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**EVALUATION OF ENVIRONMENTAL LAWS AND
POLICIES IMPACT ON SELECTED OIL PRODUCING
AREAS OF IMO STATE**

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ABSTRACT: This study investigated into the perception of residents of oil producing areas on the effectiveness of environmental laws and policies of Nigeria in the protection of oil producing communities against pollution arising from oil production activities. The fact that oil exploration and exploitation activities leave in its trail diverse environmental problems of varying degree arising from oil drilling, gas flaring, oil spillage incidents is a well established matter. Based on these, government of Nigeria over the years has put in place measures to avoid or combat to the best minimum these incidences through the formulation of laws and policies to ensure sustainable environment. But then, how effective are these laws and policies in protecting the environment of oil producing areas? Since the oil producing areas have continued to complain on the devastation of their environment by the oil companies despite these laws and policies. To determine the effect of these environmental laws and policies on the protection of environment against pollution and degradation due to oil exploration and exploitation activities, data were collected with structured questionnaire administered to 150 respondents from selected households, out of which 130 were retrieved. Data obtained were analyzed using descriptive statistics in form of frequency counts and percentages while analysis of variance was used to test the relationship between environmental laws and policies and environmental protection. The result of the study revealed that almost all the respondents (92%) were aware of the existence of environmental laws and policies while 8% were not aware. The major components of the environment being affected by oil production activities include water bodies (33%), vegetation (23%), farmland (27%) and air (17%). There was no significant difference between environmental degradation and the establishment of environmental laws and policies ($F_{cal} < F_{tab}$) at 5% level of significance. Hence the result of the investigation revealed that the current environmental laws and policies have not offered sufficient protection to the environment of oil producing areas of Imo State. The study therefore recommends a comprehensive review of the current environmental laws and policies as they affects the oil producing communities and the immediate establishment of an agency with an enhanced enforcement capability for the implementation of the law and policies.

Key words: Environment, Laws, Policies Impact, Oil Producing Areas.

INTRODUCTION

Imo is one of the states in Nigeria that is greatly endowed with enormous mineral resources. The exploitation of these resources has resulted in the pollution and degradation of the environment. Petroleum has proved to be the most important component amongst these resources. As the world's leading source of energy, it has almost become synonymous with economic growth and prosperity of the nation, hence Nigeria has chosen petroleum investment as a path towards economic development. Petroleum investments were brought into limelight as they have been perceived with growing scepticism for their potentially deleterious impact on the environment. Thus, there appear to be an undercurrent of conflict between the need to promote and intensify petroleum investment for economic growth on the one hand and the desire to protect the environment and achieve sustainable development on the other.

In order to understand the problem of environmental management in Nigeria, it is very imperative to understand the Third World countries' attitude to the environmental concerns generated in the early 1970s. Nicholas (2004) Contended that developing nations feared that the sudden emergence of the spirit of environmentalism from advanced countries is a ploy to divert economic and technical resources for development needs to pollution abatement.

The implication of the Third world's negative attitude to the early 70's environmental concerns for Nigeria in particular is that while the environment was considered a major issue in the early 1970s, it was not until several years later that it became a prominent issue at the public and governmental level in Nigeria and most developing nations (Nwaonu & Egbu, 2007).

The issue of environmental management in Nigeria was given attention only in 1988 when tons of toxic waste was illegally dumped in Koko town in the then Bendel State.

Before this time, Nigeria had participated in international conferences where environmental management issues were discussed. Such conferences include the historic United Nations 1972 Stockholm conference on human environment, the Rabbit conference of Ministers and Heads of states of the then Organization of African Unity (OAU) on environmental dimension of development with the framework of the international strategy for the third development decade in the African region in 1984. She also participated in the 69th Inter-Parliamentary Union (IPU) spring meeting in 1982, where the ad-hoc committee on environment adapted a draft resolution on the state of the environment ten years after Stockholm conference among others.

Despite her participation in these international programs, the abuse of and threat to the ecological systems due to human activities in the country continued. That did not indicate that much was achieved from her participations and the subsequent promulgation of national environmental laws and policies, hence the question-How has Nigeria fared under these environmental laws and policies? This study is intended to provide answers to this important

question by making a critical evaluation of Nigeria's environmental laws and policies as it affects the oil producing areas of Imo state.

Statement of the Problem

The production of energy (oil and gas) for human use comes from the environment and these have potential adverse environmental impacts. In order to combat or ameliorate such adverse environmental impacts, government has put in place laws and policies to deal with such incidents of environmental pollution and degradation arising from oil and gas exploration and exploitation over the years. Despite these various environmental laws and policies promulgated by the Nigeria government, the host oil and gas bearing communities of Imo State have over the years observed that environmental devastation of their communities have continued unabated. Oil spillage, gas flaring, deforestation, vibrosis among others have continued with the adverse consequences on the environment till date (Ogori, 2016). It therefore becomes imperative to evaluate the effectiveness or adequacy of these laws and policies in protecting the environment of oil producing areas of Imo State.

Aim and Objectives

The aim of this paper is to examine the effectiveness of Nigeria's environmental laws and policies in the management of environmental pollution and degradation in the oil producing areas of Imo state and Nigeria, in order to ensure environmental sustainability. However, the study has the following objectives, to:

1. Ascertain the level of awareness of residents of oil producing communities on the existence of environmental laws and policies.
2. Find out component of the environment being negatively affected by oil production in the host oil producing communities of Imo State.
3. Examine the causes of environmental pollution occasioned by oil production activities in the study area.

Hypothesis of the Study

H₀: There is no significant effect in environmental degradation from oil production activities and the establishment of Environmental laws and policies in the oil producing areas of Imo State.

H_A: There is significant effect in environmental degradation and the establishment of environmental laws and policies in the oil producing areas of Imo State.

Scope of Study

The study is concerned with environmental laws and polices made by the government of Nigeria as they affect energy production and use and the impact on the alleviation of adverse environmental impact of oil exploitation on the oil producing areas. The study was conducted in the oil producing areas of Imo State where intensive oil exploration and exploitation activities are being carried out.

LITERATURE REVIEW

The environment is the sum total of all conditions that surround man at any point in time on the earth's surface (Indu, 2012). According to Atalawei (2014) anything that affects human existence, be it air, land, water subjacent and jacent can be term environment. The interdependence of man with the earth's ecosystem is therefore obviously fundamental to human existence. In the wake of scientific and technological advancement, the magnitude of man's intrusion on the supporting web of the environment is generating alarm that can no longer be ignored, because the very existence of man is threatened (Asubiojo,2016).

The production, transportation and consumption of petroleum products leave in its trail myriad of environmental problems, ranging from air, water, land pollution (Asimiea, 2010). If man's survival is to be assured, it follows that the environment must be secured at an appropriate level of life sustaining quality. In order not to allow the environment to fall below that level capable of sustaining life, government enacted environmental laws, and policies to ensure environmental sustainability.

Environmental law according to Ewin (2014) refers to legal document setting forth rules governing a particular kind of activity in the use of environment while environmental policy refers to environmental principles of action adopted or proposed by government (Worika, 2000). In practice, policy usually precedes the law to ensure that the law provides an effective tool for the punishment of misconduct especially those that were thought to be harmful to the environment. Nigeria government has come up with excellent environmental laws and policies for the management of negative impacts occasioned by oil exploration which may arise from waste generation, pollutant emissions including flaring of associated gas among others, but it appears nothing has really changed as regards pollutions arising from oil production in the oil bearing communities (Adubuisi & Asia, 2007).

Many researchers have investigated into the negative impacts of oil production activities on the Nigerian environment (Nriagu, 2011; Ubuoh, Ezenwa & Ogbuji, 2016; Radaideh, 2017; Tawari & Abowei, 2012), but little or no study has been conducted on the effectiveness of the Nigeria's environmental laws and policies on the protection of environment of oil producing areas against pollution arising from oil production activities. Hence, this research investigated into the effectiveness of the environmental laws and policies in the protection of environment of oil producing areas of Imo State.

Evolution of Nigeria Environmental Laws and Policies

Prior to the incidence of hazardous waste dumping in Koko town, there was no codified or coherent legislation on the protection and preservation of the environment in Nigeria. Okorodudu-Fubara (1998) stated that before 1988, environmental laws and policies were unheard of throughout the country. The few laws that touched on the environment were more concerned with maintaining a healthy environment and did not quite appreciate the enormity of the problem of environmental pollution and degradation occasioned by oil exploration and exploitation. Nigerian government was galvanized into action when loads of toxic waste was illegally dumped in Koko town in 1988. An instant reflection of public policy concern was in the establishment of Federal Environmental Protection Agency (FEPA) in the same year by the Federal Government of Nigeria.

Having set up FEPA the next major priority for the government was the fashioning out of national policy on environment. To actualize this objective, the Federal Ministry of Works and Housing (Environmental planning and protection division) and United Nations Environment Program (UNEP) organized an international workshop on the goals and guidelines of the National Environmental Policy of Nigeria.

This was a very important step taken by the government to clearly define the nations relationship with the environment based on the principles of sustainable development and proper management of the environment and its resources. The goals and strategies developed by the workshop were streamlined to meet the particular needs of the Nigerian environment in the key areas such as land use and soil conservation, water resources management, forestry, wild-life protection, marine and coastal areas resources, air quality, sanitation and waste management etc.

In fact, the workshop came up with the proposed goal and guidelines providing new and firm foundation for developing policies, laws and institutions for environmental protection which the Federal Government adopted and formally made public in November 1989. The 1989 National Policy on Environment is indeed a comprehensive policy designed to set aright all the abuses and neglects the environment had suffered for so long in the country.

However, section 3.10 of the policy focused on energy production and the use with particular emphasis on adopting strategies that will ensure the reduction of negative impacts of energy production and use on the environment, while the sub-sections are also relevant to the oil and gas sectors of the economy.

In addition to the above environment friendly policies and programs of the government as Okpalaeze (2001) reports, include the creation of Ministry of Environment in 1999, setting 2008 as gas flare phase out date, establishment of Niger Delta Development Commission to replace OMPADEC in 2000.

Nigeria Environment Laws and Policies and the Oil Producing Areas

The Importance Nigerian government attached to the oil industry probably explains the reason why the main thrust of the petroleum policy is increasing oil reserve base and productivity through vigorous exploration and exploitation. By the time the petroleum law and policies were formulated, the environmental consequences of these vigorous exploration and exploitation of the resources were not put into consideration.

It was not until the effects of the activities of the oil production started manifesting, coupled with pressure from developed countries for greater global environmental awareness that the government started according some prominence to environmental issues arising from prospecting and production activities of oil industries. The first evidence of government new interest in environmental matters in the oil industry was in 1979 when Nigeria National Petroleum Co-operation and the Federal Ministry of Housing and Environment jointly sponsored the first seminar on the oil industry and the Niger-Delta environment. The objective of the seminar according to Shaib (1996) was to enhance public awareness on the environmental aspect of the petroleum industry operation and to stimulate the operators in taking positive step against adverse effect of their operations on the environment.

The second attempts by the government in integrating environmental concerns in the oil exploration and exploitation activities was the approval given by the Federal Executive Council (FEC) that the national economic oriented seminar titled "Petroleum Industry and the Environment" be held biannually to keep environmental protection in focus alongside economic exploitation of Nigeria oil resources. This according to Shaib (1996) was to ensure that data generated thereof given the wide spectrum of professional participants could assist government arrive at meaningful policy for oil exploration, exploitation, marketing, use and waste product disposal.

These initial attempts coupled with series of other events as seen in Chapter 2, section 17(2) of the constitution of the Federal Republic of Nigeria culminated in the formulation of the National Policy on Environment (NPE) on the one side and the creation of awareness on the environmental condition in the oil producing areas on the other.

Due to the new awareness, the host communities started to complain about the environmental degradation resulting from the activities of oil companies. Government's first recognition of the impoverishment of the oil producing areas was in 1982, when it set aside 1.5% of the federal government revenue for the development of oil producing communities.

Anyanwu (2002) stated that the fund was not made available until 1990. The fund was later increased to 3%. The Obasanjo led administration jacked the fund up to 13% in the year 2000. However, agitation from the oil producing areas continued unabated leading to the consequent disruptions of oil and gas production in the oil producing areas between 1999-2000. This resulted to the passage of a bill by the house of senate for the establishment of the Niger-Delta Development Commission (NDDC) in June 2000.

Regulatory and Institutional Mechanism for Managing the Environmental Aspect of Petroleum Development in Nigeria

The exploration and production operations in the oil industry in Nigeria were subject to separate environmental permits and licensing procedures administered by the Department of Petroleum Resources (DPR) and Federal Environmental Protection Agency (FEPA) (Shell 1999). However, in July 1999, the Federal Government created a new Federal Ministry of Environment and FEPA became an integral part of the ministry.

The ministry was responsible for all statutory, regulatory and supervisory control for environmental management and permit. The functions include regulating industrial effluents emissions and discharge as well as reviewing and approving E.I.A for new projects.

However, the scrapping of FEPA without the immediate establishment of an enforcement arm for the ministry was criticized by environmentalists. According to Ikweke (2011), the absence of an enforcement arm jeopardized the chances of effective policy implementation. The DPR remained the licensing authority with regard to exploitation and production operations as well as the environmental permitting authority for exploration and production activities in the country. The environmental guidelines and standards for the petroleum industry in Nigeria 1991 are specific procedural and operational guideline provided by the D.P.R.

The functions of D.P.R does not stop at the regulatory level only. In the event of oil spillage for instance, investigation was conducted as a statutory requirements by a joint team of representative from the affected communities, the D.P.R, the state and the Federal Ministry of Environment, the police and staff of the oil company.

The team investigates the causes of the spill, volume spilled and the area impacted and sign a joint investigation report before the advent of Nation Oil Spill Detection and Regulation Agency (NOSDRA) in 2006.

Other regulatory mechanism for managing environmental degradation arising from petroleum development include petroleum legislation, for instance the section 8 of the petroleum Act 1969 empowered the Minister to direct in writing, the suspension of any operation which in his opinion is not being conducted in accordance with good oil field practice. The section empowers him to make regulation inter-alia for the conservation of petroleum resources and the prevention of pollution of water courses and the atmosphere.

Furthermore, the Nigeria petroleum (drilling and production) regulation 1969 in regulation 36 requires the licensee or lessee to maintain all his equipment and boreholes and wells capable of producing petroleum in good repair and condition. It also include to carry out all his operations in a proper and workman like manner in accordance with these and other relevant regulations and methods and practice accepted by the directorate of petroleum resources as good oil field practice.

Finally regulation 38 provides inter-alia that the lessee shall utilize or adopt approved methods and practices for producing of crude oil and natural gas from the pools and reservoirs. The associated gas re-injections Act 1979 requires the lessee to submit schemes and programs and embark on projects for the reinjection of gas or other viable utilization of gas discovered by the lessee while the petroleum agreement as in the case of 1990 model Production Sharing Contract (PSC) which provides the rights and obligation of the parties as stipulated in Article 7

For the use of the rather nebulous terms good and workmanlike manner, this provision obviously has environmental protection and safe practice in mind. The subsequent 1995 model P.S.C. of Nigeria did not only refuse to improve on it but is completely devoid of any environmental provision.

Worika (2002) argued that the various petroleum laws and policies have failed to adequately address the issues of environmental protection and conservation as there are no substantiated back up positions and comprehensive up to date laws or regulation and implementation.

Appraisal of the Regulatory and Institutional Mechanism for Managing the Environmental Aspect of Petroleum Development in Nigeria

With respect to petroleum regulations, the various petroleum laws, and policies have failed to address the topic of environmental protection and conservation hence, the institutionalization of other mechanisms for managing the environmental problems arising from oil production. Technical terms such as "due diligence, proper and workmanlike manner and good field practices" which could in appropriate cases be effectively used to set environmental legal standard are rarely defined. In the only instance where an attempt was made to define the terms, there is still room for ambiguity as an operator who fails to comply with the said up-to-date standard of Nigeria legislation can claim he has complied with the standard of American Society of Petroleum Engineers. It is not clear whether the view of the Directorate of Petroleum Resources supersede the former standards.

Worika (2002) stated that there appears to be inconsistency and lack of uniformity with later contract term shifting from weak to no environmental obligations at all.

One may ask, is it necessary to have environmental provision in contracts when there are already provisions in the national environmental or petroleum laws? The issue is that petroleum operations are not usually undertaken on the basis of laws but on contracts or agreements. Despite the presence of petroleum legislations, a prudent operator would normally insist on reducing the agreed terms into some form of contract.

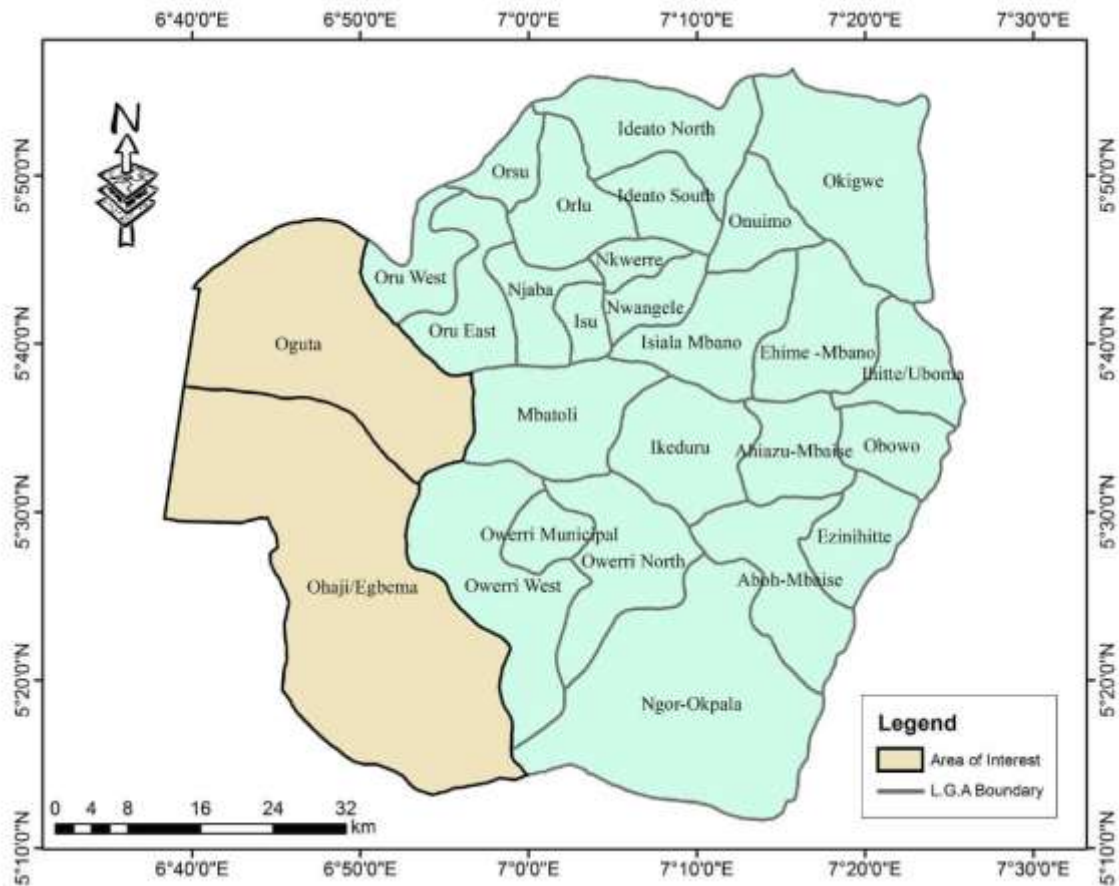
In a similar vein a host state should not rely exclusively on its laws but should insist on introducing some general or framework environmental provision into the contractual document. The idea is to emphasize at least, that it places some degree of importance on environmental protection and sustainable development, otherwise a petroleum investor may consider all such environmental provision in the laws as unnecessary diversions.

Nevertheless, it would be unwieldy to duplicate petroleum environmental legislative provision on contract as well. Finally the institutional arrangement lacks an integrated and efficient juridical administrative machinery to monitor and enforce compliance.

METHODOLOGY

Study Area

The research was carried out in the oil producing areas of Imo state. The area is located between longitude $6^{\circ}36'$ and $7^{\circ}3'E$ and latitude $5^{\circ}5'$ and $5^{\circ}25'N$. Although it is possible that other basins in Imo State may contain substantial quantities of petroleum reserve, the Ohaji /Egbema, Oguta axis yield is in commercial quantity. In fact, the prospecting, exploration, drilling and transportation activities in the area have made it important to consider the negative environmental impact and the available laws to protect the environment.



Political Map of Imo State Showing the Study Area

Research Design

The study is of survey research to determine empirically the impact of Nigeria government's environmental laws and policies on the protection of environment of oil producing areas of Imo State against pollution arising from oil production activities.

All adult members of oil producing communities in Imo State constituted the target population of the study. Six communities were selected from the twelve oil producing communities of Ohaji/Egbema and Oguta Local Government Areas of Imo State. The systematic random sampling was used in the selection households in the various communities, though the houses are not in rows and column, they were numbered and those that fell within the required figures were picked. A set of structured questionnaire was administered randomly to 150 respondents with the communities having 25 questionnaires each. In all, 130 questionnaire forms were retrieved and eventually used for the analysis.

Data Analysis

Data for the study were analyzed using descriptive statistics in the form of frequency of counts and percentages, while analysis of variance was used to examine the impact of environmental laws and policies on the protection of the environment of oil producing areas of Imo State against devastation from oil production activities.

RESULT AND DISCUSSION

Table 1: Distribution of Respondents' on the Awareness of the Existence of Environmental Laws and Policies

Awareness	Frequency	Percentage (%)
Yes	119	92.0
No	11	8.0
Total	130	100.0

Source: Field Survey, 2019

The state of awareness is an indication of the level of consciousness of the people on the problem under investigation. The result in Table 1 shows that 92% of the respondents were aware of the existence of environmental laws and policies made by Nigerian government to protect the environment of oil producing areas against pollution arising from oil production. By this result, it means that the awareness level among the people is very high. The reason for this high rate of awareness may not be unconnected with the high rate of environmental degradation being noticed in the oil producing communities (Ubuoh, Nwakanma & Ogbuji, 2017; Ubuoh, Akhionbare & Ogbuji, 2013).

Table 2: Distribution of Respondents' by Perceived Component of the Environment Being Negatively Affected by Oil Production Activity in the Study Area

Environmental Components	Frequency	Percentage (%)
Lake/river	43	33.0
Vegetation	30	23.0
Farm land	35	27.0
Air	22	17.0
Total	130	100.0

Source: Field Survey, 2019

Table 2 reveals that 33% of the respondents still perceived water bodies in the area as the component of the environment most negatively affected by oil production activities, followed by farm land (27%), vegetation (23%) and air (17%). This finding is in line with the findings of Atalawei (2017) and Oweisana (2018) who opined that almost all the components of the environment in the Niger-Delta area of Nigeria is being devastated by oil production activities.

Table 3: Distribution of Respondents' on the Perceived Major Causes of Environmental Pollution by Oil Production Activities

Causes	Frequency	Percentage (%)
Oil Spillage	37	29.0
Gas Flaring	28	22.0
Deforestation	34	26.0
Noise	21	16.0
Oil Wastes	10	7.7
Total	130	100.0

Source: Field Survey, 2019

The major causes of environmental pollution by oil production activities as shown in Table 3 are oil spillage (29%), deforestation (26%) and gas flaring (22%). Others include, Noise (16%) and Oil wastes (7.7%). Oseluko and Ogbeha, (2012) corroborated this finding in their work on the causes of oil pollution in the Niger-Delta while Igusa (2013) is of the view that devastation of environment of oil producing communities in the Niger-Delta will persist until the Federal Government musters enough will to deal with oil spillage and gas flaring.

Table 4: Analysis of Variance on Relationship Between Environmental Protection from Pollution by Oil Production Activities and Environmental Laws and Policies in Oil Producing Areas

Variables	Mmahu	Oguta	Izombe	Eziorsu	Ekemkwuru	Abacheke
Agree	22	18	20	21	18	19
Disagree	2	3	3	1	2	3
Total	24	21	23	22	20	20
Sample Mean	$X^1 = 12$	$X^2 = 10.5$	$X^3 = 11.5$	$X^4 = 11$	$X^5 = 10$	$X^6 = 10$

Sources: Field Survey, 2019

F-Computed = -3.21. F-tabulated = 4.39

Since computed value of F (-3.21) is less than tabulated value of F (4.39) at 5% level of Significance, the null hypothesis was accepted and it was concluded that Nigerian's environmental laws and policies have not effectively protected the environment of oil producing areas of Imo State from environmental pollution arising from oil production activities.

Conclusion

This study applied respondents' perception on the effectiveness of environmental laws and policies of Nigeria on the protection of oil producing communities against pollution arising from oil production activities. This is because, the impact of such laws are directly felt by the residents' of such areas. The most important controversial environmental problem in the oil producing areas of Nigeria is the natural resources degradation arising from oil exploration and production activities. It has been established that oil spillage, gas flaring, dumping of oil effluent etc destroy fisheries, agricultural lands, vegetation, rivers among other and renders generations of inhabitants of the oil producing areas of Imo State out their traditional occupation without any alternative. The consequences for the people of these communities are far-reaching, the most serious being the socio-economic problems relating to joblessness, poverty, poor infrastructural base and human settlement difficulties. The situation over the years has naturally resulted to agitations by the people for resources control, restiveness among the youths and vandalization of oil production facilities.

The above scenario raises fundamental questions as to whether environmental protection consideration has been featuring as an important issue in Nigeria's socio-economic policy development. Extending from this is whether the issues such as the compatibility of high rate of economic activities with environmental protection and improvement really engage the attention of environmental and development policy makers.

From the research, one can safely conclude that the existing policy framework is not adequate for the protection of the environment of the oil producing areas of the state against negative effects of oil exploration and exploitation. Apart from the inadequacy of the current

environmental laws and policies, there is no strong agency responsible for the enforcement of environmental laws and policies in the country despite the existence of NESREA which lacks jurisdiction over environmental matters emanating from the oil and gas sector. What is now needed is the review of current environmental laws and policies in line with the current international standards and the establishment of an agency with a strong will to implement these laws and policies.

Recommendations

In the light of the research findings and conclusion reached in this study, the following recommendations are hereby made if a sustainable approach to environmental resources management is to be adopted by the government.

1. The Federal Government in concert with the oil producing communities, oil companies and other relevant stakeholders should undertake a more comprehensive environmental survey of the oil bearing communities in the country in order to take appropriate action to address the problem identified in the course of this study.
2. The occupational and social displacement effects of natural resources exploitation such as being witnessed in the oil producing areas of the state should occupy a major place in government's policy plans and implementation. The emerging policy should ensure the provision of alternative employment opportunities to generations of affected communities. This could help to prevent or minimize not only the negative impacts the uncontrolled natural resources exploitation could bring on the environmental and human development but also help to stem the tide of violence and youth restiveness that is now almost a way of life in the oil producing communities in the study area and Nigeria in general.
3. In order to avoid the process of environmental policy formulation and modification in an environment of limited information and extensive uncertainty, there is the need for government to establish an effective Environmental Information System (EIS) in the country to facilitate planning and decision making. The data set of EIS should be able to aid the monitoring of the quality and quantity of environmental resources in the country and the establishment of environmental guidelines and standards, including the economic analysis of various policy alternatives for environmental management.

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