

**THE ESSENTIAL ROLE OF THE LAW IN REMEDYING THE  
EFFECTS OF CLIMATE CHANGE IN NIGERIA**

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**ABSTRACT**

*Climate change is a serious issue, not being spoken about enough. Its current effects and the subsequent possibilities are enough reason for more efforts to be put into curtailing it. As a developing country with a large population- half of which are considered to be in abject poverty, and a highly vulnerable geography, Nigeria is extremely susceptible to the numerous challenges posed by the effects of climate change. If global warming and climate change are left unchecked and adequate measures are not immediately executed, Nigeria will only plunge deeper into devastation and loss across all sectors. This paper recognizes the crucial role that the law plays in remedying and mitigating the effects of climate change in Nigeria, by enforcing actions that promote climate mitigation, providing a regulatory framework, establishing guidelines, etc. Through these policies, guidelines and regulations, the law can facilitate the development, and implementation of strategies that mitigate greenhouse gas emissions, promote renewable energy, conserve natural resources and adapt to climate impacts. This paper succinctly analyses the concept of climate change, its promoters/causes within Nigeria, the evident effects of climate change in Nigeria, the practicable remedies to mitigate these effects of climate change, and the substantial role of the law in remedying the effects of climate change in Nigeria.*

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## **INTRODUCTION**

Climate change is currently a global issue as the effects are being captured all over the world. This long-term change in the average weather patterns have come to define the Earth's local, regional and global climates.<sup>625</sup> The ice in the colder regions have begun to melt at an alarming rate, the sea levels are rising and the weather patterns are changing. There are also more global disasters such as hurricanes, cyclones, typhoons, etc.

In Nigeria, there is an increased rate of intense and unprecedented rainfall. This has led to more flooding, increased sea levels, land degradation, landslides, gully erosions, thunderstorms, drought, desertification, etc.

These shifts can be caused by natural occurrences, such as a change in the sun's activity or large volcanic eruptions. However, human activities have been a major driver of climate change, causing the atmospheric effects to speed up.

## **CAUSES OF CLIMATE CHANGE IN NIGERIA**

Climate change is caused by activities over hundreds of years but in recent times, more than ever, the effects are profound. This is due to an increased rate of harmful activities within the country. Some of the causes of climate change in Nigeria are examined below.

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<sup>625</sup>Shaftel, H., 'Overview: Weather, Global Warming and Climate' <<https://www.google.com/amp/s/climate.nasa.gov/global-warming-vs-climate-change.amp>>/ assessed on the 30<sup>th</sup> of May, 2023

**Burning of Fossil Fuels**

This is one of the major causes of climate change in Nigeria. The combustion of fossil fuels for both industrial and domestic use, as well as biomass burnings, all produce aerosols and greenhouse gases. Fossil fuels are being burnt in our day-to-day activities; thereby emitting greenhouse gases. One of the major promoters of these activities is telecommunication. The entirety of the telecommunication system, from the production, to the transportation and finally the usage by organizations and individuals, promotes the emission of all sorts of greenhouse gases. All of the greenhouse gases are used in telecommunication to deferring extents.<sup>626</sup> Even the air-conditioning and cooling systems used in the base stations, telecom offices, street cabinets, and exchanges, are major emitters of fluorine gases. A range of extremely powerful fluorine gases are also used to create semi-conductors for the manufacturing of some essential telecommunication instrument.<sup>627</sup> The telecommunication industry is also constantly dependent on electricity, and engage 24/7 supply. The electricity itself is generated from thermal power plants which run on fossil fuels, and is one of the major emitters of greenhouse gases, amongst other pollutants that destroy the environment.

Worse still, the level of electricity generation in Nigeria is regrettably lower than ever. This has pushed the telecommunication industries, who need one form of

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<sup>626</sup>Adeoye, R., et al. *Telecommunication and Climate Change: Law and Climate Change in Nigeria* (Faculty of Law, University of Ilorin, Ilorin, 2011) p.102

<sup>627</sup>Sutherland E., 'Climate Change: The Contribution of Telecommunications'[2009] Communications and Strategies, pp. 61-76

electricity supply or the other, to find other means of generating electricity, such as the use of generators. These generators endlessly emit carbon monoxide.

Considering the fact that Nigeria currently has not less than 25 telecom companies operating within the country,<sup>628</sup> the amount of greenhouse gases emitted by these fossil fuels, such as diesel and petrol is devastating. However, the telecommunication industry is not the only source of emission of greenhouse gases. Other emissions come from the use of gasoline in driving cars (day-to-day transportation), the use of charcoal, bush burning, etc.

### **Agricultural/ Livestock Farming**

It is estimated that 20% of livestock-related global methane emissions are caused by the anaerobic processes from liquid manure.<sup>629</sup> When animals are kept in factory farms, their waste gets concentrated in a small area. These wastes, upon decaying contribute to the release of more greenhouse gases into the environment.

The conversion of non-agricultural land, such as forests, to agricultural land by deforestation or massive grazing also contribute to climate change. This is because trees are essential for cleansing the environment of the greenhouse gases. In all, the agriculture, forestry, and land-use sector contribute between 13% and 21% of global greenhouse gas emissions.<sup>630</sup>

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<sup>628</sup>Adeoye, R., et al. *Telecommunication and Climate Change: Law and Climate Change in Nigeria* (Faculty of Law, University of Ilorin, Ilorin, 2011), p.103.

<sup>629</sup> Safely L.M. 'Global Methane Emissions from Livestock and Poultry Manure', United States Environmental Protection Agency

<sup>630</sup> Nabuurs, G.J., Mrabet, R., et al. 'Agriculture, Forestry and Other Land Uses (AFOLU)Climate Change 2022: Mitigation of Climate Change' [2022] p. 750.

## **Urbanization**

The change of land use due to urbanization has affected the physical and biological properties of the Earth; just as deforestation and over grazing. These change the radiative forcing and ultimately impact the regional, and even global climate.<sup>631</sup> This can especially be seen in cities like Lagos where overpopulation is the logo and the occupants are constantly clearing the land to build new structures. This is evident in cities like Lagos, where urbanization has averagely contributed to 60.97% of the environmental warming in the area.<sup>632</sup>

## **Environmental Pollution**

Environmental Pollution in any form of littering contributes directly to the release of greenhouse gases into the environment. When the waste is broken down, it releases toxic gases like Methane, which makes its way into the soil, air, and waterways. Pollution does nothing more than aggravate the already dreadful effects of climate change in Nigeria. Problems such as air pollution, water pollution, solid waste mismanagement, deforestation, etc. cause more risk to the environment, especially in highly industrialized cities in Nigeria.<sup>633</sup>

All these lead to the emission of more chlorofluorocarbons (CFC), greenhouse gases, and other chlorine and bromine compounds, which will further expose us

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<sup>631</sup>Ofoezie, I.; Matthew, O., et al. 'Climate Change and Environmental Challenges in Nigeria: Law and Climate Change in Nigeria'[2011]p. 66.

<sup>632</sup> Guo, L., Di, L., et al. 'Evaluating Contributions of Urbanization and Global Climate Change to Urban Land Surface Temperature Change: A Case Study in Lagos, Nigeria' [2022] Sci Rep 12, p. 14168

<sup>633</sup>Pona, H.T., et al. 'Environmental Health Situation in Nigeria: Current Status and Future Needs.'[2021] 7 (3) *Heliyon*. 6330. Available at: <<https://pubmed.ncbi.nlm.nih.gov/33851039/>>accessed on the 30<sup>th</sup> of May, 2023

to the adverse effects of climate change, by depleting the stratospheric ozone layer.

## **THE EVIDENT IMPACT OF CLIMATE CHANGE IN NIGERIA**

The uncontrolled activities in Nigeria have led to a ripple effect. Climate change has caused a lot of disasters which have had, and are having evident impact on several areas and sectors in Nigeria. Below is a succinct analysis of some of the effects of climate change in Nigeria.

### **Incessant Flooding**

One of the effects of climate change is the constant flooding that we are experiencing in Nigeria. This is caused by the unprecedented and heavy rainfalls as a result of the change in the climate. These floods have led to the loss of farmlands and livestock, which ultimately led to food shortages, hunger, poverty, and affected the economy negatively. It has also caused a loss of drinkable water, loss of houses and population displacements.

### **Decreasing Public Health**

The impact of climate change on public health, particularly in farming communities, is reported thus;

- Respiratory diseases due to increases in the level of pollutants.
- Malaria (in more widespread levels within the population) (70% annually)
- Skin ailments (45% annually)
- Heat Stroke (4% annually)

- Loss of Productivity (40% annually)
- Portable Water Shortages (60% annually) due to flood and/or saltwater intrusion.<sup>634</sup>

### **Economic Downturn**

Climate change in conjunction with all its agents, have caused a decline in the economy. As at 2016, 80% of all the Nigerian government's revenue and 97% of Nigerian foreign exchange comes from Niger Delta oil. Hydrological modeling estimates that if the sea levels rise by at least 3 feet, it could put almost all of Delta's onshore oil fields underwater.<sup>635</sup> A DFID study concluded that without a strong mitigation response, the country would lose between 6%-30% of its GDP by 2050, which is estimated at \$100billion- \$460 billion.<sup>636</sup>

### **Loss of Forest Resources**

These flooding, storm surges, ocean surges, etc. have led to a loss of our forest resources such as medicinal plants, mushrooms, etc. This has been proceeding in Nigeria at the annual depletion rate of 400,000 hectares.<sup>637</sup>

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<sup>634</sup>Ogun State Agricultural Development Programme (OGADEP) 'Report of the National Fish Frame Catch Assessment Survey in Ogun State' (Abeokuta, Nigeria 2004-2008)

<sup>635</sup>Onofeghara 'Nigerian Wetlands: An Overview'[1990] *African Journals Online*; Awosike L, 'Impacts of global climate change and sea level rise on coastal resources and energy development in Nigeria'[1995] *Scientific Research Publishing*

<sup>636</sup>Department for International Development (DFID). 'Impact of climate change in Nigeria's economy: Final Report (2009)'available at: <<https://pdfs.semanticscholar.org>>accessed on the 31<sup>st</sup>of May 2023.

<sup>637</sup>Adekunle A.I., et al, 'Impact of Climate Change in Nigeria' [2011] *Iranica Journal of Energy & Environment*, p. 145-152.

## **Population Displacement**

The flooding and other disasters have led to losses of housing and livelihood, causing inhabitants to move to other areas in search of greener pastures. This is most common in farming communities, occasioning farmland abandonment and a reduction in the number of available farmers- causing a downward spiral in the rate of crop and livestock production.

## **Food Insecurity**

A resultant effect of climate change has been the increased level of food insecurity in Nigeria. With the decrease in crop and livestock production, resultant food shortage and price hikes, the concept of food security in Nigeria is almost non-existent. Some of the factors that contribute to food insecurity in the country, includes;

- The extreme weather events, such as floods, droughts, erosion, etc.
- The migration of herders in search of pasture for their animals, which has led to infiltration of farmlands, subsequent clashes and resultant deaths. This has led to a destruction of farmlands, and discouragement of people from farming for fear of their lives.
- Variable weather condition- this unpredictability of rainfall and its amounts has affected the farming seasons, leaving farmers at loss when the rain does not fall or falls in such amounts as to erode the entire farmland.

- The increased temperature due to global warming, not only affects the farmers' productivity, but also affects the life-span of the crops, fishery and livestock.

## **PLAUSIBLE REMEDIES TO MITIGATE THE EFFECTS OF CLIMATE CHANGE IN NIGERIA**

### **Increased Use of Renewable Energy**

It is without doubt that there is a constant need for Energy. Thus, the use of energy cannot be altogether forgone. However, there are other proven means of generating energy besides from the burning of fossil fuels. Energy can be generated from renewable sources of energy; which include wind energy, hydro energy, biomass energy, tidal energy, geo-thermal energy, and solar energy.

### **Water Conservation**

One of the essential steps to mitigate the effects of climate change on the water sources is to conserve the water we have left. Avoiding waste is very important because it takes a lot of energy to clean water, pump them into buildings and recycle the waste water.

### **Mass Transportation**

One of the best ways to reduce emissions, especially from transportation, is to encourage mass transportation. This includes more buses, trams and trains which can carry more persons, thus lowering the rate of emissions. These mass

transportation vehicles can also be electric. This will further reduce emissions as these vehicles will no longer emit toxic gases into the atmosphere.

### **Forest Preservation**

Trees are very important as they take in and store carbon, while releasing Oxygen. This is a cycle that is necessary for a sustainable ecosystem. When these trees are cut down, they not only release the carbon that they have stored, they also become absent to take in more carbon. Thus, the more trees we cut down, the more polluted our environment is left to be. Thus, it is crucial to conserve the forestry, and even plant more trees.

### **Climate-Friendly Agricultural Practices**

It is important for farmers to make use of climate-friendly techniques and products in their agricultural activities. Thus includes a minimization in the use of synthetic fertilizers, as they emit a powerful greenhouse gas called nitrous oxide. Farmers should also make use of renewable energy to cultivate their farmlands and power their equipment.

### **Less Waste**

This includes less wastage of food, and other resources. Food should not be made in excesses and uneaten food should be composted instead of disposing them to be abandoned at refuse dumps where they become decomposed and release methane. The use of second-hand clothes should also be encouraged and a quota on clothing production should be enforced on the fashion industry. This is because many of these clothing materials are made from plants, which means more deforestation, and some others are derived from fossil fuel-based crude oil,

which means more greenhouse gas emissions. Reusing and Recycling should be encouraged and enforced.

### **Environmental Sanitation**

Every piece of plastic ever made still exists today. A major step to conserve the environment and keep it clean is to reduce plastic production, if it cannot be completely banned. These plastics only pollute our environment. Moreover, they are costly to produce and dispose of, thereby consuming our financial resources. They also emit dangerous greenhouse gases and do not stop at that, but they damage zooplankton, which are essential for the ocean to absorb carbon.<sup>638</sup> Therefore, it is necessary for the government to make strict regulations encouraging environmental sanitation and accompany it with strict enforcement.

### **Town Planning**

Better urban and rural area planning would alienate the problems of overpopulation which causes desertification, deforestation, pollution, and unmanageable strain on the environmental resources.

## **THE NEED FOR THE LAW IN REMEDYING THE EFFECTS OF CLIMATE CHANGE IN NIGERIA**

The United Nations General Assembly has called for a joint effort to ensure environmental sustainability. The need for action was drawn from two essential observations namely;

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<sup>638</sup>Crawford I., 'Would Stopping Plastic Pollution Help With Climate Change? How Do We Do It?' [2022] *MIT Climate Portal* <<https://climate.mit.edu/ask-mit/would-stopping-plastic-pollution-help-climate-change-how-do-we-do-it>> Accessed 31<sup>st</sup> May 2023.

- If we do not mitigate the emissions of Greenhouse gases, the negative effects of climate change will be difficult to reverse; and
- Mitigating emissions of Greenhouse gases are so beneficial that, juxtaposed with the possible harm that could result from inaction, it is imperative that the world devises a plan of action.<sup>639</sup>

The law is such as must be followed by all citizens, subject to sanctions. The purpose of the law is to lay down the acceptable standards of behavior in the society, and set appropriate sanctions for defaulters. This vividly illustrates why the law is essential in reorienting, and restructuring the activities that contribute to climate change. The law is crucial to impose rights, duties and obligations on both citizens, industries, and the government, to ensure environmental sustainability.

## **THE ROLE OF THE LAW IN REMEDYING THE EFFECTS OF CLIMATE CHANGE IN NIGERIA**

The legislative, judicial, and executive arms of government have a crucial role to play in formulating, applying, and implementing the laws shaped towards the remedying of the effects of climate change in Nigeria. Below is an analysis of some of the current legal framework, and what further legal steps need to be taken.

### **CURRENT LEGAL FRAMEWORK IN NIGERIA**

Some of the legal framework currently available in Nigeria to remedy the impact of climate change include;

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<sup>639</sup> 4<sup>th</sup> Assessment of the Intergovernmental Panel on Climate Change (IPCC), 2007.

**National Environmental Standards and Regulations Enforcement Agency Act (NESREA ACT), 2007**

Prior to 1978, Nigeria was not prepared to manage severe environmental degradation, as there was no appropriate institutional mechanism to control environmental pollution and enforce environmental regulations within the country. However, after the dumping of toxic waste in Koko village, a need to have a legal framework guiding environmental pollution arose. This led to the promulgation of the Harmful Waste Decree 42 of 1988; which in turn brought about the establishment of the Federal Environmental Protection Agency (FEPA).<sup>640</sup>

However, when the FEPA and other relevant departments were merged to form the Federal Ministry of Environment in 1999, but left without an enabling law on enforcement, a vacuum was created. This vacuum was filled by the establishment of the National Environmental Standards and Regulations Agency (NESREA) in 2007, as a parastatal of the Federal Ministry of Environment, Housing, and Urban Development. The NESREA Act repealed the FEPA Act, and thus, the agency.

Subsequently, NESREA has been saddled with the responsibility to enforce all regulations with regard to environmental sustainability in Nigeria, as well as international protocols, treaties, agreements, and conventions.

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<sup>640</sup>Established by Decree 58 of 1988.

## **Nigeria's Short-Lived Climate Pollutants Plan**

Nigeria's SLCP was endorsed by the Federal Executive Council in June 2019. It aims to reduce emissions of climate pollutants which directly promote climate change. The plan includes 22 mitigation measures, targeting 8 major source sectors in Nigeria. The plan has the potential to reduce Black Carbon, Carbon dioxide and Methane emissions by 83%, 14% and 61%, respectively by 2030.<sup>641</sup>

## **Climate Change Act**

The Climate Change Act, 2021 aims to ensure that Nigeria formulates practicable programmes for achieving its long-term goals.

## **The Earth Summit**

In 1992, the Nigerian president met with other heads of states in Rio de Janeiro, Brazil to hold the first international Earth Summit in order to address issues affecting environmental sustainability and socio-economic development. Nigeria, by virtue of the conference, signed the Convention on Biological Diversity, the Convention on Climate Change, the Rio Declaration, Forest Principles, and Agenda 21 (a 300-page plan on achieving sustainable development in the 21<sup>st</sup> century).

## **The Intergovernmental Panel on Climate Change (IPCC)**

This panel was established by the United Nations Environment Programme (UNEP), and the World Meteorological Organization (WMO) to provide an

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<sup>641</sup>Malley, Christopher S., et al. 'Integration of Climate Change Mitigation and Sustainable Development Planning: Lessons from a National Planning Process in Nigeria' [2021](v.125) *Environmental Science & Policy* p. 66–75.

unambiguous scientific view on the current states of climate change and its potential consequences. The IPCC is an intergovernmental body open to all members of the UN and WMO<sup>642</sup>, of which Nigeria is one.

### **The Kyoto Protocol**

The Kyoto Protocol was entered into force on February 16<sup>th</sup>, 2005. The protocol stemmed from the conference in Kyoto, Japan, in 1997. Its main aim being to reduce greenhouse gas emissions.<sup>643</sup> Nigeria ratified the recent Doha Amendment of the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC) on October 2<sup>nd</sup> 2020.

### **United Nations Framework Convention on Climate Change (UNFCCC)**

The UNFCCC was created in response to scientific predictions on artificial global warming. This convention was one of those signed by Nigeria at the Rio Summit in 1992. The adoption of this convention commits the Nigerian government to report and manage greenhouse gas emissions, as well as protect forestry, which serve as greenhouse gas sinks.

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<sup>642</sup>Adeoye R., et al. *Telecommunication and Climate Change: Law and Climate Change in Nigeria* (Faculty of Law, University of Ilorin, Ilorin, 2011) p.97.

<sup>643</sup>[unfccc.int/kyoto\\_protocol/status\\_of\\_ratification/items/2613.php](http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php) Accessed 31<sup>st</sup> May, 2023

**Others**

Oil Pipelines Act,<sup>644</sup> Oil Terminal Dues Decree<sup>645</sup>, Water Works Act of 1915<sup>646</sup>, Oil in Navigable Waters Decree of 1968<sup>647</sup>, Territorial Waters Act<sup>648</sup>, Exclusive Economic Zone Act, 1978 National Renewable Energy Efficiency (NREE) 2015, National Oil Spill, Detection and Response Agency Act 2006, Nigerian Minerals and Mining Act 2007, Criminal Code Act, 1990, etc.

**FURTHER STEPS THAT NEED TO BE TAKEN**

It is not enough that the law exists without enforcement of these laws or facilities to encourage compliance. The NESREA, and other agencies, including the Federal Ministry of Environment, Housing, and Urban Development, should be better equipped to international standards with the appropriate facilities, both to create wider awareness of the dangers of climate change and the roles that citizens can play to mitigate its effect, as well as, to effectively enforce environmental regulations.

**CONCLUSION AND RECOMMENDATIONS**

The essential role of the law in remedying the effects of climate change in Nigeria cannot be overstated. As highlighted throughout this article, Nigeria faces significant challenges due to climate change, impacting various sectors of the economy and the well-being of its population. However, the legal framework

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<sup>644</sup>Oil Pipelines Act, LFN, 2004

<sup>645</sup>Oil Terminal Dues Decree, LFN, 2004

<sup>646</sup>Water Works Act, LFN, 2004

<sup>647</sup>Oil in Navigable Waters Decree, LFN, 2004

<sup>648</sup>Territorial Waters Act, LFN, 2004

provides a critical foundation for addressing these challenges and driving sustainable solutions.

Through effective policy formulation, regulations, and guidelines, the law enables Nigeria to implement climate mitigation measures, promote renewable energy, conserve natural resources, and adapt to climate impacts. It ensures that environmental impact assessments are conducted to assess the potential climate-related consequences of development projects, leading to environmentally sound practices and sustainable development.

The law also plays a pivotal role in supporting the conservation of biodiversity, sustainable land use practices, and disaster risk reduction measures. By enforcing compliance and providing enforcement mechanisms, the legal framework ensures accountability and encourages responsible climate actions by all stakeholders.

Furthermore, the law facilitates Nigeria's fulfillment of its international commitments under global climate agreements, allowing the country to contribute to the global effort to combat climate change and foster international cooperation.

It is crucial for Nigeria to continue strengthening its legal framework to address climate change effectively. This requires regular reviews and updates to align with evolving scientific understanding, changing circumstances, and emerging global best practices. Additionally, effective implementation, monitoring, and enforcement of climate-related laws are vital for achieving the desired outcomes.

Addressing climate change through the lens of the law is not only an environmental imperative but also an opportunity for Nigeria to build a more sustainable and resilient future. By harnessing the power of the law, Nigeria can protect its environment, promote sustainable development, enhance livelihoods, and ensure a better future for its citizens.

Summarily, the law plays an essential role in remedying the effects of climate change in Nigeria. It provides the necessary regulatory framework, guidelines, and enforcement mechanisms to mitigate climate impacts, promote adaptation, and foster resilience. By embracing and strengthening the legal response to climate change, Nigeria can navigate the challenges posed by climate change and seize the opportunities for a sustainable and prosperous future.