ENVIRONMENTAL MANAGEMENT AND SUSTAINABLE DEVELOPMENT IN NIGERIA: CHALLENGES, POLICIES AND PROSPECTS

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ABSTRACT: This paper focused on the Critical Assessment of the nexus between Environmental Management and Sustainable Development in Nigeria, exploring how the nature of the policies on the environment can make or mar development efforts. The following specific objectives guided the study: To explore the nature of the Nigerian environmental crises in Nigeria; to examine the challenges posed by the state of the environment on sustainable development in Nigeria, and to assess the effectiveness of policy direction of the environmental regulation agencies in the mitigation of environment crises in Nigeria. The paper being qualitative and theoretical critically reviewed and reformulated existing data from the ministries and agencies of government as well as journals and internet sources to interrogate the critical issues in the study. Key findings indicate the increasing deterioration of the Nigerian situation as illustrated in unprecedented drought engendered by deforestation, massive oil-related pollution through unabated oil spillages over land and water and the consistent gas flares, devastating flooding in recent years across the country and mining related environmental degradation; secondly, the underdevelopment crises triggered by the environmental degradation has intensified poverty, hunger, displacement and conflicts across the country; and thirdly, the weak and inconsistent environmental policy initiatives as well as the lacklustre enforcement capacity of the environmental regulatory agencies have unwittingly exacerbated both environmental and the underdevelopment crises the Nigerian Nation is facing. The study recommends the enhancement of institutional capacity in environmental management; the pursuit of development infrastructure underpinned by environment safety, achievement should be the responsibility of government agencies and the Non-Governmental Organisations (NGOs) advocacy in environmental cleanliness; policies that will be in line with International Environmental regulations and Sustainable Developmental Goals (SDGs) should be enunciated to enhance robust Green Economy as well as meet SDG targets for societal sustainable development in Nigeria

Keywords: Environment, Development, Sustainable Development, Underdevelopment, Environmental Policies

INTRODUCTION

There is no doubt that the state of the environment contextualised in terms of the nature of exploitation and the manner of administration have the capacity to determine the success of efforts at sustainable development. Nigerian development potential has been undermined by the nature of Nigerian environmental conditions (Wordu, 2016). Efforts at addressing environmental conundrums have not only elicited national attention but have generated international concerns. For instance, out of 17 sustainable goals in the United Nations Sustainable Development Goals, the environment occupies Goal 7 (Affordable and clean energy); Goal 11 (Sustainable cities and communities); Goal 13 (Climate action); and Goal 15 (Life on land) (UN Department of Economic and Social Affairs, 2019). In Nigeria, just as in other nation-states, there various programmes and policies have been enunciated and implemented while Nigeria has entered into International Conventions aimed at accentuating environmental administration for sustainable development (Leke, 2019).

In recent times, enormous intellectual, administrative and economic resources have been deployed to address the monumental problems of degradation of the environment on human capital, economy, and the physical infrastructure in the country. Also, concerted efforts have been aimed at animating intellectual discourses on how the undermining of the environment through unguarded human activities has exacerbated incidences of famine and hunger, poverty, low income and displacement, as well as instability and conflicts in the political economy. The attention paid to the environment is majorly because it reflects all aspects of human efforts in the struggle for livelihood.

Human society is experiencing such horrendous environmental crises at the global level as manifested in climate change with concomitant problems of ozone layer depletion, drought, flooding, intense heat, loss of biodiversity, and continual decimation of fauna and flora (Dalby, 2013). This has generated great global concerns. International conferences at the level of Heads of Government under the auspices of the United Nations have focused efforts on how sustainable development is influenced by environmental management (United Nations Conference on Environment and Development, 2021). Interests in sustainable development are also noticeable in various countries of the world. The 1999 Nigerian Constitution (as amended) , in Chapter 2, Section 18, prioritised the protection of the environment as fundamental to national development in Nigeria (Nigerian Constitution 1999). Nigeria has become involved in climate governance to meet international standards in the mitigation of climate change challenges by establishing through the Legislative Act the National Council on Climate Change in 2021 (Ajayi, 2022). These international and national efforts have only moderately impacted the Nigerian environmental situation. The crisis of underdevelopment that has stalked Nigeria and most of the developing countries is a reflection of the way the environmental resources have been exploited and managed (Ibeanu, 2000).

Against this backdrop, the paper critically contends that the inability of the Nigerian State to vigorously and effectively implement robust policies and programmes on the environment explains why the opportunities provided by the environment cannot be harnessed by the government, communities and individuals for national development. The interrogation of the gap between policies/programmes and implementation, which has been largely ignored by scholarly intervention as the major cause of Nigerian environmental and developmental crises, constitutes the point of departure for this paper.

LITERATURE REVIEW

Environment and Sustainable Development

Sustainable development originated in the United Nations Declaration of 2015, which focused on three main areas: the economy, poverty, and the environment. The Sustainable Development Goals detailed 17 goals and 169 targets to be successfully implemented by member countries of the United Nations, particularly developing countries, over a period of 15 years [2015-2030] (United Nations Development Programme ([UNDP] 2018).

Environmental degradation constitutes a major global issue because the environment provides the present and future generations the resources for existence (Nyango 2016). As adduced by Wordu (2010: 22), from the early stages of human history, "man`s interface with the environment was metabolic, which means rational, symbiotic, systematically organised and balanced relationship between human beings and the natural environment". Environment engenders resourcefulness as well as enhances opportunities for exploration of nature (Amadi & Ogonor 2015).

Human exploitation of the environment to meet his needs has been destructive to both the natural environment and sustainable development (Bertelsman 2009 and Hebeck 2009). Human activities, as argued by Dalby (2013), have enormously impacted negatively the environment with direct consequences on the human socio-economic situation. The United Nations Environmental Programme also revealed that the intensity of exploitation of the natural environment by humanity may not only result in environmental despoliation but, in the same vein, distort the intricate balance in the global ecosystem (World Commission on Environment and Development [WCED] 1987; Payne and Nasser 2003). It follows, as Forster (2016) also succinctly argues that the ecological dialectics explicates the dynamics in which the major beneficiaries of the processes that cause environmental degradation through acts of commission or omission are least affected by the impacts of environmental disasters.

Reflections on the above views have aroused interest in environmental governance and scholarly discourse, both at national and international levels. It took "The Silent Springs" a book written by Rachael Carson in 1962, to invigorate the American interest and that of the world to the epiphenomenal dangers posed by the unhindered damage to the environment (Herbeck 2009). The Grundt Brundtland Report of 1987 built on the environmental awareness created by Silent Springs. The report showed the nature of the inevitable relationship between the environment and human activities, and as a result, there was the need to articulate environmental issues as part of the socio-economic development plans. The report advocated for an integrated approach as the solution to the international environmental crises (United Nations Environmental Programme [UNDP] 2001). Sustainable development relates development and economic growth to the environment. It is a development that is based on quality of life, environmental sustainability, and enhancement of human capacity and places emphasis on a more equitable distribution of economic resources (Udombana, 2000). According to the World Commission on Environment and Development (WCED), sustainable development is development that does not truncate the needs of the coming generation while meeting the needs of the present generation (WCED, 1987). A key factor in sustainable development is the need to strive to ensure that options for development are ones that do not go beyond the carrying capacity of nature. In such a situation, technology, being an inalienable partner of humanity in nature`s exploitation, must be applied in such a way that nature is not severely destroyed (Payne & Nasser, 2003). As aptly averred by WCED (1987, P.57):

Sustainable development is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are made consistent with the future as well as the present needs. (Brundtland, 1987)

The consequences of the destruction of the environment due to the exploitation of natural resources raised the consciousness of the need for sustainable development. Efforts have continued to be made at the international level to address environmental issues with major concerns for Third World societies (Payne & Nasser 2003). Unfortunately, Nigeria`s worsening environmental condition has exacerbated its underdevelopment crises. Underdevelopment arises when the pattern of exploitation of the natural environment and its economic resources valued by the society is sufficiently depleted to the extent that livelihood, survival and wellbeing of individuals, groups and states are compromised.

Nigeria`s Efforts at Mitigating the Incidences of Environmental Problems

The challenge of environmental despoliation has raised issues regarding the capacity of the government to meet the development needs of the populace. The Nigerian government, cannot be accused of lacking strategies in combating the environmental problems and challenges. Indeed, there has been a plethora of strategies in the form of policies and programmes both at the local and the international levels that are geared towards finding solutions to environmental issues within and across countries. Nigeria is a member of International Boards whose objectives are to ensure sustainable development among developing countries through a clean environment. Nigeria has participated in international conferences, signatories to conventions and treaties, and, through the parliament, ratified Declarations and Charters at regional, continental and global levels that are aimed at a sustainable environment. For instance, Nigeria has played a prominent role in the effort to restore the environmental and economic values of Lake Chad and stop the spiralling water shortage of the Lake through its membership and leadership role of the Lake Chad Commission (LCC). The LCC comprises 6 countries: Nigeria, Chad, Niger, Cameroun, Central African Republic and Libya.

Locally, Nigeria has created ministries that are directly or vicariously related to the environment. The ministries include Environment, Solid Minerals, Housing and Health. Some of these ministries or their functions are replicated at the State and Local Government levels.

The Nigerian socio-political environment is replete with agencies and commissions that are committed to securing a clean and healthy environment. Some of the agencies include:

1. Federal Environmental Protection Agency (FEPA) is responsible for the environment and developing sustainable environmental policy.

2. National Environmental Standards and Regulatory Agency (NESRA) is responsible for the protection through the regulation of air and water quality, effluent limitation, control of harmful substances and sanitation.
3. The National Oil Spill and Response Agency (NOSDRA) is responsible for the preparedness, detection and response to oil spillage in Nigeria
4. The National Emergency Management Agency (NEMA) is responsible for managing environmental emergencies and other disasters in Nigeria.
5. The Department of Petroleum Resources (DPR) is responsible for the development of environmental guidelines and standards for regulating petroleum activities
6. Environmental Impact Assessment (EIA) is responsible for the regularisation of the industrialisation process with a view to assessing the impact of industrial development on the environment (Makinde & Temitayo 2007; Olawale 2019) The government established these agencies and commissions as part of measures to protect the environment and its resources; protect Nigerians from ecological nuisance and hazardous wastes, to combat and prevent pollution. These government establishments engage in oversight functions over factories, both private and public corporations, to ensure they operate within the ambit of environmental laws and regulations.

Nigeria is responsible for ensuring the sustainability of the environment through its agencies, commissions, and laws. Nigerian environmental problem, rather than being a result of a dearth of policies, is the lacklustre implementation and enforcement of these policies and laws. There are technical limitations, administrative lapses and legislative incapacitation that limit the implementation and enforcement of extant laws that help to contain environmental degradation and enhance environmental sustainability for the benefit of the people. For instance, the laws on gas flaring, Environmental Impact Assessment (EIA), Harmful Special Provisions Acts and oil spillage are either not enforced or tepidly enforced. Thus, major companies and government agencies, continue to flout these laws (Aaron 2005). The Nigerian environment today suffers great despoliation from toxic dumps, oil spillages, and gas flairs from these corporations.

Nigerian investment in the strategic environmental control and development infrastructure

The Nigerian state has made unprecedented investments in strategic infrastructure, institutions and agencies that are aimed at protecting, developing, and regulating the environment and exploitation of natural resources in Nigeria. There are many of these infrastructures, which include: the dams; the Niger Delta Development Commission (NDDC); the Ecological Fund; and the Nigerian Erosion and Watershed Management Project (NEWMAP).

We begin with the state of dams in the country. Dams are created with the aim of ameliorating environmental problems of erosion and flooding as well as enhancing sustainable development through agriculture and water resources. According to Tortgate (2014), dams are an integral part of development because they provide the basic infrastructure that helps with hydropower, water supply, drought and flood control, navigation, aquatic activities, and relaxation. Dams are important in addressing the growing water needs and other emerging challenges that border on energy, agriculture and climate change. According to Boye & De Varion, In addition to producing clean, carbon-free energy, dams can also simultaneously serve other functions: irrigating cultivated land, supplying communities with drinking water, reducing flood flows replenishing low water levels, waterway navigation, using reservoirs for tourism and sports, fish farming, protecting estuaries against tidal backup and so on (Boye & Devarion, 2016).

Nigerian strategic investment in dams commenced way back in 1969 with the construction of the Kainji dam in the present Niger State. This was followed by the Shiroro, Bakolori and Jebba dams in the 1970s and 1980s. The dams are mainly committed to hydroelectricity generation, irrigation and water supply needs of the host communities (Oladipo, 1996).

As of 2020, Nigeria had built 323 dams in large, medium, and small categories. These dams have helped control and exploit the environment in ways that have not destroyed it while engendering sustainable development. However, the administrative lapses reflected in the implementation of dam policies in the country have largely extenuated the opportunities provided by investment in dams.

The Niger Delta Development Commission (NDDC) was established in 2000 by an Act of Parliament to mitigate the concerns of the States of Niger Delta. Specifically, section 7 of the NDDC Act states that the commission shall formulate policies and guidelines for the development of the Niger Delta in line with set rules and regulations (NDDC Act, 1999). The concerns of the region include environment, sustainable development and security. The NDDC Act further states that all stakeholders in the Niger Delta areas and oil companies should be financiers of the NDDC. The stakeholders include. The Federal Government, the International Oil Companies (IOL) and the State governments in the region (NDDC Act, 1999). With the amount of money involved, the Commission was mandated to implement a comprehensive development plan for the Niger Delta region that would ensure massive infrastructural development, address serious environmental problems arising from oil production and resolve the militancy and other forms of conflicts by tackling poverty, engage in human capacity development and employment for the youths (Enabule 2020).

The Niger Delta is ravaged by environmental degradation that has destroyed its economic mainstay; poverty is stalking the communities, and criminality still pervades the region. To address these problems, the commission has implemented massive critical infrastructure and invested heavily in human capital development. For instance, the commission has over 13,000 projects and established hospitals, schools, relaxation centres and other amenities, as well as investment in human capacity (Premium Times, 2021). Furthermore, the commission developed a master plan, which is a road map to development in 2020 to develop new policies to enhance environmental security and sustainable development (Oyeyemi, 2020). However, for reasons that border on limited funding, a top-down approach rather than a bottom-up approach to development policies, the commission has not quite performed to the expectation of the people of the Niger Delta (Omotola & Patrick, 2010).

The Ecological Fund is another agency of the government that has been vital in the amelioration of environmental depredation and achievement of sustainable development. The agency was established in 1981 through the Federation Account Act of 1981 under the presidency. The Fund was charged with the objective of intervening in the nation`s environmental problems and developing infrastructure that will control environmental issues in Nigeria. Also, according to Agbese (2017), the Ecological Fund at inception had the following four mandates: (a) to reduce ecological problems nationwide to the barest minimum; (b) to facilitate quality and effective implementation of the projects; (c) judicious and equitable utilisation of the fund; (d) the effective management of the Ecological Fund projects. The commission is allocated 2% of the federal earnings yearly through the National Committee on Ecology. The agency`s efforts in meeting its mandate have been stalled by limited and inconsistent funding and administrative bottlenecks. Despite these obvious challenges, the agency has effectively intervened in the Nigerian environmental debacles, particularly in the areas of flooding, oil spillage, air and water pollution, desert encroachment and erosion in the North, South-West and South-East of the country.

The Nigerian Erosion and Watershed Management Project (NEWMAP) is a strategic environmental intervention scheme in Nigeria that is based on a tripartite arrangement involving the World Bank, the Federal and State Governments in Nigeria. The project is a 500 billion dollar World Bank funding with the Federal Ministry of Environment as the implementing agency (Njoku, 2019). The project commenced in 2013 with the specific mandate of addressing environmental issues related to gully erosion and land degradation in Nigeria. According to Dahiru (2020), the emergence of NEWMAP was in line with the Nigerian strategic response to the environmental challenges and emerging land degradation and environmental security. The NEWMAP project has effectively intervened in major gully erosion and land degradation sites in the southeastern part of the country and in land degradation in Northern Nigeria. NEWMAP has expanded its intervention beyond erosion and land management into other areas of environmental management. World Bank, for instance, through NEWMAP, is piloting climate change that engenders a cleaner environment in line with the Climate Change zero carbon emission protocol. The protocol, as ratified by Nigeria, is geared toward minimum carbon emission (World Bank, 2023)

MATERIAL AND METHODS

The researchers adopted a theoretical position in carrying out this study where a qualitative approach was used as a method of analysis. Data were procured from secondary sources. Secondary data are used where the nature of the study poses a serious challenge in the generation of primary data (Haralambos and Holborn, 2008).

Data selection

The study elicited data from media reports, journals and other environmental-related documents from the Ministry of Environment, institutions, agencies and departments of government that develop, implement and regulate environmental policies to procure data for the study. The study also secured data from international conventions, local and international advocacy groups and Non-Governmental Organisations (NGOs) dedicated to environmental issues. Data were also secured from internet sources (mainly Google Scholar-based articles) and academic Journals.

Data analysis

We analyzed data with content and qualitative analysis. We also presented data in tables, which involves reformulating existing data that are relevant to the study for analytical purposes. We ensured the integrity of the data by subjecting it to rigorous research scrutiny and authentication through content analysis. Content analysis is normally applied to the analysis of documentary or visual material rather than interview data (Abercrombe, Hill, & Turner, 2000). Our use of content analysis in exploring the relationship between the state of the environment and sustainable development in Nigeria is to ensure the integrity, validity and reliability of data deployed for the study (Bryna, 2016).

DISCUSSION

Incidence of Environmental Degradation in Nigeria

Despite efforts at addressing serious environmental problems, Nigerian`s experience with environmental damage has continued to pose a grim and sordid challenge, such that the capacity for mere survival for the majority of the citizens has been severely constrained. The issues of desertification, flooding, oil pollution, erosion, urban decay, have undermined efforts at the realisation of the nation`s developmental potential. The crises of underdevelopment engendered by environmental degradation has brought to the fore human suffering and squalor.

Drought and desertification

Nigeria faces serious drought and famine crises as a result of unabated desertification, particularly in the North-Eastern and North-Western parts of the country. Luke, Igwe and Wordu (2020) affirmed that the drought and famine crises have deepened in terms of hectares of land affected, scarcity of water, loss of vegetation and low agricultural productivity. For them, the scourges of drought and desertification have persisted in the last five decades due to a natural reduction in the amount of overall rainfall and other forms of precipitation.

According to Aminu (2018), Nigeria has lost half a kilometre of its landmass to desert encroachment every year in the last 10 years. Nigeria also lost 21% of its forest reserve between 1998 and 2018. Continuing, he opined that the annual rate of deforestation in Nigeria is between 350,000 to 400,000 hectares per year. Nigeria has the highest rate of deforestation in the world. A combination of factors that include increasing population, persistent unfavourable climatic conditions, extensive and inappropriate farming and cattle grazing systems have contributed to the acceleration of desertification with the consequent constraints on natural resources and threat to environmental stability (Eze and Ogaba, 2019). Below is the table showing a sequence of drought and famine with their consequences

Table 1: Incidents of draught in Nigeria from 1991-2018

Year of occurrence	Place of occurrence	Impact on environment and human activity
1991-1993	North-West	Loss of vegetation and close to 21% of forest reserve; yearly loss of 350,000-400,000 hectares of land.
1999-2001	North-East	Severe hunger and starvation affect over 50% of the rural population; migration is the beginning of Fulani herders and farmers conflict in the North-Central or the middle belt.
2005-2006	North-East and North-West	Loss of vegetation; shrinking of Lake Chad water levels by over 60% in the last four decades; worsening refugee crises in the middle belt due to perennial Fulani herders/ farmers conflict
2009-2011	North-East and North-West	Increasing threat to environment; spread of famine; extension of herders/farmers crises to the south; worse IDP crises
2015-2019	North-West and North-East	Loss of vegetation, increasing climate change resource-related conflicts and loss of 350,000 to 400,000 rate of deforestation yearly

Sources: Eze and Ogba, 2019; Amin, 2018

Unabated desertification has raised economic, security and political implications. For instance, desertification, which has significantly reduced Lake Chad water levels, has *ipso facto* limited human activities around the sprawling Lake Chad Basin. It is estimated that Lake Chad has shrunk by 70% since the 1960s (Geo, Bohn, Podest & Macdonald, 2018). This situation has led to famine, poverty, migration and refugee crises. The increasing incidences of farmers/herdsmen clashes in the North Central and other parts of Northern Nigeria have mostly been attributed to increasing desertification and Lake Chad's loss of much of its water levels (Udoh, Ier & Ademolaken, 2018). Farmers and herdsmen clashes have led to massive killings, sacking and disorganisation of communities, population displacement, arson, criminality and other forms of impunity. This situation has exacerbated food crises and brought a big strain on the socio-economic activities of the regions affected and the nation in general.

Oil Pollution

Human activities in a massive scale through oil exploration and mining have despoiled and decimated the Nigerian environment. In the Niger Delta region, for instance, the environment has been irredeemably impaired as a result of the deleterious consequences of oil spillages, pipeline vandalism, and unhindered gas flaring (Jike, 2014). Oil spills result from corrosion of oil pipes, poor maintenance of infrastructure, leakages and human error. Hundreds of spills occur each year. According to the United Nations Development Programme (UNDP) Niger Delta Human Development Report (NDHDR), more than 10,463 spills were recorded between 2011 and 2022 (Ekpali, 2023). In its 2023 report, the National Oil Spill Detection and Response Agency (NOSDRA) revealed that over 507, 135 barrels of oil were spewed between 2010 and 2020, and some 2000 sites require treatment because of oil-related pollution (NOSDRA, 2021). In 2020 and 2021, NOSDRA recorded a combined total of 822 oil spills, resulting in 28, 003 barrels of oil being spewed into the environment (Aljazeera, 2022). Again, in 2024, the Satellite Tracker of NOSDRA recorded over 589 oil spills, spewing over 19,000 barrels of oil into the environment (Odeyinka, 2025). Like most industrial enterprises in Nigeria, the Oil Companies lack appropriate treatment facilities, such as proper landfills. Consequently, the wastes generated by oil companies are discharged onto lands, mangroves, and freshwater swamps (UNDP/NDHDR, 2019). The table below shows the sequence of oil spills in the towns and communities of the Niger Delta

Table 2: Sequence of oil spills in Nigerian oil-bearing communities: 2000-2023

Year of Spill	Place of spill	Effect on the environment
2000	Isikuato, Imo State	Pipeline explosion causing 200 lives and over 1000 injuries
2001	Ogbodo, Rivers State	Spill of 19, 500 barrels of oil on land and waters.
2008	Bodo, Rivers State	Spill of 29, 000 barrels of oil on the community land and waters
2010	Ibeno, Abia State	Spill of 35,000 barrels of oil on the communities` land and waters
2011	Bonga, Delta State	Spill of over 37, 000 barrels of oil on the communities 'lands and waters
2012	Keregbara, Rivers State	Spill of over 9,200 barrels of oil into the communities environment
2013	Bodo, Rivers State	Spilling of over 16, 000 barrels of oil into the swamps and Creeks
2014-2018	Ogoni, Rivers State	520 spills of oil in Ogoni land by SHELL that caused extensive environmental damage
2019	Akwa Ibom State	A spill of 27,000 barrels of oil affecting eight creeks, destroyed aquatic life and polluted agricultural land.
2022	Ikharama, Bayelsa State	Recorded two oil spills and pipeline fire outbreak caused the spill of over 32 barrels into the communities' environment
2023	Yorla Community, Rivers State	Spill of 40,000 barrels covering 1,200 km, 321 villages, affecting 320, 000 residents.

Sources: NOSDRA, 2021; Ekpali, 2023; Olayinka, 2025; UNDP/NDHDR, 2019

In a similar vein, the incidence of gas flaring in Nigeria has been unprecedented. Adeyemo (2018) reported that the International Oil Companies (OICs) operating in Nigeria have not appropriately put in place infrastructure to contain gas flaring despite legislation to that effect. Nigeria flares about 2.5 billion cubic feet out of the 3.5 billion cubic feet of gas it generates every year. This is estimated to cost Nigeria US$ 2.5 billion dollars yearly, which, according to (Ibeano, 2000), makes Nigeria the country with the highest gas flare in the world. The country, according to Nwafor (2021), between 2013 and 2021, flared 3.4 billion standard cupid feet valued at $12 billion. Below is the table showing the rate of gas flare in the country between 2013 and 2021.

Table 3: Showing the rate of gas flare between 2013 and 2021

Year of flair	Quantity of gas flared	Percentage of gas flared
2013	424	15
2014	442	12
2015	365	11
2016	377	11
2017	402	11
2018	511	16
2019	511	16
2020	404	11
2021	296	10

Source: NOSDRA, 2022; Nwafor, 2022

Nigeria has also been rated as one of the top seven countries with the highest flare, as illustrated in the table below.

Table 4: showing the Nigerian gas flare juxtaposed with other countries

Country	Percentage of gas flared
Libya	21%
Canada	8%
Algeria	5%
Saudi Arabia	20%
Nigeria	48%

Source: World Bank report, 2021

The decimation of the environment by International Oil Companies (IOC) has seriously constricted the carrying capacity of the Niger Delta environment, such that agriculture and fishing industries have been destroyed, and toxic gas-related diseases, such as rheumatism and cancer, have been on the increase (Jike, 2014). The UNDP Niger Delta Development report (2019) also indicated that gas flares, apart from causing monumental waste of valuable resources, lead to thermal pollution with vast biodiversity damage. This has deleteriously impacted the livelihood of a majority of the people of the Niger Delta region of the country because their economic activities depend on the land and rivers around them.

Mining and Drilling Activities

The mining and drilling sectors have engendered debilitating environmental destruction. For instance, a report by the World Bank Group on Africa`s Extractive Review (2013) corroborated the complicity of foreign investments in the mining sector in destroying the environment and encouraging specific patterns of social, economic and political activities which paradoxically exacerbate poverty and violent conflicts with local economies (Wordu, 2016). Illegal mining has become a common feature of North-Central and North-Eastern states of Nigeria, as well as some states in the South, particularly Ebonyi, Enugu, Cross River, and Ondo states. Mining activities have significantly defaced the environment, polluted groundwater and land with chemicals, caused lead-induced deaths in states like Zamfara, Plateau, Kaduna, Benue and Ebonyi state, increased health risks and raised serious security concerns. Efforts by the government through the Ministry of Solid Minerals to contain the sordid effects of mining have met with little success (Udoh, 2016). Records also show that mining activities, much of it illegal, have affected 11 local governments, 61 communities, 413 deaths and hospitalisation of 1,620 people in the Nigerian states of Kogi, Niger, Ebonyi, Kastina and Zamfara between 2015 and 2019. The fatalities were caused by the pollution of groundwater and land with lead chemical materials. Mining has also caused the defacing of environments and unprecedented pollution of air, land and water with attendant health hazards (Ahmed 2018).

Flooding

A combination of natural and human causes has made flooding a common feature in Nigerian deplorable environmental situation. Natural causes include flash floods from terrestrial persistent rain between June and October; ocean tides and waves, which in Nigeria include the overflow of Rivers Niger and Benue; and climate change and global warming. Human causes include burst water pipes, collapse of dams, poor physical planning and urban policies. Other human causes include the living habits of most urban dwellers that result in building on waterways, blockage of drainage systems and unplanned settlements. Flooding is widespread and predictable in Nigeria. It has caused deaths, destruction and displacement of the population. For instance, in 2018, flooding affected 80% of Nigeria, 34 out of 36 States of the Federation, resulting in 141 deaths and 265 injuries (Nwigwe & Embaga, 2018).

Again, the 2012 flood disaster, which was the worst in the last six decades in the country, affected 30 out of the 36 states and led to the death of 363 people and the displacement of over 2.1 million people in Nigeria (Amadi & Ogonor, 2015). The flood destroyed farms, agricultural equipment and structures, houses, as well as critical infrastructure such as roads, railways, electricity and telecommunications equipment. Between 2017 and 2020, 34 States in Nigeria were affected by flooding, with 526 deaths and 578,000 displaced (Echendu, 2021). The flood also disrupted economic activities in the affected areas. In the same vein, the September 2024 flooding in Borno State caused by the collapse of Alau Dam under heavy rain submerged more than half of Maiduguri, causing 37 deaths, 58 injuries and displaced 414 000 people (Relief Web, 2024). Below is the table showing incidences of flooding across the country in the last decade,

Table 3: Incidences of flooding between 2012 and 2020.

Year of occurrence	Place of occurrence	Impact on human activity
2012	The entire nation	Affected 32 states, killed 363 people, displaced 2.1 million citizens and caused damages worth N2.1 trillion.
2017	The entire nation	It affected 28 states and displaced over 200, or with 92 deaths recorded.

2018	28 states of the Federation	It affected 28 states and displaced over 200, or with 92 deaths recorded.
2019	The entire nation	Affected 124 LGAs in 36 states, led to 171 casualties, and displaced 130,610 people
2020	22 states of the Federation	It affected 22 states, displaced 24,134 persons, and caused 155 fatalities and 826 injuries.
2024	Borno State	Affected the entire Maiduguri city, displaced 414, 000, caused 37 fatalities and 58 injuries.

Sources: Relief Web, 2024; Nwigwe and Embarga, 2018; Echendu, 2021

Government concerns have been very dismal and unsustainable. The State has also not been very proactive even after earlier signs and warnings have been given by relevant agencies and researchers. For instance, the Nigerian Metrological Agency warned of the impending disasters of the 2012 floods. Also, the Cameroonian authorities forewarned of their intention to release water from Lake Nyos Dam. Njoku (2017), stated that the Nigerian state did not act upon these warnings, hence the avoidable disaster of 2012.

Gully erosion

Gully erosion in Nigeria is also a consequence of human and natural causes. It is observed more in sedimentary soft terrains, particularly in the South-Eastern and parts of South-Southern Nigeria. Erosion has had devastating effects on the people of South-Eastern States. According to Asema (2019), erosion has depleted land resources and led to the loss of farmlands, damage to properties, displacement of people, loss of lives, and threat to vegetation. Agency Reports (4/7/18) showed that there are over 2,800 active erosion sites in South-Eastern Nigeria. The effect of gully erosion in Southeast Nigeria is reflected in the fact that four states of the region have been impacted with a combined size of 67 metres deep, 500 metres in length and 257 metres in width by soil erosion between 2016 and 2019 (Egboka et al., 2019)

Urban Decay

A mix of phenomenal explosion in population, congestion, slums, and inadequate and deteriorating infrastructure has made urban life a boiling cauldron for the majority of urban dwellers in Nigeria. Indeed, Nigerian cities are experiencing unprecedented degradation and are rated among the urban areas with the lowest liveability index in the world (Bassy, 2019). It is only 20-30% of the urban population enjoys decent urban life. Major urban environmental problems in Nigeria include faulty waste management, congestion, pollutants from industrial activities, vehicles and generators, noise pollution, decaying infrastructure, faulty sewage disposal and loss of green and natural park system (Daramola & Ibema, 2017).

Policy Inconsistency and Poor Implementation

The major problem bedevilling Nigeria environmental situation is inconsistency in policy formulation. Governments come up with different policies on the same environmental problems thus bringing confusions and contradictions in matters that concern the environment. Another major problem is the lacklustre implementation of policies and the deficit enforcement of extant environmental laws and regulation agencies. For instance, Nigerian inconsistency in gas flaring has made it difficult to stop the practice from the International Oil Companies (OIC). Again, the problem of flooding has been more attributed to policy negligence in the control of dams and other environmental infrastructures. Furthermore, incompetence, corruption and misapplication of environmental funds have exacerbated environmental and sustainable development crises. Consistency in policy formulation and effectiveness in policy implementation and enforcement of extant laws will enhance environmental stability and sustainable development.

The Nigerian environmental impasse has led to decline in the stock of natural resources, asset depletion, low agricultural production, displacement, political instability and insecurity.

Conclusion

The paper analyses the relationship between environmental problems and the quest for sustainable development. Nigerian environmental degradation is a major bulwark against sustainable development. The paper also affirms the efforts of the Nigerian government in terms of policies, programmes, regulations, and the creation of agencies and institutions to attain environmental sustainability as a major precursor to sustainable development in Nigeria. The paper identified four major strategic environmental infrastructures; the dams, NDDC, Ecology fund and NEWMAP, that are fundamental to the mitigation of Nigerian environmental degradation and which will ensure Nigerian environmental sustainability and sustainable development if well managed.

The paper, however, acknowledges some limitations in the research for the study. These limitations are the sole reliance on secondary sources for the data and limited analyses of key environmental infrastructure such as the NDDC, Ecology Fund, and NEWMAP.

Future research: We encourage future research on the issues in this study to relate to these limitations by employing empirical primary field work to gauge community-level environmental practices for new perspectives on the subject matter. Also, broader analyses of the key infrastructures will create a broader impact on the subject when the study is undertaken in other study areas.

Sustainable development is achievable only to the extent that the integrity of the environment is maintained through efficient management and adequate environmental practice in order to achieve optimal returns from the environment.

Recommendations

Against the background of the foregoing, the paper recommends the following as a way of achieving sustainable development through the efficient management of the environment. Corporate organisations, communities, neighbourhoods and individuals should not only factor environmental sustainability in their activities but should make it their key priorities.

The government and its agencies should take the lead in this endeavour.

There is need for the mobilisation the citizenry towards socio-economic activities that will engender environmental cleanliness and sustainability. This can be achieved through increasing advocacy and education from the government and her agencies of mobilisation, the, Non-Governmental Organisations, religious bodies, and schools.

The urgent need to strengthen the institutions and agencies that protect and regulate the natural resources and environment by providing them the necessary funding, equipment, logistics, human capacity and requisite technology to carry out their regulatory and monitoring functions, as well as the capacity to respond expeditiously to environmental hazards. However, it is important that environmental regulatory agencies should be empowered to initiate cutting edge technologies that can prevent the occurrence of environmental hazards rather than reacting to environmental problems with attendant consequences in human and material losses.

Limitations of the study

The paper acknowledges some limitations in the course of the research for the study. The Limitations are sole reliance on secondary sources for the data for the work and limited analyses on the key environmental infrastructure such as the NDDC, Ecology Fund and NEWMAP.

Future Research

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Conflict of Interest

The researchers hereby declare that there is no collective or individual conflict of interest in the course of carrying out the study.

FUNDING

The research was self-funded by the researchers.

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