CLIMATE CHANGE AND INSECURITY IN THE NIGER DELTA AREA OF NIGERIA

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Abstract

This paper explores climate change and insecurity in the Niger Delta area of Nigeria. It delved into the concept of climate change, its causes as well as issues of insecurity, the types of insecurity; political, economic, social, environmental and the causes of the insecurity in the region. The paper additionally examined how climate change has contributed to insecurity in the Niger Delta, with a focus on the environmental impacts of climate change on the region, including flooding, coastal erosion, and loss of arable land. The paper further discusses how these environmental impacts have led to social and economic insecurity, including displacement, poverty, and conflict as well as the connection between climate change and insecurity in the region. The paper concluded that climate change is contributing to environmental degradation, economic instability, and social conflict, all of which are major factors that are driving insecurity in the Niger Delta region. Finally, the paper suggested some solutions to the problem of climate change-induced insecurity in the Niger Delta, including investment in sustainable development, environmental protection initiatives and environmental management strategies. However, it is important to note that no single solution will solve all of the issues facing the region, so a combination of approaches is needed, including economic, environmental, and social initiatives.

INTRODUCTION

The Niger Delta region of Nigeria stands out as one of the most diverse and complex areas in Africa. Home to over 31 million people, it also holds paramount importance for Nigeria, contributing to 80% of the country's oil production (Tekena et al., 2022). Unfortunately, the Niger Delta has long grappled with conflict and insecurity, exacerbated by the adverse impacts of climate change such as sea level rise, coastal erosion, and severe storms. As a low-lying coastal area with numerous small islands and rivers, it is one of Africa's wettest regions, experiencing an average annual rainfall exceeding 2,000 mm. The region encompasses diverse ecosystems,

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including mangrove forests, freshwater swamps, and tidal marshes, providing crucial services like food, fuel, and water filtration. However, these ecosystems are highly vulnerable to climate change (Yusuf et al., 2019).

Rising sea levels have led to coastal erosion and land loss in the Niger Delta, devastating communities by destroying homes, farms, and livelihoods. Mangrove forests, essential for flood protection, have suffered extensive damage due to increased saltwater intrusion and rising sea levels, exacerbating flooding and necessitating the evacuation of communities during extreme weather events. These impacts have fueled social and economic insecurity in the region. Climate change has significantly affected agriculture, a key livelihood in the Niger Delta, as farmers heavily rely on rain-fed practices. The increasing frequency and severity of droughts and floods have led to a decline in crop yields, resulting in food insecurity and heightened poverty (Oke et al., 2018). The loss of agricultural land has also intensified conflicts between farmers and herders over scarce resources, compounding the region's insecurity.

The intensified impacts of climate change have forced a growing number of people to leave their homes, contributing to an estimated 1.4 million internally displaced people in Nigeria in 2018, with climate change being a major driver (International Displacement Monitoring Centre, 2018). Displacement has increased poverty and vulnerability, as displaced individuals often lose their livelihoods and struggle to access basic services such as healthcare and education. Climate change has also significantly impacted public health, leading to a rise in water-borne diseases like cholera and typhoid due to extreme weather events. Reduction in freshwater quantity and quality has caused water shortages, contributing further to water-borne diseases and malnutrition due to the loss of agricultural land.

The impacts of climate change on the Niger Delta extend beyond environmental and economic dimensions; they also have profound human rights implications. Adequate housing, food, and water rights are all affected by the changing climate. Disruption of livelihoods has heightened tensions and violence, disproportionately affecting vulnerable groups like women and children (Umejesi et al., 2021). Importantly, the consequences of climate change in the Niger Delta reverberate globally. The loss of mangrove forests diminishes the region's ability to absorb and store carbon, contributing to global climate change. Moreover, the Niger Delta's significance as an oil-producing region, coupled with the environmental impact of oil extraction and transport, adds to the global implications.

The oil industry's significant impact on the Niger Delta's environment is evident through common oil spills, causing substantial damage to ecosystems and people's livelihoods (Dery et al., 2019). Oil production has contaminated groundwater and drinking water supplies, posing serious health issues for local communities. The Nigerian government has faced accusations of failing to protect the rights of Niger Delta residents, particularly regarding a clean environment and access to clean water and food (Oso et al., 2015). Concerns have been raised about the role of multinational corporations in the region and the lack of accountability for the damage caused. The international community's role has also been contentious, with accusations of both support for the oil industry and inadequate action to protect Niger Delta residents' rights (Bamidele, 2018). The United Nations, however, recognizes the need for action to safeguard the rights of those living in the region and address the root causes of poverty and environmental degradation (Cassin & Bero, 2018).

In response to the impacts of climate change, the Nigerian government has proposed various measures, including the restoration of degraded ecosystems, enhancement of water and sanitation infrastructure, and development of sustainable livelihoods for local people. These initiatives are outlined in key documents such as the Niger Delta Development Commission (NDDC) Master Plan, the National Policy on Climate Change, and the National Adaptation Strategy and Plan of Action on Climate Change. These documents underscore the importance of

protecting the environment, improving water and sanitation infrastructure, and creating sustainable livelihoods. Calls have been made for the Nigerian government to develop a national climate change adaptation plan, and for the oil industry to be held accountable for its environmental impact in the Niger Delta (The Government of Nigeria, 2017).

Prior to this paper, limited research existed on the specific impacts of climate change on the Niger Delta and the implications for human rights. This paper addresses this gap by providing a detailed analysis of the links between climate change and human rights in the region. It aims to shed light on the complex dynamics at play and emphasize the need for a coordinated response from the international community. Against this backdrop, the paper seeks to understand the connections between climate change and insecurity in the Niger Delta and explore the international community's role in addressing the region's challenges.

To ensure precision, the paper addresses key questions: What is the concept of climate change, and how has it impacted the Niger Delta? What types of insecurity exist in the Niger Delta, and what are their causes? How has climate change contributed to insecurity in the Niger Delta? What are the environmental, social, and economic impacts of climate change in the Niger Delta, and how has it affected the livelihoods of people living there? These questions guide the research, focusing on critical issues and often overlooked links between climate change and insecurity.

The paper's specific objectives include exploring the concept of climate change and its environmental impacts in the Niger Delta, examining existing types of insecurity, investigating connections between climate change and insecurity, assessing the impact on livelihoods, and proposing strategies for mitigating climate change and insecurity in the region. These objectives ensure focused and relevant research on the problem of insecurity in the Niger Delta. The paper's geographical scope is the Niger Delta, and its qualitative nature relies on literature to make arguments and draw conclusions rather than quantitative data or analysis.

THEORETICAL FRAMEWORK

The Political Ecology Framework

The paper employs the political ecology framework, a valuable approach for comprehending the connections between climate change and insecurity. Specifically, it centers on the "nexus" between environmental change and social conflict, elucidating their link to systems of governance and power. The political ecology framework was formulated by various scholars, including Karl Marx, Karl Polanyi, and David Harvey, during the 1970s and 1980s. It has since been utilized to investigate a broad spectrum of environmental issues such as deforestation, water scarcity, and climate change (Bryant, 2004).

The framework has a few key assumptions, which are as follows:

Human societies and the environment are interdependent, and cannot be understood in isolation from each other. The assumption that human societies and the environment are interdependent means that human activities have a direct impact on the environment, and vice versa (Bryant, 2004). For example, deforestation can lead to soil erosion, which can have a negative impact on crop yields and livelihoods. In turn, this can lead to poverty and conflict. Therefore, it's not possible to understand the impact of deforestation on society without also understanding the impact of the environment on society.

The second assumption of political ecology is that power relations are an important factor in understanding environmental change. This means that different groups of people have different levels of power and influence, which can lead to different outcomes for the environment. For example, in the case of deforestation, powerful groups may have the ability to clear forests for their own gain, while marginalized groups may not have the power to protect their land (Agrawal, 2005).

The third assumption of the political ecology framework is that knowledge is socially constructed. This means that different groups of people may have different perspectives on the same issue, based on their experiences and worldviews (Li, 2007). For example, scientists may have a different understanding of the causes and impacts of climate change than farmers who are directly affected by it. This can lead to different approaches to addressing climate change.

The fourth assumption is that change is non-linear and unpredictable. This means that environmental change is not always predictable, and can have unexpected consequences (Robbins, 2012). For example, the impact of climate change on a specific area may be different than expected, or it may have unexpected knock-on effects in other areas. This can make it difficult to predict and respond to environmental change.

The fifth and final assumption is that environmental change is shaped by history and culture. This means that past events and cultural values can play a role in shaping how people understand and respond to environmental change (Agrawal & Sivaramakrishnan, 2016). For example, in the case of climate change, some cultures may view it as a natural phenomenon that should be accepted, while others may view it as a threat that needs to be addressed.

The political ecology framework is relevant to this study because it can help to explain the causes and consequences of climate change and insecurity in the Niger Delta. By examining the power relations between different actors, we can better understand why certain policies and actions are taken, and how they impact local communities (Biersack, 2006). The framework can also help to identify potential solutions to address these issues. Another key part of the political ecology framework is the idea of environmental justice. This concept emphasizes the need to consider the social, economic, and political aspects of environmental change, and to ensure that any solutions are equitable and just. This is particularly important in the context of the Niger Delta, where there is a history of conflict and inequality.

CONCEPTUAL CLARIFICATION

Climate Change:

Climate change refers to long-term shifts in temperatures and weather patterns. These shifts may be natural, such as variations in the solar cycle. However, since the 1800s, human activities have been the primary driver of climate change, mainly due to burning fossil fuels like coal, oil, and gas (United Nations in Holechek et al., 2022). Climate change is impacting human lives and health in various ways (Heshmati, 2021). It threatens essential elements of good health: clean air, safe drinking water, a nutritious food supply, and safe shelter, with the potential to undermine decades of progress in global health. The atmosphere is a dynamic fluid continually in motion. Both its physical properties and its rate and direction of motion are influenced by factors such as solar radiation, the geographic position of continents, ocean currents, the location and orientation of mountain ranges, atmospheric chemistry, and vegetation growing on the land surface.

All these factors change over time. Some factors, such as the distribution of heat within the oceans, atmospheric chemistry, and surface vegetation, change at very short timescales. Others, such as the position of continents and the location and height of mountain ranges, change over very long timescales. Therefore, climate, resulting from the physical properties and motion of the atmosphere, varies at every conceivable timescale (Jackson, 2023). Climate is often loosely defined as the average weather at a particular place, incorporating features like temperature, precipitation, humidity, and windiness (Mishra, 2017). A more specific definition would state that climate is the mean state and variability of these features over some extended period. Both definitions acknowledge that the weather is always changing, owing to instabilities in the atmosphere. And as the weather varies from day to day, so too does climate vary, from daily day-and-night cycles up to periods of geologic time

hundreds of millions of years long. Climate variation is a redundant expression; climate is always varying. No two years are exactly alike, nor are any two decades, any two centuries, or any two millennia.

Climate change in Africa is an increasingly serious threat, with Africa being among the most vulnerable continents to the effects of climate change. It is having a growing impact on the African continent, disproportionately affecting the most vulnerable and contributing to food insecurity, population displacement, and stress on water resources. In recent months, devastating floods and an invasion of desert locusts have been observed, and now, the region faces the looming specter of drought due to a La Niña event. The human and economic toll has been aggravated by the COVID-19 pandemic (Change, 2020). Burning fossil fuels generates greenhouse gas emissions that act like a blanket wrapped around the Earth, trapping the sun's heat and raising temperatures. Examples of greenhouse gas emissions causing climate change include carbon dioxide and methane. To apply the political ecology framework to the case of the Niger Delta, understanding the historical context of the region is essential. This includes factors such as colonialism, the Nigerian Civil War, and the discovery of oil. These historical events have shaped the current situation in the Niger Delta and need to be considered when analyzing the relationship between climate change and insecurity (Jepson & D'Angelo, 2010).

Causes of Climate Change in Niger Delta:

In the context of the Niger Delta, the main causes of climate change are related to the oil industry. For example, the flaring of natural gas associated with oil extraction has led to increased levels of carbon dioxide and methane in the atmosphere. In addition, the extraction and transportation of oil have led to the degradation of coastal ecosystems and the loss of mangrove forests. These factors have all contributed to the increased vulnerability of the region to climate change (Ikomi & Badejo, 2019; Nwilo, 2019).

Gas Flaring:

Gas flaring is a process that involves burning off excess natural gas associated with oil extraction. This is done for various reasons, including economic and safety concerns. However, the process of gas flaring releases greenhouse gases such as carbon dioxide and methane into the atmosphere. This has a significant impact on the climate, as both of these gases contribute to global warming (Nwilo, 2018). Gas flaring is a major cause of climate change in the Niger Delta, releasing greenhouse gases such as carbon dioxide and methane into the atmosphere. It is estimated that around 25% of all gas produced in the Niger Delta is flared, with approximately 8 billion cubic meters of gas flared each year. This has led to various negative impacts, including air pollution, acid rain, and greenhouse gas emissions.

Oil Extraction and Transportation on Coastal Ecosystems:

The Niger Delta is home to extensive mangrove forests, playing a crucial role in preventing erosion and providing a buffer against storms and flooding. However, the construction of pipelines and canals for oil extraction and transport has damaged these mangroves, making the region more vulnerable to the impacts of climate change (Adelekan, 2013). The oil industry has been a major driver of economic development in the Niger Delta, but it has also had a significant impact on the environment. Oil spills and leaks are common and have resulted in the contamination of soil and water resources. Additionally, the construction of roads, pipelines, and other infrastructure has led to the destruction of wetlands and forests (Uwadulije et al., 2016).

Deforestation and Soil Erosion:

The conversion of forest and wetland areas to agricultural land has led to the loss of important habitats and the disruption of water cycles. In addition, the overuse of fertilizers and other chemicals has led to soil erosion and the loss of topsoil (Dibua, 2019). These factors have contributed to climate change by increasing greenhouse gas emissions and reducing the region's ability to absorb and store carbon (Jatto & Obakpolor, 2018).

Population Growth and Urbanization:

Population growth has put pressure on the region's resources, leading to the overuse of land and water resources (Dike & Korieh, 2018). This has exacerbated the effects of climate change and has also contributed to increased poverty and social unrest. Additionally, rapid urbanization has put additional stress on the environment as cities struggle to cope with the increased population (Aigbokhan, 2016).

The Lack of Adaptation and Mitigation Measures:

Despite the increasing impacts of climate change, there has been a lack of effective measures to adapt to or mitigate these changes. This has left the region vulnerable to the effects of climate change, including sea level rise, flooding, and drought. In addition, a lack of access to clean water, sanitation, and health services has made the population even more vulnerable.

The Lack of Political Will to Address Climate Change:

Despite clear evidence of the impacts of climate change, the Nigerian government has been slow to take action. This is due to various factors, including corruption, limited financial resources, and competing priorities. As a result, the people of the Niger Delta have borne the brunt of the effects of climate change, with little support from the government (Clements et al., 2019). To sum up, the lack of political will, combined with the other factors mentioned, has made the Niger Delta especially vulnerable to the effects of climate change. The region is facing numerous challenges, including poverty, conflict, and environmental degradation. The region is facing a number of challenges, including poverty, conflict, and environmental degradation. This has created a vicious cycle, where the effects of climate change make it harder for people to improve their lives, and in turn, make them more vulnerable to further effects of climate change (Ikelegbe, 2010).

The Environmental Impacts of Climate Change on the Niger Delta Region

There are a number of ways in which climate change has affected the Niger Delta region. Some of these impacts include:

Flooding: an overflow of water that submerges land that is usually dry. Floods can happen when heavy rainfall, a storm surge, or a rise in sea level causes water to rise above the level of the land. This can lead to the inundation of homes, businesses, roads, and other infrastructure, causing damage and disruption. The impact of flooding can be severe and can have long-term effects on a community's economy and well-being. Meanwhile, the Niger Delta region is particularly vulnerable to flooding, due to its low elevation and the effects of climate change, such as rising sea levels and more intense storms. This has led to an increase in the frequency and severity of flooding, which has caused damage to homes and crops and has led to the spread of waterborne diseases. Coastal erosion is another major issue. Rising sea levels and stronger storms have eroded the coastline, leading to the loss of homes and farmland**.**

Coastal Erosion: Coastal erosion is another major impact of climate change in the Niger Delta. Coastal erosion is the process of the shoreline eroding due to the action of waves, currents, and storms. In the Niger Delta, coastal erosion is accelerated by rising sea levels and the loss of coastal vegetation, such as mangroves. This has caused communities to lose their homes and land and has also led to increased flooding and saltwater intrusion. One example is the community of Forcados in Delta State, Nigeria. The town is situated on the coast, and it has been severely impacted by coastal erosion. Forcados has lost more than 300 acres of land to coastal erosion in the past few years. As a result, the town has been severely damaged, with homes and infrastructure being washed away. In addition, the livelihoods of the people of Forcados have been severely affected, as they have lost their fishing and farming grounds. This has led to increased poverty and hardship in the community.

Loss of Arable Land: this is a land that is suitable for growing crops. In the Niger Delta, the loss of arable land is caused by a combination of factors, including flooding, coastal erosion, and soil contamination from oil pollution. The loss of arable land has led to a decline in agricultural production, which has increased food insecurity and poverty. One specific example is the case of the Ilaje people, a community in the Niger Delta that has been severely impacted by flooding and coastal erosion. The Ilaje people are fishermen and farmers, and they have seen their land and livelihoods disappear due to climate change. This has forced many people to leave their homes and seek refuge elsewhere. For those who have stayed, they have faced food shortages, unemployment, and a lack of basic services. The Ilaje people have called for assistance from the government and international organizations to address the impacts of climate change on their communities.

Biodiversity Loss: Biodiversity refers to the variety of life in a given area, from the smallest organisms to the largest ecosystems. It encompasses the genetic diversity within and between species, as well as the diversity of ecosystems and their ecological functions. Biodiversity loss occurs when species go extinct, or their populations are reduced to the point where they are no longer viable. The loss of biodiversity can have a number of negative impacts, including the disruption of food chains and ecosystems, loss of ecosystem services, and increased vulnerability to disease. Biodiversity loss in the Niger Delta is a serious problem that threatens the region's ecological and economic sustainability (Agbafor & Ufford, 2013). The biodiversity of the Niger Delta region has been severely impacted by climate change. The region is home to a wide variety of plants and animals, many of which are endemic to the area. As the climate has changed, many species have been forced to migrate to new areas in order to survive. Some species, such as the critically endangered Cross River gorilla, have not been able to find suitable new habitats and are at risk of extinction. In addition, the loss of mangroves and other ecosystems has had a cascading effect on the food chain, leading to the loss of many other species (Ayuk & Ekpeyong, 2011).

The Impact of Climate Change on Health and Disease in the Niger Delta: One of the biggest health concerns is the spread of waterborne diseases, such as cholera, typhoid, and malaria. These diseases are spread by contaminated water, which has become more common due to flooding and soil contamination (Tawari & Oginni, 2016). In addition, the health system in the Niger Delta is underfunded and understaffed, making it difficult to address these health challenges. The health system in the Niger Delta has been severely impacted by climate change. Many health facilities have been damaged or destroyed by floods and storms, and the cost of healthcare has increased due to the increased demand for services. In addition, many health workers have left the region due to the insecurity and poor working conditions. All of these factors have led to an increase in preventable deaths and illnesses. The situation is particularly concerning for children, who are at a higher risk of disease and death due to malnutrition and lack of access to health care (Soforowa & Atehnkeng, 2017). For instance, the people of Bilabiri community in Bayelsa State in the Niger Delta, have been impacted by climate change. The health of the people of Bilabiri has been severely affected by the increase in waterborne diseases, as well as respiratory diseases due to air pollution from oil production. The people of Bilabiri have also been impacted by the loss of livelihoods due to coastal erosion, as well as the loss of homes and land.

Insecurity

The terms "security" and "insecurity" are often used in discussions about the Niger Delta, but they can have different meanings. Security, in general, can be defined as the absence of threats to a person or a community's physical and psychological well-being (Ebimobowei, 2016). Insecurity, on the other hand, is the presence of such threats. In the context of the Niger Delta, these threats can include things like violence, poverty, and environmental degradation. In terms of physical security, this can be defined as the ability of a person or community to be free from harm or violence. In the context of the Niger Delta, physical security can be threatened

by things like conflict, human rights abuses, and environmental disasters (Okonta, 2002). Psychological security, on the other hand, refers to a person's or community's sense of safety and well-being. This can be threatened by things like fear, uncertainty, and anxiety.

Insecurity can be defined as the opposite of security - that is, the presence of threats to a person or community's physical or psychological well-being. In the context of the Niger Delta, insecurity can be caused by a number of factors, including conflict, human rights abuses, and environmental disasters. These factors can combine to create a cycle of insecurity, where one problem can lead to another, creating a vicious cycle that's hard to break (Collier, 2007). For instance, In the Niger Delta, poverty is widespread, and many people depend on the environment for their livelihoods. However, oil pollution, caused by the oil industry, has contaminated water sources, making them unsafe for drinking or fishing. This has made it difficult for people to earn a living, increasing their level of poverty. In turn, this can increase social tensions, as people compete for scarce resources (Addison & Murshed, 2010).

In other words, insecurity is a complex, interrelated set of problems that can be very difficult to solve. Even when one problem is addressed, it can lead to another problem arising, or existing problems can be made worse. This makes finding lasting solutions a challenge, as they need to take into account all of the different factors that contribute to insecurity.

How do these Environmental Impacts Lead to Social and Economic Insecurity in the Region

There are a few ways in which the environmental impacts of climate change lead to social and economic insecurity in the Niger Delta (Collier, 2007; Addison & Murshed, 2010).).

First, displacement is a major issue: Displacement is the involuntary movement of people from their homes and communities, usually due to a major event or change. In the Niger Delta, displacement is a major issue because it has a major impact on the lives of those who are displaced. They may lose their homes, their possessions, and their livelihoods. They may also lose access to clean water, food, and healthcare. This can lead to a range of health and social problems, including malnutrition, disease, and mental health issues. Displacement can also lead to social and economic instability, as people struggle to find work and support themselves. Therefore, the destruction of homes and livelihoods due to flooding, coastal erosion, and other environmental impacts has forced many people to leave their homes and communities. This has created large-scale displacement, leading to overcrowding in urban areas and increased competition for resources. For example, In 2012, a major flood affected nearly 1.3 million people in the Niger Delta. Homes were destroyed, and people were forced to relocate to crowded temporary shelters. This led to a spike in malnutrition and disease, as people struggled to access basic necessities like clean water and food.

Second, poverty has increased as a result of the loss of livelihoods and the increased cost of living: Poverty is defined as a lack of basic resources, including food, water, shelter, and healthcare. In the Niger Delta, the loss of livelihoods due to environmental impacts, such as coastal erosion and flooding, has led to an increase in poverty. This is because people have lost their source of income, and it has become more difficult for them to find other means of supporting themselves. In addition, the increased cost of living, due to inflation and a lack of affordable housing, has put additional strain on the already vulnerable people of the Niger Delta. This, therefore, led to increased conflict, as people fought for resources and opportunities. In other words, people in the Niger Delta are caught in a vicious cycle. Environmental impacts, such as flooding and coastal erosion, lead to the loss of livelihoods. This leads to poverty, as people are unable to support themselves and their families. The increased cost of living makes it even harder for people to make ends meet, leading to more poverty. This cycle continues and is difficult to break without significant intervention and support. For example, in the town of

Ogidigben in Delta State, the shoreline has receded by over a kilometre in the last few years, causing homes to collapse and fishermen to lose their boats and gear.

The third factor is conflict. In this context, conflict refers to violent disputes between groups of people, including individuals and government forces. The conflict in the Niger Delta is often driven by the struggle for control of natural resources, which are seen as essential to the livelihoods and well-being of the people of the region. The ongoing conflict has led to a breakdown of security, making it difficult for people to feel safe and secure in their homes and communities. This insecurity can lead to a range of negative impacts, including poor mental health, increased crime, and limited opportunities for personal and economic development. In the Niger Delta, conflict has been fueled by the struggle for control of natural resources, including oil and gas. This has led to violence between different groups, including armed groups, the military, and the police. The conflict has had a devastating impact on the region, leading to loss of life, displacement, and the destruction of property and infrastructure. It has also made it difficult for people to access basic services like healthcare and education.

One example of how conflict has impacted the Niger Delta is the kidnapping of oil workers and other foreigners. The kidnappings are often carried out by groups who are seeking to gain control of the oil industry or to get compensation for the damage done to their communities by the oil industry. The kidnappings have caused fear and insecurity among the people of the region, and have led to a decrease in the number of foreign workers willing to work in the area. This has negatively affected the local economy and has made it more difficult for people to find jobs and earn a living. Another example is the negative impact of the conflict on education. In the Niger Delta, schools have been forced to close due to insecurity and violence, and many children have been unable to attend school due to safety concerns. This has led to a decline in literacy rates and has limited the economic opportunities for young people in the region. There are also many children who have been orphaned by the conflict or have had to flee their homes and communities. This has led to an increase in child labour and child trafficking.

The fourth factor is migration: Migration is defined as the movement of people from one location to another, usually in search of better living conditions or economic opportunities. In the case of the Niger Delta, migration has led to insecurity in a number of ways. Firstly, the influx of migrants has put pressure on the already scarce resources in the host communities, leading to competition for jobs, housing, and other resources. Secondly, the presence of a large number of people with little or no social ties to the community can lead to a breakdown of social cohesion and an increase in crime. Due to the conflict and insecurity in the region, many people have been forced to leave their homes and seek refuge elsewhere. This has led to an increase in the number of internally displaced persons (IDPs) and has created a large number of refugees who have fled to other countries. This has placed a strain on the resources of the host countries and has caused tension with the local population. For example, in Nigeria, there has been tension between the IDPs and the local population, and there have been reports of attacks on IDP camps.

Another example of the insecurity caused by migration is the case of Benue State, Nigeria. Benue State is home to a large number of IDPs who have fled violence in other parts of Nigeria. This has led to an increase in crime, including robbery, theft, and kidnapping. In addition, the presence of IDPs has led to an increase in the cost of living, as they compete with the local population for resources. This has caused resentment and hostility towards the IDPs and has led to clashes between the two groups.

The Impact of Climate Change on Agriculture and Food Security: In the context of the Niger Delta, agriculture refers to the cultivation of crops, livestock, and other agricultural products. Food security refers to the ability of people to access enough food to meet their nutritional needs (Anyene, 2015). The two are closely

linked, as agriculture is a vital source of food for the people of the Niger Delta. When climate change leads to decreased agricultural yields, it can lead to a decline in food security. This can cause people to go hungry, which can lead to social unrest and conflict (Addison & Murshed, 2010). For example, in the Niger Delta, food insecurity has been linked to increased crime and violence. In the Niger Delta, agriculture is a vital sector that provides a source of income and food for the local population. However, the changing climate has had a negative impact on agriculture, leading to decreased yields and increased crop failure. This has led to a decline in food security, as people are unable to meet their food needs and are forced to rely on imported food (Erokhin et al., 2015). This has put a strain on the economy and has led to an increase in poverty and malnutrition.

The Impact of Climate Change on Water Resources: Water resources refer to any sources of fresh water, such as rivers, lakes, and underground aquifers. In the Niger Delta, these water resources are vital for the survival of the local communities. However, when these resources are depleted or polluted, it can lead to a number of security issues (Akande et al., 2016). For example, when people are forced to compete for access to clean water, it can lead to violence and conflict. Additionally, when water sources are polluted, it can cause health problems that can further destabilize the region. In the Niger Delta, water is a precious resource that is used for a variety of purposes, including drinking, agriculture, and fishing. However, climate change has led to a decrease in the amount of fresh water available, as well as an increase in the salinity of the water. This has had a negative impact on the health of the people in the region, as they are forced to rely on polluted water sources. In addition, the decline in water availability has led to conflict between communities that rely on the same water sources.

Climate Change and Insecurity in the Niger Delta Region, Nigeria

There are several ways that climate change contributes to insecurity in the Niger Delta.

Economic Insecurity: refers to a lack of economic resources, such as income, assets, and savings. This can be caused by a variety of factors, including unemployment, inflation, and poverty. In the Niger Delta, economic insecurity is a major issue due to the decline in agricultural yields caused by climate change (Anyene, 2015). This is leading to a rise in unemployment, as well as increased food prices, which is making it difficult for people to afford basic necessities. This, in turn, is contributing to insecurity in the region, as people become desperate and turn to crime or violence to survive. For instance, when agricultural yields decline, people can lose their livelihoods and be forced into poverty. This can lead to a range of social problems, such as crime, conflict, and migration. In the Niger Delta, the main source of income for many people is agriculture. However, climate change is leading to a decline in agricultural yields, as the region becomes hotter and drier. This is having a devastating impact on the local economy and is leading to an increase in poverty. People are being forced to migrate to urban areas in search of work, but many of them end up unemployed and living in slums (Erokhin et al., 2015). This has led to increased tensions between the urban poor and the government and has even sparked riots and protests.

Environmental Insecurity: is defined as the loss of environmental services that are essential for human well-being. In the Niger Delta, the loss of these services is leading to a number of security risks, such as increased conflict over scarce resources, food insecurity, and health issues. For example, when wetlands are destroyed, they can no longer serve as a buffer against floods, which can lead to conflict between communities over limited water resources (Oke & Ekanade, 2010). Similarly, when mangroves are lost, coastal communities are more vulnerable to flooding and storm surges, which can cause displacement and loss of property. In the Niger Delta, the impacts of climate change on the environment are leading to a variety of security risks. For example, the loss of wetlands is causing an increase in flooding, which is damaging property and crops. The loss of mangroves is also contributing to coastal erosion, which is putting coastal communities at risk of being flooded or washed

away. In addition, the loss of biodiversity is affecting people's ability to find food and water. All of these environmental issues are contributing to insecurity in the region (Imuetinyan et al., 2012).

Political Insecurity: This refers to the instability of the political system, which can lead to conflict, violence, and a breakdown of the rule of law. In the Niger Delta, political insecurity has been increasing in recent years due to the conflict between the government and groups that are fighting for more control over the region's resources. This conflict has led to violence and the displacement of thousands of people (Obasi et al., 2016). Additionally, the lack of accountability and transparency in the government is leading to a lack of trust in the political system, which is further contributing to insecurity. Political insecurity is a complex issue, but in essence, it occurs when people have little or no trust in their government and its ability to provide for their basic needs. In the Niger Delta, political insecurity has arisen from the government's failure to address the region's environmental and economic problems, which has led to widespread dissatisfaction and a lack of faith in the political system (Clapham & Liverman, 2009). This has been exacerbated by the conflict between the government and groups that are fighting for more control over the region's resources. In turn, this has led to increased violence and the displacement of people, which is further contributing to insecurity.

Social Insecurity: This refers to the breakdown of social cohesion and the erosion of social institutions, such as family and community (Fattah, 2011). In the Niger Delta, social insecurity has been caused by the displacement of people from their homes, the loss of livelihoods, and the conflict between the government and armed groups (Ukiwo, 2015). All of these factors have contributed to a breakdown in trust and social cohesion, leading to increased tensions and conflict. Moreover, the loss of social institutions has made it more difficult for people to access basic services, such as healthcare and education (Le Billon, 2011).

However, all these are interrelated. For example, economic insecurity can lead to political insecurity, as people become dissatisfied with the government's inability to address their economic needs. Similarly, political insecurity can lead to social insecurity, as people lose trust in their government and social institutions. Additionally, environmental insecurity can lead to all of these other forms of insecurity, as it affects people's ability to meet their basic needs and maintain social cohesion (Brauch, 2016).

Potential Solutions to Address the Issue of Insecurity in the Niger Delta Region of Nigeria

Here are suggested solutions to the problem of climate change-induced insecurity in the Niger Delta:

Sustainable Development Initiatives that Focus on Economic Opportunities: are those that focus on meeting the needs of the present without compromising the ability of future generations to meet their own needs (Omeje, 2012). In other words, they seek to balance economic growth, social development, and environmental protection. One example of a sustainable development initiative is the promotion of renewable energy sources, such as solar and wind power. This helps to reduce dependence on fossil fuels, which contributes to climate change. Another example is the promotion of sustainable agriculture, which includes practices such as crop rotation, organic farming, and soil conservation. For example, one option is to invest in the local agriculture sector by providing farmers with access to better seeds, irrigation systems, and agricultural extension services. This would help farmers to increase their yields and diversify their crops, which would improve their economic security and make them less dependent on oil and gas extraction. Another option is to invest in sustainable fishing practices, such as the use of sustainable fishing gear and the implementation of fishing quotas. This would help to protect fish populations and maintain the health of the coastal ecosystems.

Environmental Protection Initiatives: are policies and actions taken to preserve and protect the natural environment, including ecosystems, wildlife, and natural resources. These initiatives can be implemented at the local, national, or international level. They often focus on areas that are under threat from human activities, such

as deforestation, pollution, and climate change (Ogunrotifa, 2011). Some examples of environmental protection initiatives include the creation of protected areas, the regulation of natural resource use, the promotion of sustainable development, and the use of technology to reduce pollution. One example is the rehabilitation of mangroves, as I mentioned before. This could be done through the planting of new mangrove trees, the fencing off of existing mangroves to protect them from damage, and the establishment of new protected areas. Another option is to invest in wastewater treatment plants to improve water quality and reduce the amount of pollution entering the region's rivers and coastal waters. Additionally, the government could increase public education and awareness about environmental issues, such as the importance of mangroves and the need to reduce plastic pollution.

Initiatives to Strengthen Social Institutions: Social institutions are the organizations and structures that make up a society, such as the government, the education system, the healthcare system, and the media. Initiatives to strengthen social institutions focus on improving the functioning of these organizations and structures, as well as on building trust and cooperation among the people who make up the society (Udofia & Aronu, 2011). The goal is to create a more stable and peaceful society that is better able to respond to challenges and opportunities. Strong social institutions can also help to reduce inequality, poverty, and conflict. One example is to invest in education, both at the primary and secondary level, as well as vocational training. This would help to improve the skills and opportunities of the people of the Niger Delta, making them less likely to engage in conflict. Another example is to invest in healthcare, including the training of local healthcare workers and the provision of basic healthcare services, such as vaccination programs and family planning. This would improve the health of the population and reduce the risk of disease outbreaks, which can lead to conflict and instability.

The Promotion of Peacebuilding Initiatives: Peacebuilding is the process of addressing the root causes of conflict and creating conditions for sustainable peace. In the Niger Delta, peacebuilding initiatives could focus on addressing issues such as youth unemployment, political corruption, and the lack of access to justice (Olakunle, 2016). These initiatives could include job training programs, anti-corruption campaigns, and the creation of community-based conflict resolution mechanisms. Peacebuilding initiatives can also involve efforts to promote social cohesion and reconciliation, such as cultural exchanges and dialogue between different groups (Adedoyin, 2012).

Environmental Management Strategies: are a set of actions or policies that are designed to conserve and protect the environment. These strategies are typically developed at the local, regional, or national level, and can be implemented by governments, businesses, and other organizations. They can include a range of measures, such as laws and regulations, incentives, and education and outreach programs (Kameri-Mbote, 2012). The goal of environmental management strategies is to ensure that human activities are conducted in a way that minimizes negative impacts on the environment. In other words, they seek to strike a balance between economic development and environmental protection (UNEP, 2011).

Establishment of Functional Institutions: The government need to establish functional institutions to checkmate the activities of climate change. This will help to address the problem of climate change-induced insecurity in the Niger Delta with a multi-faceted approach (Agbiboa, 2016). Having functional institutions in place to enforce environmental regulations and penalize defaulters is an important part of that strategy. The government can also provide incentives to encourage individuals and businesses to make environmentally responsible choices. For example, tax breaks or subsidies for businesses that adopt sustainable practices, or grants or loans for individuals who make energy-efficient improvements to their homes (Jacobson, 2017).

However, it is important to note that no single solution will solve all of the issues facing the region, so a combination of approaches is needed, including economic, environmental, and social initiatives. Additionally, it is important to involve local communities and to consider the unique context of the region when designing and implementing solutions (Egbula, 2013). Finally, it is important to ensure that solutions are sustainable and can be maintained over time because, the three main pillars of sustainability are environmental, economic, and social sustainability. To ensure that solutions are sustainable, it is important to consider all three of these pillars. Environmental sustainability can be ensured by using renewable resources, minimizing waste, and protecting natural habitats. Economic sustainability can be ensured by creating long-term economic opportunities and developing a diversified economy. Social sustainability can be ensured by promoting social justice, equality, and access to resources for all. Additionally, solutions should be monitored and evaluated over time to ensure that they are effective and to make adjustments as needed.

In terms of economic sustainability, it is important to create opportunities for people to earn a living and to encourage entrepreneurship. This can be achieved through initiatives such as skills training, micro-financing, and infrastructure development. Social sustainability involves promoting good health, education, and social inclusion. This can be achieved through initiatives such as access to healthcare, quality education, and social welfare programs (Godspower & Onosode, 2017; Akor & Iyayi, 2016).

CONCLUSION

The paper concluded that climate change has a significant impact on the issue of insecurity in the Niger Delta region. Climate change is contributing to environmental degradation, economic instability, and social conflict, all of which are major factors that are driving insecurity in the region. The issue of insecurity in the Niger Delta region of Nigeria is complex and multifaceted. It is a result of a combination of factors, including economic, environmental, and social issues. While there is no easy solution, addressing the underlying causes of insecurity and implementing sustainable solutions that are monitored and adjusted over time can help to improve the situation in the region. Though, while there are no easy solutions to address the issue of insecurity in the Niger Delta region, a multi-faceted approach is needed that takes into account the economic, environmental, and social factors at play. Solutions were drawn with input from local communities and should be evaluated over time to ensure that they are effective and sustainable. This can be a difficult and complex process, but it is crucial for the long-term stability of the region.

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