daily catch rates due to contamination of the water bodies, which has impacted fish reproductive patterns. The daily catch of fish has been steadily declining, which has left many fishermen in debt and made their situation even worse. Malik, Sharma, Thakur, and Sharma (2020)^[18] have reported that fish may experience morphological and metabolic injury due to elevated concentrations of suspended water contaminants. Additionally, they discovered that contaminants in aquatic environments, such as metals and toxic waste, can negatively impact fish species' physiologies and interfere with migratory, embryonic development, and other regular behaviours of fish populations. Fish species may ingest these floating items, exposing them to pathogens or possible toxins on the sediment and potentially leading to illness. If the fish species are not killed by consuming the suspended particles, their blood composition may alter and their growth potential may be compromised (EPA, 2012)^[10]. Similarly, Khoshnood (2017)^[17] pointed out that the most susceptible life stages that are adversely affected by pesticide and heavy metal pollution exposure include fish fry, larvae, yearlings, and fingerlings. The physiology, rate of survival, osmoregulation, buoyancy, reproductive processes, etc. of key organs like the kidney, liver, and gills may be altered by pesticides and heavy metal pollution, which may lead to failures in stock conscription and population shifts.

In the study area, it was found that Rivers State fishermen's poverty was partly caused by a decrease in catch. Numerous factors, including pollution from the company's discharge, rising temperatures along the coast due to climate change, yearly flooding, ongoing human-caused degradation of water bodies (including the addition of physical structures like artificial reefs, oil rigs, and aquatic installations), the disposal of plastic waste on coastal water, and the use of chemicals by fishermen, were blamed for the decrease in catch. Jamabo and Ibim (2010)^[14] state that the Niger Delta's fresh, brackish, and marine environments are degrading due to a variety of environmental factors, including oil contamination. This is consistent with Ajana's (2003)^[5] finding that overexploitation and environmental factors are the main causes of the low levels of fisheries

production, especially in the Niger Delta, and that the country's artisanal and industrial subsectors' unprofitable exploitation of aquatic resources. Because of coral bleaching, pollution, and habitat deterioration, environmental degradation has an impact on fish populations and changes fishing patterns. To bolster this, Ajana (2003)^[5] pointed out that artisanal fisherman capture fewer fish and have fewer opportunities to earn money as a result of environmental degradation. Large African thread fins (*Galeoides decadactylus*), good-sized croakers (*Scianidae* spp.), and red snapper (*Lutjanidae* spp.) have virtually disappeared from our seas, leaving behind youngsters in the catches. The primary culprits include the detrimental effects of oil contamination from petroleum activities across the Niger Delta marshes, indiscriminate fishing, and the deterioration of nesting habitats. By reducing fish stocks, overfishing and irresponsible fishing techniques restrict fishermen's economic potential. Because of this, there is less catch, which makes it difficult for artisanal fisherman to make a living. In a similar spirit, Akankali and Jamabo (2011)^[6] claimed that overexploitation brought on by uncontrolled practises and unfavourable environmental conditions, rather than a lack of people and technology, is mostly to blame for the artisanal fisheries' consistently poor output levels. Oladimeji, Abdulsalam, Damisab, and Omokore (2014)^[21] provided evidence to support this claim, stating that the use of destructive fishing techniques and antiquated fishing gear frequently lead to overexploitation of near-river reef fisheries. Fish catch levels may decline as a result of overfishing and the harvesting of juvenile fish. If this keeps happening, fishermen's income level would keep going down and poverty will spread.

According to the report, the primary causes of water body pollution in the study area are oil spills, plastic pollution, heavy waste objects, human careless residential trash disposal, and effluent discharge from multinational corporations operating in Rivers State. Fish populations in the area have experienced a decrease in daily catch rates due to contamination of the water bodies, which has impacted fish reproductive patterns. The daily catch of fish has been steadily declining, which has left many fishermen in debt and made their situation even worse. Malik, Sharma, Thakur, and Sharma (2020)^[18] have reported that fish may experience morphological and metabolic injury due to elevated concentrations of suspended water contaminants. Additionally, they discovered that contaminants in aquatic environments, such as metals and toxic waste, can negatively impact fish species' physiologies and interfere with migratory, embryonic development, and other regular behaviours of fish populations. Fish species may ingest these floating items, exposing them to pathogens or possible toxins on the sediment and potentially leading to illness. If the fish species are not killed by consuming the suspended particles, their blood composition may alter and their growth potential may be compromised (EPA, 2012)^[10]. Similarly, Khoshnood (2017)^[17] pointed out that the most susceptible life stages that are adversely affected by pesticide and heavy metal pollution exposure include fish fry, larvae, yearlings, and fingerlings. The physiology, rate of survival, osmoregulation, buoyancy, reproductive processes, etc. of key organs like the kidney, liver, and gills may be altered by pesticides and heavy metal pollution, which may lead to failures in stock conscription and population shifts.

Conclusion

In Rivers State, poverty is pervasive in coastal towns, majority of the fishermen who live and work in the coastal communities' deal with circumstances every day that serve to exacerbate rather than lessen their poverty. Fishermen in the study area are classified as being in poverty due to a number of reasons, including limited access to government-owned microfinance banks, low catch rates brought on by environmental factors like pollution, and socioeconomic issues like their high debt to payday lenders, to whom they mortgage their daily catch as security for loan repayment. They are trapped in a poverty cycle by the variables that have been identified.

Recommendations

In light of the findings, the researcher recommended that:

1. Government of Rivers State should immediately expand the establishment of microfinance banks to coastal communities in order to provide fishermen with access to loans and help them escape the enslavement of payday lenders.
2. Fisherfolk should be properly educated about the need of maintaining clean waterways, and the government regulations governing the discharge of effluent onto water bodies should be properly implemented.

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