
Review Article

CLIMATE CHANGE AND SECURITY IN NIGERIA: AN EVALUATION OF THE FOURTH REPUBLIC

Timipa Igoli^{1*}, Jonjon Oyeinfie Emmanuel²

¹ Department of Political Science, Faculty of Social Sciences, Ignatius Ajuru University of Education, Rumuolumeni, Port Harcourt, Nigeria.

² Department of Sociology, Faculty of Social Sciences, Ignatius Ajuru University of Education, Rumuolumeni, Port Harcourt, Nigeria.

Correspondence should be addressed to Timipa Igoli: timiigoli@gmail.com

Article No: 011 | **Accepted:** 30 June 2026 | **Published:** 10 July 2026

Abstract: Climate change and security are two mutual instruments that are required for national growth and development. This study reviewed literature on the causes of climate change, extent, and effects on human security. The objective of this paper is to examine the extent to which climate change has caused insecurity in Nigerian society and to proffer solutions that will eliminate climate change and insecurity. Eco-violence theory was adopted as the theoretical framework. The theory assumes that resource scarcity is the product of an insufficient supply, resulting in much demand or, and unequal distribution of a resource as a result of environmental hazards that forces some sector of a society into a condition of deprivation and violence. Descriptive and qualitative survey analyses were used to x-ray the relationship between climate change and security in Nigeria. The following recommendations among others were made; Proper legislation should be done to remedy the impact of climate change and provide alternate measures in revamping the natural menace. Environmentally friendly policies should be encouraged so as to prevent excess gas flaring, over-cultivation and deforestation of green vegetation. Politicization of issues concerning herdsmen and farmers should be avoided by the government and the masses. In other words, the government should not be seen supporting any of the groups.

Keywords: Climate Change, Gas Flaring, Human Security, Food Security. Government

INTRODUCTION

Change is dynamic, and this is reflected in Nigeria's climate as it is evident in the increases in temperature, variable rainfall, rise in sea level, flooding, drought, desertification, land degradation, and more frequent extreme weather events. This has affected freshwater resources and led to a loss of biodiversity. The durations and intensities

of rainfall have increased, producing large runoffs and flooding in many places in Nigeria. Rainfall variation is projected to continue to increase. Precipitation in Southern areas is expected to rise and rising sea levels are expected to exacerbate flooding and submersion of coastal lands. Droughts have also become a constant in Nigeria, and are expected to continue in Northern Nigeria, arising from a decline in precipitation and rise in temperature. Lake Chad and other lakes in the country are drying up and at risk of disappearing (Haider, 2019).

The Intergovernmental Panel on Climate Change, IPCC (2003) maintained that climate change and its issues are some natural and man invented challenges facing the world today. These challenges also call for the most urgent responses that humanity can muster. The climate change challenge has manifested itself in some of the direst ways in Nigeria. This includes the destruction of biodiversity in the Niger Delta, land degradation and desert encroachment in the North and flooding of most damaging magnitudes across the country. Climate change is not just an environmental problem but a threat to food security, human security, environmental security, community security, plant and animal security etc. It is a major threat to agricultural system and food security in many countries in sub-Saharan Africa, Nigeria inclusive. It affects agriculture through erratic rainfall patterns, occurrence of greater weather extremes (temperature), rising sea levels, erosion, droughts and flooding. Thus, climate change has direct complete impact on human, food, environmental, animal, plant, and community security.

With climate change leaving no room for doubt, the year 2007 became a watershed in terms of study on the security implications of climate change in Africa. It was the year that both African Union (AU), and the United Nations Security Council (UNSC), held their first ever debate on the security implications of climate change, (Adishi and Oluka, 2018). The subtle nature of climate change makes it look as if it is not a major security threat. To this effect, Ezirim and Onuoha (2008) noted that Climate change does not fit into the mode of traditional threats to national security such as war, terrorism, insurgency, kidnapping, militancy, espionage or sabotage. Yet, its non-violent and gradual dynamics of manifestation serve only to disguise its impact on livelihoods, social order, peace and stability. Little wonder the conflict between herders and farmers was not taken seriously in the past until it degenerated to its present situation particularly the degree of insecurity in Nigeria.

Statement of the Problem

Climate change and security challenges related issues in Nigeria are fundamentally of low interest to researchers in this part of the world. Specialists in climate change were not paid attention to since it is a consensus belief that lack of natural and poor management of available resources is the key remote cause of insecurity in Nigeria without looking at what cause the scarcity of these resources. Researchers have failed to realise and comprehend that climate change can create resource scarcity, reinforces and induces it, particularly between human beings and their host communities. The consequence of which is insecurity and lack of sustainable development. However, little attempt has been made by

researchers to interrogate how climate change has motivated individuals and herders' migration to other parts of the country and how it has enhanced insecurity across the length and breadth of Nigeria. This paper examined climate and security in Nigeria Fourth Republic with particular reference to concept, causes, impacts on security and solutions.

Research Questions

The following research questions were raised to guide this study:

- i) To what extent has climate change cause conflict and insecurity in Nigeria?
- ii) To what extent has climate change affect human and national security in Nigeria?
- iii) What are the possible solutions to these problems caused by climate change in order to achieve human security?

Objective of the Study

The main objective of this study is to examine climate change and security in Nigeria Fourth Republic, its attendant effects and solutions. While the specific objectives of the study are:

- i) To examine the extent to which climate change has cause insecurity in Nigeria.
- ii) To examine the extent to which climate change has adversely affected security, and
- iii) To proffer possible solutions that will reduce climate change and engender security in Nigeria.

Methodological Review

This study adopted descriptive and qualitative analyses to x-ray the relationship between climate change and security in Nigeria and create road map for achieving the sustainable development. In other words, this study relied solely on secondary sources of data collections such as documents, journals, articles, books, correspondence and electronic print media.

Theoretical Framework

The study adopted the Homer-Dixon theory of "Eco-violence". Homer-Dixon (1998), argue that large populations in many developing countries are highly dependent on four key environmental resources that are very fundamental to crop production: fresh water, cropland, forests and fish. Scarcity or shrinking of these resources as a result of misuse, over-use or degradation under certain circumstances will trigger off conflicts and insecurity. According to Homer-Dixon (1999): "The decrease in the quality and quantity of renewable resources, population growth, and unequal resource access, act singly or in various combinations to increase the scarcity, for certain population groups, of cropland, water, forests, and fishes. This can also reduce economic productivity, both for the local groups experiencing the scarcity and for the larger regional and national economies. The affected people may migrate or be expelled to new lands. Migrating groups often trigger ethnic conflicts when they move to new areas, while decreases in wealth, deprivation and conflicts" (Homer-Dixon, 1999).

The fundamental assumption of the theory is that resource scarcity is the product of an insufficient supply, too much demand or an unequal distribution of a resource as a result of environmental hazards that forces some sector of a society into a condition of deprivation and violence. These four sources of scarcity are in turn caused by variables such as population growth, economic development, pollution, transnational crime, unemployment, terrorism, and obviously climate change which is the front burner because it is the precursor of the other ones. Thus, environmental resource scarcity will constrain agricultural and economic productivity, further inducing the disruption of economic livelihoods, poverty and migration. Migration can occur either because the environmental quality of a habitat has become unlivable or, more commonly, because the migrant's economic outcome is likely to be better in areas with greater resource availability. Both constrained productivity and migration are likely to strengthen the segmentation around already existing religious, class, social, political, psychological, ethnic or linguistic cleavages in a society and thus precipitate conflicts and insecurity (Gleditsch & Urdal, 2002).

It is fundamental to state that one basic feature of insecurity is migration and at the heart of migration is climate change and this automatically makes individuals desperate guests with their unwilling hosts, this of course triggers conflict. Within the context of herdsmen and farmers' conflict in Nigeria, the eco-violence theory is capable of capturing the intricate linkages that can develop between climate change and conflict. As a result of climate change, seas have dried up leading to shortage of fish and fresh water. Drought and desertification have also eaten up crop lands and forest thereby making these environmental resources that trigger violence in short supply. To avert these situations, individuals especially herdsmen drift to where they will get moderate weather, market opportunity, green-vegetation, forage and food, thereby threatening the means of production and reproduction of some other people who would not like such encroachment. This in itself engenders conflict. And when they are accepted, the long run effect will be pressure on land, food shortage, conflict of interests, over population, social disorganization, religious, social, and cultural intolerance which are in themselves conflict triggers.

Further, most of the impact of climate change is directly on agriculture, the theory helps us to explain the link between climate change and conflict. That agriculture has been neglected in Nigeria is no longer news. This situation has worsened considerably over the years as a result of government insensitivity to climate adaptation and mitigation and puts more pressure on the populace who suffer more as a result of climate change. As a result of low yield, farmers cultivate more lands now than they hitherto do, living little land for grazing of cattle. It is within this context that the link between climate change, conflict and insecurity in northern Nigeria can be understood.

Conceptualisation

Adishi and Oluka (2018) stated that climate change is a change in global and regional climate patterns attributed largely to increase levels of atmospheric temperature. It is also seen as the change in the statistical distribution of weather patterns when both

change lasts for an extended period of time or a change or shift in worldwide weather or seasonal change over a long period of time; which can result in flooding, desertification, dew, heat wave, melting of ice, depletion of ozone layer to mention but a few, and which portends a great danger and challenge to sustainable development

On their part, Buhaug, Gleditsch and Thesien (2008) posit climate change refers to significant changes in global temperature, precipitation, wind patterns and other measures of climate that occur over several decades or longer. The seas are rising. The foods we eat and take for granted are threatened. Ocean acidification is increasing. Ecosystems are changing, and for some, that could spell the end of certain regions the way we have known them. And while some species are adapting, for others, it's not that easy. Evidence suggests many of these extreme climate changes are connected to rising levels of carbon dioxide and other greenhouse gases in the Earth's atmosphere more often than not, the result of human activities.

“We are humans who want the same thing every other human wants — a safe place to live on this planet we call home. So while our work must continue to be unbiased and objective, increasingly we are raising our voices, adding to the clear message that climate change is real and humans are responsible, the impacts are serious and we must act now”, (Katharine, 2021)

Some causes of climate change are: Humanity's increased use of fossil fuels such as coal, oil and gas to generate electricity, run cars and other forms of transport, and power manufacturing and industry. Deforestation occurs because living trees absorb and store carbon dioxide. Increasing intensive agriculture which emits greenhouse gases like methane and nitrous oxide. Climate change is principally a major problem caused by the increase of human activities if you like; call it human mismanagement of the earth leading to several direct and indirect impacts on health. These climatic changes have wide-range harmful effects including increase in heat-related mortality, dehydration, spread of infectious diseases, malnutrition, damage to public health infrastructure, migration of both man and animals among others,(Jumoke,2016).

Some four decades ago, the Lake Chad covered an area of over 40,000 square kilometers, whereas it now encompasses a mere 1,300 square kilometers. While, the negative trend continues unabated and as land is laid to waste by the rising temperature leading to rapid southward expansion of the Sahara Desert, advancing desertification, which led to massive migration of people in search of more fertile terrain from North east toward the greener plateau and middle belt regions

Growing desertification forced thousands of Fulani herdsmen to move to the south and middle belt leading to clashes with crop farmers culminating in death of hundreds according to the reports of residents and activists. Nigeria's Guinea Savannah region is not spared either. Logging and over dependence on firewood for cooking have stripped a greater part of this area of its vegetation cover. The situation is similarly replicated in the south, where the forest around Oyo has long been reduced to grassland.

The south – eastern part of the country has been struck by a different ill. There, gully-erosion has devastated many settlement areas and farmlands, leading to poverty among local populations. Just as desertification is devastating vast areas of the north, rising sea levels are threatening Nigeria's coastal regions. Although a source of oil wealth, the Niger Delta's low-lying terrain and crisscross of waterways make it extremely vulnerable to flooding, apart from being at the risk of rising sea level, it has fallen victim of extreme oil pollution.

Moreover, in the southern Nigeria, climate change is also reflected in the massive flood experienced in 2012, houses, farms, farm products, properties and even human beings were swept away. Also, the statistics released by the southwest zonal office of the National Emergency Management Agency (NEMA) about 2 years ago show that no fewer than 5000 persons were affected and 60 houses destroyed in a windstorm which occurred in four states in the south -west region.

Negligence and a failure to tackle the issue of climate change by successive governments have also contributed to the rise of insurgency groups across the country. Against this backdrop, if appropriate, preventive action is not taken and adaptation measures are not implemented in time, the results could be catastrophic. No doubt, the need to preserve, protect and promote the environment constitutes a headache to many nations and dominate discussions and activities of government and non- government organizations across the globe. This is because the nature and prospects of the future are determined by the safety of the environment and this fact has increased the need for a healthy and functional plan to preserve and protect the environment with a view to avoid insecurity arising from climate change.

Climate Change and Human Rights

Climate change is a human rights issue not only because its devastating impacts affect the enjoyment of human rights, but also because it is a man-made phenomenon which can be mitigated by governments, (Kumi Naidoo, Secretary General of Amnesty International, 2021).

Human rights are intimately linked with climate change because of its devastating effect on not just the environment but our own wellbeing. In addition to threatening our very existence and insecurity, climate change is having harmful impacts on our rights to life, health, food, water, housing and livelihoods.

The longer governments wait to take meaningful action, the harder the problem becomes to solve, and the greater the risk that emissions will be reduced through means that increase inequality rather than reduce it. These are some of the ways climate change is impacting and will impact our human rights:

Right to life – We all have the right to life, and to live in freedom and safety. But climate change threatens the safety of billions of people on this planet. The most obvious example is through extreme weather-related events, such as storms, floods and wildfires. Typhoon Yolanda in the Philippines claimed the lives of nearly 10,000 people in 2013. Heat

stress is among the deadliest impacts. The summer heatwave in Europe in 2003 resulted in the deaths of 35,000 people. However, there are many other less visible ways that climate change threatens lives. The World Health Organization predicts that climate change will cause 250,000 deaths per year between 2030-2050 due to malaria, malnutrition, diarrhea and heat stress, etc.

Right to health – We all have the right to enjoy the highest attainable standard of physical and mental health. According to the IPCC, the major health impacts of climate change will include greater risk of injury, disease and death due to more intense heatwaves and fires; increased risk of under-nutrition as a result of diminished food production in poor regions; and increased risks of food- and water-borne diseases, and vector-borne diseases. Children exposed to traumatic events such as natural disasters, exacerbated by climate change, can suffer from post-traumatic stress disorders. The health impacts of climate change demand an urgent response, with unmitigated warming threatening to undermine health systems and core global health objectives.

Right to housing – We all have a right to an adequate standard of living for ourselves and our families, including adequate housing. However, climate change threatens our right to housing in a variety of ways. Extreme weather events like floods and wildfires are already destroying people's homes, leaving them displaced. Drought, erosion and flooding can also over time change the environment whilst sea-level rises threaten the homes of millions of people around the world in low-lying territories.

Rights to water and to sanitation – We all have the right to safe water for personal and domestic use and to sanitation that ensures we stay healthy. But a combination of factors such as melting snow and ice, reduced rainfall, higher temperatures and rising sea levels show that climate change is affecting and will continue to affect the quality and quantity of water resources. Already more than one billion people do not have access to clean water, and climate change will make this worse. Extreme weather events such as cyclones and floods affect water and sanitation infrastructure, leaving behind contaminated water and thus contributing to the spread of water-borne diseases. Sewage systems, especially in urban areas, will also be affected.

Climate Change and Security Challenges

Climate change has contributed enormously to the security challenges of mankind. At the global level, Climate Action Plan (2015) argued that the implications of climate change on national security are not all beyond U.S. borders – they pose risks here at home. According to the Third National Climate Assessment, sea level rise, coupled with storm surge, will continue to increase the risk of major coastal impacts on transportation infrastructure, including both temporary and permanent flooding of airports, ports and harbors, roads, rail lines, tunnels, and bridges. Extreme weather events are also affecting energy production and delivery facilities, causing supply disruptions of varying lengths and magnitudes and affecting other infrastructure that depends on energy supply. Increasing risk of flooding affects human safety and health, property, infrastructure, economies, and ecology in many basins across the United States.

The followings are some of the livelihood sectors that are likely to face some impacts according to Christopher, Daniel and Florence (2013). The health sector impacts will affect the populations by altering the health status of millions of people, including through increased deaths, disease and injury to heat waves, floods, storms, fires and droughts. Increased malnutrition, environmentally related disease such as cholera, dysentery, meningitis, yellow fever, malaria, etc will exert great pressure on the public resources and development goals will be threatened by longer-term damage to health systems from disasters.

In Nigeria, with numerous security issues and periodic natural disasters, the scale of displacement is always on the rise. The Internal Displacement Monitoring Centre (IDMC) reports that, in 2018, violence and conflict led to about 541,000 new movements, while disasters caused about 613,000 displacements. Generally, Nigeria has about 2.2 million internally displaced persons, more than the population of Gabon, living in overloaded Internally Displaced Persons (IDP) camps nationwide. According to IDMC, causes of displacements in Nigeria are primarily due to insurgency in the Northeast, surge of inter-communal conflicts, massive flooding, amongst others.

Agriculture and food sector will see those mid-latitude and high latitude areas mainly benefit from higher agricultural production and many others at lower latitudes, especially in seasonally dried and tropical regions. The increase in temperature and frequency of droughts and floods are likely to affect crop production negatively, which could increase the number of people at risk from hunger and increase levels of displacement and migration in quest of livelihoods. Contributing, Amannullah, (2020) maintained that climate change is a serious threat to field crop production and food security. It has negative effects on food, water, energy security due to change in weather patterns and extreme events such as floods, droughts, and heatwaves, all of which reduce crop productivity.

Again, Tochukwu, N. (2018) pointed that human settlement and business are most vulnerable especially those located in coastal regions and river flood plains, and those whose economies are closely linked with climate sensitive resources. This applies particularly to locations already prone to extreme weather events, especially areas undergoing rapid urbanization. Where extreme weathers events become more intense or more frequent, the economic and social cost of those events will increase. Cities loom as giant potential flood or other disaster traps.

Livestock sector is affected by climate change by interfering with the distribution, production size and frequency of disease and pests. Livestock industry depends on the equilibrium of pasturage and water resources supply and any form of change in climate will impact negatively the livestock sector. The impacts have largely been felt by pastoralist's communities who have been forced to change their livelihood from pastoralist to sedentary agro-pastoralist to survive.

Climate change cause instability in the tourism sector for those areas in Nigeria whose economies are largely dependent on tourism. Addition or reduction in precipitation

leads to wildlife devastation and reduces the aesthetics value of sceneries hence impacting on livelihoods dependent on the industry.

In addendum, education is critical for socioeconomic development. It expands skills. It increases job opportunities. It helps people improve their living standards. Education contributes to gender equality. Despite these crucial benefits, access to education remain a challenge, particularly in Nigeria's coastal region due to climate change. International Council on Human Rights Policy (2008) maintained that in 2016, 263 million school-aged children, one in five kids globally, remained out of school. As part of the Sustainable Development Goals, the United Nations hopes that by 2030, all children worldwide will complete primary and secondary school. But climate change may make this harder to achieve.

Offorma (2010) posit, climatic conditions can impact schooling outcomes in several different ways. In the most direct sense, extreme weather events such as tropical cyclones, floods, may destroy or damage school buildings, or schools may be used to shelter people who have been displaced from their homes. This leaves children temporarily unable to attend school, and some kids may never return to their studies. Agricultural households suffering losses to income and food security caused by droughts or heat waves may not have enough money to pay school fees or may pull their children out of school to help earn additional income. During severe droughts, girls may miss school because they must travel longer distances to collect water or may be married off at an early age, which often coincides with dropping out of school. In addition, entire families may migrate in search of food, water, and employment, pulling their kids out of school.

Conclusion

There is always a tendency to view climate change only from the perspective of an ecological challenge, just as it is often to concentrate defense resources on military aspects of national security in developing states like Nigeria. Whether or not current dynamics and policies reflect this in state security structures (Nigeria inclusive) is of little importance since climate change affects societies and their securities in varying ways. Whether directly or indirectly, or through chains of connection, security is the aggregate of issues of monumental importance to a country's survival and existence. The issues would include protection of the environment against human activities, the defense of the territorial integrity, which would comprise the defense of both human and material resources that such a country may have been endowed with." (Nuhu, 2007,) Also, as Nuhu further points, "it is necessary to recognize that security may be defined not merely as a goal but as a consequence which in this case climate change initiates. This means that we may not realize what it is or how important it is until we are threatened with losing it. In this instance, rising food insecurity/shortages, resource competition, the spread of diseases, natural disasters as flooding, etc., are all aftermaths of and are intensified by climate change. They pass today as core national security priorities; with the capacity to cause even more serious security concerns as and even beyond armed or military confrontations.

Climate change can weaken the economic base that determines military capacity, disrupt the academic system, engender migration, hinder health, livestock, and affect tourism, among others. As Barnett (2013, p 198) aptly put it, ‘in some developed countries and in most developing countries, natural resources and environmental services are important to economic growth and employment. Income from, and employment in, primary sectors such as agriculture, forestry, fishing, and mining, and from environmentally dependent services like tourism, may all be adversely affected by environmental change... The net effect is poverty, illiteracy, rape, early child marriage, sicknesses and diseases, and communal conflicts among human beings.

Recommendations

We hereby recommend that,

- Proper legislation should be done to remedy the impact of climate change and provide alternative measures in revamping the natural menace.
- Environmentally friendly policies should be encouraged so as to prevent excess gas flaring, over-cultivation and deforestation of green vegetation.
- The government should develop a proactive template to preach genuine co-existence amongst farmers and herdsmen since climate change alone does not result in conflict until it is mixed with factors such as intolerance, economic competition, insensitivity, ethnicity and poor state response.

References

1. Abiodun, E. O. (2011). Effects of Climate Change on Food and Human Security in Nigeria *Journal of Global Food Security*. 17, (2), pp. 217-231
2. Adishi, E. & Oluka, N. L. (2018). Climate Change, Insecurity and Conflict: Issues and Probable Roadmap for Achieving Sustainable Development Goals in Nigeria: *International Journal of Social Sciences and Management Research*, 4, (8), pp 12-20
3. Amannullah, K.(2020). Climate Change & Food Security. Centre for Research on Inequality, Human Security and Ethnicity (CRISE). Queen Elizabeth House, University of Oxford.
4. Barnett, J. & Adger, N. (2007) Climate change, human security and violent conflict. *Political Geography*, 26(6).
5. Barnett, J. (2013). Security and Climate Change: *Global Environmental Change*, 7, (4), pp. 7- 17
6. Blench, R.. (2005) *Natural Resources Conflict in North-Central Nigeria*. Cambridge: Mallam Dendo.
7. Buhaug, H., Gleditsch, P. N & Theisen, M. O. (2008). Implications of climate change for armed conflict. *Social Dimensions of Climate Change*. Washington DC: World Bank
8. Burke, M., Miguel, E., Satyanath, S., Dykema, J. & Lobell, D. (2009) Warming increased the risk of civil war in Africa. *National Academy of Science of the United States of America*, 106, 49.14.
9. Christopher, K. S., Daniel, K. M. and Florence, A.C. M. (2013). *Climate Change and Food Security*.
10. Cole, J. (2009). Ansare dine and how climate change contributed to the Algeria-Mali crises. Retrieved from <http://www.juancole.com/2013/01/climate-contributed-algeria.html>, on 23 March 2013.15.
11. Department of Homeland Security: *Climate Action Plan 2015*
12. Ezirim, G.E. & Onuoha, F.C. (2008) Climate change and national security: Exploring the theoretical and empirical connections in Nigeria. *Journal of International Politics and Development*, 4(1&2),
13. Haider, H. (2019). *Climate change in Nigeria: Impacts and responses*
14. Homer-Dixon, T. (1999). *Environment, Scarcity and Violence*. Princeton, NJ: Princeton University Press.

15. Homer-Dixon, T.F & Blitt, J. (1998). *Eco-violence: Links among Environment, Population and Security*. Lanham: Rowman and Littlefield.
16. Intergovernmental Panel on Climate Change (2003). *Climate Change 2003: Synthesis Report. A Contribution of Working Groups I, II, and III of the Intergovernmental Panel on Climate Change*. Cambridge: Cambridge University Press.
17. International Council on Human Rights Policy (2008). *Climate change and human rights: A rough guide*. Versoix, Switzerland: International Council on Human Rights Policy.
18. Katherine, H. (2021). Amnesty International: [https://www.amnesty.org/en/what-we-do/climate change/?utm_source=google&utm_](https://www.amnesty.org/en/what-we-do/climate-change/?utm_source=google&utm_)
19. Cramped, F. &Major, M. (2018). "Responding to Climate-Related Security Risks: Reviewing Regional Organizations in Asia and Africa". *Current Climate Change Reports*. 4 (4): 330–337.
20. Mayowa, J. F. & Omojola, A. S.(2005). *Climate Change, Human Security and Communal Clashes*.
21. Nnorom, N. R. & Osuafor, A. M. (2014).Impact of Climate Change on Food Security in Nigeria. *African Journal Online*, 3 (1) pp 22-36.
22. Offorma, G.C. (2010). Climate change and the need for new curriculum development in Nigerian universities. *Nigerian Journal of Curriculum Studies*, 17(3), 265-270.
23. Ogundipe, O. (2006). *Introduction to environmental issues: causes, effects, and solutions*. Lagos: Ikofa Commercial Press.
24. Randell, H. (2019). *Climate Change May Weaken Children’s Education in the Tropics: Environmental Change and Security Program*:
<https://www.newsecuritybeat.org/2019/05/climate-change-weaken-childrens-education-tropics/>
25. Tochukwu, N. (2018). Change: An Emerging Threat To Nigeria’s National Security: *International Journal Of Scientific Research and Management*, 6 ,(11), 3327-337.



© 2026 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by-nc-sa/4.0/>).