

AKSU Journal of Social Sciences (AKSUJOSS)
ISSN: 2504 – 933X
Vol.4,No.2 (September) 2024,pp.110-126
DOI:https://doi.org/10.61090/aksujoss.202.024
URL: htpp://www.aksujournal.com/vol.4.2

Received: **16th March, 2024**
Accepted: **1st June, 2024**
Published online: **1st September, 2024**

Evaluation of Environmental Rights Violations, Environmental Protection Legislations and Agencies in Nigeria

Johnson Dumomeaziba Agala
Department of Political and Administrative Studies
University of Port Harcourt, Rivers State, Nigeria
agalajohnson@gmail.com

Ekeuwei, Tarila Ayibaebi
Department of Political and Administrative Studies
University of Port Harcourt, Rivers State, Nigeria
ekeuweitarila@gmail.com

ThankGod Sabbath Etim
Department of Public Administration
Akwa Ibom State University, Obio Akpa Campus, Nigeria
Thankgodetim7@gmail.com

Abstract
The study is a critical evaluation of environmental legislation and agencies in the control and management of environmental rights violations in the Niger Delta. Arguably, the physical environment is the major and overall natural resource that not only embodies the existence of man but also ensures his survival, as well as the socio-economic development of the physical state and its constituents. Hence, the responsibility of protecting the environment against degradable violations is as ancient as the existence of man itself. The study therefore aimed at critically evaluating the extant environmental legislations and agencies in Nigeria in the control, mitigation, and management of environmental rights violations in the resource-rich Niger Delta region of the country. The qualitative method was used for the study through the descriptive-analytical research design. The structural-functional theory was adopted for the study. On the part of environmental legislation, it was found that not only did some legislations offer meagre punitive measures for heinous environmental crimes, but they also monetized these crimes. On the part of the agencies, the study found that challenges of inadequate funding, inadequate and poorly trained staff, absence of national presence, and paucity of data, impede the fight against environmental rights violations. It was recommended that punitive measures of environmental legislation like the Associated Gas (Re-injection) Act, 2004 should be reviewed to remove the monetization of offences while also establishing more stringent penalties like forfeiture of concession, nationalization, etc

Keywords: Environment, Environmental Rights Violation, Niger Delta, NESREA, NOSDRA.

Introduction

The government's main responsibility is to protect the lives, properties, and resources of its citizens, which also involves ensuring equitable distribution of resources to promote well-being and reduce poverty (Amadi, 2020). Environmental protection is crucial to achieving this goal, as it ensures the preservation of the natural resources and territory that sustain lives and livelihoods (Chijioke & Chinedu-Oko, 2011). This is especially important in less developed areas, where people rely heavily on land and its resources for subsistence and commerce (Ekeuwei & Akpan, 2022) Effective environmental management and policies are therefore necessary to balance human needs with environmental conservation for sustainable development.

The Niger Delta region in Nigeria faces significant environmental challenges, despite being a major hub for oil and gas production since the 1950s. The region's strategic location and economic importance have led to environmental hazards like oil spills, gas flaring, and pipeline vandalism, causing economic, social, and health problems for its 6.5 million inhabitants (Dickson, 2019; Kialee, 2021). Despite international and domestic environmental protection laws, the region continues to suffer from these issues, which have plagued the population for years. Environmental degradation has led to poverty and health hazards, making environmental rights a critical issue in the region (Ekeuwei & Akpan, 2022). Though the environmental degradation in the Niger Delta region constituted one of the major reasons for the 1964 revolt led by Major Isaac Adaka Boro, it has however escalated into large-scale destruction caused by both International Oil Companies (IOCs) and residents (Ugboma, 2015). Oil spillage by IOCs and pipeline vandalism/artisanal refinery by locals have destroyed land, water, and livelihoods, affecting the region's farming and fishing communities. This has led to food insecurity, poverty, displacement, and financial struggles, with an average of 150 oil spills recorded annually in the past 60 years (Ibaba, 2017). The cumulative effect is a severe environmental and humanitarian crisis in the Niger Delta region (Chijioke, 2022).

Explaining the depth of environmental rights violations in the region, Friends of the Earth International (2019) reported that between 1976 and 1991, Shell Petroleum spilt over 2 million barrels of oil into the Ogoni area of Rivers State, causing displacement and environmental destruction. The oil spills, which have continued in recent years, affected communities like Kegbara Dere, Bodo, Goi, and Bomu, destroying livelihoods, schools, and businesses, and leaving residents without access to clean water and food. The environmental degradation has led to prolonged poverty in the region, most times with no compensation from the government. The oil spills have violated the environmental rights of the people, causing significant harm to their health, livelihoods, and the local ecosystem (Agala, 2023). The environmental violations and human rights abuses by oil companies have extended to other parts of the Niger Delta region, including Delta, Akwa Ibom, and Bayelsa States. This has resulted in the loss of livelihoods, lives, and properties, leading to socio-economic poverty and social vices. Thus, the residents have resorted to illegal activities like kidnapping, armed robbery, and illegal crude oil refineries as a means of survival (Faga & Uchechukwu, 2019). These issues surged between 2006 and 2015, highlighting the need to address the root causes of environmental degradation and human rights (Ibaba, 2017).

It is needful to aver that the environmental rights violations in the Niger Delta region are also linked to the activities of vandalism by individuals, and groups, such as The Movement for the Emancipation of the Niger Delta (MEND), The Niger-Delta Revolutionary Force (NDRF), and The Niger-Delta Militants (NDM), which have caused oil spills, industrial waste, and fire disasters, leading to environmental destruction and harm to humans and wildlife (Ekeuwei & Akpan, 2022). For instance, the vandalism of pipeline points, with 350 reported cases in the first half of 2021, affected communities in Rivers, Bayelsa, Akwa Ibom, Delta, and Ogun States, resulting in losses to the economy, food economy, and quality of life (The Punch, 2022). The effects of these activities have been inflation, climate change, and natural environmental hazards like floods, acid rains, and erosion, further impacting humans, the ecosystem, and economic engagements (Ibaba, 2017). The region's reliance on agriculture makes it particularly vulnerable to these environmental hazards, exacerbating the socio-economic challenges faced by the communities.

The Nigerian government has attempted to address environmental rights violations in the Niger Delta region by enacting domestic legislation and establishing institutions. The Associated Gas (Re-injection) Act of 2004 and the National Environmental Standards and Regulations Enforcement Agency (NESREA) are examples of such efforts. However, despite

these measures, environmental degradation persists in the region, manifesting in oil spillage, pipeline vandalism, gas flaring, and water, air, and land pollution, among other issues in the Niger Delta communities which have remained the poorest in Nigeria, with a staggering 70% of the population living below the poverty line (Sahara Reporters, 2022). This paradox raises concerns about the effectiveness of the legislation and agencies tasked with protecting environmental rights. Critics argue that the legislations suffer from limitations in their content and context, which restrict its applicability and enforcement (Ambittuuni et al, 2014; Ezenwa-Ohaeto et al, 2020; Kumor, 2021). Furthermore, the agencies face challenges related to technical inefficiencies and inconsistent actions, hindering their ability to effectively address environmental violations. The inadequacies of these measures have led to ongoing environmental degradation, perpetuating the cycle of poverty and socioeconomic hardship in the Niger Delta region. To address these issues, it is essential to re-examine and strengthen the existing legislations and institutions, ensuring they are equipped to effectively protect environmental rights and promote sustainable development in the region.

It is therefore contingent on this challenge that this paper seeks to critically assess the effectiveness of environmental legislations and agencies in environmental rights protection in the Niger Delta.

Conceptual Review

Environment, environmental rights, and environmental rights violation

The term "environment" originates from the French word "*environ*," meaning "everything surrounding us." The environment encompasses various factors, including physical, chemical, cultural, and biotic elements that influence an organism's development and survival. It is also considered an ecological community that shapes an organism's form and survival (Environ Review, 2020). Broadly defined, the environment includes any factor affecting human and organism activities, encompassing both concrete and abstract aspects, such as culture and traditions. This comprehensive view is supported by Josh (2015), who defined the environment as the forces and materials surrounding living organisms, controlling their life. The use of "materials" and "forces" highlights both the tangible and intangible components of the environment. Consequently, environmental institutions and scholars have provided specific definitions of the term, especially concerning the physical and concrete elements which directly affect the existence and survival of living things.

Given this, Witchell & Sheeshka (2011) defined the environment as the geographic area and factors around humans and other organisms which influence or affect the resources (for example, food) available to the inhabitants and the quality of such resources. These factors may include the built environment (man-made infrastructure) like buildings, and roads, and the natural environment such as land, plants, air, animals, water bodies, etc. According to Live Well San Diego (2014), the environment refers to the external surroundings and conditions in which humans live and which have a direct influence on a person's health. These factors comprise air, trees, natural vegetation, lakes, oceans, and lands. An acceptable definition of the term concerning the study does not only state the constituents of the environment but the importance of such in man's survival and development. Thus, the New Zealand Ministry of Social Development (2003) described the environment as the concrete factors like plants and animals, land, water, buildings, air, and other infrastructures and all the natural resources embedded therein, which provide the basic needs of man and the opportunities for socio-economic development.

From the corollary, environmental rights refer to the assurance of access to the undiluted natural resources in the environment like land, food resources, water and air. Extensively, environmental rights revolve around the freedom (though constrained by constitutional law) to enjoy ecological rights, which includes the right for an individual to

enjoy the natural and unrefined resources of a particular landscape (Friends of the Earth International, 2003). In broader parlance, environmental rights are parts of the basic human rights required for survival by mankind, in addition to the natural rights to food, shelter, clean water, air, education and others. The primary concern of environmental rights is to ensure access to these resources by all earth's inhabitants. Therefore, environmental rights involve not just the protection of natural resources, but the orchestration of access to and use of these resources, as well as the effects of such access to surroundings and the resources alike (Pachamama Alliance, 2022).

In establishing a relationship between human rights and environmental rights, the United Nations Environmental Programme (UNEP) defined such rights as any proclamation of a human right to environmental conditions of a specified quality. From this, the organization explains that there is a direct nexus between human rights and environmental rights as the former cannot be enjoyed without access to environmental factors such as a safe, clean, and healthy environment. A generally accepted definition of environmental rights is one given by Brisman (2018) who did not limit environmental rights to the right to enjoy environmental resources, but also the right to participate in the public policy-making process which has the potential to affect the environment. According to him, environmental rights (also called ecological rights) are substantive rights of humans to exist and live in a healthy environment, with access to unspoiled natural resources like air, land, and water, which are indispensable for survival, as well as the rights of access to environmental information, participation in public policy-making processes or decisions which affect or has the potentials to affect man's environment, and access to judicial redress in cases where these rights have been violated.

Environmental rights violations take other nomenclatures such as environmental law violations, environmental crimes, and environmental violations. Whatever the nomenclature, the general factor is that it refers to the disregard of environmental rights or safety principles which may result in physical, biological, and socio-economic liability to humans and their environment. According to the Pennsylvania Lease and Agreement Law, environmental [rights] violation refers to any direct or indirect discharge, disposal, spillage, emission, escape, pumping, pouring, injection, leaching, release, seepage, filtration or transporting of any hazardous substance at, upon, under, unto or within either related premises or from either related premises to the environment in violation of any reportable quantity (Pennsylvania Lease and Agreement Law, in Law Insider, 2020).

According to Impact Law (2022), environmental rights violation, also known as environmental crimes, is simply the disregard or violation of laws intended to protect, preserve and maintain the environment about human health. From these definitions, it can be summarized that environmental rights violation involves the activities, conditions, processes or actions which are destructive to the human environment and resources therein, and which also contradicts extant environmental laws in an entity. Some of these activities may include, illegal/hazardous waste dumping, oil spillages, destruction of wetlands, illegal mineral extractions, etc.

Environmental rights applicable to Nigeria are entrenched in Article 24 of the African Charter on Human and People's Rights (African Charter), and Article 12.2(b) of the International Covenant on Economic, Social, and Cultural Rights. Consequently, both Articles explain rights as follows:

a) The right to an adequate standard of living, including the right to food – A violation of this right may stem from the impact of oil-related pollution and environmental damage on agriculture and fisheries, which are the main sources of food in the Niger Delta.

b) The right to gain a living through work – A violation of this right may take the form of minor or major damages or degradation of agriculture and fisheries, which are the main sources of livelihood for the people of the Niger Delta.

c) The water right – A violation of this right may take the form of oil spills, industrial waste disposals polluting water used for drinking and other domestic uses in the Niger Delta.

d) The right to good and safe health – A violation which occurs when there is a failure to secure healthy living in a healthy environment, and the failure to protect the environment against anthropogenically caused degradation.

e) The right to adequate monitoring of the human impacts of oil-related pollution.

f) The right to adequate information and consultation on the activities and impacts of oil operations on the human rights of the people.

g) The right to access effective remedies for people whose human rights have been violated.

Theoretical Framework: Structural-Functional Theory

Structural-functionalism being a foundational sociological theory, initially likened society to the human body, where diverse components work together in harmony for the entire organism to function effectively (Akpan & Ekeuwei, 2023). In this context, social institutions, belief systems, behavioural patterns, and cultural norms serve as the "organs" that meet various social, economic, and political needs. The sociological aspect of the theory further posits that the social structure comprises institutions, norms, and values that play specific roles, ensuring stability through patterned behaviours. Thus, dysfunction in any of these social structures can have far-reaching consequences, potentially leading to societal collapse (Gangwar, 2021).

Building on the foundation above, Gabriel Almond (1911-2002) and Bingham Powell (1942-till date) adapted the theory to political systems, defining structures as not only traditional institutions like executive, legislative, and judicial branches, but also observable activities, behaviours, and patterns. These structures include political economy characteristics, citizen socio-political culture, and administrative patterns in governance institutions and agencies (Jackson, 2023). Functions, on the other hand, are actions performed by specific structures to maintain system stability and relevance (London, 2023). These functions, as Ezeanya (2010) notes, are consequences of actions or behaviours by members or constituents of each structure.

The theory emphasizes the specialization of functions to avoid instability and overlap, dividing functions into input (non-governmental) and output (governmental) categories (Akpan & Ekeuwei, 2023). Input functions involve socio-political exchanges, such as socialization, interest articulation, and political communication, typically performed by NGOs and socio-political groups. Output functions, including rule-making, application, and adjudication, involve direct government-people exchanges (Jackson, 2023). By understanding the structures and functions of a political system, Almond and Powell argue that stability can be maintained, and comparisons can be made across different countries and cultures. This understanding provides valuable insights into how political systems operate and evolve.

The theory is relevant to the study as it explains environmental legislations and agencies as structures (parts) of a state or political system (whole) which interact with other structures to ensure the safety of the environment using regulatory and enforceable instruments (functions). Thus, the modulation and content of the legislation as well as the actions, behaviours, and activities of the Environmental Protection Agencies (EPAs) can

either result in the sustainable maintenance and development of the environment or destructive to it, and in extension, the people therein. In the negative, the socio-economic stability and development of the people who depend on environmental resources for subsistence and commerce are disrupted, with attendant effects being displacement, unemployment, food scarcity and accompanying food inflation, and socio-political crises as evident in the militancy in the Niger Delta. Thus, the theory explains environmental legislation and agencies as crucial for socio-political and economic stability in the Niger Delta. The study is therefore a critical evaluation of the propriety of these legislations, as well as the agencies with expected responsibilities.

Overview of Environmental Rights Violation in the Niger Delta

Since the discovery and commercialization of crude oil in 1956 and 1959 respectively in the Niger Delta, environmental violation in the form of oil spills, gas flaring, harmful industrial wastes disposal, and even deforestation caused majorly by anthropogenic activities of International Oil Companies (IOCs) and residents have continued increasingly. While these activities have constituted immediate life-threatening menaces to residents of the region through the release of toxic substances such as sulphur dioxide, benzene, and Polycyclic Aromatic Hydrocarbons (PAHs) into the environment, it is observed that they have translated into natural environmentally destructive occurrences like flooding, erosion, acid rains, etc., as remote and reverberating effects (Lugard, 2016).

Though the first oil spill in Nigeria occurred as far back in 1908 at Araromi in present-day Ondo State, the first post-independence spill which led to the destruction of farmlands and water bodies occurred in 1979 at the Forcados Terminal in Delta State where over 570,000 barrels of oil was spilt. Other remarkable environmental rights violations followed after and included the spills from the Funiwa Field blowout where an estimated 421,000 barrels of oil was spilt into the river in 1980, the Oyakama oil spill of 1980; the Ebocha-Brass pipeline spill of 1983, the GOCON's Escravos spill of 1978 where about 300,000 barrels were spilt, the Abudu pipeline spillage of 1982 which spilt about 18,88 barrels of oil, the Jeddi fire incident; and the Idoho oil spill of 1998 which spilt over 40,000 barrels (Bashir, 2021). Between 1976 and 1996, it was reported that a total of 4,647 spills had occurred in the Niger Delta resulting in a loss of an estimated 2,369,470 barrels of oil. Additionally, between 1997 and 2001, a total of over 2,097 incidents had been recorded (Lugard, 2013; Bashir, 2021; Kadafa, 2012). The corollary is similar to the case of gas flaring where statistics in 2004 showed that the volume of gas flared in Nigeria equalled one-sixth of the total gas flared in the world, which also made her the second largest offending country after Russia in terms of gas flaring (Howden, 2010). More recently however, the country flared 5.3 billion cubic metres of gas in 2022, making her one of the 9 countries which currently account for nearly three-quarters of gas flared, holding the 9th position after Russia, Iraq, Iran, Algeria, Venezuela, United States, Mexico, and Libya (World Bank, 2023a; World Bank, 2023b).

Between 2010 and 2021, numerous cases of environmental rights violations in the Niger Delta have been recorded. This, according to Professor Sofri Peterside is blameable on the technical negligence of the IOCs, gross disregard for environmental laws in the country, and the inability of the judiciary to enforce compensations payable to the affected communities and individuals by spills, industrial wastes and gas flares (Dukor, 2022). Some of these degrading occurrences include the 2010 oil spill in the Aminigborkor community in Abua/Odual LGA in Rivers State, from the SPDC facility, which was followed by a discharge of waste and harmful chemicals into the water and streams; the Agip pipeline spill which caused an explosion at the Ibucha oil centre in Okwazi Community in Rivers State, the oil spill at River Nkisa, etc. In fact, between 2010 and 2015, there were recorded over 7,190

cases of environmental violations through spillages amounting to over 321,079.276 barrels of oil. In the same vein, over 3, 3558 cases of oil spills were recorded between 2016 and 2021 with an estimated 191,143 barrels of oil spilled (Nigerian Oil Spill Monitor, 2022). The table below shows the environmental rights violation through spillages in the Niger Delta from 2010-2021.

Table 1: Oil spills in Nigeria from 2010-2021

Year	No. of spill	Vol. of oil spilled (in barrels)	Major spills	Medium spills	Minor spills	Uncategorized spills
2010	889	47,261.017	3	37	575	274
2011	1059	73,132.011	2	23	664	370
2012	1135	41,802.003	4	34	698	399
2013	1666	32,292.157	1	29	823	813
2014	1521	78,890.461	8	30	903	580
2015	920	47,701.628	4	27	582	304
2016	684	42,734.529	5	19	447	211
2017	598	35,003.785	6	15	381	195
2018	699	27,784.852	0	28	482	188
2019	723	39,333.971	5	30	462	211
2020	442	22,675.014	0	25	307	105
2021	412	23,611.578	2	6	261	138

Source: Nigerian Oil Spill Monitor, 2022; https://nosdra.oilspillmonitor.ng/

The statistics represented in the table above indicate a decline in the number of spills and barrels spilt from 2015 to 2021 with an intermediate increase in 2019. The decline can be adjudged to the response of the government and Environmental Protection Agencies (EPA) on the anthropogenic causes of spills (pipeline vandalism and technical failures by IOCs). It should also be noted that over 1,948 (about 20%) of the oil spill sites recorded in the last 11 years were not visited by a Joint Investigation Team.

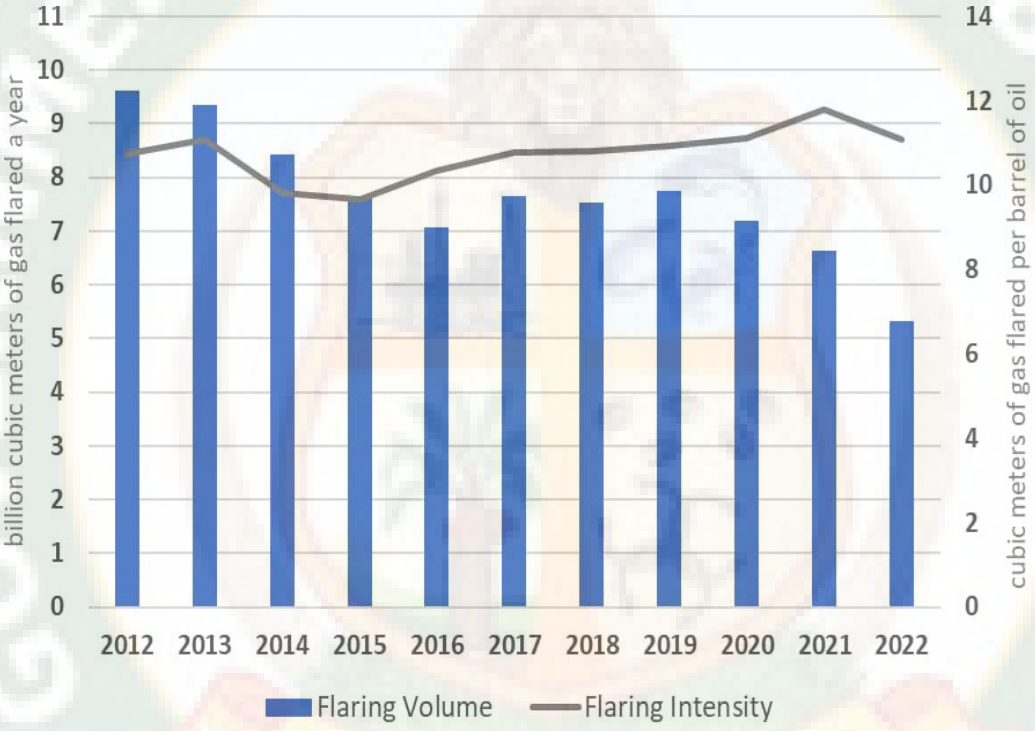
Table 2: Some major oil spills in the Niger Delta between 2010 and 2022.

Nomenclature of spill	Location	Year
The Aiteo Eastern Company Spill	Basambri, Nembe LGA, Bayelsa State	2021
Chevron North Apoi Gas rig Spill	Southern Ijaw LGA, Bayelsa State	2012
Qua Iboe Terminal Oil Spill	Ibeno LGA, Akwa Ibom State.	2015
The Shell Bonga Oil Spill	Brass, Bayelsa State.	2011
The Trans-Niger Pipeline Oil Leak	Bodo, Rivers State.	2022

Eleme Oil Spill	Eleme, Rivers State.	2019
The Exxon Mobil Spill	Ibeno, Akwa Ibom State.	2014
The Awoye Oil spill/Explosion	Ilaje LGA, Ondo State.	2019
The Isimiri Oil Field Spill	Ukwa West LGA, Abia State.	2011
The Etsaka Oil Spill/Explosion	Etsaka LGA, Edo State.	2017

Source: Author's Compilation, 2024.

The chart below shows the volume and intensity of gas flaring in Nigeria from 2012-2022



Source: World Bank (2023).

Evaluation of Environmental Rights Protection Legislations In Nigeria: A Critique

There are diverse environmental rights laws in Nigeria beginning from the general provisions of the 1999 Constitution. However, outside the constitution, critical appraisals shall be directed to a few which are reflective of oil/gas-related violations. They are explained and criticized below:

The 1999 Constitution of the Federal Republic of Nigeria (as amended)

The Nigerian constitution spells out the objectives of the government viz a viz environmental rights protection. Under Section 20, the constitution states that "the state shall protect and improve the environment and safeguard the water, air, land, forest and wildlife in Nigeria". This succinctly explains the commitment of the government to the general protection of the environment as a human right. However, the provision of the constitution above has been argued to be ineffective in environmental rights protection because it is rendered unjustifiable by the provisions of Section 6 (6)C of the same constitution. Accordingly, the section states

that the judicial powers vested by the foregoing provisions of this Section shall not except or otherwise provided by this constitution, extend to any issue or question as to whether any act or omission by any judicial decision conforms with the principles of state policy set out in Chapter II of this constitution (Section 6 [6]c of the 1999 Federal Constitution of Nigeria, as amended).

According to Ainoko (2020), the provisions of the section above render the courts incompetent in adjudication on issues about the enforcement of Section 20 of the constitution. For instance, in the case of Okogie (Trustees of Roman Catholic Schools) and others Vs Attorney-General of Lagos State, the court declared that it has no jurisdiction to decide whether any organ of government has acted or is acting in conformity with the Fundamental Objective & Directive Principles of State Policy as contained in Chapter II of the constitution. Hence, this serves as an obstruction to the fight against environmental violations and the uncovering of environmental rights abuses.

Associated Gas (Re-injection) Act, 2004.

The Act provides a legal framework for the utilization of gas on lands and Exclusive Economic Zones (EEZ). The Act mandates the reinjection of gas into the earth's crust. It also mandates the submission of detailed gas utilization plans by gas flaring companies. The Act provides that all oil and gas producing companies have only 6 months from the submission of the preliminary plan to the submission of the detailed reinjection plan. The Act also moves to mitigate gas flaring by stating that where the Minister of petroleum (who is the overseer of the petroleum industry) is unsatisfied with the amount of gas flared in a particular field, he may issue a certificate specifying the terms of the continuation of flaring in the respective field or that the company pays such sum as he may from time to time prescribe for every 28.317 Standard Cubic Meters of gas flared, or forfeit concessions granted about the field or fields of the offence (Associated Gas (Re-injection) Act, 2004).

In pursuance of the provisions of this Act, oil and gas companies in the Niger Delta have established gas utilization and reinjection projects such as the Escravos Gas project in Delta state, the Oso Condensate project in Akwa Ibom state, and the Belema gas reinjection project in Rivers state (Nwokike, 2020; Udok & Akpan, 2017). The Act is however been criticized on grounds of monetizing gas flaring and the absence of strict punitive measures or penalties on gas flaring companies. Since gas flaring companies would prefer to pay the Minister of Petroleum an agreed fee to continue flaring gas, the Act thus indirectly legalizes gas flaring.

Harmful Waste (Special Criminal Provisions, etc.) Act, 2004

The Act prohibits without lawful authorization, the carrying, dumping, or deposition of harmful wastes in the air, land or water of Nigeria. The Act was first enacted in 1988 as a response to the Koko incident of 1988. The Act provides that offenders are liable for life imprisonment as well as the forfeiture of any physical substance used in committing the offence. The offenders are also responsible for damages or injury to people affected by the offence. Critically, it has been observed that since the enactment of the Act, there has been no sort of criminal prosecution of offenders as well as compensation for persons affected by improper waste disposals especially IOCs even at the multiple occurrences of these offences in the country.

Environmental Impact Assessment Act. CAP E12, LFN, 2004

The Act sets out general principles and methods to enable the prior consideration of environmental impact assessment of public and private sectors. Generally, the Act states that companies must provide an assessment of the likely or potential impacts or consequences of the prospective activities and the alternative means of carrying out such projects as well as

the effects of such. The documents are expected to be provided in written form to the Federal Ministry of Environment clearly stating the social, economic and environmental impacts.

It has however been argued that EIA is hardly undertaken in Nigeria before the approval and commencement of some projects, especially road construction projects. As another weakness, it is observed that Nigerians rarely receive information about the EIA of development projects. For instance, the dredging of the low River Niger as a development project affected neighbouring communities which were neither consulted nor provided the assessment report before the commencement of the project. In another perspective, the punitive measures for non-compliance with the Act are flagrantly insubstantial. Offending individuals are liable for a payment of $238 only, while firms, companies, or corporations are liable for an amount between $119 and $2,384 (Ibrahim, et al, 2020; Obaji, 2022).

The Oil Pipeline Act, CAP O17, LFN, 2004

The Act establishes a liability in the person who owns or is in charge of an oil pipeline. Such a person would be liable to pay compensation to anyone who has been affected physically or economically as a result of breakage or leakage of pipelines. Section 9 (1)b of the Act also provides that any contravention of the Act would be followed by a fine of ₦500,000 and/or imprisonment for a term of six (6) months. The Act also makes provisions for the issuance of permits to survey pipeline routes and licenses for the establishment and maintenance of pipelines. The Act has faulted as it is adjudged to be one of the major causes of insecurity, conflicts, and poverty in the Niger Delta by permitting through Section II the rights of pipeline owners to enter upon any land, take possession of, and cut vegetation to have its pipeline within 200ft width at the payment of compensation, in the case of interference with public/private facilities and even farmlands, vegetation, and water bodies meant for subsistence and commerce of residents (Dike, 2016).

Oil in Navigable Waters Act, CAP 06, LFN 2004

The Act primarily focuses on the discharge of oil from ships into the sea shores of Nigeria. The Act prohibits the discharge of oil from a Nigerian ship into territorial waters or shorelines. It also makes offensive the transfer of oil into dischargeable forms into the Nigerian waters. The Act also requires the installation of anti-pollution equipment on ships. A fine of ₦2000 is imposed as a punitive measure for offenders. The weakness of the Act is the underestimation of such environmental rights violations by placing weightless penalties on offenders.

Hydrocarbon Oil Refineries Act, CAP H5, LFN, 2004

The Act is majorly concerned with the licensing and control of refinery activities in the country. Section 1 prohibits any unlicensed refining of hydrocarbon oils in places other than a refinery. Section 9 requires refineries to provide and maintain pollution prevention facilities. It also provides that the construction, testing, and operation of refineries shall be in tandem with the conditions for "good refinery practices" as acceptable by the Department of Petroleum Resources (now called Nigerian Upstream Petroleum Regulatory Commission). The Act has been criticized on the grounds of poor implementation and clear areas of oversight owing to its inability to curb the pervasive artisanal refinery which has cost the country over 200,000 barrels of crude oil per day, and an estimated $4 billion yearly (Partnership Initiatives in the Niger-Delta, 2022; Ambituuni, et al., 2014).

Generally, some environmental protection legislations are a mere duplication of the general and specific objectives, regulations, and direction of responsibilities, hence, rendering the unity of direction and jurisdiction for the workability of such legislations wavy and shaky. In cases of environmental violations and disasters, legal jurisdiction becomes difficult to ascertain, which could further truncate the judicial process and interpretation of

environmental protection provisions. Such is obvious in the provisions of the National Oil Spill Detection and Response Agency(NOSDRA) Act, 2006 and the Petroleum Industry Act, 2021, which both accede the responsibility for monitoring all oil pollution and the process of detecting it as well as ensuring the clean-up to the NOSDRA and the Nigerian Upstream Petroleum Regulatory Commission (formerly The Department of Petroleum Resources [DPR]).

Additionally, some of the environmental protection legislations in the achievement of broad objectives through the agencies are observed to be paradoxical and contradictory in their approach towards environmental protection. This stems from the fact that while the broad objectives of these agencies are to prevent, mitigate and control environmental violations by corporations and individuals alike, the punitive measures set aside by these legislations are rather observed to be adaptive – the meagre penalties meted to offenders and the monetization of environmental offences at the approval of authorities like the Minister of Petroleum, who is also the President of the Federal Republic of Nigeria (Kumor, 2021). For instance, the Associated Gas (Re-injection) Act, 2004, allows the President to alternatively charge an offending corporation a discretionary amount for every 28.317 Standard Cubic Metres of gas flared, where he is unsatisfied with the volume of gas earlier flared by the offending corporation in a particular field or fields (Nwokike, 2010; Udok & Akpan, 2017). In the same vein, the payment of ₦100, 000 and ₦50,000 - ₦1,000,000 respectively by offending individuals and firms as provided in the Environmental Impact Assessment (EIA) Act of 2004 is insubstantial and inconsequential, thus, providing individuals and firms with the preferable option of flagging the provisions of the legislations for private interests, at the expense of humans and their properties. Hence, such constitutes one of the reasons oil/gas-producing MNCs will always prefer to pay humungous amounts to flare gas or disregard environmental protection guidelines.

Evaluation of Environmental Protection Agencies (EPAs) in Nigeria: A Critique

The government through legislative Acts and executive mandates has established agencies and institutions to enforce environmental protection laws. There are multiple environmental agencies in Nigeria, but the functions of these agencies as related to the environmental degradation of the Niger Delta are overshadowed by three (3) major agencies. They are The National Environmental Standards and Regulations Enforcement Agency (NESREA), The National Emergency Management Agency (NEMA), and The National Oil Spill Detection and Response Agency (NOSDRA).

The National Environmental Standards and Regulations Enforcement Agency (NESREA)

The NESREA was established by the NESREA Act, of 2007, to repeal and succeed the Federal Environmental Protection Agency (FEPA) Decree of 1988. The NESREA is the subordinate environmental regulator in Nigeria. The overriding function of the NESREA is to take responsibility for the enforcement of all environmental laws, standards and regulations, guidelines, and policies in Nigeria as well as enforcement of compliance with the provisions of international agreements, protocols, conventions, and treaties on environmental issues to which Nigeria is a signatory. The agency is faced with the problem of inadequate personnel owing to requirements from Section 16(1) and Section 34 (1) of the NESREA Act, which demands well-trained environmental experts, which are deficient in the country. The agency is also criticized for restrictive and low public involvement of residents in environmentally related assessments. Many of the EIA reports are not usually made available to the communities and critical stakeholders and agencies (including NESREA) involved in environmental issues. Where some of these reports are made available, comments from the participants are usually discarded by the stakeholders and agencies.

This was obvious in the Baytide (Nig) Ltd. Vs. Aderinokun & Others case in 2013, where the appellant was dragged to court for undertaking a project which damaged the surroundings of the respondents without proper EIA and public awareness. The enforcement capacity of the NESREA is also weakened by the duplication of environmental agencies at both state and local levels (Ishaku, 2019). Additionally, the agency does not have enforcement powers over the oil and gas sector. As a result, the NESREA does not have powers to enforce laws on matters of pollution, exploration and exploitation of petroleum and natural gas, thus, hindering environmental justice (Ijaiya & Joseph, 2014).

The National Emergency Management Agency (NEMA)

The NEMA was established through Act 12 as amended by Act 50 of 1999 with the sole aim of managing environmental disasters in Nigeria. The NEMA is an appendage of the National Emergency Relief Agency (NERA) which was established for the provision of relief during emergencies instead of prevention, management and control. The agency has its headquarters in Abuja, with offices in each of the geo-political zones of the country. It is observed that there are usually conflicts of jurisdiction between the agency and other environmental response agencies such as NESREA, NOSDRA, and both national and international NGOs in the assessment of environmental hazards related to oil spills. Additionally, the agency is unable to assess adequate funding for activities like hazard assessment, forecasting, risk assessment, and public awareness. Hence, the agency resorts to the use of obsolete communication and transportation equipment, which paints the agency with the character of incomprehensive disaster information and poor early warning mechanisms (Nweke, et al, 2015). For instance, according to the NEMA National Contingency Planning 2019-2021, the agency lacked a drilling rig and accessories, tanker trucks, plastic tanks, buckets and cups, plastic buckets fitted with tabs, refuse bins, latrine construction model material and water treatment kit, chemicals (chlorine, water treatment tablets, etc), as well as poor agreements with service providers and suppliers.

The National Oil Spill Detection and Response Agency (NOSDRA).

The NOSDRA was established in 2006 by an Act of the National Assembly. It was primarily established to oversee the implementation of the National Oil Spill Contingency Plan (NOSCP) for Nigeria, in line with the International Convention on Oil Pollution, Preparedness, Response, and Cooperation (OPRC90) to which Nigeria is a signatory. It is the general objective of the NOSDRA to prepare, detect, and respond to all spillages in Nigeria through her advisory, monitoring, evaluating, mediating, and coordinating arm: the National Control and Response Centre (NCRC) (Ezenwa-Ohaeto, et al, 2020). The agency has proven inefficient in the discharge and enforcement of its functions owing to the lack of professional staff and equipment, which provides leeway for oil corporations to influence Joint Investigative Visits (JIV) over the agency. Additionally, the agency also adopts wrong and traditional approaches in determining the volume of oil spills in the Niger Delta – by testing the depth of the oil with a rod or stick and the assessment of spills on water and land surfaces. Going forward, the agency delays in responding to cases of oil pollution. For instance, an oil spill at Imo River had to continue for 21 days before the NOSDRA responded and forced the offending company to turn it off (Kumor, 2021).

Critically, it should be noted that the problem of coincidence of responsibilities as discussed earlier applies to environmental agencies alike. However, the challenges of these agencies as explicated above are subsumed under inadequate funding, inadequate and poorly trained staff, lack of national presence, and paucity/incongruity of data. These are briefly discussed below. First, the inability to make funds available to the environmental protection agencies constitutes a major challenge to the fight against environmental rights violations in the Niger Delta. As opined by Ambituuni, et al (2014), most of the EPAs depend on industry

players for facilities, resources, and even equipment for monitoring activities. This results in a situation where the power of the agencies to influence the activities of the corporations, as the case may be, is crippled. Such powers are further disabled as a result of the cogent relationship between the IOCs and the Minister of Petroleum (the President). For instance, there was a situation report in 2009 of the DPR (now known as the Nigerian Upstream Petroleum Regulatory Commission) being subject to the NNPC and the Presidency, which led to the improper discharge of its functions(Amundsen, 2010).

Second, the technical staff of critical agencies such as the NOSDRA and NESREA are grossly inadequate and untrained. For instance, the technical staff of the NOSDRA adopted an outdated and invalid method of determining the volume of oil spilt. It also uses a faulty method of ascertaining the impacts of oil spills - through the amount of water or land visually impacted (Kumor, 2021). However, experts believe that spills that occur for a longer period can spread into streams and swamps, which may not be visible after being washed off by rain or runny water.

Third, in an investigation by UNEP into the paucity of staff in some environmental agencies in Nigeria, it was observed that the ineffectiveness of the agencies is traceable to the concentration of administrative and technical headquarters in Abuja, which is the capital of the country, or the major cities of the states or regions, which makes it difficult for them to respond swiftly to emergencies. The absence of national coverage is inimical to the fight against environmental rights violations. For instance, of 9 oil-producing states in the country, the NOSDRA has zonal offices in 5 states - Rivers, Delta, Akwa Ibom, Ondo and Bayelsa states. The establishment of an office in Gombe, Kaduna, Kogi, and Lagos states which are not oil-producing is practically unnecessary as incidences of oil spills are rarely experienced in these states (Agala, 2023). As observed by Stakeholders Democracy Network (2020), most of these zonal offices are limited in terms of personnel and equipment, which makes them dependent on the Port Harcourt zone during emergencies. As a consequence, travelling by road to Nigeria's oil-producing states becomes challenging. The East-West trunk road, which connects Port Harcourt to other states like Delta, Akwa Ibom, and Bayelsa, has numerous checkpoints and is often slow. Travelling at night is also risky, making it difficult for professionals like lawyers, civil society members, and oil spill assessors to visit oil spill sites in the Niger Delta region. This results in additional expenses and delays, particularly for multi-day trips.

Fourth, the data needed to ascertain the impacts of environmental rights violations is usually derived from the offending corporations, which in most cases are egregious. In addition, data from these agencies appear to be conflicting. For example, Ejiba, et al (2016) pointed out that data between 2010 and 2014 for the total number of spills as presented by the DPR revealed a 60% discrepancy from the data presented by the NOSDRA. The inconsistency of statistical information limits the extent to which control, punitive, and compensatory measures are meted out about the real weight of offences.

Conclusion

The Niger Delta and its environs are responsible for both national and individual development in Nigeria. Nationally, the Niger Delta houses the oil and gas resources which account for over 90% of Nigeria's revenue. Individually, the vast land and aquatic resources of the region are major sources of subsistence and domestic as well as cross-border commerce among residents of the area. This places the protection of the environment on a high pedestal. However, over the years, the Niger Delta has been subjected to environmental violations from both remote causes such as corruption and underdevelopment, and immediate causes such as pipeline vandalism and technical failures from IOCs. Though environmental legislations and agencies have been instituted, they have made meagre efforts to prevent,

mitigate and control environmental rights violations in the Niger Delta owing to challenges like coincidence of responsibilities, feeble punitive measures for offenders, monetization of offences, inadequate funding for the agencies, inadequate and poorly trained staff, paucity/incongruity of data, etc. These inefficiencies have over time resulted in both immediate and long-term effects on socio-economic development in the country through revenue losses, scarcity of petroleum resources, and destruction of individual means of subsistence and commerce.

Recommendations

Following the findings of the study, the study recommends as follows:

1. Environmental laws should be reviewed precisely to remove all cases of coincidence of responsibilities and conflicts.
2. Punitive measures of environmental legislation like the Associated Gas (Re-injection) Act, 2004 should be reviewed to remove the monetization of offences while also establishing more stringent penalties like forfeiture of concession, nationalization, or closure of operations. In this regard, the powers to punish offending corporations should be withdrawn from the executive (Minister of Petroleum, which is also the President) and ceded to an independent body established for such purpose.
3. The functions of environmental agencies should be specified to prevent overlapping or coincidence of responsibilities and jurisdictions. They should also be well funded with their personnel well-trained to execute their functions.
4. An Environmental Police Force (EPF) should be established for the three (3) major environmental agencies to conduct checks on the environment and also arrest offenders of environmental legislation. Such force should be made separate from the Nigerian Police Force.
5. Environmental Protection Agencies (EPAs) should focus on the training and retraining of staff to match up current trends in the assessment and control of environmental hazards such as oil spillages.
6. The funding of Environmental Protection Agencies (EPAs) should be regarded as a national security concern. Hence, allocations for EPAs should be increased relatively and separated from the general budget and saved with the Central Bank of Nigeria (CBN).

References

African Charter on Human and People's Rights (1981). African Union. Retrieved from https://au.int/sites/default/files/treaties/36390-treaty-0011_-_african_charter_on_human_and_peoples_rights_e.pdf. [Accessed 10 March 2024].

Agala, J. (2023). Environmental rights violation and poverty in Niger Delta (2010-2020). Unpublished Dissertation. Department of Political and Administrative Studies, University of Port Harcourt.

Akpan, I. & Ekeuwei, T. (2023). Educational illiteracy between Nigeria and China: a tripartite comparative analysis. *AKSU Journal of Administration and Corporate Governance,* 3(2), 1-13.

Amadi, O. S. (2020). Modern political theory: a study in political economy of political theory. Port Harcourt: Bekdik Printing Press.

Ambittuuni, A; Amezaga, J; & Emeseh, E (2014). Analysis of the Safety and Environmental Regulations for Downstream Petroleum Industry Operations in Nigeria: Problems and Prospects. *Environmental Development,* 9, 43-60.

Amundsen, I. (2010). Good governance in Nigeria: a study in political economy and donor support. Norwegian Agency for Development Cooperation.

Bashir, M. T (2021). Environmental, public, health and socio-economic issues of oil spillage in Niger Delta, Nigeria. *International Journal of Engineering Research & Technology (IJERT)*. 10(2); 62-65

Chijioke, A. (2022, September 9th). Niger Delta oil spills bring poverty, low crop yields to farmers. Aljazeera. Retrieved from https://www.aljazeera.com/features/2022/9/9/niger-delta-oil-spills-bring-poverty-low-crop-yields-to farmers#:~:text=Local%20have%20linked%20most%20of,into%/karama%20%E2%80%93%20to%20equipmen%20failure. [Accessed on 18-06-2024].

Chijioke, S. U., Innocent, E. O., Emeh, I. E. (2012). Issues in Nigerian fiscal federalism: the relationship between the principle of derivation and resource control. *Kuwait Chapter of Arabian Journal of Business Management Review.* 1(5): 54-72.

Chijioke, U. S. & Chinedu-Oko, C. (2011). An interface between environment and poverty: a case study of Niger Delta region in Nigeria. *International Journal of Development and Management Review (INJODEMAR),* 6(1): 41-49.

Dickson, M. E. (2019). The Politics of oil resource management and environmental degradation in the Niger Delta region, Nigeria, in E. Ibok, E. Daniel and O. Atakpa (eds.). *The Politics of Global Environmental Policies*. Calabar: University of Calabar Press, pp.186-207.

Dike, S. C. (2016). Revisiting the oil pipeline Act Cap 07 LFN 2004 through some legal social and environmental perspectives. *Port Harcourt Journal of Business Law*, 2(2), 316-330.

Dukor, P. (2022). Why oil Operators in Niger Delta are guilty of human rights abuses by Peterside. Business Day. https://businessday.ng/news/article/why-oil-operators-in-niger-delta-are-guilty-of-human-right-abuses-by-peterside/. Accessed on 27-12-2022.

Ekeuwei, T. A. & Akpan, I. (2022). Fiscal Federalism and Resource Control in Nigeria: Problems and Prospects. *AKSU Journal of Administration and Corporate Governance (AKSUJACOG)*, 2(1), 89-108.

EnvironReview (2020, June 25). Basic concepts of the environment. Retrieved from https://www.environreview.com.ng/the-environment-and-you/. [Accessed on 06 November 2023]

Ezeanya, A. N. (2010). Comparative public administration and public policy: theories and applications. Lagos. University of Lagos Press Ltd.

Ezenwa-Ohaeto, N; Ewulum, B. & Okaphor, E. (2020). An Appraisal of the Impact of the National oil spill detection and response agency on environmental pollution in Nigeria. AJCAL, 48-62

Faga, H. P. & Uche Chukwu, C. U. (2019). Oil exploration, environmental degradation, and future generation in the Niger Delta: options for enforcement of international rights and sustainable development through legal and judicial activism. *Journal of Environmental Law and Litigation*, 1(3): 186-217.

Friends of the Earth International (2019, May 17). A journey through the oil spills of Ogoni Land. Friends of the Earth International. https://www.foei.org/a-journey-through-the-oil-spillss-of-ogoniland/

Gangwar, S. (2021). Structural functionalism: definition, theories and criticism. Sociology Group. Retrieved from https://www.sociologygroup.com/structural-functionalism-meaning-theories. [Accessed 10 March 2024].

Howden, D. (2010). Environmental racism: the gas flares that bring death and destruction to Nigeria. https://www.elombah.com/index.php?option=com_content&view=article&id=3447:environmental-racism-the-gas-flaring-that-bring-death-and-destruction-to-nigeria&catid=30:the-economy&Itemid=4[Accessed on 27-12-2022].

Ibaba, S. I. (2017). Mopping the Wet Floor while Overlooking the Leaking Roof. An Inaugural Lecture Delivered at the 28th Inaugural Lecture of the Niger Delta University, Wilberforce Island, Bayelsa State.

Ibrahim, A. A; Sani, A; Gado, A; Ibrahim, M; Sulaiman, M. & Aungum, I. (2020). Environmental Impact Assessment in Nigeria – A Review. World Journal of Advanced Research and Review. 8(3): 330-336.

Ijaiya, H. & Joseph, O. (2014). Rethinking Environmental Law Enforcement in Nigeria. Beijing Law Review, 5, 306-321. doi: 10.4236/blr.2014.54029. [Accessed on 18-06-2024].

Impact Law (2022). Environmental Law Violations. Retrieved from https://www.impactlaw.com/criminal-law/white-collar/environmental-law-violations. [Accessed 10 March 2024].

International Covenant on Economic, Social and Cultural Rights (1976). United Nations Treaty Collection. Retrieved from https://treaties.un.org/doc/treaties/1976/01/19760103%2009-57%20pm/ch_iv_03.pdf. [Accessed 10 March 2024].

Ishaku, M. J. (2019). NESREA and the Challenge of Enforcing the Provisions of Environmental Impact Assessment Act in Nigeria. SSRN Electronic Journal – January 2019

Jackson, S. (2023). Structural functional approach. SCRIBD. Retrieved from https://www.scribd.com/document/526198235/STRUCTURAL-FUNCTIONAL-APPROACH. [Accessed 10 March 2024].

Josh, J. (2016, March 15). Meaning of Environment. Jagran Josh. Retrieved from https://www.jagranjosh.com/general-knowledge/meaning-of-environment-1439558815-1. [Accessed 06 November 2023]

Kadafa, A. A. (2012). Oil Exploration and Spillage in the Niger Delta of Nigeria. Civil and Environmental Research. 2(3): 38-51

Kialee, N. (2021). Post-Cold War Africa and the Proliferation of Small Arms: The Niger Delta Experience. African Journal of Politics and Administration Studies (AJPAS). 14(1): 14-35

Kumor, N. A. (2021). The Paradox of NOSDRA to Prevent and Quickly Respond to Oil Spills in Nigeria. American Journal of Humanities and Social Sciences (AJHSSR). 5 (1); 158-167

Law Insider (2020). Environmental Degradation Definition. Retrieved from https://www.lawinsider.com/dictionary/environment/degradation. [Accessed 10 March 2024].

Live Well San Diego (2014). The Physical Environment. LIVE WELL SAN DIEGO. Retrieved from https://www.sandiegocounty.gov/content/dan/sdc/live_well_san_diego/indicators/physical_Environment_Resource_Sheet.pdf. [Accessed 06 November 2023]

London, S. (2023). On structural functionalism. Scott. London. Retrieved from https://scott.london/articles/almond.html. [Accessed 10 March 2024].

Lugard, S. B. (2013). Environmental rights and development in the Niger Delta: incongruent life partners or reconcilable adversaries? *Petroleum Technology Development Journal.* 3 (2), 108-122.

Lugard, S. B. (2016). The clash of property and environmental rights in the Niger Delta Region of Nigeria. *Journal of Sustainable Development Law and Policy*, 7(10); 44-63

NEMA National Contingency Planning 2019-2021. https://nema.gov.ng/documentations/National%20Contingency%20Plan%20 (2019-2021)%20-%20Revised.pdf. [Accessed on 18-06-2024].

New Zealand Ministry of Social Development (2003). Physical environment. Ministry of Social Development. Retrieved from https://socialreport.msd.govt.nz/2003/physical-environment/physical-environment.shtml. [Accessed 06 November 2023]

Nigerian Oil Spill Monitor, 2022. Retrieved from https://nosdra.oilspillmonitor.ng/

Nweke, E; Ngonadi, A. & Ezenwajiakwu, A. (2015). Public policy objectives and its implementation in nigeria. a study of National Emergency Management Agency (NEMA). *International Journal of Advanced Multidisciplinary Research Report,* 1(1): 1-9

Nwokike, L. I. (2020). Nigeria law and policy issues in gas flaring. a standard for gas utilization or sacrificial interest? *Sapentia Global Journal of Arts, Humanities and Development Studies (SGOJAHDS),* 3(4), 125-140

Obaji, S. (2022). Environmental Impact Assessment Don't Work in Nigeria: Here's Why. The Conversation. Retrieved from https://www.google.com/amp/s/the/conversation.com/amp/environmental-impact-assessment-dont-work-in-nigeria-heres-why-188796. [Accessed 10 March 2024].

Partnership Initiatives in the Niger Delta (2022). Illegal Artisanal Oil Refining in the Niger Delta: Responding to Environmental Crime and Insecurity. Retrieved from https://pindfoundatiom.org/illegal-artisanal-oil-refining-niger-delta-pinds-conflict-briefing-may-2022/. [Accessed 10 March 2024].

Sahara Reporters (2022, September 28). Niger Delta Communities Poorest in Nigeria, in Depressing Condition despite Oil Wealth – Report. Sahara Reporters. Retrieved from https://saharareporters.com/2022/09/28/niger-delta-communities-poorest-nigeria-depressing-condition-despite-oil-wealth-report. [Accessed on 18-06-2024].

Stakeholders Democracy Network (2020). The Nigerian Oil Spill Compensation Regime: Obstacles and Opportunities. Retrieved from https://www.stakeholderdemocracy.org/wp-content/uploads/2020/06/Claiming-compensation-report-DRAFT-10.06.20-DT.pdf.[Accessed on 18-06-2024].

The Punch (2022, January 14). Unending Menace of Pipeline Vandalism. The Punch. https://punchng.com/unending-menace-of-pipeline-vandalism/.

Udok, U. & Akpan, E. B. (2017). Gas flaring in nigeria: problems and prospects. *Global Journal of Politics and Law Research*, 5(1), 16-28.

Ugboma, P. (2015). Environmental degradation in oil producing areas of niger delta region, nigeria: the need for sustainable development. *International Journal of Science and Technology*, 4(2), 75-85.

Witchell, E. C., & Sheeshka, J. (2011). Agricultural and related biotechnologies. comprehensive biotechnology (Third Edition). Retrieved from https://www.sciencedirect.com/topics/earth-and-planetary-sciences/physical-environment. [Accessed 06 November 2023]

World Bank (2023a). Global gas flaring tracker report. https://www.worldbank.org/en/topic/extractiveindustries/publication/2023-global-gas-flaring-tracker-report. [Accessed 10 March 2024].

World Bank (2023b). Retrieved from https://flaringventingregulations.worldbank.org/nigeria. [Accessed 10 March 2024].