

ENVIRONMENTAL MANAGEMENT AND SUSTAINABLE DEVELOPMENT IN THE NIGER DELTA

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Abstract

The Niger Delta region remains a thorn in the Nigerian state as it continues to be marred in crisis occasioned by unsustainable oil production. Environmental depredation resulting from oil production often undermine livelihood in the region. Although the activities of the oil industry are often blamed for this situation, the influence of environmental management in the oil industry seems have been given inadequate attention. This study, therefore, investigated environmental management and sustainable development in the Niger Delta. The specific objective of the study is to show that weak enforcement of environmental regulations in Nigeria is responsible for the problems of development in the Niger Delta region. It argued that continued environmental degradation and the loss of livelihood with the attendant upheaval in the Niger Delta is fuelled by weak enforcement of environmental laws by relevant government agencies. Data for the study was generated from secondary sources. The findings indicate that weak enforcement of environmental regulations is the basic factor in the loss of agricultural land and nutrients, extinction of wildlife and aquatic species, deforestation and ecosystem destruction, and the loss of sustainable livelihood as well as youth restiveness and delirious violence that characterise the Niger Delta region. It recommends that the need for a stronger political will backed up by effective public participation through NGOs and stakeholder consultations in the enforcement of environmental regulations for sustainable development in the Niger Delta region.

Keywords: Environmental management, pollution, livelihood, sustainable development, oil production

Introduction

Nigeria is one of the most resource endowed nations. Among these is its large hydrocarbon reserve. Nigeria currently produces 2.3 million barrels of crude oil per day, making it the largest oil-producing African nation and the 12th-largest oil producer in the world (Morocco-Clarke, 2012). Isa (2012) observed that reports from the Nigerian Ministry of Petroleum Resources indicates that there are over 150 oil fields and 1481 oil wells located within the Niger Delta Region, making it the largest

oil reserve in Africa and the 10th-largest in the world. It is the seat of oil and gas production in Nigeria placing the nation as the 9th leading oil producing country in the world.

The Niger Delta region is crisscrossed by thousands of kilometers of pipeline, punctuated by wells and flow stations. Much of the oil facilities are located close to the homes, farms and water sources of communities. The region is also endowed with abundance of several other renewable and non-renewable resources, including wild fisheries and alluvial soil with great potentials for bumper agricultural production.

According to Opara (2014), resource-rich countries world over are confronted with myriad of issues. Apart from perennial concerns about volatility in commodity prices, the challenge of deciding the proportion of resource income to be allocated to present and future generations as well as environmental protection have also been identified as major concerns in these countries.

This poses threat to the environment. Indeed, Francis and Sardesai (2008) reported that environmental degradation in the Niger Delta is intimately tied to the birth and development of the country's oil industry, which started in 1956. According to Fagbohun, exploration and geo-seismic activities leading to the commercial discovery of oil in the country left significant marks on the environmental landscape in the Niger Delta. UNEP (2011) noted, oil exploration and production projects have impacts on the natural environment long before any oil is produced. This, Isa (2012) notes, have resulted in over 4,000 oil-spill incidents ranging from minor oil spills of a few hundreds of barrels to over half a million barrels in a single incident

The impacts of oil production and exploration on natural resources, human life and socio-economic well-being in Nigeria are well documented.

As divergent as these various oil-related contamination sources are, they all affect land, water and air quality in the country and their impact can be felt over short and long term periods. Indeed, the degrading of the physical environment through unsustainable activities have ripple effects; undermining security, development and stability (Okonkwo, 2016). The decrease in food production is generally attributed to the increasing incidents of oil spillage, which destroyed farmlands. Such a decrease in food production constitutes a serious threat to the security of delta residents.

Nevertheless, Opara (2014) stressed that despite growing awareness of the impact of oil pollution and environmental degradation, the government continues to underplay environmental challenges, instead focusing on boosting oil production and improving revenues. The existence of management framework for the environment including legal, institutional and private initiatives to address the environmental issues in the region appear to have failed in yielding correlative changes in the environmental condition and where they are, seem to be doing so at a slow pace. Consequently, many agree that the current environmental condition in the Niger Delta does not spawn from a dearth of laws (Okonkwo, 2016). Rather, it is generally argued that the effectiveness of the current regulatory framework for environmental protection is impeded mainly by poor enforcement of stipulated measures. Thus, the severity of environmental contamination in the region remains a source of great concern.

In the light of this, this paper examined regulatory framework and sustainable development in the Niger Delta. It argued that weak enforcement of environmental regulations account for continued pollution in the Niger Delta region.

Conceptual Clarifications

Sustainable Development

There are many definitions of sustainable development, including this landmark one which first appeared in 1987: "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987). According to the World Bank (2012), people concerned about sustainable development suggest that meeting the needs of the future depends on how well we balance social, economic, and environmental objectives--or needs--when making decisions today. Sustainable development recognizes that growth must be both inclusive and environmentally sound to reduce poverty and build shared prosperity for today's population and to continue to meet the needs of future generations. It is efficient with resources and carefully planned to deliver both immediate and long-term benefits for people, planet, and prosperity.

The three pillars of sustainable development include economic growth, environmental stewardship, and social inclusion. Sustainable development recognizes that growth must be both inclusive and environmentally sound to reduce poverty and build shared prosperity for today's population and to continue to meet the needs of future generations. It is efficient with resources and carefully planned to deliver both immediate and long-term benefits for people, planet, and prosperity.

Environmental Management

Environmental Management is the processes of decision-making involved in the control and management of the environment and natural resources. It is used interchangeably with environment governance. The International Union for Conservation of Nature (IUCN, 2014), define environmental governance as the 'multi-level interactions involving local, national, international/global actors among others , which interact with interact, whether in formal and informal ways; in formulating and implementing policies in response to environment-related demands and inputs from the society; bound by rules, procedures, processes, and widely accepted behavior; possessing characteristics of "good governance"; for the purpose of attaining environmentally-sustainable development' (ICUN 2014). The key principles of environmental governance include embedding the environment in all levels of decision-making and action; conceptualizing cities and communities, economic and political life as a subset of the environment as well as emphasizing the connection of people to the ecosystems in which they live and conduct socio-economic activities. In Nigeria, environmental management derives impetus from the Koko dumping incident in 1988 and oil exploration in the Niger Delta region which has pitted oil producing communities/locals against the federal government and oil

Multinational Corporations because of oil related activities in the Niger Delta environment.

Environmental Management in Nigeria’s Oil Industry

Environmental management in in Nigeria’s oil industry is conducted within the ambit of statutory/legislative and institutional frameworks. These responsibilities are vested on several statutory regulations, institutions and agencies.

Legislative/Statutory Framework for Environmental Governance in Nigeria

Opara (2014) argued that has Nigeria an impressive amount of statutes that touch environmental protection in the oil industry. The evolution of the Nigerian legal regime for environmental protection effectively started in 1988 with drafting of the National Policy on Environment. In 1988, the country was confronted by the environmental issue caused by the Koko dumping incident. According to Opara (2014), the Koko incident pressured the Nigerian government to reassess its role in environmental protection. The resulted in the drafting of the National Policy on Environment in 1989, which provided a comprehensive environmental management plan that took stock of majority of the nation’s environmental problems and revolutionized environmental attitude in the country. Before this period, there was no clear environmental policy in the country. Government attitude to environmental protection was one of suspicion. Environmental protection legislations and initiatives in the country were largely reactive to problems of environment, health and safety and international obligations. Statutes, acts and laws that government environmental issues in the oil industry and their aims are summarised in table 1 below.

Table 1: Some laws for addressing environmental issues in Nigeria

s/n	Regulation	Aims
1	The Oil Pipelines Act (OPA)	It was enacted to make provision for licenses to be granted for the establishment and maintenance of pipelines incidental and supplementary to oil field and oil mining, and for purposes ancillary to such pipelines. Some of its provisions create implied environmental obligations for license holders. For instance, section 6(3) provides that “[t]he holder of a permit to survey acting under the authority of section 5 of this Act shall take all reasonable steps to avoid unnecessary damage to any land entered upon and any buildings, crops or profitable trees thereon, and shall make compensation to the owners or occupiers for any damage done under such authority and not made good.”
2	Petroleum Act (PA), 1969	It was created “to provide for the exploration of petroleum from the territorial waters and the continental shelf of Nigeria and to vest the ownership

		of all on-shore and off-shore revenue from petroleum resources
3	Oil in Navigable Waters Act (ONWA), 1968	The Act was enacted as a legislative response to international obligations created by Nigeria's accession to the 1954 International Convention for the Prevention of Pollution of the Sea by Oil.
4	Associated Gas Re-Injection Act (AGRA), 1979	The Act addresses problems of air pollution arising from gas flaring in oil production processes. The statutory intent of the Act is to mandate oil-producing companies in the country to submit programs for the re-injection and maximum utilization of associated gas.
5	Environmental Impact Assessment Act (EIA), 1992	The EIA was created to ensure that environmental effects of proposed projects are ascertained. Some of the issues considered under the Act include unavoidable adverse environmental impacts, project alternatives and irreversible commitment of resources.
6	Constitution of the Federal Republic of Nigeria (CFRN), 1999	The Constitution directs the government to "protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria.
7	Environmental Guidelines and Standards for the Petroleum Industry (EGASPIN), 2002	EGASPIN provides guidelines governing matters like environmental control of petroleum activities; waste generation and control in oil and gas production processes; and prescription of effluent limitations and general standards for industry operations
8	National Policy on the Environment (NPE)	The NPE consists of a program of actions built around a conceptual framework that seeks to establish the nexus between environmental problems on one hand, and their causes, effects and solutions on another. One of five major policy initiatives outlined as a means of achieving the goals of the NPE is the use of "... abatement, remedial and restorative activities directed at the specific problems identified, and ... problems arising from industrial production processes.

Source: Authors compilation [*Oil Pipelines Act, CAP 07 Laws of the Federation of Nigeria (LFN), 2004; Environmental Guidelines and Standards for the Petroleum Industry (EGASPIN), 1991 (as amended in 2002); Petroleum Act, 1969, CAP P10, Laws of the Federation of Nigeria (LFN), 2004; Oil in Navigable Waters Act, 1968, CAP 06 Laws of the Federation of Nigeria (LFN) 2004; Associated Gas Reinjection Act, 1979, Cap A25, Laws of the Federation of Nigeria (LFN), 2004; Environmental Impact Assessment Act, 1992, No. 86; Constitution of the Federal Republic of Nigeria, CAP C23 Laws of the Federation of Nigeria (LFN), 2004; and The National Policy on the Environment (NPE), Revised Edition, 1999]*

The Environmental Impact Assessment Act was created to ensure that environmental effects of proposed projects are ascertained. Some of the issues considered under the EIA Act include unavoidable adverse environmental impacts, project alternatives and irreversible commitment of resources. Consistent with its objectives, the Act is only concerned with preventing, reducing or mitigating adverse environmental effects of proposed projects and does not consider options for addressing these effects when they eventually occur.

Following the return to civil rule in 1999, Nigeria's constitution was amended to reflect democratic principles. However, this review did not expressly grant authority for environmental regulation and enforcement in the country. The only express reference to environmental authority under the CFRN, 1999 is in Section 20, which provides that "[t]he state shall protect and improve the environment and safeguard the water, air and land, forest and wild life of Nigeria."

The Environmental Guidelines and Standards for the Petroleum Industry were issued by the Department of Petroleum Resources pursuant to its powers under the PA and its regulations. The guidelines govern matters like environmental control of petroleum activities; waste generation and control in oil and gas production processes; and prescription of effluent limitations and general standards for industry operations.

Paragraph 5.1.1 requires all oil and chemical spills to be reported to the Director of Petroleum Resources, following which a Joint Spillage Investigation Team is constituted to address the spill. The Guidelines also empower the Director of Petroleum Resources to approve proposed methods for remediation, rehabilitation and restoration of impacted sites; and issue clean-up certifications following the satisfaction of prescribed conditions (para 5.1.2).

To achieve the goals under Part VIII of the Guidelines, which deals with standardization of environmental abatement procedures, two tools are adopted. They include Environmental Impact Assessment Reports and Environmental Evaluation (post-impact) Reports. The latter strategy is notable because it evaluates impacted sites, assesses the extent of damage and proposes strategies for restoring such sites. Paragraph B of Part VIII also requires operators in the petroleum industry to maintain Oil Spill Contingency Plans, showing records of spills and capacities for addressing them.

The Guidelines clearly ascribe responsibility for restoration to operators whose activities cause oil spills. This responsibility covers a range of obligations such as monitoring impacted sites and conducting restoration activities. Even when the source of a spill is unknown, operators are still responsible for containing and recovering spills within their areas of activity.

The NPE consists of a program of actions built around a conceptual framework that seeks to establish the nexus between environmental problems on one hand, and their causes, effects and solutions on another (Section 3). One of five major policy initiatives outlined as a means of achieving the goals of the NPE, as outlined in Section 3, is the use of "... abatement, remedial and restorative activities directed at the specific problems identified, and ... problems arising from industrial production

processes.”

Section 11 of the policy recognizes that laws, regulations and policies are important in addressing environmental problems but need to be completed by economic incentives and market-based instruments. In this regard, it proposes the development of a compensation framework for environmental damage to ensure that “the polluted environment is adequately compensated by way of remediation and restoration [;] persons affected are equitably compensated [;] and the offender or saboteur is made liable”

Notwithstanding, these developments are yet to translate into better environmental standards, especially in Nigeria’s oil-producing communities. Opara (2014) stressed that the legislative landscape for environmental management in Nigeria largely emphasizes the payment of monetary awards to victims of oil pollution at the expense of the environment. More so, despite increased awareness on the impact of environmental pollution on sustainable development in the Niger Delta, governmental response appears to be doing little or nothing to address oil-related pollution, particularly in the country’s Niger Delta region. Allen (2012) noted that the problem is not just about the robustness or sophistication of these measures, but their efficacy and enforcement by government and its agencies. Thus, UNEP (2011) concluded that the Niger Delta remains heavily polluted due to lack of sustained effort to restore the environment to support the peoples’ livelihood.

Institutional Framework for Environmental Restoration in Nigeria

Similarly, several institutions are involved in environmental management in Nigeria’s oil industry. The institutions and statutory mandates are summarised in table 2 below.

Table 2: Institution Framework for environmental management in the oil industry

S/n	Institution	Mandate
1	The Federal Ministry of Environment	The mandate is to secure an environment conducive for good health and well-being of fauna and flora; promote sustainable use of natural resources; restore and maintain ecosystems and ecological processes; preserve biodiversity; improve public awareness; and foster cooperation between relevant ministries, departments and stakeholders on environmental matters
2	National Environmental Standards and Regulatory Enforcement Agency (NESREA)	The responsibilities of NESREA include the protection and development of the environment; biodiversity conservation; sustainable development of Nigeria’s natural resources and environmental technology; and coordinating with relevant stakeholders within and outside Nigeria on matters

		of enforcement of environmental standards, regulations, rules, laws, policies and guidelines.
3	National Oil Spill Detection and Response Agency (NOSDRA)	NOSDRA's mandate is to restore and preserve the Nigerian environment by ensuring best oil field, storage and transmission practices in the exploration, production and use of oil
4	Department of Petroleum Resources (DPR)	The DPR is responsible for the enforcement of environmental regulations governing the oil industry.
5	Niger Delta Development Commission (NDDC)	The NDDC was established to facilitate rapid, even and sustainable development of the Niger Delta into a region that is economically prosperous, socially stable, ecologically regenerative and politically peaceful.

Source: Author's Compilation [*National Environmental Standards and Regulatory Enforcement Agency (Establishment) Act, 2007, Act 57; National Oil Spill Detection and Response Agency (Establishment, etc.) Act, 2006, No. 15; Niger Delta Development Commission (Establishment) Act, 2000, CAP C45, Laws of the Federation of Nigeria (LFN), 2004; and Department of Petroleum Resources - www.dpr.gov.ng*]

The National Environmental Standards and Regulatory Enforcement Agency (NESREA) was established by the National Environmental Standards and Regulatory Enforcement Agency (Establishment) Act 2007. Pursuant to Section 2 of the NESREA Act, the agency is responsible for "the protection and development of the environment; biodiversity conservation; sustainable development of Nigeria's natural resources and environmental technology; and coordinating ... with relevant stakeholders within and outside Nigeria on matters of enforcement of environmental standards, regulations, rules, laws, policies and guidelines."

Also, the National Oil Spill Detection and Response Agency (NOSDRA) was established to implement the country's National Oil Spill Contingency Plan (NOSCP). Its responsibilities include:

- i. Identifying high-risk and priority areas for protection and clean up.
- ii. Developing mechanisms for monitoring and directing resources to save lives, protect threatened environments, and clean up impacted sites.
- iii. Ensuring adequate funding and availability of communication systems and equipment for effective response to pollution incidents.

Other functions of NOSDRA include conducting surveillance and ensuring compliance with existing environmental legislations; detecting spills in the petroleum sector; coordinating oil spill response activities; and implementation the NOSCP throughout the country. The NOSDRA Act mandates operators in the oil industry to report oil spill incidents to NOSDRA no later than twenty-four hours after they occur. In addition, any oil company that fails to clean up an impacted site to all practicable

extent is liable to pay a fine of one million naira.

NODSRA reported that it continues to monitor remediation efforts by oil companies and has inspected over 1,150 impacted sites. According to NOSDRA, some of these sites have been returned to their natural state and appropriate certifications issued. Other successes reported by NOSDRA include the conversion of oil spill containment pits to fish ponds as well as the decommissioning and abandonment of well heads and production facilities in collaboration with oil production companies. However, the agency's activities are largely reactive and its efficiency is hampered by a poor deterrence framework under the NOSDRA Act.

The Department of Petroleum Resources (DPR) is an arm of the Ministry of Petroleum Resources in Nigeria. The DPR is responsible for the enforcement of environmental regulations governing the oil industry. Pursuant to this mandate, it developed the EGASPIN in 1991, with subsequent amendments in 2002. Notable functions of the DPR include:

- i. Supervising all petroleum industry operations being carried out under licences and leases in the country.
- ii. Monitoring the petroleum industry operations to ensure [they] are in line with national goals and aspirations including those relating to flare down and domestic gas supply obligations.
- iii. Ensuring that Health Safety [and] Environment regulations conform [to] national and international best oil field practice (<http:dprnigeria.org.ng>).

A major deficiency in the framework of the DPR is the dual role it plays in facilitating full development of Nigeria's petroleum resources on one hand and its responsibility for enforcing environmental regulations in the country's oil industry on the other

Reasons for Failure Environmental Governance in Nigeria's Oil Industry

Several factors account for the failure of environmental management in Nigeria. Wifa (2013) observed that one of the greatest challenges of the environmental governance in the Niger Delta is the ability to transform the provisions of relevant environmental laws and guidelines into a reality. While admitting that there are few regulations on these laws which are aimed at protecting the environment most of these laws have not been complied with therefore leading to a significant gap between policy and practice.

The reason for this was given by Okorodudu Fubara while criticising the environmental regulatory framework when she admitted that the real implementation of the Nigerian environmental laws will depend ultimately on voluntary compliance while adding that "given the circumstances to a country such as Nigeria, with market imperfections, and where voluntary compliance is far from the norm therefore, compliance will have to be aided by a strong will, power, and steadfast determination by the enforcement agents to enforce the environmental protection laws. It is evidenced in the UNEP EIA Report on Ogoni that in over 50 years of oil and gas exploration, no single EIA has been conducted (UNEP, 2011). Even when it is

conducted, it was a mere formal process, which was left to exist without verifiable implementation because in most cases it is conducted after the project has commenced.

Ekpu argues that “the use of poorly defined terms permit maximization of production rather than protection of the environment.” Opara (2014) outlined the weaknesses of the legislative and institutional framework for environmental management in Nigeria that accounts for their inability to mitigate environmental depredation in the Niger Delta.

- i. There appears to be widespread duplication of institutions, with similar or intersecting roles and responsibilities;
- ii. Most institutions are conferred with a broad range of responsibilities which raises potential challenges with enforcement, especially for roles that require consistent, long term resources;
- iii. Environmental obligations appear to lack statutory clarity and precision, leaving loop holes that can be used to avoid responsibility for environmental damage;
- iv. The punitive framework under most environmental statutes provides little or no disincentive to operators in the oil industry, when compared with international regulatory standards for oil exploration and production.
- v. The presence of various funds within the legal framework for environmental protection suggests a dispersed rather than targeted approach to financing environmental protection in the country; with economic implications, both for government and oil industry operators who largely finance these funds.
- vi. The extant framework appears to adopt a reactionary stance to environmental restoration and protection.

Consequences of Poor Environmental Management in the Niger Delta

The environment is the foundation and supports the livelihood of the indigenous people, who depend on natural resources and ecology to sustain them. UNDP (2006), emphasized that for years, the main livelihood of the indigenous people was based on farming and fishing. Highlighting the, Osuoka, (2003) summarised the consequence of poor environmental management in the Niger Delta on sustainable development and livelihood. He recalls the first time he saw frozen fish during the late 1970s when he was five:

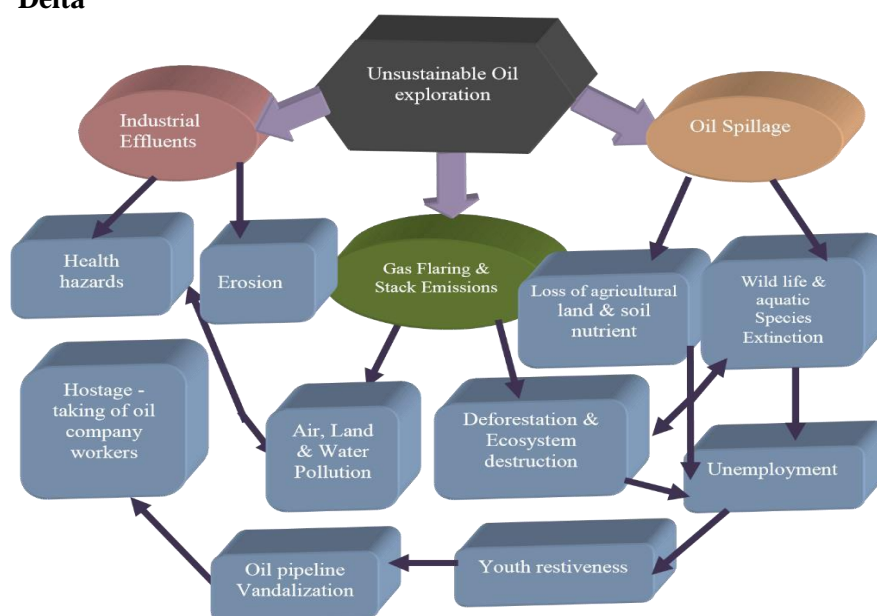
We never had fish brought in from outside... We had no idea what frozen fish meant. There were rumors that this fish was kept in a mortuary... Today, there is not a single person in my community you could describe as a fisherman. We depend almost totally on frozen fish.

Bentley et al. (n.d.) note that the Niger River Delta remains one of the poorest regions, largely due to the exploitation of oil and gas and the state policies that unjustly seize the rights of the native people to use and manage their natural resources. Furthermore, the activities of the oil corporations devastate the wetland

coastal plain; severe environmental problems arise from oil and gas-related development activities, oil spills, refinery operations, oil transportation, gas flaring, dredging of canals, and from land taken for the construction of facilities. In the past fifty years, 1.5 million tons of oil have been spilled in the area, threatening the livelihood of twenty million people. This is worsened by the poor management of the environment through lax enforcement of relevant regulations.

The implication of poor enforcement of environmental laws in the Niger delta is reflected in Diagram 1. It indicates that weak enforcement of environmental laws relating to oil production in Nigeria results in environmental degradation through oil spillage, gas flaring, canalization and industrial effluents. This further lead to health hazards, erosion, loss of agricultural land and soil nutrients, extinction of wildlife and aquatic species, deforestation, air and land destruction and ultimately unemployment and poverty. These undermines the livelihood of the indigenous people, creating the condition for youth restiveness, hostage taking and other forms of lawlessness. The heavy-handed and violent reaction of the federal government to these demands contributed to the decision of many groups to adopt more radical approaches to satisfy their needs. Francis and Sardesai (2012, p.18) observe that in many cases, unemployed youth (mainly men), are recruited into militant groups in the Delta. This is consistent with the assumption of the human needs theory. Indeed, Rosenberg (2003) states that violence is a tragic expression of unmet human needs, implying that all actions undertaken by human beings are attempts to satisfy their needs.

Diagram 1: Oil Induced Environmental Degradation and instability in Niger Delta



Widespread disillusionment in the Niger Delta with the social and economic contradiction of the region is reflected in the complexity, violence and intractability of conflicts over the years. Given the dependence of local livelihood systems on natural resources (almost 60% of the people in the Niger Delta depend on the natural environment, UNDP 2006), destruction of the environment from oil spills, gas flaring and deforestation have made the poorest communities vulnerable and have had direct deleterious impacts.

Conclusion/Recommendations

Oil activities have impacts on the soil, water and the forest environment in the Niger Delta and has played a major role in the undermining sustainable development in the region. Therefore, achieving sustainable development and stability requires effective, comprehensive enforcement of laws intended to ensure environmental friendly oil exploration in the country.

Existing regulatory and institutional framework for environmental governance in Nigeria recognize the dangers of oil pollution and its implications for environmental health. Some of these statutes mandate clean-up operations in polluted environments while others require compensation to human victims of oil pollution. Only a few impose penalties from oil pollution; even then, such penalties do not constitute sufficient deterrence.

It is evident that more needs to be done to mitigate environmental pollution in Nigeria and restore the polluted ecosystems to ensure sustainable livelihood. The terms of reference for most government agencies reviewed includes restoration of polluted lands. Consequently, it is also plausible to conclude that the current institutional framework for environmental restoration has some capacity to support sustainable development and livelihood in the Niger Delta. What has been lacking is the political will and commitment to holistically apply stipulated measures for the good of the people.

It demands more than piecemeal government management of environmental issues in the region. Furthermore, to ensure that practice matches the sophisticated legislation and regulation of oil exploration in Nigeria, there would be a need for a stronger political will backed up by effective public participation through NGOs and stakeholder consultations. There is no doubt that effective environmental governance is the tool which serves as the interface between environment, development and communities, therefore, enabling projects to work within the limits of the natural environment especially in complex oil and gas industry. This will no doubt resuscitate the livelihood of the local people who rely on the environment for livelihood.

References

- Allen, F. (2012), *Implementation of Oil-Related Environmental Policies in Nigeria*. Newcastle: Cambridge Scholars
- Bentley, C., Hinsta, M., Liu, M. Moskalenko, L. and Ng, S. (n.d.), The Oil Crisis in the Niger River Delta. http://www2.dnr.cornell.edu/.../Oil_Crisis_in_Niger_River_Delta.doc (accessed 10 August 2017).

- Department of Petroleum Resources, retrieved from <http://www.dpr.gov.ng> (accessed 20 August, 2017)
- Fagbohun, O. (2012), *Mournful Remedies, Endless Conflicts and Inconsistencies in Nigeria's Quest for Environmental Governance: Rethinking the Legal Possibilities for Sustainability*. Lagos: NIALS Press
- Federal Government of Nigeria (1992), *Environmental Impact Assessment Act, 1992, No. 86*, Lagos. Government Printers
- Federal Government of Nigeria (1999), *Constitution of the Federal Republic of Nigeria*, CAP C23 Laws of the Federation of Nigeria (LFN), 2004. Abuja: Government Printers
- Federal Government of Nigeria (2002), *Environmental Guidelines and Standards for the Petroleum Industry (EGASPIN), 1991* (as amended in 2002). Abuja: Government Printers
- Federal Government of Nigeria (2004), *Associated Gas Reinjection Act, 1979, Cap A25, Laws of the Federation of Nigeria (LFN), 2004*. Abuja: Government Printers
- Federal Government of Nigeria (2004), *Oil in Navigable Waters Act, 1968, CAP 06 Laws of the Federation of Nigeria (LFN) 2004*. Abuja: Government Printers
- Federal Government of Nigeria (2004), *Oil Pipelines Act, CAP 07 Laws of the Federation of Nigeria (LFN), 2004*. Abuja: Government Printers
- Federal Government of Nigeria (2004), *Petroleum Act, 1969, CAP P10, Laws of the Federation of Nigeria (LFN), 2004*. Abuja: Government Printers
- Federal Government of Nigeria (2016), *The National Policy on the Environment (NPE), Revised 2016*. Abuja: Government Printers
- Federal Ministry of Environment, NESREA ACT. Retrieved from <http://environment.gov.ng/about-moe/departments-agencies/agencies-parastatals/national-environmental-standards-regulatory-and-enforcement-agency-nesrea/>,
- Federal Republic of Nigeria (2004), *Niger Delta Development Commission (Establishment) Act, 2000, CAP C45, Laws of the Federation of Nigeria (LFN), 2004*. Abuja: Government Printers
- Federal Republic of Nigeria (2006), *National Oil Spill Detection and Response Agency (Establishment, etc.) Act, 2006, No. 15*. Abuja: Government Printers
- Federal Republic of Nigeria (2007), *National Environmental Standards and Regulatory Enforcement Agency (Establishment) Act, 2007, Act 57*. Abuja: NESREA
- International Union for Conservation of Nature (2014) 'Guidelines for Applying the Precautionary Principle to Biodiversity Conservation and Natural Resource Management. Retrieved from https://www.iucn.org/es/sobre/union/secretaria/oficinas/sudamerica/sur_trabajo/sur_pgam.cfm (Accessed August 13, 2017).
- Isa, M. N. (2012) 'The Role of Environmental Impact Assessment in Nigeria's Oil and Gas Industry'. (2012) A PhD Thesis submitted to Cardiff University.
- Morocco-Clarke, S. A. (2012). 'Improving Environmental Protection within the Nigerian Oil and Gas Industry: Long Term National Solutions, Short Term

- International Solutions'. A PhD thesis submitted to the University of Aberdeen
- O'Neill, T. (2007) "Curse of the Black Gold: Hope and Betrayal in the Niger Delta." *National Geographic*. February. Retrieved from <http://ngm.nationalgeographic.com/ngm/0702/feature3/index.html?fs=www3.nationalgeographic.com&fs=plasma.nationalgeographic.com>>.
- Okonkwo, C. I. (2016), Environmental Degradation and Political Instability in the Niger Delta (Unpublished Ph.D. Seminar), Nsukka, University of Nigeria
- Opara, N. F. (2014), Meeting Environmental Challenges of Oil Production in Nigeria: a Case for Environmental Restoration Funds (Unpublished M.Sc. Thesis Submitted) Calgary, University of Calgary
- Osuoka, A.I. (2003). "Politics and Agenda of Nationality Resistance: The Case of the Ijo of the Niger Delta." In T. Babawale (ed.) *Urban Violence, Ethnic Militias and the Challenge of Democratic Consolidation in Nigeria*. Lagos: Malthouse Press Limited.
- The Federal Ministry of environment (nd) *NOSDRA* Retrieved from <http://environment.gov.ng/about-moe/departments-agencies/agencies-paralstatal/national-oil-spill-detection-and-response-agency-nosdra/>
- UNDP. (2006). *Niger Delta Human Development Report*. Abuja: UNDP Nigeria
- UNEP (2011) Ogoni Environmental Survey. Retrieved from http://www.unep.org/disastersandconflicts/Portals/155/countries/nigeria/Project_Signed_MoE_UNDP_UNEP.pdf
- Wifa, E. L. (2013). The Role of Environmental Impact Assessment (EIA) in The Nigerian Oil and Gas Industry Using the United Nation's Environmental Programme EIA on Ogoni as a Case Study: Lessons from Some International Good Practices. Research Proposal
- World Commission on Environment and Development (1987), *Our Common Future*. New York: Oxford University Press