Exploring the Impacts of Ogoni/African Indigenous Knowledge (AIK) in Addressing Environmental Issues in Ogoniland, Nigeria

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Abstract

Environmental issues are predominant in rural areas where indigenous people reside. These environmental issues cover environmental, health, social, economic, and political issues that emanate from poor environmental management and unfair distribution of environmental resources. These issues have greatly affected the lives of the indigenous people and their daily activities. As these environmental issues grow in communities, environmental experts, scientists, and theorists have proposed and developed methods, policies, and strategies to address these environmental-related issues in indigenous communities. Thus, this paper explores how the Ogoni indigenous knowledge and cultural practices could be used to address environmental issues such as oil pollution and other environmental-related issues that have destroyed the Ogoni environment.

Subject Areas

Environmental Sciences, Sociology

Keywords

Ogoniland, Indigenous Knowledge, Environment, Environmental Education

1. Introduction

Since the discovery of oil in the Ogoniland region of Nigeria, private oil companies, as well as the Nigerian government, have exploited this resource in ways that have significantly degraded the environment, undermined public health and resulted in a range of social, cultural, economic, and political issues for the Ogoni people. There have been many unsuccessful interventions to the Ogoni envi-

ronmental problems. Part of the reason for this failure has been the Nigerian government's long history of curtailing civil liberties, which has occluded the efforts of rights in regions such as Ogoniland. The fate of Ken Saro-Wiwa, addressed later in the article, has been the most brazen illustration of hostility towards the brand of activism that the federal rulers perceive as anti-government. Environmental education has been proposed and adopted to provide theoretical knowledge and practical skills to the Ogoni people to protect themselves from environmental hazards and take care of the natural environment. In the implementation of environmental education programmes in Ogoniland by the government and environmental social movement organizations, this paper explores the Ogoni/African indigenous knowledge and cultural practices in addressing environmental problems in Ogoniland.

The first section provides the context of the Ogoni environment; the subsection looks at how oil has placed a resource-curse dynamic in Ogoniland and how natives of that region have sought to resist what they deem as exploitation of resources from which they have scarcely benefited. The other sections present the impacts of oil exploration in Ogoniland, the theoretical conceptualisation of African Indigenous Knowledge (AIK) and the data analysis.

1.1. Contextual Narratives of the Ogoni Environment and Struggles

The Niger Delta is the largest wetland in Africa and the second largest in the world [1] [2]. The Niger Delta is located in the southern part of Nigeria and spans nine states: Abia, Akwa Ibom, Bayelsa, Cross River, Delta, Edo, Imo, Ondo and Rivers State. These states are characterised by diverse ethnic groups. The Niger Delta is the richest region in Nigeria in terms of natural resources, specifically, crude oil, and the poorest in terms of infrastructural development. In addition to oil, the Niger Delta is rich in aquatic foods and plants [3].

The Ogoni people are an indigenous majority ethnic group in Rivers State, with around 840,000 inhabitants occupying the eastern part of the state [4]. Ogoniland has crude oil resources and fertile agricultural land, with rivers and creeks which are used for fishing. Traditionally, the Ogoni people are known for farming and fishing; Ogoniland has been referred to as "the Delta's food basket" [5] [6]. Politically, there are four Local Government Areas (LGA) in Ogoniland: Gokana, Khana, Tai and Eleme. The population living within these four local government areas constitute six clans, each headed by a king. The clans are Ngo, Khana, Ken-Khana, Babbe, Gokana, Tai and Eleme; they comprise 111 communities in Ogoniland [7] (**Figure 1**).

1.2. Discovery of Oil in Ogoniland and Consequences

Oil exploration began in Ogoniland in 1957. The first oil wells in Ogoniland were drilled in Ebubu and Bomu communities. The discovery of oil led to the establishment of an oil refinery in Alesa Eleme in Ogoniland. Today, Ogoniland stands as the fifth-largest oil-producing community in Nigeria, with around 56
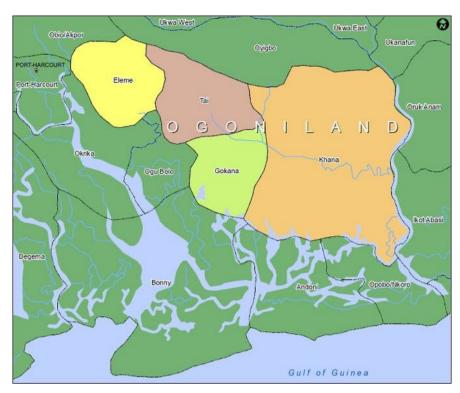
Figure 1. Map of Nigeria, showing the location of Ogoniland [8].

oil wells [7] [9]. The Trans Niger Pipeline (TNP), one of the major oil pipelines, runs through Ogoniland [4] [9] [10]. Shell Petroleum Development Company or Shell started oil operations in Ogoniland in the 1950s and continued until the early 1990s [10]. Its major sites of oil operations in Ogoniland include Bomu, Korokoro, Yorla, Bodo West, Kgbara-Dere and Ebubu communities. Oil production in Ogoniland by Shell has generated "a total of 634 million barrels of oil, valued at 5.2 billion dollars" [11].

The Ogoni people, however, have not shared in the profits generated from oil production in Ogoniland. In 1990, for, example, 55 per cent of the generated oil revenue went to the Federal government of Nigeria, 32.5 per cent to the state government, 10 per cent to local government, while 1 per cent was set aside to tackle environmental problems and 1.5 per cent was allocated to the Oil and Mineral Commission [11]. The discovery of oil in the Niger Delta, and Ogoniland, in particular, has not only affected the environment, people and other aspects of the society; it has also caused conflicts between the Ogoni people and their communities, oil companies and the Nigerian government.

The Movement for the Survival of Ogoni People (MOSOP) was founded in 1990 by Ken Saro Wiwa and other Ogoni leaders to oppose the environmental degradation and social, political and economic discrimination resulting from the actions of oil companies and the Nigerian government [12]. In 1990, MOSOP drafted and presented the *Ogoni Bill of Rights* to the Federal Government of Nigeria. This document described the environmental degradation and the lack of access of the Ogoni people to adequate education, health care and other ameni-

ties. The *Ogoni Bill of Rights* also demanded political autonomy for Ogoniland as a distinct separate geopolitical entity, with compensation for environmental destruction and a fair share of the 30 billion dollars that MOSOP claimed Nigeria had accrued since 1958 from oil extracted from Ogoniland [13] [14]. To justify the struggle for oil control, political, and economic fair share in oil revenue, [15] argued that

> over the past thirty years, Ogoni has given Nigeria an estimate of thirty billion dollars and received nothing in return, except a blighted countryside, an atmosphere full of carbon dioxide, carbon monoxide and hydrocarbons, a land in which wildlife is unknown, a land of polluted streams and creeks, of rivers without fish, a land which was in every sense of the term an ecological disaster ([15], p.74).

The refusal of the Nigerian government and the oil company to respond to the *Ogoni Bill of Rights* led to stronger resistance by the Ogoni people against the Nigerian government and the activities of the oil companies [14]. In 1993, under the guidance of MOSOP and the leadership of Ken Saro Wiwa, the Ogoni people organized massive nonviolent protests against Shell and the Nigerian government [13]. However, the movement suffered debilitating divisions and a crisis of leadership due to the political aspirations and ties to the oil industry of some MOSOP leaders and elders in the Ogoni communities [4] [16]. In one of the extreme crackdowns on Ogoni protestations, the military government of Sani Abacha arrested and executed Ken Saro-Wiwa and eight other Ogoni activists [5].

Due to the Ogoni uprising against Shell's substandard environmental practices in its oil production activities and refusal to address the infrastructural demands of the Ogoni people, Shell stopped oil production in Ogoniland in 1993 [11]. The Ogoni uprising and struggle for a better environment and control of their natural resources were characterized by non-violent demonstrations and subsequent violent attacks on the oil company's facilities and threats to its staff [10] [17]. Neither Shell nor any other national or international oil company has produced oil in Ogoniland since they stopped operations in 1993. Their facilities in Ogoniland were transferred to the Nigerian National Petroleum Corporation (NNPC) [10].

The discovery and exploration of oil in Ogoniland has brought some consequences on the Ogoni people, environment and society. These consequences are emissions of carbon dioxide, carbon monoxide and nitrogen oxide cause gas flares which, along with black soot, result in air pollution [6] [18]. It also includes waste management of oil effluents, oil spills on land and rivers, and deforestation [19] [20] [21].

2. Impacts

The health consequences experienced by people in Ogoniland as a result of oil production activities include respiratory issues; asthma; cancer; skin, throat and lung infections; and headaches and miscarriages among women [6] [13] [22].

Reference [23] notes that "ten percent of airborne benzene detected in Ogoniland was higher than the concentrations WHO and the United States Environmental Protection Agency report as corresponding to a 1 to 10,000 cancer risk" ([23], p. 386).

The social and economic effects of oil exploration in Ogoniland is experienced as the contamination of agricultural land and water sources by oil exploration activities has had a negative impact on agricultural production and fishing [18]. Because Ogoni communities are heavily dependent on fishing and farming for their livelihood, pollution of the land and rivers has resulted in increased poverty [2]. Another socio-economic effect of the oil exploration has been an increase in the cost of living and outsourcing of jobs [11] [24]. Reference [10] reported in 2019 that "security remains a high priority due to continued crude oil theft and criminality in parts of the Niger Delta. Illegal refining and third-party interference are the main sources of pollution in the Niger Delta today" ([10], p. 28). Violence is also one of the social consequences of oil explorations in Nigeria. Violence and proliferation of arms among Ogoni youths has become a problem due to oil exploration: youth, under the guise of fighting for their rights and demanding development, have created a number of militant groups [2] [25]. These militant groups pose a threat to the oil companies' facilities, staff and contractors: there have been a number of incidents in which staff were kidnapped and militants demanded a large ransom from the company [10].

The social consequences of oil production in Ogoniland also have a gender dimension. Women have paid a higher cost in terms of the impact of the environmental problems in Ogoniland on their wellbeing [2]. They are usually the first to come into contact with contaminated land and water as they cultivate the land for crop production and fetch water from the streams for domestic purposes in their homes. Hence, women suffer more severe health effects from chemicals as a result of the oil production process [26] [27]. Due to the strain on the economy in Ogoniland, there has been an increase in prostitution among young Ogoni girls, who see prostitution as a means of economic survival. This can result in women becoming subordinate to the men around them; there have been cases of women being physically abused by men acting out of frustration because they cannot find employment [2] [28]. Reference [29] draws attention to the way the issues around oil production have divided communities and eroded trust among community members. They argue that "there are differences of opinions within the communities and these differences have led to confusion or uncertainty about the way forward on the polluted environment" ([29], p.98).

The political consequences of oil exploration in Ogoniland are that Ogoni politicians have also used their political office to influence and politicize oil exploration and activities in Ogoniland. Ogoni politicians have begun to collaborate with oil companies and the government in order to bring benefits to their communities. For example, some politicians and elders from Ogoni communities have tried to influence the oil companies to bring development to their communities and employ their youth rather than offering these opportunities to

others ([9], pp. 105-107). Other oil-producing communities in the Niger Delta, however, have accused oil companies and the government of focusing only on Ogoni communities and neglecting other communities affected by oil exploration.

The next section discusses the significance of African Indigenous Knowledge in responding to modern issues in African communities.

3. African Indigenous Knowledge (AIK)

Knowledge helps us to understand the realities we encounter. At the same time, knowledge can be derived by viewing and understanding a reality from different perspectives and contexts. This section highlights the significance of indigenous knowledge perspectives and its relevance in addressing environmental issues. Each society produces its own local knowledge and methods of knowing. African societies such as the Ogonis have their own indigenous methods of deriving knowledge of reality which can be used to address problems that arise in communities. However, in the African context, indigenous knowledge has been dominated by the influence of Western knowledge through colonisation and civilization. As a result, indigenous knowledge has often become dormant in African societies. Thus, there is a need to restore the value of African indigenous knowledge and African ways of knowing and practice to address the issues facing African communities today [30] [31] [32] [33].

Although colonization and globalization in Africa has its negative impact on the African context of education and indigenous knowledge, it has not completely destroyed African indigenous knowledge or ways of knowing. This is because African indigenous knowledge is secured and preserved in the reservoirs of cultural practices, African spirituality, proverbs, songs, dance and rituals of elders which still exists and are all pillars and deposit of African indigenous knowledge [34]. Hence, the indigenous knowledge should be employed, reviewed and integrated into modern ways of knowing and problem solving.

Indigenous knowledge systems are unique to the particular group of people that have developed them. They consist of cultural practices and beliefs, songs and proverbs that help people to make sense of the world and the issues in their communities; at the same time, they enable people to find solutions to their problems [34] [35] [36] [37]. Although African indigenous knowledge is transmitted primarily in the informal educational setting and could be perceived as obsolete in responding to modern challenges; indigenous knowledge could be reviewed and incorporated into mainstream formal education [33]. This could restore communities' recognition of the values and richness of their indigenous knowledge systems and the potential importance they hold for addressing the issues affecting communities. Formal education can thus play a vital role in restoring the value of African indigenous knowledge and its applicability in contemporary African communities and realities [34] [38] [39].

Indigenous knowledge explores alternative solutions by applying local knowledge, practices and beliefs to address societal issues. Another purpose of indi-

genous knowledge is to reclaim specific cultural practices and methods that has been dominated by knowledge in another context [33]. The purpose of reclaiming indigenous knowledge is to preserve and transmit local indigenous knowledge to younger generations in the attempt to find solutions to challenges in the communities. These indigenous knowledge systems are sustained from generation to generation as a lifelong learning process through informal education in the family, community and cultural age groups [40].

In the context of this paper, the Ogoni people are indigenous people that have their own ways of knowing and indigenous cultural practices to address issues in their communities; hence, indigenous knowledge is significant to the Ogoni people as they can apply their indigenous knowledge to address the environmental issues in their communities [41].

3.1. Significance of Indigenous Knowledge and the Natural Environment

Reference [41] argued that "it is vital that the value of the knowledge-practice-belief complex of indigenous peoples relating to conservation of biodiversity is fully recognized if ecosystems and biodiversity are to be managed sustainably" ([41], p. 151). With this understanding, [42] emphasised that indigenous knowledge should play an integral role in Environmental Impact Assessments (EIAs). This is because the indigenous communities that live in the environment have an intimate knowledge and understanding of, and relationship with the environment and have practices to enhance and conserve their natural environment. The inclusion of indigenous knowledge in EIAs also recognizes the rights of indigenous people to participate in environmental decisions that impact their community. By including the indigenous communities in EIAs, their knowledge of the environment and their environmentally friendly cultural practices can inform the science-based environmental management interventions that are implemented [43]. To the Ogoni people, this implies first, the recognition of their indigenous knowledge as relevant in addressing their environmental problems and secondly, the inclusion of Ogoni people in the environmental decision-makings their communities.

Despite the potentials and purposes of indigenous knowledge, the adoption of indigenous knowledge to address modern challenges should be monitored. This is because some people in the same cultural space may not adhere to the said indigenous knowledge that is being used to address modern issues in the communities. Some individuals within the community may differ in ways of doing things in the community. This is a conflict between modernization and indigenous belief systems. Another issue with adopting indigenous knowledge is that it is mostly hierarchical and patriarchal, a top down transmission of knowledge that is not questioned by those in subordinate positions in such communities [44]. Thus, such indigenous knowledge becomes subjective to addressing general issues in communities.

Indigenous knowledge helps us to understand issues and find solutions to those issues within the context of the community [35]. In the context of this paper, the recognition of the value of indigenous knowledge implies to fully understand the Ogoni people, cultural practices and beliefs, communities and their natural environment. It also imply to address the environmental problems with indigenous knowledge from Ogoni communities, hence, indigenous Ogoni methods, beliefs and practices the Ogonis employ to manage their environmental problems should be valued, considered, and explored. The analysis will illustrate how the Ogoni/African indigenous knowledge, practices, methods and beliefs addresses the environmental issues in Ogoniland.

3.2. Data Collection

The data was collected from two independent institutions (government institutions and social movement organizations) involved in addressing environmental issues in Ogoniland. Data collection involved conducting interviews and gathering documents and texts. Semi-structured, face-to-face and in-depth interviews were conducted with participants from the institutions. The government institutions consist of two government agencies: the Hydrocarbon Pollution Restoration Project (HYPREP) and the National Oil Spill Detection and Response Agency (NOSDRA). The social movement organizations consist of the Movement for the Survival of Ogoni People (MOSOP), Environmental Rights Action (ERA) and the Centre for Environment, Human Rights and Development (CEHRD). These institutions were chosen on the basis that they are actively engaged in responding to environmental issues in Ogoniland. The names of participants used in the analysis and presentation of the findings in this study are pseudonyms: they are not the real names of the participants. The anonymity and confidentiality of all participants involved were ensured. Participants' names, positions, and identities were not linked to their responses during the interviews and in the data analysis.

4. Data Analysis

In Subsection 1.2, the consequences of oil exploration in Ogoniland were highlighted. These consequences include environmental, health, socio-economic, cultural and political issues. Hence, the data analysis explores the significance of Ogoni/African indigenous knowledge in addressing these issues in Ogoni communities. The data analysis will be presented and discussed in themes below.

4.1. Indigenous Leadership Structures

The access into indigenous communities is mostly through the leadership structures. The leaders in indigenous communities have some indigenous knowledge that they use to educate their subjects and address issues in their communities. To highlight how the indigenous knowledge within the Ogoni leadership structures addresses environmental issues and other related environmental issues,

Shell reported that "in 2016, (Shell) collaborated with local community leaders, traditional rulers and state governments in the Niger Delta to raise awareness among youths of the environmental and health risks of interfering with pipelines" ([10], p. 37). This explains the importance of indigenous knowledge in leadership structure in proffering solution to environmental problems in Ogoni communities.

Another participant from Centre for Environment, Human Rights and Development (CEHRD) noted that

> sometimes we have to meet the community leadership structure to let them know that we are working in their community.[1]

This shows how the leadership structures serves as gatekeepers to individuals and institutions to carryout activities in the community. Hence, the Ogoni leadership structures serves as an integral level of indigenous knowledge in addressing environmental and other related issues in Ogoniland. Gatekeeping could be seen as an indigenous knowledge of administration whereby the community leaders are consulted and they give permissions on how issues in the community would be handled.

Commenting further on how indigenous leadership structures of Ogoni communities influence environmental activities in Ogoni, one of the MOSOP participants stated that

> it depends on how stable the community structure is. Part of what we have seen in Ogoni is fragmentation of community structures, which is something deliberately done by oil companies to weaken community resistance. But where the community structure is intact, it is easy to carry out environmental education activities. But where the community structure is fragmented at the level of the community, it is not easy to carry out environmental education. Most times it's always easy to start your campaign or environmental education from the community structures because once the community structures takes ownership of the process and gets involved, the message is guaranteed that it is going to get down to the people. So the political rise, the social rise, the economic rise of environmental education and the downfall depends on the community structure.[2]

In this narrative, we see how a solid indigenous community leadership structure can aid the environmental activities and how a fragmented community structure hinders environmental activities. Community structures are important in order to address environmental issues and other environmental related issues. This is because the community structure is the custodian of indigenous traditions and activities in the communities and dictates and guides community involvement in any activities. Thus, it is important to explore the value of indigenous knowledge that lies within the leadership structures of the Ogoni people.

[1]Ndaka, B. (2020, August, 25) Personal Communication [Personal Interview].
[2]Nudi, E. (2020, October, 30) Personal Communication [Personal Interview].

4.2. Indigenous Means of Communication

The indigenous or cultural means of communication of any indigenous group is important in understanding how such a group of indigenous people address issues in their communities. The Ogoni people as an indigenous group have their own means of communication which helps them to disperse information and knowledge on how to address issues in their communities. A participant in this study highlighted that

> We use local town criers in the communities to sensitize the people and call them to town hall meetings in some of the selected communities. We educate them about the dangers that we face with oil extraction and its impact on the environment.[3]

This strategy of using the local town criers highlights the significance of indigenous cultural means of communication. People are poor due to the economic downfall that arises from environmental degradation in Ogoni and most of them cannot afford radios and televisions in their homes; thus, cannot access environmental education broadcasts. Through this local means of communication, the Ogoni people can easily access environmental information and knowledge.

Another participant added that

> the Hydrocarbon Pollution Remediation Project (HYPREP) recently carried out sensitization and town hall meetings across the four Local Government Areas of Ogoni. This provided an opportunity for members of the communities to interact with officials of HYPREP and clear all misconceptions and misinformation about the project [45].

The use of town hall meetings are vital to indigenous communities as everyone is called to deliberate on issues affecting the community. This town hall meeting is an invitation to dialogue; hence, it is an important indigenous practice that is efficient in addressing modern issues in communities.

4.3. Indigenous Environmental Beliefs and Practices

The Ogoni people have some cultural beliefs and practices that guides their attitudes and practices towards the natural environment. These cultural beliefs and practices help the Ogoni people to understand the natural environment and to address environmental issues within the communities.

Explaining the Ogoni indigenous environmental beliefs and practices, one of the participants in this study commented that

> as a local, indigenous community, the Ogoni wellbeing, I mean, culturally and spiritually, we believe that our wellbeing is tied to our environment because they live on the land, and they survived by the land. Their entire spirituality, livelihood is tied to the land. So in Ogoni culture, they believe that if something goes wrong in the environment, it affects human being that

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[3]Nudi, E. (2020, October, 30) Personal Communication [Personal Interview].

lives in that environment. And that is the set of understanding. So our life and our culture is rooted in how we take care of our environment. And that is why in most communities in Ogoni, in those times or in those days, you see that these things of conservation are rooted in our family, our community systems. It goes down well because there are certain times we go to certain forest to cut firewood and someone will tell you: "Do not go near that forest," because people believe that is a way of conserving that forest. In some other communities, there are streams or rivers that we do not go to, that we open just once, twice or thrice in the year. And within the year that is open we can go to that stream, you can go to that river and do fishing. So certain period of the year, nobody goes to that stream because people feel that it is time for the fish to reproduce again and all that. There are certain areas in the community that we do not harvest certain herbs because they were thought to be medicinal; they were thought to be something to have as far as spirituality is concern.[4]

In this response, we can see how the cultural life of the Ogoni people has influenced their thinking and attitude about the environment. We can also see how some cultural environmental practices, such as the conservation of trees and rivers, are dominant in families and communities across Ogoniland. This illustrates the indigenous knowledge systems that the Ogonis have developed to care for their environment and interact with it sustainably and environmental management [42] [43].

To buttress the indigenous environmental beliefs and practices of the Ogoni people towards addressing environmental issues in Ogoniland, a participant in the study explained that

(We) teach them to use palm frond branches in places where there are streams. If they can cut palm fronds and place it across the surface of the stream so that it can trap the oil on the surface, while they wait for proper response from the oil company. So this is what they can do in response to oil spills on the environment, instead of allowing the oil spill to just spread.[5]

This response expresses the importance of indigenous environmental beliefs and practices in Ogoniland towards addressing the environmental issues in the communities.

Despite the indigenous environmental beliefs and practices of the Ogoni people that are environmentally sustainable, there are some indigenous environmental practices and beliefs that are not environmentally friendly and healthy to humans. Highlighting the negative side of indigenous environmental beliefs and practices, a participant explained that

There are things that they (Ogonis) believe strongly that is difficult for us (CEHRD) to change. For example, if you go to Eleme community and ask

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[4]Nudi, E. (2020, October, 30) Personal Communication [Personal Interview].
[5]Ike, L. (2020, September, 30) Personal Communication [Personal Interview].

one of the old women not to drink the water that she has been drinking that is contaminated, she will tell you that my forefathers have been drinking this water and they live for 70, 80, 90 years: why are you coming now to tell me not to drink it? And so they are a bit adamant to some of those cultural beliefs and practices. There are also cultural practices like bathing on 1st January of the year. They go to a particular river to bath; and if that river is polluted and we try to sensitize them not to go to that river that is polluted, not to swim, drink and fish, it becomes a strong issue, because there are some cultural and religious beliefs attached to some of those practices.[6]

This comment reveals some indigenous cultural beliefs and practices that are unfriendly environmentally and unhealthy to the people of Ogoniland. Hence, it calls for monitoring and reviews of indigenous knowledge and practices before incorporating them to address modern issues in the society [33] [34] [38] [39].

5. Conclusion

The highlights of the indigenous cultural knowledge, beliefs and practices of the Ogoni people is significant and can help the Ogonis, policy-makers, and other institutions to explore more indigenous beliefs and practices that are environmentally sustainable, towards addressing environmental issues and other related issues in Ogoni communities. The review and incorporation of indigenous knowledge to address modern issues gives a holistic approach to environmental transformation and restore all aspects (social, cultural and economic) of human life that are affected by the natural environment in Ogoniland. The indigenous cultural knowledge, beliefs and practices could be infused into environmental education programmes such Environmental Impact Assessments (EIA) and other problem-solving policies in the Ogoni environment and other communities.

Conflicts of Interest

The author declares no conflicts of interest.

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