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Dere Oil Communities, Environmental Pollution, And Their Challenges, Steps Towards Sustainable Development

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ABSTRACT
This study investigates the environmental degradation in the Dere communities of Ogoniland, Niger Delta, caused by decades of oil exploration. Traditionally reliant on fishing and farming, the Dere people have suffered severe ecological damage from oil spills, gas flaring, and water and soil contamination. Drawing on UNEP (2011) and Amnesty International reports, the study reveals that Shell's operations between 1970 and 2011 led to hundreds of spills, contaminating drinking water with hydrocarbon and benzene levels far exceeding Nigerian and WHO standards. Over two-thirds of affected sites surpass national limits for petroleum hydrocarbons (Ya'u et al., 2024), reducing agricultural productivity and destroying aquatic habitats (Bodo, 2019). Despite the region's industrial output, local communities bear the burden of health crises, including respiratory diseases and cancers (Aghogho, 2016; HRW, 1999). The research critiques weak environmental regulation and inadequate remediation efforts, applying Frank Spellman's pollution framework and environmental justice theory. It calls for stronger regulatory enforcement, investment in clean energy, advanced remediation technologies, and community-led monitoring and compensation systems. The Dere case underscores the urgent need to balance economic growth with environmental sustainability and social justice.
Keywords: Ogoniland, environmental degradation, oil exploration

INTRODUCTION

The Dere people are located along the coastal region of the Niger delta, among the communities that made up the Gokana kingdom in Ogoni land. Dere is among the Ogoni communities that are highly endowed and blessed with natural resources namely oil and gas. Due to oil and gas exploration/extraction, the communities suffered devastating effects of the mining process. This extraction and modern industrialization resulted to pollution and environmental degradation. The effect on the people and the environment became enormous and life threatening. The resultant effect of the pollution became a concern to the people in particular and the general society at large. This necessitated a move to do a holistic intellectual survey of their plight and demand, then proffer tangible and plausible solution to the significant challenges related to oil pollution. Having faced severe environmental pollution challenges due to oil spills, gas flaring, and neglects by oil companies and government. The deplorable state of the communities begs for attention immediate remediation. There will be need for restoration, rehabilitations and compensations by the companies and federation government.

Environment: The Dere communities lands, the beautiful arable environment was a pride to Gokana farm production. It was land once a thriving area with rich cultural heritage and diverse ecosystems. Before the advent of oil companies and its exploration cum environmental pollution, the community relied heavily on fishing, farming, and other traditional livelihoods. The discovery of oil in the area and the extractive activities brought significant environmental changes to the communities. The pollution impacts resulting from oil spills, gas flaring and petroleum-related issues have been life threatening causing widespread degradation to the environment leading to health hazards and economics crisis. It will be worth noting to examine briefly what an environment is and why so much concern about the environment.

The Cambridge dictionary defines environment as "the air, water, and land in or on which people, animals, and plants live". (https://dictionary.cambridge.org/dictionary/english/environment). Etymologically, the word environment is said to be derived from the French word environner which means to encircle or to surround (Mukherjee, 2020, p. 1). Mukherjee further points out that everything which surrounds or affects an organism during its lifetime is collectively referred to as its environment. In other words, everything surrounding a living organism like people, places, and things constitutes its environment which can be either natural or man-made. Early man's environment was initially limited to the physical features of the planet Earth, such as the land (lithosphere), the air (atmosphere), and the water (hydrosphere), as well as biotic groups. However, over time as society advanced, man expanded his environment to encompass his political, social, and economic spheres (Mukherjee, 2020, p. 3).

Gloria Olatude-Aiyedun maintains that in simple words, we can say that everything that surrounds us is called the environment. Environment, she maintains can be defined as all surrounding conditions that have a direct impact on all humans and animals (Olatude-Aiyedun, 2022, p. 2). "Environment is a set of physical, chemical, biological and social components that, in the short or long term, cause direct or indirect adverse effects on living beings and human activities" (Khedkar, 2020, 6). At the organismic level, physiological interaction primarily aims to comprehend how various organisms are adapted to their surroundings for survival as well as for population growth and reproduction. Every living thing, including viruses and humans, is obligated to rely on the environment for a variety of basic requirements like food, shelter, water, and air. The environment is the whole sphere that surrounds an organism and influences it throughout its life. To put it another way, the environment is the entirety of the interactions between the land, water, and air as well as between humans, other living things, and material possessions. It includes the entire biological and physical environment as well as them interactions. Environmental studies provide a means of comprehending the global environment, the effects of human life on the environment, and the relationship between the two. Therefore, the concept of environment is multidisciplinary and cuts across areas which include physics, chemistry, geology, geography, history, economics, physiology, biotechnology, remote sensing, geophysics, soil science, and hydrology, among other subjects. The concept of environment is essentially universal in nature. The environment is essential to all biotic and abiotic components since it is a part of them. As a result, environmental problems including global warming, ozone layer depletion, forest shrinkage, energy resource depletion, loss of biodiversity, etc., affect everyone. The study of processes in the hydrosphere, atmosphere, lithosphere, and creatures that contaminate the biosphere is another aspect of environment. The environment aids in the establishment of benchmarks for a secure and robust natural ecosystem (Mukherjee 2020, p. 5). Environment can therefore be defined as the "sum total of living, non-living components; influences and events, surrounding an organism" in its most comprehensive form. Some have provided a more thorough definition of the environment, defining it as "a holistic view of the world as its functions at any point in time, with a multitude of spatial elemental and socio-economic systems distinguished by quality and attributes of space and mode of behaviour of natural and artificial forms." (Dickshit, K.R., in Mukherjee, 2020, p. 6).

According to Goldblatt David, environment can be classified into three broad types, namely; biotic, abiotic, and cultural (Goldblatt, 1996, p. 4).

The term *biotic* denotes a relationship with living things. The biological component of the ecosystem, which is made up of a population of plants, animals, and microorganisms living in intricate communities, is referred to as biotic components. Diseases are caused by biotic factors, viruses, and other parasite

organisms. The producers, consumers, and decomposers are the three different categories of organisms that make up the biotic component of the ecosystem. The organisms that can manufacture organic material only from solar radiation and carbon dioxide are known as producers. This organic matter provides nourishment and energy in the form of minerals. Every living thing needs both. The producers' organic substance is what keeps organisms alive, and those organisms are the consumers. The consumer group includes all kinds of species, from massive predators to tiny parasites like flies and mosquitoes. There are several ways in which consumers are dependent on producers. Certain consumers, such as herbivores like rabbits, rely exclusively on primary producers to obtain their energy. Others, like tigers and other animals, rely on primary producers indirectly (Goldblatt 1996, p. 6).

Pollution; The contamination of the environment by substances that harm human health, the quality of life, or ecosystems' ability to function naturally is known as pollution. Environmental components on a local and global scale are immediately harmed by pollution. Numerous factors can contribute to these impacts; while some are naturally occurring, the majority are the result of human activity. The Royal Commission on Environmental Pollution in U.K. in its third report gave the following definition to the term Pollution as: "The introduction by man into the environment of substances or energy liable to cause hazards to human health, harm to living resources and ecological systems, damage to structure or amenity or interference with legitimate uses of the environment" (Appannagari, 2017, p. 2). According to Section 1(3) of the U.K. Environment Protection Act, 1990, the term pollution means: "The release (into any environmental medium) from any process of substances which are capable of causing harm to man or any other living organisms supported by the environment" (Appannagari, 2017, p. 3).

Furthermore, Ian Pepper and other scholars define pollution as the accumulation and adverse effects of contaminants or pollutants on human health and welfare, and/or the environment. However, they maintain that to truly understand pollution, we ought to define the identity and nature of potential contaminants. Hence, they assert that, "contaminants can result from waste materials produced from the activity of living organisms, especially humans. However, contamination can also occur from natural processes such as arsenic dissolution from bedrock into groundwater, or air pollution from smoke that results from natural fires" (Pepper *et al*. 2006, p. 5). Pollutants are also ubiquitous in that they can be in the solid, liquid, or gaseous state. Pollution entails the increase of the contaminant levels such as toxic and hazardous waste disposal, bad odour, haze, sewage, etc, or other particular substances in an area that produces unhealthiest, uneasiness, and an unpleasant place to live in. It could also be roughly expressed as; "too much of something in the wrong place" (Ramli and Idris 2000, p. 5). Broadly, environmental pollution could be classified into: Natural pollution and Man-made pollution. Naturally, the environment is polluted when natural phenomenon, such as earthquakes, floods, drought, cyclones, etc. occur. On the other hand, man-made pollution refers to such pollutions that result from human activities in the environment. The environmental pollution can also be classified further as: Air pollution, Water pollution, Land pollution, Food pollution, Noise pollution and Radio-active pollution, etc.

Dere Communities in Ogoni Land: There are lots of controversies about how the Ogonis came to settle where she is today and how the name came to be. Researchers revealed different facts and positions about its origin and settlement. Primarily, the name Ogoni has two separate and distinctive meanings. According to N. Williamson; the name Ogoni is not an indigenous name. It was given to them by foreigners. In support of this claim, the prolific writer and the Ogoni human activist Ken Saro-Wiwa comments:

> There are indeed a large number of Khana, Gokana, and Eleme people who will object to the name Ogoni because it is alien…but we regret that we could not find a substitute that would be readily understood by all readers (Saro-Wiwa, 1968, p. 12).

Again, LoLo observed that the name was given to the people while trading at Bonny. This source revealed that the Bonny people were asked by the European trading partners who the Ogonis were and they answered "Igoni" which means strangers. By this, they were indicating to the Europeans that they were Ijaws, but they were the Igoni's. In another development, it was reported that the Ibibio interpreter who accompanied the first Europeans traveling through Ogoni land called the people by the Bonny name of

"Igoni" which he called Ogoni. In the same view, the first European to document the name materially was Dr W.B. Baikie popularly known as Beekee among the Ogoni in 1858.

In conjunction with him, Major Glenn Leonard in his book "The Lower Niger and its tribes reported: "Of the Ogoni's, all that my agents and myself were able to find out was that one Ogbe-saku (Gbele Saakoo) who was the first founder and King, lived in a town called Joko (Gyookoo) which is situated about the centre of the southern half of the country" (Leonard, 2001, p. 16). In reaction to the name Ogoni as a stranger, Keenam asserted that it sounds spurious and therefore contestable. This is because Ogoni as a people and name were already in existence before the arrival of the Europeans and the Bonny naming them "Igoni" (Keenom, 1985, p. 8).

Secondly, Mr Stephen Vobnu in his doctorate thesis argued that the name Ogoni is a coinage of the people heritage and language. First "Ogo" means your "namesake" or "Eagle" which they referred to as brothers or sisters' or alike or relation and "ni" simply means "root". A place that is fertile and rich. Every good seed takes root and grows. As a territorial name Ogoni means your sake, namesake (brother and sisters) rooted, that is to say your namesake (brothers) sister have taken root. Thus, a brother or relation of the same root. Basing their meaning on the eagle or social aspect, Ogoni means your celebration of greatness (Vobm, 2001, p. 7). As a people of a unique entity, this had been their belief.

A close resemblance in sound between Khana as the people is generally called and the West African country of Ghana. This has led to the claim among some scholars that the Ogoni may have migrated from the Ancient Ghana Empire. According to Lolo, a fleet of soldiers of fortune from Ghana were sailing for slaves along the Nigeria coast and got stranded along the Bonny Creek. Some of them decided to call on the chief of Bonny. For fears of the British anti-slave trade campaign, others by ways of Creek passed through the present-day Ewenga and Ikot Abasi in now Akwa Ibom State and landed at "Opuoko, Bana, and Ko: When these people were asked where they came from, they answered from Ghana, the interpreter said "Khana". This claim is disarmed by the fact that the Ogoni had been in existence before the slave trade. Thus, Prof Theo Vincent, former Uniport Vice Chancellor reported that at one of the conferences he attended, he met one Mr Kumi, Vincent who confessed that one of his relations was taken for slavery and later deported to Nigeria. Though slaves from Ghana who entered Ogoni were strangers to the Ogoni people as they were to the Bonny people, only that the Ogoni people were hospitable and accommodated them (Vobm, 2001, p. 7).

According to Okorie of Orlu, the Igbos and Efiks are the two tribes in Nigeria from Efikdonalist lying between Batanaea and Nabataee provinces. But by popular religious Myth, A version holds that the Ogonis are Jews in diaspora – this claim is based on the fact that:

(a) 30 percent of the Ogoni language has similarities with the Efiks and Ibibio languages.

(b) Popular religious tales record "Sirah Akpan" the daughter of Akpan as the mother of the Ogoni.

Following the above assertions, it is generally believed that the Ogonis migrated from Jews and Ghana respectively. The Ogoni ethnic nationality is a unique tribe with its unique entity, character, and culture. It has six kingdoms: Kenkhana, Yonkhana, Babbe, Gokhana, Tai, and Eleme. The Ogoni people are bounded on the North by the Imo River, and on the South by Bonny and Andoni on the Atlantic coast. Anang and Ibibio are on the East Whereas Okrika and Port Harcourt are on the West.

Hence Ogoni rest on the coastal plains of the Niger and has a topography of flat plains. The Ogoni speak a language called Khana. Politically falls within Port Harcourt metropolitan state under the umbrella of Rivers State. Within Rivers State, she has other siblings such as Ikwerre, Etch, and Ijaws, (Kabari, Okrika).

Environmental Challenges Faced by Dere People

The Dere people have faced severe environmental degradation due to oil exploration and production activities in their community, resulting in multiple interconnected challenges. One of the most significant issues has been oil spills, which have caused extensive damage to land, water, and air quality. According to Boele et al. (2001), between 1970 and 1982, there were 1,581 recorded oil spill incidents in the Niger Delta, with Shell being responsible for 27 of these. Further evidence of this ongoing issue was documented in an internal Shell report, which revealed 820 cases of oil spillage between 2006 and 2011,

leading to approximately 295,000 barrels of spilled crude oil. These oil spills have had devastating effects on the local communities, including loss of livelihoods and health issues. The lack of proper cleanup and compensation mechanisms has further exacerbated tensions between oil companies and the affected populations. Water contamination has emerged as a critical concern, with a 2011 United Nations report indicating that drinking water in more than ten communities contained dangerous levels of hydrocarbons (Nwozor, 2020). In some areas, wells were found to have hydrocarbon contamination 1,000 times above Nigerian standards. Additionally, benzene, a known carcinogen, has been detected in drinking water at levels exceeding World Health Organisation (WHO) guidelines by more than 900 times. These findings have led to increased health risks for the local populations, with reports of higher rates of respiratory illnesses and cancer in affected communities. The lack of adequate response and compensation from oil companies has only deepened the mistrust and anger felt by those impacted by the pollution.

Soil pollution has also reached alarming levels, with two-thirds of contaminated land sites exceeding Nigerian national standards for petroleum hydrocarbons (Ya'u et al., 2024). This contamination has resulted in widespread crop stress and death, severely impacting agricultural productivity. The air quality has been compromised by gas flaring, a byproduct of oil production, releasing harmful substances including hydrocarbon vapours, methane, carbon monoxide, carbon dioxide, and soot into the atmosphere (Ocholi, 2022). These pollutants contribute to respiratory issues and other health problems among the local population. The cumulative effect of soil and air pollution in Nigeria has led to a significant decline in overall environmental quality and public health.

The environmental damage has had devastating effects on local ecosystems. Mangroves have been denuded and their roots coated in bitumen-like substances, disrupting fish lifecycles by destroying spawning areas and nurseries for juvenile fish. Wetlands have experienced severe degradation and face potential disintegration (Bodo, 2019). These ecological impacts have directly affected the livelihoods of the Dere people, who primarily rely on farming and fishing for their sustenance. The contamination of water sources has also resulted in a scarcity of clean drinking water, leading to an increase in waterborne diseases among the Dere community. The lack of access to clean water and fertile land has exacerbated poverty and food insecurity in the region.

Despite significant industrial development in the region, including oil refineries and petrochemical plants, the Dere people have not received meaningful employment benefits from these facilities. The cumulative effect of these environmental challenges has created a situation where the community faces chronic pollution throughout their lives, leading to significant health issues, social unrest, and economic hardship. Furthermore, the environmental degradation caused by oil spills and pollution has also had devastating effects on the local ecosystem, impacting fishing and agriculture, which are key sources of livelihood for the Dere people. The lack of proper waste management and environmental regulations in the region has only worsened these issues, perpetuating a cycle of poverty and health crises for the community.

In conclusion, the environmental challenges faced by the Dere people represent a severe case of environmental degradation caused by prolonged oil exploration and production activities. The devastating combination of oil spills, water contamination, soil pollution, air pollution, and ecosystem damage has created a complex web of environmental, health, and socioeconomic problems. Despite the presence of industrial development in their region, the Dere people have been left to bear the burden of environmental destruction while receiving minimal benefits from the oil industry. The contamination of their land and water resources has not only destroyed traditional livelihoods in farming and fishing but has also exposed the community to serious health risks through contaminated drinking water and polluted air. This situation highlights the urgent need for environmental remediation, stricter industry regulations, and meaningful economic compensation for the affected communities. The Dere people's experience serves as a stark reminder of the human cost of unchecked industrial development and the importance of balancing economic progress with environmental sustainability and social justice.

The situation in Ogoniland vividly illustrates Spellman’s concept of pollution. Oil exploration in this region has resulted in extensive contamination of soil, water, and air, leading to substantial environmental harm (UNEP, 2011). The persistent oil spills, gas flaring, and pipeline leaks have not only degraded the natural environment but also rendered the land unfit for agriculture and the water sources unsafe for

consumption (Aghogho, 2016). This alignment with Spellman's framework underscores the direct and profound impacts of pollution on the ecological balance and the health of local communities. The lack of proper remediation efforts and regulatory oversight has exacerbated the environmental degradation in Ogoniland, perpetuating the cycle of pollution and its detrimental effects. The ongoing struggle for environmental justice and restoration in this region highlights the urgent need for sustainable practices and accountability in the oil industry.

The consequences for Dere communities are multifaceted. The contamination of agricultural land and water bodies has had devastating effects on traditional livelihoods. Farmers in the region have faced significant challenges due to polluted soil, resulting in reduced agricultural productivity and increased food insecurity (Akinbami et al., 2002). Similarly, the pollution of water sources has led to a decline in fish populations, which has undermined the fishing industry that is crucial for the local economy (Bello et al., 2015). These impacts highlight the direct link between environmental pollution and the degradation of essential resources, which in turn exacerbates socio-economic vulnerabilities within Dere communities. Efforts to address these environmental challenges must prioritize sustainable agricultural practices and the restoration of water sources to support the revival of traditional livelihoods. Additionally, community-based initiatives focused on environmental conservation and resource management are essential for building resilience and improving the overall well-being of Dere communities.

The health implications of environmental pollution are equally concerning. Chronic exposure to pollutants from oil activities has been linked to various health issues, including respiratory diseases, cancers, and birth defects (Aghogho, 2016). The contamination of drinking water sources has further exacerbated these health problems, posing significant risks to public health (UNEP, 2011). This situation aligns with the principle of environmental justice, which emphasizes the need to address health disparities and ensure that affected communities receive adequate support and compensation (Schlosberg, 2007). Dere communities, disproportionately affected by pollution-related health issues, face significant challenges that necessitate comprehensive healthcare interventions and effective pollution control measures. These interventions should prioritize the most vulnerable populations and involve community engagement to ensure their needs are met. By addressing these issues, we can work towards achieving environmental justice and improving the overall well-being of Dere communities.

The socio-economic repercussions of environmental pollution in Ogoniland are profound. Despite the significant revenues generated from oil extraction, the local communities have seen little benefit from these resources, and their economic activities have been severely impacted (Human Rights Watch, 1999). The destruction of traditional economic practices such as agriculture and fishing has led to widespread poverty and economic instability (Aghogho, 2016). This disparity highlights the need for more equitable distribution of the benefits and burdens associated with natural resource exploitation. Addressing these issues requires fair compensation for affected communities, investment in local development, and support for sustainable economic practices (Bassey, 2012). It is crucial for governments and corporations to prioritize the well-being of communities affected by resource extraction and ensure that they are not left behind in the pursuit of economic growth. By promoting sustainable development and equitable distribution of resources, we can work towards a more just and inclusive society for all.

The regulatory and legal frameworks governing oil extraction in Nigeria have been criticized for their inadequacy in addressing environmental and human rights issues. The Nigerian government has enacted various policies, such as the Environmental Impact Assessment (EIA) Act and the National Environmental Standards and Regulations Enforcement Agency (NESREA) (Nigerian Government, 2004). However, enforcement of these regulations has often been weak, and compliance by oil companies has been inconsistent. This failure to effectively implement and enforce regulations has contributed to ongoing pollution and environmental degradation in Ogoniland (Aghogho, 2016). Strengthening regulatory frameworks and ensuring greater transparency and accountability are essential for addressing these issues and protecting the rights of affected communities. Improving monitoring mechanisms and increasing penalties for non-compliance can help deter oil companies from flouting regulations. Additionally, involving local communities in decision-making processes and ensuring their voices are heard can lead to more sustainable and equitable environmental management practices in Ogoniland.

International responses and advocacy have played a crucial role in addressing the environmental and human rights issues in Ogoniland. Organizations such as Amnesty International and Greenpeace have documented the abuses associated with oil extraction and called for increased accountability and remediation efforts (Amnesty International, 2009; Greenpeace, 2011). These international efforts have pressured oil companies and governments to adopt more sustainable practices and address the impacts of pollution more effectively. While some progress has been made, continued international advocacy is vital for achieving meaningful reforms and ensuring that the rights and well-being of affected communities are upheld (Bassey, 2012). It is crucial for civil society organizations and concerned individuals to continue advocating for environmental justice and holding accountable those responsible for environmental degradation. By working together, we can push for greater transparency, accountability, and justice in the oil industry to protect both people and the planet.

Philosophical reflections on environmental stewardship offer valuable insights into addressing the environmental issues in Ogoniland. Aldo Leopold's land ethic emphasizes the intrinsic value of natural ecosystems and the moral responsibility of humans to protect and preserve them (Leopold, 1949). This perspective challenges anthropocentric views that prioritize economic gains over environmental health, highlighting the need for a more respectful and sustainable relationship with nature. Similarly, Arne Naess's deep ecology philosophy promotes an appreciation for the interconnectedness of all living beings and advocates for a fundamental shift in our understanding of and interaction with the natural world (Naess, 1973). These philosophical frameworks provide a basis for rethinking environmental management practices and advocating for more ethical and sustainable approaches. Perspectives that emphasize the inherent worth of nature and acknowledge the significance of biodiversity promote a comprehensive strategy for preserving the environment. They urge a change in direction toward practices and policies that put long-term ecological health ahead of immediate f The health consequences of environmental pollution in Ogoniland underscore the critical need for effective pollution management and remediation strategies. Chronic exposure to pollutants has been linked to a range of serious health issues, including respiratory diseases, cancers, and developmental disorders. These health impacts reflect the broader principle of environmental justice, which demands that vulnerable communities receive adequate protection and compensation for pollution-related harms. The Dere communities, experiencing disproportionate health burdens due to pollution, highlight the urgent need for comprehensive healthcare interventions and pollution control measures that align with Spellman's framework.

Furthermore, the socio-economic implications of environmental pollution in Ogoniland illustrate the complex interplay between environmental degradation and economic instability. Despite the significant revenues generated from oil extraction, the local communities have faced widespread poverty and economic hardship as a result of the destruction of traditional economic practices. This disparity between resource wealth and local poverty emphasizes the need for equitable resource management and fair compensation for affected communities. Addressing these socio-economic challenges requires not only improved regulatory frameworks but also a commitment to sustainable development practices that prioritize the well-being of local populations (Human Rights Watch, 1999). This can involve implementing revenue-sharing agreements, investing in alternative livelihoods, and ensuring meaningful community participation in decision-making processes related to resource extraction. By promoting transparency and accountability in the management of natural resources, governments and companies can work towards creating more equitable and sustainable

Towards Sustainable Environmental Governance in Dere Communities

The environmental challenges in Dere and other Ogoni communities underscore the urgent need for a shift toward sustainable environmental governance. Sustainable environmental governance involves the integration of ecological principles, social equity, and economic viability into decision-making processes to ensure that development meets present needs without compromising the ability of future generations to meet theirs. In the context of Ogoniland, this approach requires not only technical remediation but also institutional reforms, transparency, and community participation in environmental management. The absence of these elements has perpetuated decades of neglect, weak enforcement, and environmental injustice.

A crucial element of sustainable governance is transparency and accountability in the oil sector. Oil companies operating in Ogoniland must adhere strictly to environmental regulations and international standards, such as the Equator Principles and the ISO 14001 environmental management framework. Government agencies like the National Oil Spill Detection and Response Agency (NOSDRA) and the National Environmental Standards and Regulations Enforcement Agency (NESREA) should be empowered with adequate resources and autonomy to enforce compliance without political interference. Periodic environmental audits, mandatory environmental impact assessments (EIAs), and public disclosure of remediation progress are essential for restoring public trust and ensuring accountability in environmental governance.

Furthermore, the pursuit of sustainable livelihoods is critical to breaking the cycle of poverty and pollution in Dere communities. Diversifying the local economy through sustainable agriculture, aquaculture, renewable energy, and small-scale enterprise development can reduce dependence on oil-related income and create alternative pathways for growth. Empowering women and youth through environmental education, vocational training, and microcredit support will enhance their resilience and participation in local governance. Studies have shown that community empowerment and inclusion in environmental management improve sustainability outcomes and strengthen social cohesion (Ebeku, 2005).

In addition, technological innovation must be integrated into environmental restoration efforts. Advanced remediation methods such as bioremediation, phytoremediation, and nanotechnology-based soil treatment offer cost-effective and eco-friendly solutions for cleaning up contaminated sites. Establishing research partnerships between universities, government agencies, and international organizations can accelerate the development and application of these technologies in the Niger Delta. This aligns with global best practices and supports Nigeria's commitment to achieving the United Nations Sustainable Development Goals (SDGs), particularly Goals 6 (Clean Water and Sanitation), 13 (Climate Action), and 15 (Life on Land).

Another key component of sustainable environmental governance is legal reform and justice mechanisms. Current environmental laws must be updated to include provisions for community rights, corporate accountability, and compensation for ecological damage. The establishment of environmental tribunals or fast-track courts can ensure timely resolution of pollution-related disputes. Moreover, the principle of "polluter pays" should be rigorously applied, ensuring that oil companies bear the full cost of remediation and compensation to affected communities. International collaboration, including partnerships with the United Nations and regional environmental bodies, can provide technical and financial support for large-scale restoration programs such as the Ogoni Cleanup Project.

Finally, environmental education and advocacy remain vital for sustaining progress. Integrating environmental studies into the school curriculum, supporting grassroots movements, and promoting eco-conscious behavior through media and community campaigns can cultivate a culture of environmental responsibility. The Ogoni struggle, led by figures like Ken Saro-Wiwa, serves as a powerful reminder that lasting change requires persistent advocacy, informed citizens, and ethical leadership. The Dere communities, with their history of resilience and activism, are well positioned to lead the call for environmental justice and sustainable development in the Niger Delta.

CONCLUSION

The communities complained that the pollution is the major problem and threat to their source of livelihood. The UNEP reports state categorically that the pollution and environmental degradation are resultants of oil spills, gas flaring and other petroleum related issues in the area. The amnesty report also found out that negligence and equipment/operational failures were the fundamental cause oil spills in the area. The above cries for attention and remediation.

RECOMMENDATIONS

Based on the implications of Frank Spellman's concept of environmental pollution, the following recommendations will surface

(i) Governments at all levels, should invest in clean energy technologies and promote sustainable practices that will help to reduce pollution levels and improve the overall quality of life for residents in the Dere communities.

(ii) Enhanced regulatory frameworks and enforcing stricter environmental standards should be considered paramount.

(iii) Implementing advanced cleanup technologies, such as bioremediation and phytoremediation, should be put in place to effectively restore contaminated soil and water resources.

(iv) Community engagement and empowerment should be considered crucial for achieving long-term environmental sustainability. The Dere communities have valuable insights into the local environmental conditions and can play a key role in monitoring and managing pollution.

(v) Providing training and resources for local residents to participate in environmental monitoring and decision-making processes should be encouraged to enhance their capacity to address pollution-related issues effectively. This approach aligns with the principles of environmental justice and ensures that the voices of affected communities are heard and acted upon development outcomes for all stakeholders involved.

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