

Socio-economic implications of oil exploitation in the coastal area of Ondo State, Nigeria

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Abstract: - Global and national records have shown that petroleum stands out as the mainstay of the Nigerian economy over the decades. This resource has significantly improve the national income of the nation and relatively provide gainful employments for significant citizenries. However, the continuous crude oil exploration and exploitation activities continues to gain global attention. This is as a result of the incessant environmental degradation, which have directly and indirectly tampered with the means of livelihood. In view of this, the study socio-economic implications of oil exploitation in Ilaje local government area of Ondo State, Nigeria. unimaginably impacted on the growth, development, civilisation and sustainability of the Nigeria's spatial development than any other natural resources recorded in the past decades. However, the impacts recorded over the decades do not translate to sustainable land utilisations, management and development in the coastal areas of Nigeria, where oil exploitation processes have resulted into intense environmental degradation, ecological devastation and the diverse physical planning distortion in Ilaje Local government area. The paper adopted direct observation, questionnaire administration and oral interview respectively in the quest to obtain the needed data. The paper identified distortions in land uses, land degradation, increased poverty and difficulty in land use planning. The paper therefore as a result of the effects of oil exploitation, advocated for land appropriation in the coastal area, use of bioremediation approach, and empowering interviewing organisation towards revamping the deplorable ecological landscape of the area. Keywords: Physical Planning, Oil Exploitation, Degradation, Poverty. The continuous degradation of environmental ecosystems (land, water and soil) resulting from crude oil exploration and exploitation activities continues to gain global attention. This study investigates the effects of crude oil exploration and exploitation activities on soil, water and air in the study area.

Keywords: Oil Exploitation, Land Use Planning, Coastal Communities, Bioremediation, Physical Planning, Poverty Dynamics.



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1.0. Introduction

Nigeria, a member of the Organization of Petroleum Exporting Countries (OPEC) since 1971, continues to have the continent's greatest natural gas reserves, second-largest oil reserves, and top oil producer (Adati, 2012). Since the 1970s, Nigeria's socio-economic and political fortune have been intricately linked with oil explorations and exploitations, with petroleum oil providing about 95 percent of export earnings, accounting for over 80 percent of government budgetary revenue that all tiers of government heavily depend on, and generating over 40 percent of the gross domestic product (Sajini, 2013, Olubayo, 2012)

More than any other natural resource in recorded history, crude oil, which stands out as the foundation of the Nigerian economy, has had a significant impact on Nigeria's growth, development, and civilisation. In defining the politics and diplomacy of states, oil has also grown to be a crucial deciding factor (Legborsi, 2007). This is supported by the fact that Ondo State joined the Niger Delta oil-producing states of Nigeria as a result of the oil discovery in Ilaje Local Government. Like other coastal locations, Ondo State's coastal environment is a rich and valuable ecosystem and structure that constantly adapts to human demand, dynamic man-made processes, and other natural processes (Irikana, 2011). The substantial mineral resources that the coastal region is endowed with have significantly increased national wealth and brought about accompanying socio-economic benefits (Aigbedion and Iyayi, 2007). Due to oil exploration procedures, man's reliance on oil ultimately results in environmental threats and damages. area;

Over the years, extensive oil extraction has had a terrible influence on the socio-physical environment of the oil-producing communities, severely endangering the ecology, the peasant economy, and ultimately the people's entire way of life (Eteng, 1997). According to Akinbamijo (2008), excessive oil extraction could result in a rise in sea levels, a warming of the temperature overall, changes to regional food production, new demands on ecological systems, and new threats to public health.

Resource development, like oil exploitation, is aimed at improving and developing human resources and other natural resources that will subsequently create employment opportunities, improve productivity, enhance income, and improve welfare services, especially for the rural population. But unfortunately, today, the exploitation of this resource is leaving behind a trail of the most unfortunate circumstances that is speaking doom for the oil-bearing communities. Of great concern is the destruction of the natural ecosystem and their means of livelihood.

The ailing environmental condition of the study area is connected to the various oil exploitation activities that are taking place in the area. This condition has consequently suppressed the potential and resources for traditional livelihoods capable to sustaining the population of the area. Oil exploitation in the area is also responsible for the deplorable state of biodiversity in the area, poverty aggravation, loss of means of livelihood and distortion in the economic base of the people. This has developed several pockets of conflicts between industry players and resources bearing communities requesting for certain social infrastructure, environmental remediation, human resources development and other compensations.

In the process of exploiting oil in the past five decades, ecological devastation, on one hand, and neglect arising from crude oil production, on the other hand, have left much of the oil-bearing communities uninhabitable and poorly associated with intense environmental degradation. The fact is incontrovertible that the environment of the Niger Delta has been intensely polluted with tragic consequences for the economy of the people and the totality of the quality of life. (Abosede, 2010).

The aforementioned suggests that oil extraction has major effects and thus poses a serious threat to the socioeconomic well-being of the local populations where such activities are taking place. This study's focus is on evaluating these effects in Ondo State at Ilaje local government, with a focus on socioeconomic factors.

1.1 Aim and Objectives

1.1.1 Aim

Examining the effects of oil exploitation on the socio-economic livelihood in the Ilaje Local Government

Area is the study's goal with the intention of recommending a policy framework as a remedy for the issues found.

1.1.2 Objectives

The specific objectives of the research are to:

ii. identify the socio-economic livelihoods of people in the study

ii examine the scale of the impact of oil exploitation on the livelihood of the study area

1.2 Research hypotheses

The hypotheses postulated in this study are presented in form of null hypotheses so that it could give room for statistical application with a view to rejecting if found to be false. For the purpose of the verification of some of these assumptions, six hypotheses were hereby postulated and tested:

i H_{01} : There is no significant relationship between oil exploitation and the socio-economic lives of the people in the study area;

ii H_{02} : There is no significant relationship between oil exploitation and income of the people in the study area

1.3 Justification for the Research

The research will provide further background information about oil exploitation in the coastal area of Ondo State. Oil being found in the area has attracted both national and international attention as a result of the huge revenue its development has given to the Nigerian nation. It is also true that oil exploitation has caused a lot of harm in the study area, such as deterioration of the natural resources — water, land, and vegetation.

A study of this nature is necessary in the sense that it could provide insight into the extent of the menace caused by oil exploitation in the study area. One important thing is that petroleum and other resources will sometime in future cease to flow and exist but the people will continue to inhabit those areas and would require the economy that could be sustained. In view of this, it becomes

pertinent to put in place planning mechanisms and management strategies that will sustainably handle the affairs of the area before it is too late. This study is relevant at a time like this when most of the measures adopted so far do not seem to yield the required results and oil exploitation in the area is increasing on daily basis, hence the physical planning strategies towards ameliorating the ailing area.

1.4 Scope of the Study

The spatial scope of the research is Ilaje local government area of Ondo State. The study covered the level of development of oil exploitation and the implications on the socio-economic lives of the residents in the area. Planning implications of these exploitation activities towards the development of the region were also analyzed with a view to putting planning strategies towards

curtailing attendant problems and the actualization of sustainable development goals in the area.

1.4.1 The Study Area

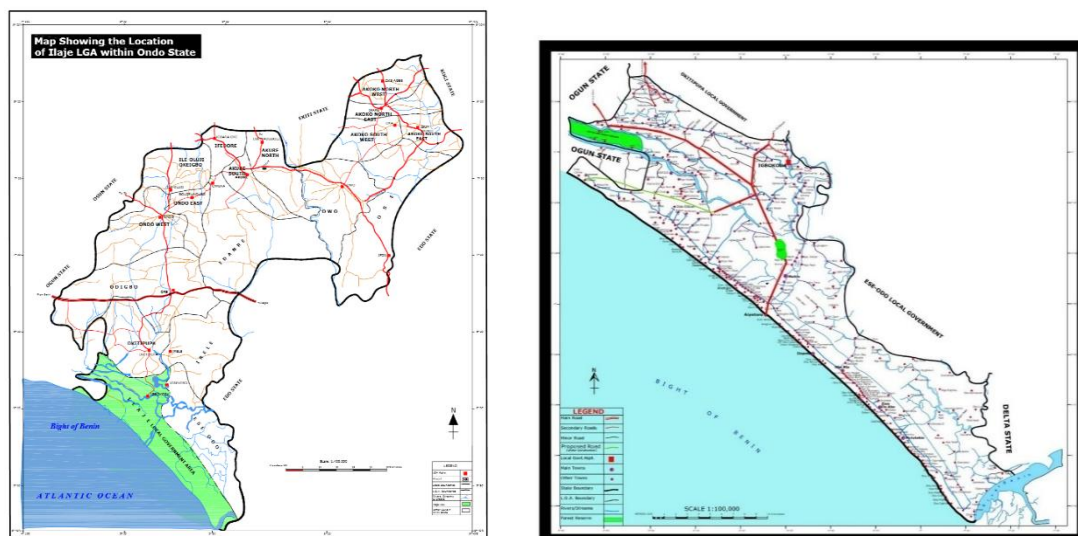
The study area is in the extreme southern part of Ondo State as shown in figure 2. This is the Niger Delta Area and the oil producing region of Ondo State. It is bounded in the west by Ogun State, in the north by Okitipupa and Ese-Odo Local Government Council Areas, in the south-east by Delta State and the Atlantic Ocean. An expansive coastline, 180km-long is its southern boundary, thus making Ondo State the state with the longest coastline in Nigeria (Atiyaye 1993). The region extends from longitude 4°28' E to longitude 5°E and from latitude 5° to 45' N to latitude 6° 25'N.

Figure 1: Map of Nigeria Showing the Study Area in its National Setting



Source: Wikipedia 2012

Figure 2: Map of Ondo State Showing Ilaje Local Government Area (the Study Area)



Source: Ondo State Oil Producing Area Development Commission (2013)

2.0 Literature review and conceptual framework

Income/Revenue Generation from Crude Oil

The Niger Delta contains rich oil reserves and its exploitation sustains the Nigeria economy. For instance, it is on record that from a modest 166.6 million Naira in 1970, oil revenue rose to 12,353.3 million Naira in 1980, to 71,887.1 Million Naira in 1990 and to 1,591,675.8 Million Naira in 2000 out of the total federally collected revenue of 1,906,159.7 Million Naira that same year (Central Bank Nigeria, 2000). With the revenue from oil, an unprecedented expansion of the economy, particularly in terms of infrastructure development and employment generation has been set in Motion. But it has also brought in its wake the fiscal centralization of the Federal Government's finances as it collects all revenue, retains the larger part determines the constituents units of the Federation, the Niger Delta inclusive, get as their share from the federation account (Soremekun and Obi 1993). In 2008, oil reserve surged under record high prices, supporting exceptionally large allocation to budgets (18.2% of GDP) and an accumulation to the ECA (3.4% of GDP).

2.1 Oil Exploitation and Socio-Economic Life of the People

Matthew (2004) argued that the various harmful and toxic organic compounds when introduced into the natural environment during oil extraction such as seismic work, oil spill, gas flares and several other forms of pollution, charges the geo-chemical composition of the soil, river and other components of the environment. This in turn affects agriculture and leads to drastic decline in output on both fishing and farming activities. This experience has ultimately affected peasant agriculture in a variety of ways, which have caused problems of environmental refugees. The peasants are very reactive to these changes because of the unavailability of modern farming and fishing techniques to meet the challenges of a declining soil and marine resources. The drastic fall in output of agriculture production leads to intensive exploitation of other fertile land. The long run effect of this land degradation and migration of peasant farmers to other rural and urban areas, where pressure is exerted are often associated with inadequate and dilapidated infrastructure, leading to increased poverty. This case is the situation that exists in the study area. The submission of Abosede (2009) accords the presentation of Matthew (2004) by saying that the oil producing areas of Ondo State were once living in a peaceful coastal belt of Nigeria with satisfying fishing business and inter-trade with their neighbours.

A significant feature of the socio-economic life of the Niger Delta people is environmental degradation and is largely the outcome of pollution and unsustainable exploitation of natural resources. According to Ibaba (2010) the unsustainable exploitation of the environment in the Niger Delta is blamed on the inability or failure of the environmental laws to correctly acts in attitude and beliefs, which impacted negatively on the environment. Abii and Nwosu (2009) studied the effect of oil spillage on the soil of Eleme in Rivers State of Nigeria on two sides (Ogale and Agbonchia) while another area (Aletto) served as the controlled. The results indicated that oil spillage adversely affected the nutrient level and fertility status of the Eleme soil. Idodo-Umeh and Ogbeibu (2010) investigated the values of Total

Petroleum Hydrocarbon (TPH) and heavy metals in soils, plantain fruits and cassava tubes harvested from farm impacted with petroleum and non-petroleum activities in Delta State, Nigeria. The results revealed that the values of heavy metals were higher in cassava tubers, epicap and mesocap of plantation fruits harvested from petroleum impacted soils. Ojimba (2011) evaluated the socio-economic variables associated with poverty in crude oil polluted crops farms in Rivers State.

However, the era of oil exploitation in the area has brought with it dysfunctional change that ramify in the oil producing community. There is no doubt that the Nigerian oil industry has affected the country in a variety of ways at the same time. On one hand, it has fashioned a remarkable economic landscape for the country. However, on the negative side, petroleum exploration and production also have adverse effects on fishing and farming which are traditional means of livelihood of the people of the oil producing community in the Niger Delta area, Nigeria (Abosede, 2009; Worgu, 2000; Matthew, 2004).

In the process of extracting oil in the past five decades, ecological devastation, on the one hand, and neglect arising from crude oil production, on the other hand, has left much of the Niger Delta desolate, uninhabitable, and poor. One fundamental problem that faces the oil producing areas today is the degradation of its environment. The fact is incontrovertible that the environment of the Niger Delta has been intensely polluted with tragic consequence for the economy of the people and the totality of the quantity of life (Babatunde, 2010).

Worgu, (2000) averse that, if the oil industries are considered in view of its enormous contribution to foreign exchange earnings, it has achieved a remarkable success. On the other scale, when considered in respect of its negative impact on the socio-economic life and the environment of the immediate oil bearing local communities and its inhabitants, it has left a balance sheet of ecological and socio-physical disaster.

2.2 Oil Exploitation and Communities Displacements

It is obvious but sad that several oil bearing communities are no longer in their original State of settlement in the study area and in many Niger Delta States as a result of the multiple extractive activities taking place. This was noticed by Matthew (2004) and he said that the out migration of displaced rural farmers in Isoko land and other Niger Delta oil bearing communities as a result of environmental degradation caused by oil extraction in the region has led to a significant percentage of the local inhabitants to remain in cyclical poverty and penury.

2.3 Oil Exploration and Environmental Degradation

The exploration and exploitation of crude oil in the Niger-Delta has resulted to a number of environmental problems for the region. These environmental problems related to oil operations in the region are examined in this section. Since 1956 when the first oil well was drilled at Oloibiri in the present Bayelsa State over 1,481 oil wells have sprang up, producing from about 159 oil fields. There are more than 7,000 kilometres of pipelines and flow lines and 275 flow stations operated by more than 13 oil companies (UNDP Report, 2006).

The productive and environmental impacts of the number of operators are at increase every day in the region. The percentage of

the land of the region occupied by the oil industry is less than five percent but the adverse effects associated with its operations are innumerable and region-wide. This oil related environmental problems are discussed below.

2.4 Oil Exploitation and Water Pollution

The Niger-Delta region is located in the coastal part of Nigeria and this is a waterlogged areas as more than eighty percent of the oil producing communities is on water. Before the discovery of oil in the region, it was characterized by natural clean long stretch fresh water and healthy water lettuce that add beauty and flavour to the environment. According to Bisina (2006) the oil activities in the area has resulted to situations whereby complete polluted water is bequeathed to the children. The communities’ shorelines have been washed away or eroded due to the high volume of deep-sea exploration and exploitation activities. One of the major oil induced water pollution is oil spillage. With the expansion of oil production, the incidence of oil spills has greatly increased. Available records show that a total of 6,817 oil spills occurred between 1976 and 2001 with loss of approximately three million barrels of oil in the region. Approximately twenty-five percent spilled in swamps and sixty-nine in off-shore (UNDP Report 2006).

Besides oil spills as source of water pollution, canalization and water discharged into freshwater swamps and into the sea are other sources (Akpofure, 2008). In an attempt to shorten travel time and improve access to oil fields and production facilities, oil companies have constructed canals that in some cases have caused salt water to flow into fresh water zones destroying freshwater ecological system.

3.0. Methodology

The information presented in this paper was sourced through primary and secondary sources. The primary source includes direct observation and physical measurement of the existing situation in the study area as well as the administration of questionnaire. On the basis of the above, nine towns were selected for sampling to determine the sample frame and sample size. The nine towns selected for sampling translated to 29% of the total towns of the local government. The choice of nine settlements was hinged on research of Akinrinmade, (2012) who sampled eight settlements and concluded that such sample size is sufficient for regional

studies. Having obtained the basic background data on the population and number of buildings of each of the sampling towns, multistage sampling technique was adopted for the research. Meanwhile, purposive sampling was implored in the selection of settlements under consideration, while systematic random sampling was used in the administration of questionnaire within settlements in the study area. The sampling frame for the study was 9,838, which was the total number residential buildings. A sample size of 3% which translated to 296 residential buildings.

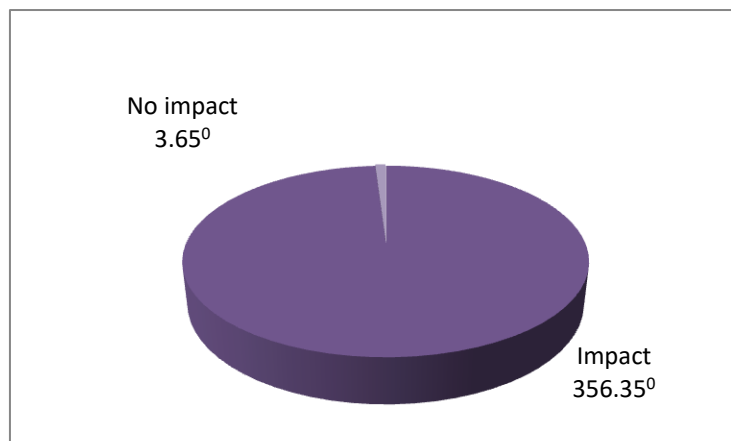
4.0. Discussion of findings

As revealed in table 4.5, among the household heads, fishing has the highest frequency of 154 translating to 52%. Meanwhile, the figure gotten as the frequency and percentage is not unprecedented because fishing as primary and prime activity characterized the lives of the people of the riverine area of the state where both creek and sea fishing are majorly taking place on regular basis as a means of their livelihood. This is followed by farming which has 96 as frequency of 96 (32.4%). This outcome is not unusual being a rural area. From time immemorial, rural dwellers have been engaging primarily in primary activities of which farming is one or major. Next to farming is lumbering. This is also another peculiarity to mangrove forest settlers. Due to the availability of wood that are good for furniture making and other related activities, people in the area were found of engaging themselves in the activities with 28 as their frequency of 28% the last option includes others, which has to do with trading, artesian among other has a frequency of 18(6.1%)

4.1. Table 4.6: Income of Respondents per Month

The respondent’s income was segregated into five income groups. Those whose incomes were below ₦5,000 naira per month were more than those in other income groups. This group accounts for 141 frequency of 47.6%. This was followed by income group of ₦ 5,000 - ₦ 10,000 of 72 (24.3%). Close to this are the people within the income bracket 10,001 – 15,000 naira having a frequency of 47, which accounted for 15.9% of the total respondents in the study area. The other income brackets are ₦ 15, 001 - ₦ 20,000 and ₦ 20,001 and above having 15 and 21 as their frequencies and this is that there is relatively. The implication of this is that there is relatively high rate of poverty in the area since the area is dominated with people of less than ₦ 5,000 monthly incomes.

4.2. Figure 4.1: Effects of Oil Exploitation on the Income of the Respondents

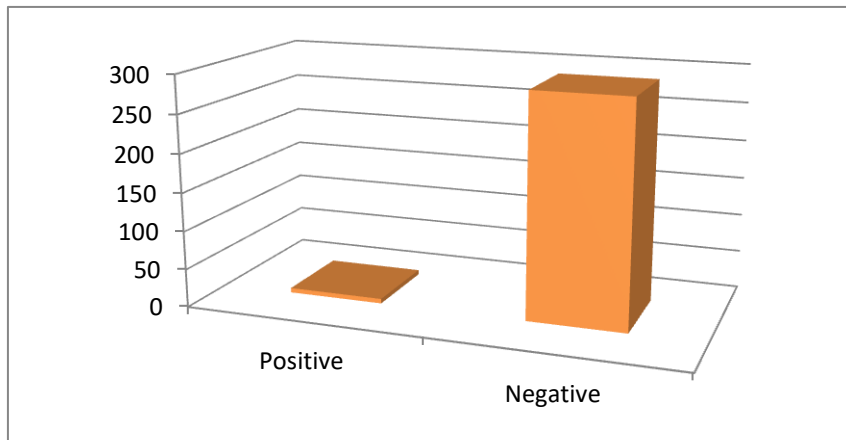


Source: Author’s field work, 2022

As depicted in figure 4.1, the number of people who attested to have been affected by their source of income through oil exploitation were 293, which invariably accounted for 356.35⁰ (99%) of the total respondents. On the other hands, only 3(3.65)

were with the confession that their means of livelihood or sources income were never impacted through oil exploitation activities in the area.

4.3 Figure 4.2: Nature of Effects of Oil Exploitation on Occupation

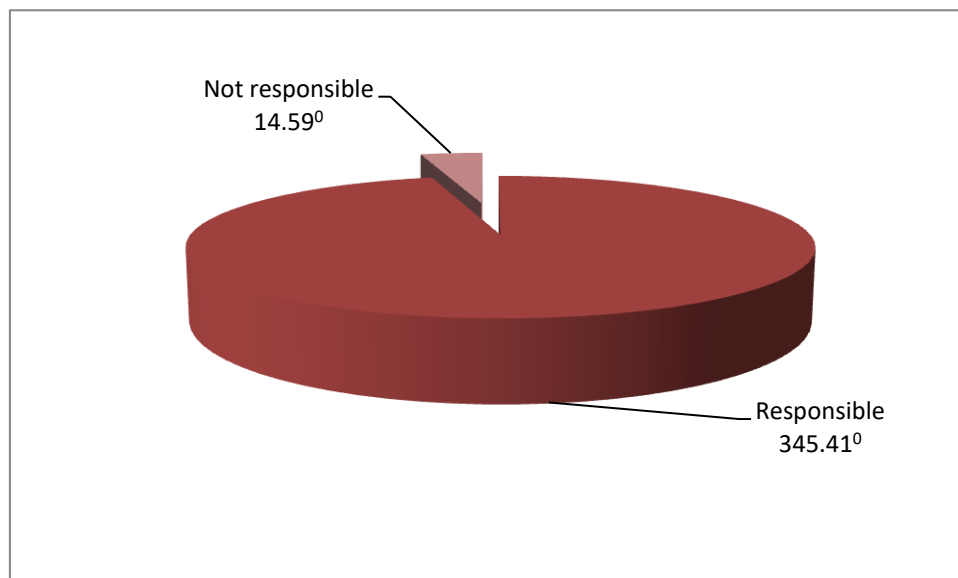


Source: Author's field work, 2022

Judging from figure 4.2, 290 were with the responses that oil exploitation activities in the area have impacted negatively on their sources of income. The value of this number is translated to 98% of the total respondents. Meanwhile, 6 people declared contrary by

saying that their sources of income were impacted positively. It means therefore that the people have been negatively impacted through oil exploitation activities in the area. This consequently affects their means of live hood and their standard of living.

4.4 Figure 4.3: Showing Reasons for Increase or Decrease in Income

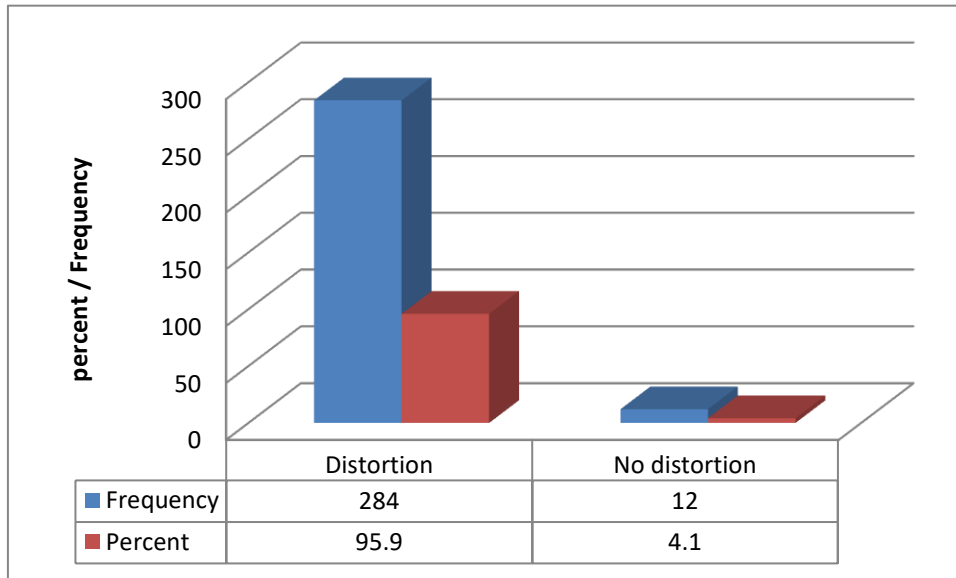


Source: Author's field work, 2022

As shown in figure 4.3, 284 associated their increase or decrease in income to oil exploitation activities, which consequently accounted for 345.41⁰ of the total respondents. Contrary to this testimony, is the confession of 12 who said that their increase or decrease in their income have nothing to do with oil exploitation activities in the area. The relevance of this is that there is a close relationship between oil exploitation activities and the income of the people in

the study area. It therefore means that the high rate of poverty revealed in figure 4 coupled with the negative impact so depicted in figure 5 are consequential pointer to the decrease in income of the people of the study area. In other words, there is a close affinity between income of the respondents, their occupational practices and oil exploitation.

4.5 Figure 4.4: Showing Distortion of the Respondents' Occupations

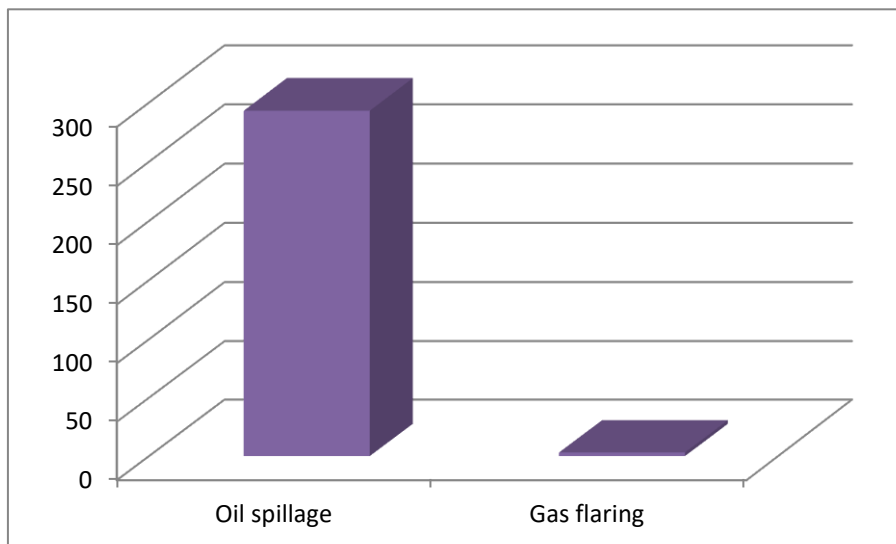


Source: Author's field work, 2022

Considering figure 4.4 above, a total of 284 out of 296 numbers of household heads interviewed confessed of their occupation being distorted by oil exploitation activities in the area. This value represents 95.9% of the total respondents in the study area. Contrary to this is the outcome of 12 who said their occupation never distorted by oil exploitation activities. The value of this accounted for 4.1% of the total respondents. The meaning of this is

that oil exploitation activities are having an overriding influence on the occupation of the people. This has consequently hindered the express performance of the fishermen and the farmers in the study area. The foregoing will ultimately result to food and fish scarcity in the area. Not only some active farmers and fishermen will be rendered dormant and unproductive any time their occupation is put on hold.

4.6 Figure 4.5: Showing Mode of Distortion of Respondents Occupations



Source: Author's field work, 2022

As depicted in table 4.5 above, 293 claimed that oil spillage is a primary way through which their occupation being distorted. This accounted for 99% of the total respondents. A total number of 3 respondents were with the view that their occupations were distorted through gas flaring and this accounted for 1% of the total respondents in the study area. Considering the principal occupations of the respondents, which are fishing and farming, it

means therefore that once the primary activities in the area is distorted, there will be a halt to virtually all productive activities in the area. This consequently led to high cost of living, hence, poverty.

This was further confirmed through a pilot survey to some of the oil impacted area sites in the area where oil spillage have impacted farmland, mangrove and water bodies.



Plate 4.2: Crabs and other aquatic animals killed through oil spillage in the study area

In addition to halt in sources and means of livelihood, environmental pollution and degradation survey to the study area revealed that the people inability to access basic and fundamental assets like healthcare delivery, education, potable water and diversified economy practices form part of the challenges being faced by residents of the study area. The study area is experiencing top class social and economic infrastructural neglect, poverty, ecological catastrophes among others that are holding forth poverty for the people of the study area. All these have been consciously and terminally linked with oil exploitation activities in the study

area as the area remains unfulfilled and continuously facing threatened environmental devastation, worsening and heightened economic, social and political landscapes, engulfed with capital poverty and consequently food insecurity among so called fishing communities and rural farmers in the region of the most valuable economic resources. It means therefore that the people did not have access to basic needs of life and this must be planned for with a view to achieving sustainable physical development planning of the study area.

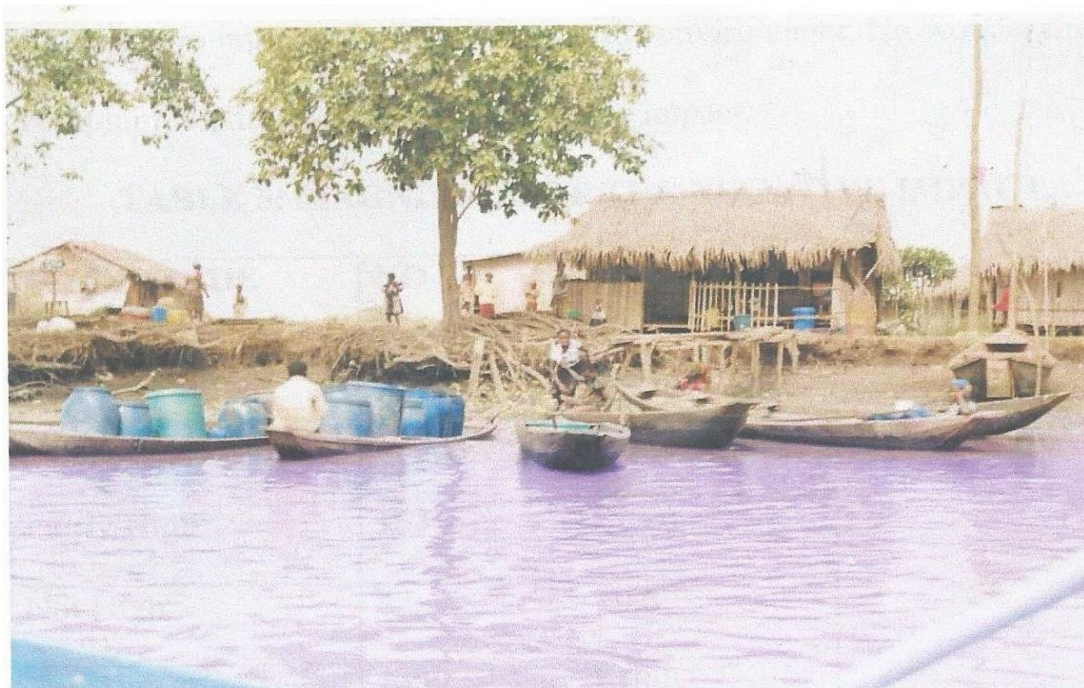


Plate 4.3: The arrival of residents of Awoye community from fetching water due to the impacted water by oil spillage in the study area.

6.0 Conclusion and Recommendations

Findings of the study revealed that the commencement of oil and gas exploration and exploitation, has brought about environmental problems associated oil spillage, gas flares, land subsidence, depletion of forest resources, riverbank and coastal erosion among others. There are indications that the extraction of large quantities of oil and gas from the region is continuing to cause subsidence and relocation of more settlements. This is most disturbing especially as sources of livelihoods in the form of farming and fishing which are the major occupations in the area are threatened. In view of the foregoing, the study area is faced with myriad of ecological and environmental problems and diverse of social and economic challenges that are presently making life unconducive for the resident of the area. The heightened devastating activities of oil exploitation on the physical environment of this poor rural communities who by nature depend principally on their environment for their means of sustenance has put them on the track of untold hardships. On the basis of these are the following recommendations made.

7.0 Recommendations

The focus of this study is the impact of oil exploration in the Niger Delta areas with a focus on the coastal region of Ondo State. To prevent further environmental degradation and attained the sustainable development in focus, the following under-listed should be observed as recommendations since oil exploration increase on daily basis in the region..

At reversing the state of degradation of the study area, the various institutions of government and development interventionist organization should as a matter of immediate fast tract all the processes involved in environmental remediation and ecological restoration of the study area.

There should be physical mapping of the study area with a view to appropriating the impacted area for effective planning

Towards improving the social life of the residents, efforts should be geared toward the provision of social infrastructure and amenities area such as potable water, health care delivery, and road, among others by multinational in oil producing and impacted communities.

As an attempt to rejuvenate and economic activities, reduce poverty, provide employment Large, Medium, Small scale industries, human development centres established in the oil producing communities to accommodate the jobless, hopeless, deprived, neglected and unrecognized teeming population of the study area.

Village regrouping should also be considered imperative for impacted displaced communities through development plan or in alternative a regional development plan would be adopted for regional land use proposal and planning.

There should be a government standing policy that will guide oil exploration activities and other major development within the environment so that our environment could be guaranteed in the future.

Sustainable development campaign should be a thing of most and off course, mandated by government on all oil companies.

Social amenities for the people should be provided in their various communities and at various capacities such as good water, roads, electricity among others by the prospecting oil companies and the government.

Oil companies in conjunction with the government should provide gainful employment for the able youths who are indigenes of the Niger Delta and also by other multi – nationals by establishing small-scale industries as well as providing soft loans for the establishing other small-scale industries by individual.

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