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# **Impacts of Climate Change on Food Security and Sustainability in Nigeria – A Legal Discourse**

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## IMPACTS OF CLIMATE CHANGE ON FOOD SECURITY AND SUSTAINABILITY IN NIGERIA - A LEGAL DISCOURSE

Ivie Deborah Nwosu \*

### Abstract

*The saying 'Man must Whack' is not just a mere saying but a factual slogan. Man depends on food for survival and climate change exacerbated by man's activities, has been found to be a contributory factor to hampering food production. Climate change has ravaged several spheres of the nation's economy, specifically the agricultural sector. It has led to food insecurity and environmental degradation in the country. The aim of this research is to proffer suggestions on climate change control and mitigation through sustainable practices, precautionary measures and the instrumentality of the laws as a means of securing food production in Nigeria. The doctrinal method of research is employed with resort to secondary and primary sources, as well as sampling for elaboration. This paper finds that for environmental sustainability and agro-ecology to be achieved, practices on the environment must be eco-friendly, and earth preservation conscious measures such as banning chemicals that precipitate climate change should be adopted. Persons who disobey the prohibition against the use of harmful chemicals, should be treated with iron gloves. Promoting agro-ecology, tackling climate change, and environmental sustainability should be the focus. It is therefore recommended, that to ensure social, economic and environmental quality, while providing food for the teeming population resort should be made to the laws in addressing the problems of climate change which is the major confronting challenge. In conclusion, resource conservation, adaptation strategies, optimizing climate smart agricultural practices and implementation of climate change laws will be necessary.*

**Keywords:** climate change, food security, sustainability, statutes, environment, agroecology

### 1. Introduction

Man in his inquisitive nature has turned his life support system (the environment) to a kindergarten playground oblivious of the dangers of his activities. Alteration of the climate system by his activities has become a norm. World over, climate change has become a concern in the agricultural sector. The agricultural sector in Nigeria in the days of our fore-fathers relied on subsistence farming, these practices were safe and had no need for chemicals to enhance crop growth. The development spans three phases from pre-colonial, post-colonial and modern commercial till date. In the 60's the agricultural sector contributed 85% of the Nigeria foreign exchange earning, 90% employment generation and about 80%

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to gross domestic product. These practices helped maintain a balanced climate system. Natural agricultural methods were employed which aligned with nature.<sup>1</sup>As population explosion became a problem, more demands on agricultural products led to enhanced agricultural development practices which included. Today, food production is concerned with not only food for the immediate populace but for export, and most importantly providing food security for the nation. To achieve these objectives technological advancement practices have been put in place, some of them are unfortunately anti-climate. Sustainable agriculture is the idea that agriculture should occur in such a way that we can continue to produce what is necessary without infringing on the ability for future generations to do same. For sustainable agriculture to thrive, farmers are to adopt environmentally friendly practices such as conservation tillage, improved manure storage or soil nutrient testing, nitrogen balancing, policymakers have a role in making sure that laws guide activities of farmers and they adhere to them.<sup>2</sup> The 'green' on the national flag is significant, it shows that agriculture has a place in the history of Nigeria.<sup>3</sup> After independence new policies were formulated. These policies were articulated towards the pursuit of export-led growth in the agricultural sector.<sup>4</sup> This is where we have found ourselves today trying hard to produce food for export when we have not been able to satisfy the growing population. This had led to genetically modified organism (GMO) food where plants (DNA) genetic materials have been altered using genetic engineering techniques to introduce new traits or enhance existing zones, which have their environmental implications. According to FAO, and UNICEF, the three factors responsible for food crisis include crisis (internal or external), national economy, and climate. Climate change poses significant challenges worldwide, leading to rising temperatures, sea levels, droughts, etc.<sup>5</sup>. Nigeria is not exempted from climate change challenges because climate change is ubiquitous, it has no respect for creed, language, portfolio, calibre or status dedicated positive life choices by individuals of different nations to reduce greenhouse, emission will improve climate conditions and drastically reduce the effect of climate change on food production and security. Climate change has been reported by The Intergovernmental Panels on Climate Change (IPCC) and the United Nations

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<sup>1</sup> DP Harshkumar and AB Mahera, 'Natural Farming: A Sustainable Path for Modern Agriculture', (2024) 7(12) *International Journal of Research in Agronomy* .12

<sup>2</sup> Agriculture Policies in OECD Countries, OECD guidelines, 2002, <<https://www.oecd.org/en/topics/agriculture-and-environment.html>> accessed 25 March 2025.

<sup>3</sup> Jeffrey Alahira, 'History of Agriculture in Nigeria' <<https://www.agriculturenigeria.com>> accessed 28 March 2025.

<sup>4</sup> GB Ayoola, *Essays on the Agricultural Economy: A Book of Readings on Agricultural Development Policy and Administration* (Ibadan: MA Publishers (Ibadan) 2001.

<sup>5</sup> Food and Agriculture research documents established in 1945, an international effort to defeat hunger and, food security for all 1941 provides emergency aid health care, education and protection to children worldwide.

Framework Convention on Climate Change (UNFCCC) to be greatest threat of the century and reported that the earth's average temperature has risen by 0.74<sup>0</sup> C. The present atmospheric concentration of carbon dioxide (CO<sub>2</sub>) is 385 ppm (parts per million) far more than at any time in the last 650,000 years resulting in climate change.<sup>6</sup> Consistent and unhindered agricultural practices guarantee food production. Agriculture- *Agri* is from Latin *ager* (a field), and *culture* is from Latin *cultura*, meaning 'cultivation' in the strict sense of tillage of the soil.<sup>7</sup> Agriculture involves all activities essential to food, feed and fibre production, including all techniques for raising and processing livestock. Food security exists when all people, at all times have physical and economic access to sufficient, safe and nutritious food to meet the dietary needs and food preference for an active and healthy life.<sup>8</sup> A nation that cannot feed herself, and her industries with sufficient materials and serve as a buffer against political and economic attack, imposition and invasion, does not have food security.<sup>9</sup> Climate change, encompassing extreme weather events including rising temperatures, rising sea levels, wildfires, and variability in rainfall, poses significant challenges to clean air, safe drinking water, food security.<sup>10</sup> Ocean warming and ocean acidification have adversely affected food production from fisheries and shellfish aquaculture in some oceanic regions.<sup>11</sup> Key factors contributing to climate change are: gas emissions, changes in technologies and social factors used for agriculture, and chemicalization processes in farming practices.<sup>12</sup> Today agricultural practices are carried out with modern technology. The advancement in science and technological activities yields disruptive results in nature. Main causes of environment pollution are irregular and rapid industry, urbanization, organic and inorganic wastes that are left in the environment, exposures to various dangerous chemicals, exploration activities and wrong agricultural applications practices.<sup>13</sup>

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<sup>6</sup> US Onoja, UM Dibua and AA Enete, 'Climate Change: Causes, Effects and Mitigation Measures-a Review' (2011) 17(4) *Global Journal of Pure and Applied Sciences* 469-479

<sup>7</sup> Doran Fuller, Introduction to Agriculture: Definition and Overview, (2014) <<https://lily-tangerine-jegb.squarespace.com>> accessed March 15 2025.

<sup>8</sup> World Bank Group, 'What is Food Security? There are Four Dimensions' <<https://www.worldbank.org>> accessed March 21 2025.

<sup>9</sup> MO Adenekan, EO Augustus and AO Ala, 'Agricultural Transformation in Nigeria for Sustainable Food Security' (2020) 12(3) *Journal of Agriculture and Veterinary Sciences* 2

<sup>10</sup> Sahar Yassin and Hadeel Qazzaz, Climate Change and Women's Health and Rights: Women Voices from Mena, OXFAM Research Report (2023).

<sup>11</sup> IPCC, Summary for Policymakers. In: *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change 2023*[Core Writing Team, H Lee and J Romero (eds) IPCC, Geneva, Switzerland, 1-34; doi: 10.59327/IPCC/AR6-9789291691647.001.

<sup>12</sup> LE Erickson and Gary Brase, *Reducing Greenhouse Gas Emissions and Improving Air Quality Two Interrelated Global Challenges* (CRS Press, (New York) 2020) 4.

<sup>13</sup> M Onder, 'Effects of Agricultural Practices on the Environment' 2011(24) *International Conference on Biology, Environment and Chemistry* 1.

In Nigeria, people can hardly put meals on the table as a result of insecurity, harsh government policies, and climate change accelerated by man activities has led to hike in prices of scarce farm products. There have been several suggestions in reducing the use CFC'S and carbon dioxide which are major contributors to climate change. This can be achieved by generation of electricity with solar photovoltaics, electric vehicles charging infrastructure, batteries and electric vehicles.<sup>14</sup> Economic hardship, the climate crisis, and violence in the northeast was projected to push 33.1 million Nigerians into food insecurity in 2025.<sup>15</sup> Emergency level of food insecurity will increase at an alarming rate in the projected year.<sup>16</sup> Climate change is resulting in more environmental problems like drought. A key example is the vanishing Lake Chad in West Africa, Lake Chad.<sup>17</sup> It used to be once Africa's largest water reservoir in the Sahel region. According to Salkida,<sup>18</sup> the FAO (Food and Agriculture organization of the United Nations) describes the state of the Lake as an ecological catastrophe and has on prediction its total disappearance this century. This ecological disaster has caused drought-induced famine, hot weather conditions in the Sahel and northern Nigeria. This situation has also triggered down south movement of the inhabitants in drought affected areas putting more pressure on the already scarce agricultural resources. Healthy and well-nourished people are the primary focus of sustainable development; therefore, food security is essential for achieving the United Nations Sustainable Development Goals (SDGs). Food security focuses on ensuring that people have consistent access to safe, nutritious, and sufficient food for a healthy life.<sup>19</sup> Agriculture also implicates complex links among the issues of climate change, food security, and trade. Climate change will likely affect agricultural production, with concomitant effects not only on the supply and distribution of food, but also on food prices. Fluctuating food prices might, in turn, lead to significant changes in global trade flows.<sup>20</sup> Increasing temperature may lead to the death of some food animals and reduction in the overall milk production, temperature may affect critical factors for livestock production, such

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<sup>14</sup> LE Robinson and J Custor, *Solar Powered Charging Infrastructure for Electric Vehicles: A Sustainable Development* (CRC Press (USA) 2017).

<sup>15</sup> World Food Programme (WFP), *People Experiencing Emergency Levels of Food Insecurity in 2025* <<https://www.wfp.org>> accessed 27 March 2025.

<sup>16</sup> Ibid.

<sup>17</sup> Lake Chad is located in the far west of Chad and the northeast of Nigeria.

<sup>18</sup>Salkida, *African Vanishing Lake Chad* (2012) <<https://www.salkida.com/african-vanishing-lake-chad/>> accessed 27 March 2025.

<sup>19</sup>UNEP-UN Environmental Programme, *How to Feed 10 billion People* <<https://www.unep.org>> accessed on the 28 March 2025

<sup>20</sup> C Streck 'Addressing Agriculture in Climate Change Negotiations: A Scoping Report' *Economy and Policy Review Journal (EPR)* (2011) <http://www.climate-agriculture.org> accessed 29 March 2025.

as water availability weight gain, reproduction and general good health.<sup>21</sup>The SDG goals on climate change focuses on integrating climate change measures into national policies, strategies and planning, improving education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning are the way forward which in turn will help in better crop yield if achievable and food security. The importance of food security cannot be overemphasized as an important key to national development in every society. The subtopics discuss what constitutes food insecurity and ways to ensure food security. It also discusses the problems of food insecurity and how it can be addressed. Ways to address Climate change was also discussed, how it affects food production and ways to reduce it to its barest minimum. Furthermore, the legal framework enacted to address the human activities that aggravate climate change leading to food insecurity has been elaborated on.

## 2. Food Security in Nigeria

Food security has been recognized as an important phenomenon all over the world long ago in 1974 at the world food summit. It called for an assessment of the future role of agriculture in response to wild spread under nutrition. Asserting that every man, woman and child had the right to be free from hunger and malnutrition in order to develop their physical and mental faculties. In recent times population increase has spiked the demand for food in Nigeria. The world food situation is influenced by new driving forces, such as: climate change, high energy prices, globalization and urbanization<sup>22</sup> Food security is used to describe whether or not all people at all times have physical and economic access to sufficient, safe and nutritious food for a healthy and active life (World food summit in Rome, in 1996).

Food security is a multi-dimensional concept and its major components are availability of food, access to food, quality and nutritional adequacy of food, and utilization of food.

Food insecurity can be a failure these factors or some combination of these factors. The need for food security arises primarily due to the fluctuations in food production and non-availability of sufficient food from domestic sources. The recent cause of increased food insecurity in developing countries, particularly in Africa is associated with climate change condition<sup>23</sup> In the foregoing, constant agricultural productivity is important to boost not only food availability but the

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<sup>21</sup>NU Florence, 'Impact of Climate Change on Food Security Its Consequences and Mitigation', (2024)2(6) *UBS Journal of Business and Economic Policy*.

<sup>22</sup> SS Kalakar, 'Food Security in India! Present Status and Future Strategies' <<https://kpmg.com/in/en/insights/2025/02/food-and-nutritional-security-in-india.html>> accessed 30 March 2025.

<sup>23</sup> Spores, Food Security; Grasping at straws? Technical Centre for Agricultural and Rural Co-operation (CTA) 1998, 77, 1-2.

GDP of the country, generating income, employment opportunities and driving economic growth. Government has from time immemorial embarked on food programmes in an effort to tackle food insecurity such as Operation Feed the Nation (OPN), it established various research institutions for improvement and production of crops it has also invested in storage facilities which are technologically driven, legally the government has spearheaded several policies to ensure food security, it has gone as far as alteration of the 1999 constitution to provide that the State should ensure that suitable and adequate food<sup>24</sup> is provided for the people. The government in an effort to achieve its policies ensures the supply of fertilizer at a subsidized price, the government has also shown commitment in implementing policy frameworks like the 2023 National Adaptation Plan which prioritizes food system, all in an effort to combat climate change a major driver of food insecurity.<sup>25</sup>

### 3. Climate Change

The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as a change that is attributed directly or indirectly to human activity, which alters the composition of the global atmosphere and is in addition to natural climate variability observed over comparable time periods.<sup>26</sup> ‘Statistically significant variations of atmospheric temperature that persist for an extended period, typically decades or longer.’<sup>27</sup> It includes shifts in the frequency and magnitude of sporadic weather events as well as the slow continuous rise in means surface temperature.<sup>28</sup> The phenomena of heat trapped inside a car on a sunny day is an analogy of the greenhouse effect. The windows of our cars act as greenhouse gases, which is why the car gets so hot when we lock it up for a while. When wave lengths of sunlight that heats your car pass through the car window, while the majority of re-radiated energy cannot pass out through those glass window. Greenhouse gases act like the window on your car they let incoming solar radiation pass through, while they are more resistant to allowing long wave radiation pass out to space. The overwhelming scientific consensus is that the earth’s atmosphere is warming rapidly, mostly because of human activities and that this will lead to significant climate change during this century.<sup>29</sup> Nigeria has not been immune from climate change issues especially global warming which has been a problem in the country. Many parts

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<sup>24</sup> Section 16(2)(d) of the 1999 Constitution of the Federal Republic of Nigeria.

<sup>25</sup> Nigeria’s Federal Ministry of Environment, Nigeria’s National Adaptation Plan Framework (2020) <[www.Napglobalnetwork.org](http://www.Napglobalnetwork.org)> accessed 30 March 2025.

<sup>26</sup> United Nations Framework Convention on Climate Change (UNFCCC) 1992, the document is an international treaty amongst countries to combat human dangerous interference with the climate system.

<sup>27</sup> Intergovernmental Panel on Climate Change (IPCC).

<sup>28</sup> Ibid.

<sup>29</sup> GT Miller and ES Spoolman, *Living in the Environment: Concepts, Connection, and Solution* (16<sup>th</sup> edn Brooks Cengage Learning (Canada) 2009) 496.

of the country especially the northern part of the country have suffered from heat waves<sup>30</sup> which affect pregnant women negatively. Negative attitude towards the earth has been fingered as a major trigger of environmental crisis, climate change being one of the threatening environmental problems facing the world and has cut across nations, defying colour, race ethnicity boundaries and personality. It has been attributed directly or indirectly to human activities.

Climate change regimes are calling for a restriction of the foundations of modern economies especially their energy system. The United Nations Human Development Report<sup>31</sup> shows that climate change is different from all other problems currently faced by humanity because it requires us to change our way of thinking so fundamentally. To survive, we must accept that humans are interdependent and we have a single common denominator which is our planet and all individuals and all nations share the one and only atmosphere.<sup>32</sup> Problems ranging from drought and flood caused by climate change determine how infections disease spread. They are aggravated by extreme weather conditions.<sup>33</sup> Recently the African continent experienced a vast consequence of climate change which include extreme weather conditions, outbreak of diseases, food crises, rising seas level and costal erosion.<sup>34</sup> All hand must be on deck and contribute their quota to the goal of keeping global temperature level at 1.5 degree as agreed at cop 28<sup>35</sup> it is suggested that if the current trade of anthropogenic GHGs emission continue through 2030, earth is likely to experience an average rise in temperature ranging from 1.5 to 4.5°C.<sup>36</sup> The increased volume of carbon-dioxide and other GHGs released from the burning of fossil fuels, deforestation, agriculture and other human activities have been found to be the major cause of climate change. The human activities, primarily the burning of fossil fuels, deforestation and industrial processes have significantly increased the concentration of these greenhouse gases in the atmosphere.<sup>37</sup> Nigerian has done a lot, in its own way to address the problem of climate change, the National Climate Change Policy of 2021-2030, is the latest document enacted to help in realizing

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<sup>30</sup> T Akingbade ‘Climate Change Effects in Nigeria’ <<https://initiative.wordpress.com/2010/03/03/climate-change-effect-in-nigeria>> accessed 30 March 2025.

<sup>31</sup> Osita and Obajana Oche, ‘Climate Change and Human Security in Nigeria’ (2010) *Nigerian Institute of Internal Affairs* Lagos, 167.

<sup>32</sup> Timo Kovurova, *Introduction to International Environmental Law* (Routledge (London) 2014).

<sup>33</sup> Ibid.

<sup>34</sup> Ibid.

<sup>35</sup> G Porter and JW Brown, *Global Environmental Politics: Dilemmas in World Politics*. (Washington Press (Colorado) 1991).

<sup>36</sup> Ibid.

<sup>37</sup> Hadeer Jasem, AA Marwa, G Angham, ‘Climate Change and Global Efforts to Combat It: A Comprehensive Overview. (2024) (11)(9) *International Journal of Innovative Science and Engineering Technology* 2.

this goal of reducing greenhouse gas (GHS) emission. This effort is geared towards creating a resilient socio-economy that promotes food security and sustainable development. The Nigerian government has initiated several intervention programmes, to help intervene in addressing the problem such programme includes but are not limited to Renewable Energy Programmes (RGP), Energy Transition Plan (ETP) 2022 and Nigerian Gas Flare Plan Commercialization Programmes (NGFCP) (2030) to name but afar global efforts. The international community is not left out; they have taken significant steps to combat climate change pivotal agreements, such as the Paris Agreement adopted in 2015 during the United Nations Climate Changes Conference which brought together 196 countries. Countries were committed to limiting global warming to well below 2 degree Celsius above pre-industrial level with an aspirational goal of limiting it to 1.5 degrees Celsius,<sup>38</sup>

#### **4. Impacts of Climate Change on Food Security**

Climate change can have negative effect on the food chain, it can cause educed agricultural productivity, alter rainfall pattern, aggravate droughts and flood which in turn negatively impact crops & life stock. Pest & disease outbreak intensified by climate change can damage crop yield attracting pest such as (aphids and weevils etc.). Heat waves and extreme temperature can stress crops and life stock leading to reduced productivity and increased vulnerability. Also, higher prices make it difficult for the poor to afford scarce food sold at inflated prices, increasing malnutrition and poverty among low-income households. Disasters are induced by climate change such as drought & flood can displace population leading armed confrontation over resource e.g. between farmers & herders, therefore undermining human security. Furthermore, its negative effects include: volcano, erosion, melting glaciers (which increase river flow causing lake-outburst floods, meteorological drought results from insufficient rainfall result in agricultural losses are a major driver of food insecurity affecting quality, quantity, leading to significant economic loss.

Climate change could also affect rural incomes as agricultural productivity falls when agricultural outputs are reduced – climate is highly correlated to agriculture income-require with moderate temperature and sufficient rainfall support higher rural income. Risk of increased aflatoxin contamination in some areas due to changing rainfall patterns, may restrict the area from growing certain crops. Vulnerability of a country to climate conditions can affect crop yield and cause great loss to life stock.<sup>39</sup>

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<sup>38</sup> UNDP, Pursuing The 1.5<sup>0C</sup> Limit, Benefits and Opportunities (2016) <<https://www.undp.org>> accessed 28 March 2025.

<sup>39</sup> Josie Garthwaite, Climate Change Cuts Global Crop Yields, even when Farmers Adapt, 92025) <<https://www.sustainability.stanford.edu>> accessed 30 March 2025.

Climate events that reduce agricultural productivity can severely increase poverty in sub-Saharan Africa countries through impact on price and income.<sup>40</sup> Environmental degradation that results especially in soil erosion that results in loss of arable land is mainly associated with climate change in many African countries.<sup>41</sup> Nigeria agriculture depends highly on climate, because temperature, sunlight, water, relative humidity are the main drivers of crop growth and yield.<sup>42</sup> Climate change has reduced food security and affected water security, hindering efforts to meet Sustainable Development Goals. Although overall agricultural productivity has increased, climate change has slowed this growth over the past 50 years globally, with related negative impacts mainly in mid- and low latitude regions but positive impacts in some high latitude regions. Ocean warming and ocean acidification have adversely affected food production from fisheries and shellfish aquaculture in some oceanic regions. Roughly half of the world's population currently experience severe water scarcity for at least part of the year due to a combination of climatic and non-climatic drivers.

Alternative non-Legal Measures, toward attaining Food Security include, early warning systems and weather forecasting can enable farmers make informed decisions and reduce the risks. Promoting sustainable agricultural practices and promoting environmental preservation while advancing the SDG goals on sustainability. Empowering defenceless communities, particularly women, and fostering partnership between government, organizations, and communities are crucial for building buoyant food systems

## 5. Attaining Environmental Sustainability

Environmental sustainability encompasses a broad range of practices, from conserving natural resources and preserving biodiversity to reducing waste and emissions. The core principle behind environmental sustainability is the understanding that the health and well-being of humanity are intrinsically tied to the health of our environment; this is why it's so important that we live within the Earth's ecological means.

Achieving environmental sustainability in the face of climate change requires a multifaceted approach focused on mitigation and adaptation. This includes transitioning to renewable energy sources, improving energy efficiency,

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<sup>40</sup> Zainab Abdulrahman and Fatima Ibrahim, 'The Impact of Climate Change on Agricultural Productivity in Sub-Saharan Africa' (2023) 11(8) *African Journal of Agricultural Economics and Rural Development* 3.

<sup>41</sup> PK Maurya, SK Ajim and Hazrat Ali, *An Introduction to Environmental, Degradation: Causes, Consequences and Mitigation* (2020) <<https://www.aesaacademy.org>> accessed 29 March 2025.

<sup>42</sup> A Bulekova, ZH Gumarova and ZH Sharafieva, Environmental Factors Influence on the Productivity of Cultivated Plants (2025) 57(4) *Journal of Breeding and Genetics*. 1709.

promoting sustainable transportation, and adopting sustainable land management practices. Furthermore, international cooperation, policy changes, and technological advancements are crucial for mitigating the impacts of climate change and fostering a sustainable future. Environmental sustainability is not just about protecting nature, it's about ensuring the long-term survival of life on Earth, for both present and future generations. Without sustainable practices, ecosystems become increasingly fragile, biodiversity declines, and the consequences ripple through every aspect of human society.

## 6. Legal Framework

Resort will be made to statutes, policies and environmental law principles will be considered. Other statutes which are not environmental laws useful to the research will be used. Specific interest will be paid to climate change statutes at international and national levels. Institutions and bodies saddled with implementations of these laws will be queried. The United Nations Human Right Committee has recognized the link between climate change and human rights, Teitiola's case is the first authoritative statement by the Human's Right Court (HRC) on how the right to life applies to climate change.<sup>43</sup> Therefore if a person's right to food security is challenged by climate change by causing, starvation, and malnutrition which can cause demise, such rights are gradually been recognized. Some of the cases to be considered include but are not limited to the case of *Urgenda Foundation v State of Netherland*,<sup>44</sup> a climate change litigation case, heard by the Supreme Court of Netherlands related to government's effort to curtail carbon dioxide emissions. The case was brought against the Dutch Government in 2013, arguing that the government was not meeting a minimum carbon dioxide emission- reduction goal established by scientist to avert harmful climate change which was endangering the human rights of the Dutch citizens as set by the National and European Union. The ruling of the lower court was upheld by the Supreme Court and charged the Dutch government with the responsibility of protecting human rights, and affirming the reduction of emission. The Dutch government was ordered to take more action by reducing emissions by at least 25%.

Other notable cases include:

- (a) *Gloucester Resources v Minister for Planning*:<sup>45</sup> A proposed open-cut mine was rejected by a court in Australia on environmental grounds that include projected emission that will arise from its operation. a climate change trigger.

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<sup>43</sup> *Teitiola v New Zealand* (2020)

<sup>44</sup> *Urgenda Foundation v State of Netherland* (2019) (Ct. App, The Hague). See also *Pena and Others v Government of Colombia* (1996) 518 U.S. 189

<sup>45</sup> *Gloucester Resources v Minister for Planning* (2019) NSWLEC 7.

- (b) *Neubauer et al v Germany*<sup>46</sup>- Court ordered greater action against climate change to protect future generation-
- (c) *Miliedefensie et al v Royal Dutch Shell Plc*<sup>47</sup>- a private company was held liable for inadequate action to curb climate change.
- (d) *Leghari v Federation of Pakistan*:<sup>48</sup>The judiciary created a climate change commission for effective implementation of climate adaptation measures
- (e) *Earth Life Africa Johannesburg v Minister of Environmental Affairs and Others*:<sup>49</sup> Climate change must be considered in environmental impact assessments.
- (f) *Massachusetts v Environmental Protection Agency*<sup>50</sup>- Court considered CO<sub>2</sub> as a type of air pollutant that should be controlled.

The following cases have been recognized as potential precedents for climate litigation in Nigeria: *COPW v NNPC*<sup>51</sup> and *Gbemere v Shell*.<sup>52</sup> These Nigerian cases focus on human rights implications of oil spills which we know aggravate climate change.

The Universal Declaration on Human Rights<sup>53</sup> articulates the right to adequate standard of living which include food, which states that everyone has the right to a standard of living, adequate for their health and wellbeing, including food security.<sup>54</sup> The aim of the convention is to establish a common standard for people to achieve their basic human rights, and fundamental freedoms which includes the right to food and food security in their respective home states without intimidation and bias. It provides a foundation and a just and decent future for all, acting as a powerful tool to fight against injustice, oppression and impunity.

The International Convention on Economic, Social and Cultural Rights (ICESCR)<sup>55</sup> recognizes the right to adequate standard of living including adequate food, and the right to be free from hunger.<sup>56</sup> It recognizes the right to food as a fundamental human right, directly linked to the realization of other essential rights. Countries are legally obligated to take concrete steps to prevent hunger and ensure food security and provide adequate nutrition for their populace. The rights to the citizens including the right to food and adequate standard of

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<sup>46</sup>*Neubauer et al v Germany* BVR 2656/18 2021.

<sup>47</sup> *Miliedefensie et al v Royal Dutch Shell PLC* c/09/571932, Hague District Court 2021

<sup>48</sup> *Leghari v Federation of Pakistan* (2019).

<sup>49</sup> *Earth Life Africa Johannesburg v Minister of Environmental Affairs and Others* (2017) 2 All SA 519 (GP).

<sup>50</sup> *Massachusetts Environmental Protection Agency*- SC (2007).

<sup>51</sup> *COPW v NNPC* (2019) 5NWL (PT. 1666) 518.

<sup>52</sup> *Gbemere v Shell* (2005) FHC/B/CS/53/05.

<sup>53</sup> Universal Declaration on Human Rights, (1948)

<sup>54</sup> Article 25

<sup>55</sup> International Convention on Economic, Social and Cultural Rights (ICESCR), 1966

<sup>56</sup> Article 11

living. Ensuring citizens have access to the basic necessities of food, clothing and shelter.

The Food and Agriculture Organization<sup>57</sup> is an old specialized agency of the United Nations established in 1945 with the objective of eliminating hunger and improving nutrition and standard of living by increasing agricultural crop yield. This organization is concerned about food security, it aims at eradicating malnutrition, ensuring that people have access to enough high-quality food for healthy lives. It also aims at reducing poverty at the rural level and build sustainable and inclusive food systems and increase ability to resist to threats and crisis that confront existence and living.

United Nations Framework Convention on Climate Change (UNCFCC) 1992 provides as follows: Article 2 stabilizing greenhouse gases to prevent dangerous interference. Article 3 provides for the principles of common but differentiated responsibilities while article 4 provides for commitment for mitigation, adaptation and co-operation in adaptation to climate change impacts. Articles 6- provides fort public awareness, access to information and education on climate change. Article 2 under the Paris agreement strives to reduce global temperature rise to well below 2 degree Celsius above pre industrial level and pursue effort to limit it to 1.5 degrees Celsius. Article 4 requires parties to submit nationally determined contributions (NDCS) for emission reductions. Article 13 establishes a framework for reporting and monitoring actions.

The Declaration of the United Nations Conference on the Human Environment,<sup>58</sup> which aimed at addressing the growing global environmental concern and promote sustainable development. This led to the establishment of the United Nations Environmental Programme (UNEP) Key goals include safeguarding natural resources, preventing pollution, and recognizing the interconnectedness of environmental issues with social and economic development. (Natural resources must be safeguarded) To defend and improve the Human Environment for present and future generation)

The Rome Declaration on World Food Security<sup>59</sup> reaffirms the fundamental right of everyone to be free from hunger and commits to achieving food security for all people (hunger eradication, promote sustainable food, agriculture and development policies) This was convened by the Food and Agricultural Organisation (FAO) Towards implementation of the world food summit plan action. The aim is to achieve world food security by ensuring that all people at all times, have physical and economic access to safe, sufficient and nutritious food

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<sup>57</sup> The Food and Agriculture Organization, 1945

<sup>58</sup> Declaration of the United Nations Conference on the Human Environment, ' Stockholm, UN (1972).

<sup>59</sup> Rome Declaration on World Food Security, 1996

for an active and healthy life. It promotes greater international cooperation to achieve this goal.

The Constitution of the Federal Republic of Nigeria, 1999<sup>60</sup> states that people should have the right to food and food security. The State shall direct its policy towards ensuring strategies that guarantee food availability, accessibility, and affordability. This has strengthened food security in Nigeria, it aligns with International Rights Obligations concerning the right to food. Continuous upgrade of food production, conservation and distribution methods and food security measures that protect the country from compromise. This has been enshrined in the Constitution to provide food security for the masses, the only recognized hurdle is the fact that it was provided for under chapter II of the 1999 Constitution which is non justiciable. Advocates for fundamental human rights believe it should have been entrenched under chapter 4 of the constitution to make it justiciable as a fundamental human right.

The Climate Change Act, 2021 which domesticates the UNCFCC in Nigeria, provides a framework for reducing greenhouse gas emission, promoting green growth and sustainable economic development, this it hopes to achieve by ensuring that Nigeria formulates programmes for achieving, long – term goals on climate change mitigation and adaptation, and that climate change policies and actions are integrated with other related policies for promoting socio- economic development and environmental integrity. The Act is vested with the powers to make policies on matters related to climate change in Nigeria section 3(1) of the Act. The council is saddled with the responsibility of coordinating and implementing targets and guidelines for regulating greenhouse gas emissions and other anthropogenic causes of climate change and managing climate Fund. The Act is first of its kind standing singularly to tackle climate change. In West Africa if properly put to good use will be effective towards adaptation, reduction and mitigation of climate change in Nigeria.

Section 3 of establishes the National Council on Climate Change (NCCC), vesting it with the primary authority to make policy and decisions on all matters concerning climate change in Nigeria. Section 22 provides for obligations relating to climate change, specifically targeting the duties of Ministries, Departments, and Agencies (MDAS) in tackling climate change. Section 29 mandate the inclusion of climate change data international capital account and national development plans. This ensures that climate risks, carbon emission reductions and environment sustainability are keyed into national economy planning and policy. Section 15 provides for financial resources for climate change mitigation and adaptation projects, funded through carbon taxes, emission trading and fines. Section 19 mandates the Federal Ministry of Environment to set a five-year carbon budget to keep global temperature increase within 1.5 degrees Celsius to

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<sup>60</sup> The Constitution of the Federal Republic of Nigeria. 1999, the amended (fifth alteration) (No 34) Act, 2023.

2 degrees Celsius. Section 26 mandates the integration of climate changes into educational curricular.

The Sustainable Development Goals (SDGs)<sup>61</sup> ensures access to affordable, reliable, sustainable and modern energy for all. It encourages the share of renewable energy in the global mix, improve the energy efficiency, and enhance international cooperation to facilitate access to clean energy and technology, (Climate Change Action)<sup>62</sup> The goal encourages States to take action to combat climate change and its impacts. Encourages strengthening resilience and adaptive capacity to climate related hazards and natural disaster, integrate climate change measures into national policies, strategies, and planning and improving educational awareness and human and institutional capacity on climate change and focused on food security (Zero Hunger).<sup>63</sup> This goal aims to end hunger, achieve food security, improve nutrition, and promote sustainable agriculture by 2030.

The National Food and Nutrition Policy<sup>64</sup> Aimed at reducing malnutrition which slow down development and lead to suffering and death. This can be achieved by providing adequate food and food security of the people especially children. It aims at addressing the problem of adequate food and nutrition for Nigerian's It also aims at strengthening existing monitoring systems (e.g. Early warning signs) in order to continuously access and analyse the natural food situations and provide remedial guidelines to address food shortfalls.

The National Agricultural Technology and Innovation Policy (NATIP)<sup>65</sup> This was formulated for the improvement of the agricultural sector, taking into cognizance the potential impact of technology on the sector. The aim of this innovation policy it to modernize the country's agri-food systems by fostering technologically innovative capacity for sustainable development. To boost agricultural productivity and strengthen the value chains for priority crops, this will in turn provide for surplus food and secure food for the citizens

Nationally, the Federal Ministry of Agriculture and Food Security (FMAFS) formerly known as the Federal Ministry of Agriculture and Rural Development (FMARD) was established in 1966 with clear vision to ensure food security and promote agricultural Sustainability in Nigeria. It focuses on empowering farmers, facilitating market access, and promoting sustainable practices, striving to cultivate a resilient, promote drought resistant crop varieties, sustainable soil management, and prosperous agricultural sector. The Ministry is responsible for

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<sup>61</sup> Particularly, Goal 7.

<sup>62</sup> Goal 13.

<sup>63</sup> Goal 2.

<sup>64</sup> National Food and Nutrition Policy, 2001.

<sup>65</sup> National Agricultural Technology and Innovation Policy (NATIP), 2022- 2027.

the formulation of policies on primary agricultural production and practices which cover plant, animal, pest and diseases etc.

Furthermore, the Federal Ministry of Environment has a role to protect the environment from contaminations and health hazards exacerbated by climate change. The Ministry of Environment, through the Department of Climate Change drive their policies with agencies like NESREA, and monitor environmental standard. The department of Climate Change also aligns with strategies such as promoting smart agriculture, enhancing food storage and encouraging enforcement.

## **8. Conclusion**

Changes in temperature can have detrimental impacts on the food security of the most vulnerable people, in the absence of adaption. Climate change could increase the number of malnourished has impacted hugely in the agricultural sector, the extreme weather conditions that are prevalence in the last few years have made imperative, the strengthening of the existing infrastructures and the increase of crop resilience. Human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming. Global greenhouse gas emissions have continued to increase, with contributions arising from unsustainable energy use, land use and land-use change, lifestyles and patterns of consumption and production across regions, across board. Strategies towards climate change mitigation, flood reduction, erosion problems and training farmers on suitable agricultural methods is advised. Increase in farmer knowledge concerning climate change helps them to price up for the future challenges. In time past from several research documents examined, emphasis has been on the efficacy of the climate change law, decry of the weak enforcement mechanism of policies. The gap this article has filled is systematically merging legal and non-legal approach systems in addressing the problems of food security, and promoting legal reforms for climate-smart Agriculture CSA). Also, developing laws that incentivize the adoption of drought resistant seeds, irrigation technology and sustainable land management, while strengthening land use policies to resolve conflicts and provide security for all small holders. Furthermore, Enacting and enforcing climate related legislation, supporting climate smart agriculture, and investing in infrastructure such as irrigation. Strict monitoring of climate change laws and other related laws to avoid flouting these laws in the process of energy generation and other activities.

The articles recommends as follows:

- i. Creating and adopting laws that prioritize nutrition and food security.
- ii. Promoting sustainable land use practices that can help build resilience to climate change
- iii. Investing and financing climate-resilient agriculture, adopting climate – smart farming practices that can help mitigate the impact of climate change on food production.

- iv. Integrating climate change adaptation strategies into national and regional development.
- v. Ensuring adequate budgetary allocation for nutrition and food security as well as for combating climate change.
- vi. Strategies necessary for adopting and coping with the effect of expected changes in climate should be formulated.
- vii. Control of dumping of illegal waste in gutters to forestall the incidence of flooding as the amount of rainfall in the future is predicted to rise.
- viii. Organic agriculture should be financed and encouraged by the government
- ix. Integrate climate change measure into national policies, strategies and planning
- x. Improve education, awareness raising and human and institutional capacity on climate change mitigation and adaptation