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Climate Change and the Challenges of Sustainable Development in Nigeria

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Abstract: In recent years, the international community has been increasingly concerned about climate change. This is due to the harm it poses to people and other living things in particular. This study aims to advance the body of knowledge regarding how climate change affects sustainable development in Nigeria. Additionally, data for this study was gathered from secondary sources, including books, journals, and websites, and it was then analysed using content analysis. Additionally, this study makes the case that increased desertification, heatwaves, droughts, and floods, particularly in the country's northern regions, are all manifestations of climate change. Last but not least, the National Assembly needs to swiftly ratify the numerous international agreements on environmental protection in order to address the mounting environmental threats that climate change poses to Nigeria.

Keywords: Climate Change, Global Warming, Sustainable Development, Environment, Greenhouse Gases.

Review Paper

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INTRODUCTION

Policymakers in many nations of the world did not take the need for environmental preservation seriously more than 50 years ago. However, the situation has changed now as a number of nations start to ratify international agreements from earlier. This is a result of the problems that climate change has caused in recent years, which have drawn the attention of the world community and prompted them to take unilateral action in an effort to protect the environment from environmental deterioration. Recent years have seen a considerable increase in the ratification of international treaties and conventions, albeit many still need to be adopted before they may be domesticated. On top of that, although some nations are starting to demonstrate their dedication to the numerous environmental treaties inked, others are trailing behind in domesticating the protocols on environmental protection negotiated.

Given that some environmental issues transcend national borders; international treaties continue to be one strategy used by states to address environmental issues. Ozone layer depletion and global warming, which has been linked to greenhouse gas emissions, are two of the most pressing environmental issues of our day that transcend national lines and have gained attention on a global scale. It is important to highlight that while addressing the problem of global warming is currently a contentious topic around the world, addressing the problem of ozone depletion necessitates states joining and enacting international conventions.

The Convention on Long-Range Transboundary Air Pollution, the Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere, the Vienna Convention on Nuclear Safety, the EMEP Protocol, the Heavy Metals Protocol, the Multi-effect Protocol (Gothenburg Protocol), the Nitrogen Oxide Protocol, the POP Air Pollution Protocol, and the Sulfur Emissions Reduction Protocol are notable international treaties that focus on protecting the human environment. The Montreal Protocol on ozone-depleting compounds, which placed a focus on the stratospheric ozone layer, set the stage for regulating the use of refrigerants and other environmentally damaging chemicals in 1987.

By implication, the protocol limits state manufacturing of chemicals that could harm the environment. Additionally, it stipulates consequences for nations that transgress. One could argue that the Montreal Protocol on ozone layer-depleting compounds has helped to regulate state behaviour and raise the cost of restricted chemicals on the secondary market. The

Kyoto Protocol, an international agreement aiming at lowering CO2 emissions, was signed by nations from all over the world at Kyoto, Japan, in December 1997. By 2005, many nations had amended the Kyoto Protocol to cut CO2 emissions by no more than 5%. Nevertheless, the United States was not included in the list of the 160 nations that have ratified the Kyoto Protocol (Kegley 2011). Nevertheless, the United States took part in or signed the Kyoto Protocol's framework in 2005 to put it into effect. 180 nations discussed the issue of what will happen after the Kyoto Protocol expires in 2012 at negotiations in 2006.

The United Nations Conference on Environment and Development (UNCED) and other regional, sub-regional, and national mechanisms have been established to ensure compliance with various environmental laws and regulations, and they serve as an institutional mechanism to coordinate national responses to environmental treaties. The United Nations Environment Program (UNEP) is tasked with "monitoring environmental conditions and collaborating with the World Meteorological Organization to track annual changes in the global climate." The UN-sponsored Intergovernmental Panel on Climate Change (IPCC) has been the venue for these discussions since 1989.

Global warming was declared "unequivocal" in a 2007 report from scientists around the world that was endorsed by more than 100 nations. The report also expressed "extremely high confidence" that humans are the primary causes. (IPCC.2007). As a result, this study aims to add to the body of knowledge examining how climate change affects sustainable development in Nigeria.

Literature Review: Climate Change and Global Warming

Scholars in the fields of ecopolitics and environmental economics have made several definitions of climate change in the environmental studies literature. Though the terms "global warming" and "greenhouse effect" are related in some ways, the notions of climatic change and those terms should not be confused (Bashir 2013:284). According to Bashir (2013:284), the term "global warming" refers to changes in the earth's atmosphere, oceans, and landmass caused by an increase in the concentration of gases that trap heat, such as carbon dioxide, methane, nitrous oxide, etc. According to https://climatechange.ucdavis.edu/science/climate-change-definitions/, it refers to significant changes in global temperature, precipitation, wind patterns, and other climate measures that last for several decades or longer.

According to NASA, climate change is "a broad spectrum of global phenomena mostly resulting from the combustion of fossil fuels, which enriches the atmosphere with heat-trapping gases. These phenomena cover changes like sea-level rise, ice mass loss in Greenland, Antarctica, the Arctic, and mountain glaciers around the world, changes in flower/plant blossoming, and extreme weather events, in addition to the higher temperature trends indicated by global warming. (https://climate.nasa.gov/resources/global-warming/).

Similarly, the United States of America Geological Survey views climate change as having several different components. The rise in global temperatures, according to the United States of America Geological Survey, is mostly caused by rising greenhouse gas concentrations in the atmosphere. While the term "climate change" refers to the long-term, accelerating changes in variables like precipitation, temperature, and wind patterns. While climate change encompasses warming and the "side effects" of warming like melting glaciers, stronger rainstorms, or more frequent droughts, global warming solely refers to the Earth's surface temperature rising. Finally, this suggests that human-caused climate change, which is a much bigger issue than global warming, is a symptom of it (https://youmatter.world/en/definition/climate-change-meaning-definition-causes-and-consequences/).

The process through which an increase in specific gases in the earth's atmosphere causes the mean global surface temperature to rise is known as global warming (Field and Field 2009:13). According to Field and Field (2009:430), the term "global warming" is also occasionally referred to as the "greenhouse effect". The enclosing glass or plastic of a greenhouse, he said, enables the passage of incoming sunlight but traps a portion of the reflected infrared radiation, warming the interior of the greenhouse above the outside temperature.

The idea of sustainable development has, however, been described in a variety of ways in the literature, and it can be applied to many different fields. Sustainability is described by Clough, *et al*., (2006) as "a process that contributes to the creation of a robust economy and a high standard of living while respecting the need to sustain natural resources and safeguard the environment. It reflects the idea that future generations ought to live in a world that the current generation has enjoyed but has not diminished. According to the Association for the Advancement of Sustainability in Higher Education (AASHE), sustainability "involves human and ecological health, social justice, secure livelihoods, and a better planet for all generations." Sustainable development was described by the United Nations Bruntland Commission as "development that meets the requirements of the present without compromising the ability of future generations to meet their own needs." (quoted in Ifegbesan *et al*., 2017:94).

Increasing the average global temperature over a long period of time is known as global climate change or global warming (Goldstein and Perehouse 2008:387). The large arctic ice meltoffs, rising oil prices on the

global market, and the threat of Hurricane Katrina between 2005 and 2007 made the problems caused by global warming on the world community more visible. According to Goldstein *et al*., (2008:387), if considerable action is not taken by the international community to address the mounting problems caused by climate change, the global temperature will likely increase by 3 to 10 degrees Fahrenheit. The effects of global climate change include floods, droughts, and significant ecosystem damage.

In the recent academic literature, there are a few thorough reports and publications that offer helpful evidence and make compelling arguments on the varied implications of climate change throughout Nigeria. Numerous academic works that offer empirical evidence on the effects of climate change have also concentrated on the topic of climate change, including Haider (2019), Ebele and Emodi (2016), Amanchukwu, R. N. *et al*., (2015), Olapido (2010), Onwutuebe (2019) on patriarchy and women's vulnerability, and Ogbuabor and Egwuchukwu (2017) on the effects of climate change on the Nigerian economy.

Whitmarsh (2011) also looked at the doubt and scepticism surrounding climate change. This study is important because some individuals doubt that climate change is actually happening. However, Olatumile (2013) evaluated the degree of climate change knowledge among environmental professionals in his study. The study's findings indicate that the respondents' level of climate change awareness was not very high. Overall, there is a lack of coordination between the many effects of climate change on sustainable development in Nigeria, which would affect all social strata. In light of this, this study aims to advance the body of knowledge in this field of study.

Impact of Climate Change on Sustainable Development in Nigeria

Climate change, sometimes known as the "climate revolution," is a phenomenon that affects the entire world and is characterised by changes in the temperature, precipitation, and wind patterns that are brought on by human activity. Climate change is thus having an impact on Earth's weather, endangering not just the present but also the future of humanity and the entire Ecosystem. Water vapour (H2O), carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride are the main greenhouse gases (SF6).

In addition, carbon dioxide is estimated to be the most abundant gas at 0.04 percent, while water vapour is estimated to be the most abundant at 1%. The impact of climate change on the human-environment, particularly water vapour concentrations, is comparatively minimal, whereas the impact of human activity on greenhouse gases is comparatively considerable and has raised concerns for the international community. Studies have shown that it is important to keep in mind that the amount of greenhouse gases is rising every day and quicker than they are being eliminated from the atmosphere (https://climatechange.ucdavis.edu/science/climate-change-definitions/,).

It is impossible to overstate how much the effects of climate change have had recently on the human environment. This is due to the growing danger it poses to both living and non-living species. Mankind is in danger as a result of this to a considerable extent. The impact of climate change on the human environment has, however, been significantly reduced because to the efforts of the world community. Despite these efforts, certain nations' inadequate adherence to international environmental treaties is causing the impact of climate change to continue to worsen. According to Orubu (2004:165), development is sustainable if present attempts to improve human welfare do not lead to existing distributional imbalances or jeopardise the developmental prospects of subsequent generations.

Studies have revealed that Nigeria's climate has been changing over time as a result of temperature rises, fluctuating rainfall, rising sea levels and flooding, drought and desertification, land degradation, more frequent extreme weather events, impacted freshwater resources, and loss of biodiversity (Haider, 2019). For example, rainfall has become more frequent and intense, resulting in significant runoffs and flooding in numerous towns, cities, and villages throughout riverine parts of Nigeria. Currently, it is anticipated that when rainfall increases in Nigeria's southern regions, sea levels would rise as well, increasing the risk of floods (Ebele *et al*., 2016).

The effects of climate change on sustainable development in Nigeria are complex and entwined. One of which is that it is to blame for the seasonal variance we currently see. For instance, there is a drop in rainfall, which causes an irregularity in the timing of the rainfall. This has significantly impacted farming activity, which in turn affects agricultural productivity. In addition, droughts are occurring in the northern areas of Nigeria as a result of less rainfall and an increase in temperature (Amanchukwu *et al*., 2015; Olapido, 2010). However, Haider (2019) contends that not all 36 states in Nigeria are experiencing the same climate change concerns. For instance, compared to the southern sections of the country, the northern parts of the country endure minimal rainfall, resulting in aridity, drought, and desertification.

When compared to other regions of the world, some, according to Liechenko (2000), are benefiting from some aspects of climate change. Similar to this, Bashir (2010) argued that changes in temperature or rainfall do benefit some regions of the world as they help to increase agricultural productivity, increase resource

availability, such as water, decrease hazards, such as floods, and reduce expenditures related to the climate, such as heating costs and snow removal costs, among other things. As a result of the effects of climate change, some regions of the world may also experience negative effects such as lower agricultural output, an increase in drought, and an increase in climate-related mortality and morbidity.

Additionally, oil exploration and exploitation have been taking place in the Niger Delta region ever since commercial quantities of oil were discovered at Oloibiri in 1958. Even though the Nigerian government has pledged to make sure that these oil companies reduce the amount of fossil fuels they release into the environment, it is possible that some of them are working to buy advertising and fund organisations that deny the existence of climate change. This is true even though the best scientific evidence indicates that fossil fuels are a major contributor to climate change. There are some protests taking place right now, and the majority of them have led to violent attacks on oil corporations. Nevertheless, oil companies like Chevron are starting to acknowledge that the discovery and use of fossil fuels contribute to climate change.

Farmers make up the majority of Nigeria's population, which is thought to be around 70%. (Onwutuebe, 2019; Federal Ministry of Environment, 2014). Studies have demonstrated that desertification, droughts, and rising temperatures all degrade acreage, lower agricultural production, and have an impact on crop output. Lower agricultural production will also result from increased coastal rainfall, sea level rise, flooding, and farmland erosion (Ogbuabor and Egwuchukwu, 2017).

Nigeria's agricultural output is currently falling, creating a problem with food security throughout the nation. Additionally, there is an expanding desert encroachment, particularly in the northern regions of the nation where the desert is extending into forested areas. Arable land in the southern regions of the country is now under even more strain from farmers looking for more space to farm and herders looking for shrubbery for their livestock. This has also led to violent clashes between farmers and herders, in which several people have died over the years (Momoh *et al*., 2018; Momoh *et al*., 2019).

In Nigeria, the human health is another effect of climate change. According to Haider (2019), the health of Nigerians is directly impacted by climate change due to heatwaves. Additionally, it indirectly contributes to malnutrition by fostering the spread of infectious diseases and water- and food-borne illnesses including cholera and typhoid fever, as well as increased air pollution and higher temperatures linked to an increase in meningitis cases.

Olatumile (2013:39) succinctly described how climate change affects everyone and everything by saying: "It affects everyone and everything because as the world warms and the environment changes, life will change as well. The length of the growing season will alter, and water bodies will shrink or vanish entirely. This will cause the plant and animal life on Earth to deteriorate. Ocean waters and sea levels will rise due to the melting of the polar ice caps. Natural disasters will grow more severe and frequent as a result of climate change, which will lead to millions of people fleeing their homes in search of safety and becoming environmental refugees. Droughts and flooding brought on by climate change will present countries with new challenges in terms of supplying infrastructure and social services. Crop loss, starvation, and the spread of diseases are all consequences of droughts. Flooding causes water-borne infections and eliminates the only food supplies. Millions of people will have their livelihoods disrupted by the danger to agriculture, and the rate of poverty will rise. Agriculture-dependent nations won't be able to defend their population or provide essential services like water, schools, and hospitals".

The volume of water has experienced notable effects from climate change. Taking icebergs from the arctic region as an example, melting Due to an increase in the volume of water bodies like the Rivers Niger and Benue, which annually flood their banks, Nigeria is feeling the effects, which cause the displacement of settlements and the loss of life and farms. Internally Displaced Persons (IDPs) are now more prevalent than before, particularly along the banks of numerous rivers and streams around the nation.

Additionally, there is a rise in temperature brought on by more frequent heating waves, which hasn't happened in 150 years. Globally, the average daily temperature is rising quickly nowadays. This demonstrates the need for quick action to stop the growing number of human activities that have previously caused climate change. It is important to remember that the world community must work together to address the problems caused by climate change. To stem the tide of climate change, every nation has a part to play. Nigeria must play a part in containing this worldwide issue that is harming human society for this reason.

CONCLUSION

The goal of this study is to add to the body of knowledge already available on how climate change affects sustainable development in Nigeria. This study contends that given the harm that climate change is doing to the human environment and the detrimental effects it will have on the environment in the future, it is impossible to overstate the influence that it has had on human society in recent years. In addition, this study showed that Nigeria has been experiencing the effects of climate change in the form of floods, heat waves, and an

increase in water volume brought on by the melting of icebergs, among other things. Therefore, this study contends that although the Nigerian government has made commendable attempts to lessen the impact of climate change on sustainable development, there are still areas where the government has to step up its efforts. Implementing policies to maintain the gains made is one of these areas. With this background in mind, we offer the following recommendations.

RECOMMENDATIONS

First and foremost, the National Assembly needs to swiftly ratify the several international agreements on environmental protection in order to address the mounting environmental threats that climate change poses to Nigeria.

Second, the Federal Government of Nigeria needs to uphold current regulations meant to cut greenhouse gas (GHG) emissions. This can be done by avoiding the use of fossil fuels and supporting renewable energy sources that replenish themselves on a human timescale, such as sunlight, wind, rain, tides, waves, and geothermal heat.

Thirdly, Nigerians need to adopt a lifestyle that will enable them to meet the increasing challenges brought on by climate change. It is possible to do this through fostering a culture of sustainable growth, in which the energy produced is used effectively and efficiently to boost the economy.

In addition, if Nigerians want to lessen the effects of climate change on the environment, we must first limit our emissions of greenhouse gases (GHG). To do this, Nigerians must embrace renewable energy sources that replenish themselves naturally over time, such as sunlight, wind, rain, tides, waves, and geothermal heat, and refrain from producing energy through the burning of fossil fuels.

Last but not least, Nigeria's political commitment at all levels of government will be crucial in achieving global sustainable development. This is so that multiple environmental programmes may be coordinated, which requires an effective political institution.

REFERENCES

- Amanchukwu, R. N., Amadi-Ali, T. G., & Ololube, N. P. (2015). Climate change education in Nigeria: The role of curriculum review. *Education*, *5*(3), 71-79.
- Bashir, A. (2013). "Communication of climate change issues" in Wilson, D & Batta, H. (eds). Science, health and environmental communication, Global issues and local perspectives Ibadan. *Ibadan University Press*, 281-333.
- Clough, G. W., Chameau, J. L., & Carmichael, C. (2006). Sustainability and the University. *Presidency*, *9*(1), 30.
- Ebele, N. E., & Emodi, N. V. (2016). Climate change and its impact in Nigerian economy. *Journal of Scientific research and Reports*, *10*(6), 1-13.
- Field, C. B., & Field, K. M. (2009). *Environmental economics: An introduction Fifth edition New York*: Mc Graw-hill education.
- Goldstein, S. J., & Pevehouse, C. J. (2008). *International relations Eighth edition New York*: Pearson, 383-420.
- Haider, H. (2019). Climate change in Nigeria: *impacts and responses K4D Helpdesk Report*, 1-38.
- Ifegbesan, A. P., Lawal, M. B., & Rampedi, I. T. (2017). The Nigeria Teachers Social Studies Training Curriculum and Sustainable Development Goals: A Content Analysis. *Journal of International Social Studies*, *7*(1), 92-122.
- International panel on climate change, (2007). Climate change 2007: The Physical Science Basis Cambridge, 2007. University Nations Environment Program.
- Momoh, Z., & Anagba, J. O. (2018). Farmers/Herders conflict and sustainable peace in Plateau state *Journal of Peace and Development*, *2*(1), 111-124.
- Momoh, Z., & Rwang, P. S. (2019). Cattle rustling and Socio-Economic Development in Plateau state in Nwanri, M. & Vande, P. (eds.) *History and Management of Farmer-Herder conflict in Nigeria* Abuja: The Society for Peace Studies and Practice (SPSP) Abuja Chapter and Centre for Peace and Development (CEPAD) Veritas University Abuja, 94-106.
- Ogbuabor, J. E., & Egwuchukwu, E. I. (2017). The impact of climate change on the Nigerian economy. *International Journal of Energy Economics and Policy*, *7*(2), 217-223.
- Oladipo, E. (2010). Towards enhancing the adaptive capacity of Nigeria: A review of the country's state of preparedness for climate change adaptation. *Henrich Boll Foundation, Nigeria*. https://ng.boell.org/sites/default/files/uploads/2013/10/nigeria_prof_oladipo_final_cga_study.pdf
- Olatumile, A. (2013). Assessment of environmental professional awareness of climate change: Implication for climate change education. *International Education Research. Volume*, *1*, 38-50.
- Onwutuebe, C. J. (2019). Patriarchy and women vulnerability to adverse climate change in Nigeria. *Sage Open*, *9*(1), 2158244019825914. https://doi.org/10.1177/2158244019825914SAGE.
- Orubu, O. C. (2004). Water resources, environment and sustainable development in Bello-Imam I. B. & Obadan, I. M (eds) *Democratic Governance and development management in Nigeria`s Fourth Republic*, 1999-2003 153- 170.
- Whitmarsh, L. (2011). Scepticism and uncertainty about climate change: Dimensions, determinants and change over time. *Global environmental change*, *21*(2), 690-700.
- www.climatechange.ucdavis.edu/science/climate-change-definitions/