

# WATER POLLUTION AND FOOD SECURITY IN NIGERIA: LEGAL CHALLENGES AND PATHWAYS TO REFORM\*

## Abstract

*Water pollution poses a severe threat to food security in Nigeria by contaminating essential water sources, thereby impacting agricultural productivity, livestock health, and fisheries. This article examines the connection between water pollution and food security, identifying primary pollution sources such as industrial waste, agricultural runoff, and oil spills. The doctrinal methodology is employed in the appraisal of relevant legislative frameworks regulating water and food security. Despite Nigeria's legal frameworks, including the Constitution, NESREA Act, and Water Resources Act, enforcement is hindered by insufficient funding, inadequate penalties, and lack of inter-agency coordination. These challenges aggravate the degradation of water quality, worsening food insecurity. The article also examines the limitations of current laws and policies; it finds that the laws suffer from lack of implementation and reiterates the need for comprehensive legal reforms. Recommendations include amending existing legislation to impose stricter penalties, enhancing institutional capacities, and adopting a rights-based approach to food security. By addressing water pollution through robust legal and institutional frameworks, Nigeria can mitigate its adverse effects on food systems, ensuring sustainable development and improved public health.*

**Key words:** Water, Water Pollution, Food Security, Environmental Law, Legal Reform

## 1. Introduction

Freshwater is an absolute necessity for the survival of humans, plants, and animals.<sup>1</sup> Its importance cannot be overstated. The Global Water Partnership has explicitly emphasized the need for safe and sufficient water that is sustainable for everyone, both globally and locally.<sup>2</sup> While 97% of the Earth's water is found in the oceans and seas, it is unfit for use due to its high salt content. The remaining 2% is largely inaccessible, as it exists in polar ice caps, glaciers, the atmosphere, or underground. This leaves only 0.4% of freshwater available for various demands, such as rapid urbanization and industrialization.<sup>3</sup>

Nigeria, like many other countries, has experienced rapid urbanization, industrialization, and modernization of agricultural practices, which have had detrimental effects on its water resources. These developments have led to an increase in pollutants in water reservoirs and overall water pollution. Consequently, water quality has significantly declined due to the higher concentration of pollutants in bodies of water.<sup>4</sup> Water pollution not only negatively impacts human health but also affects wildlife, food security and the environment as a whole. This article explores the concept of water pollution and its effects on food security in Nigeria. It also examines the laws governing water pollution and food security in Nigeria, setting out the challenges associated with their implementation. Finally, the article provides recommendations on how to minimize the impact of water pollution on food security, through existing legislation.

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<sup>1</sup>GO Obiechina and R. Rimande Joel, 'Water Pollution and Environmental Challenges in Nigeria', *Educational Research International (ERI)* (2018) 7(1), available at <[www.erint.savap.org.pk](http://www.erint.savap.org.pk)>, accessed 10 July 2024.

<sup>2</sup>GWP (Global Water Partnership). (2003). *Towards water security: A framework for action*. Hague: World Water Forum

<sup>3</sup>K Abhijeet, *Governing Water Pollution Effectively: A Comparative Study of Legal Frameworks & Their Implementation in India & Sweden*, (TRITALWR Degree Project 2013) 13, 39.

<sup>4</sup>Obiechina and Joel, *ibid* (n.1).

## 2. Concept of Water Pollution and Food Security

Water is deemed polluted when it contains substances or conditions to such an extent that it becomes unsuitable for specific purposes like drinking, bathing, cooking, or other uses.<sup>5</sup> Water pollution is characterized by the excessive presence of hazardous substances (pollutants) that render the water unfit for its intended purposes.<sup>6</sup> This pollution stems from industrial and commercial waste, agricultural practices, everyday human activities, and notably, transportation models.<sup>7</sup> Examples of water pollution include the discharge of wastewater from industrial and commercial waste, intentional or accidental spills into surface waters, untreated domestic sewage, chemical contaminants from treated sewage, release of waste and contaminants into surface runoff (including urban and agricultural runoff containing chemical fertilizers and pesticides), waste disposal and leaching into groundwater, eutrophication, and littering<sup>8</sup>

Water pollution may be caused by various human and industrial activities. Agriculture, being the largest consumer of freshwater globally, contributes significantly to the degradation of surface and groundwater resources through erosion and chemical runoff.<sup>9</sup> Concerns about water quality arise due to the use of nutrients (nitrogen and phosphorus), sediment, animal waste, pesticides, and salts in agricultural practices. These pollutants enter surface water through surface runoff or seepage to groundwater, ultimately reaching surface water outlets.<sup>10</sup> Pesticides used in agriculture can also contaminate surface and groundwater, with some containing endocrine-disrupting chemicals that can have adverse effects on organisms' development, reproduction, and survival.<sup>11</sup> Fish caught in polluted waters may be unsafe to consume, and individuals who ingest polluted water can become ill, with prolonged exposure potentially leading to cancers or birth defects.<sup>12</sup> Oil spills and Gas flaring activities commonly impact water quality. The Niger Delta serves as Nigeria's primary oil-producing region. Extensive quantities of crude oil are extracted daily from this region, resulting in severe cases of oil spills,<sup>13</sup> which contaminate natural water sources, aquatic habitats, farmland, and mangroves.<sup>14</sup> Various studies have reported that surface water, groundwater, and rainwater parameters are affected in gas-flaring locations within the Niger Delta.<sup>15</sup>

Food security is a measure of food availability, accessibility, acceptability and affordability.<sup>16</sup> The Rome Declaration on World Food Security defines it as food that is available at all times, to which all persons have means of access; which is nutritionally adequate in terms of quantity, quality and variety, and is acceptable within the given culture.<sup>17</sup> It is when all people, at all times, have physical,

<sup>5</sup> FD Owa, 'Water Pollution: Sources, Effects, Control, and Management', (2013) 4(8) *Mediterranean Journal of Social Sciences*, 65.

<sup>6</sup> NS Olaniran, *Environment and Health: An Introduction*, in NS Olaniran et al (eds), *Environment and Health* (Lagos: Macmillan, 1995) 34-151.

<sup>7</sup> Owa, *ibid* (n.5).

<sup>8</sup> OO Aboyeji, 'Freshwater Pollution in Some Nigerian Local Communities, Causes, Consequences, and Probable Solutions', *Academic Journal of Interdisciplinary Studies*, (2013) 2(13) 112.

<sup>9</sup> A Galadima et al, 'Domestic Water Pollution among Local Communities in Nigeria - Causes and Consequences', *European Journal of Scientific Research*, (2011) 4(52), 592 available at <<http://www.eurojournals.com/ejsr.htm>>, accessed 29 June 2024.

<sup>10</sup> Ayobeji (n.8).

<sup>11</sup> P Burkhardt-Holm, 'Endocrine Disruptors and Water Quality', *International Journal of Water Resources Development*, (2010) 26(3) 477-493.

<sup>12</sup> *Ibid*.

<sup>13</sup> SO Aghalino, 'Petroleum Exploitation and the Agitation for Compensation by Oil Producing Communities in Nigeria', *GeoStudies Forum*, (2002) 11-20.

<sup>14</sup> Olaniran, *ibid* (n. 6).

<sup>15</sup> A Dami et al, 'Effects of Gas Flaring and Oil Spillage on Rainwater Collected for Drinking in Okpai and Beneku, Delta State, Nigeria', *Journal of Environmental Research and Management*, (2013) 4(1) 0175 available at <<http://www.e3journals.org>>, accessed 12 June 2024; CN Nwankwo and DO Ogagarue, 'Effects of Gas Flaring on Surface and Ground Waters in Delta State, Nigeria', *Journal of Geology and Mining Research*, (2011) 3(5) 131-136.

<sup>16</sup> OS Enilolobo, TI Nnoli, SO Olowo, TA Aderemi, AO Adewole, VO Olapade, JF Esedeke, Determinants of Food Security, ACTA UNIVERSITATIS DANUBIUS ECONOMICA (AUDOE), (2022) 18(3) pp. 193-209.

<sup>17</sup> J Clover, (2003), 'Food Security in Sub-Saharan Africa', available at: <https://www.researchgate.net/publication/272123749>, in OS Enilolobo, et al, *ibid*

social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.<sup>18</sup> The four primary aspects of food security are the availability of healthy food, the capacity to get food both financially and physically, the efficiency with which food is used, and the sustainability of these factors.<sup>19</sup> It plays an important role in the existence of man, needed for healthy living, labour and economic productivity.<sup>20</sup> The absence of food security is capable of causing political instability, hunger, malnourishment, reliance on food importation and its adverse effects on a country's income.<sup>21</sup>

### 3. Impact of Water Pollution on Food Security

Water pollution affects food production with a negative impact on food security. According to Kehinde, to meet growing agricultural demands, farmers increasingly rely on marginal water sources like wastewater, which offers high nutrient content but poses risks.<sup>22</sup> Pesticides, fertilizers, organic livestock waste, antibiotics, and processing by-products contaminate water, food, and the environment.<sup>23</sup> Unsafe use of wastewater can introduce harmful pollutants into crops, livestock, soil, and water, causing health issues for consumers and workers and potentially exacerbating antimicrobial resistance.<sup>24</sup> This contamination makes food unfit for consumption, therefore leading to food insecurity. It has also been observed that reduced freshwater availability, driven by altered rainfall patterns and frequent droughts, limits water for irrigation, thereby leading to food insecurity.<sup>25</sup> In livestock production, water quality directly impacts animal health and food safety. Toxicants like nitrogen, phosphorus, heavy metals, fluoride, and hydrogen sulfide can accumulate in livestock, rendering their products unsafe for consumption.<sup>26</sup> High nitrate levels in drinking water can aggravate algae growth, leading to cyanotoxin pollution, as observed in many African lakes.<sup>27</sup> Pathogen pollution is also prevalent in one-third of river basins across Africa, Asia, and Latin America, posing risks to human and animal populations relying on these water sources.<sup>28</sup>

### 4. Laws Governing Water Pollution and Food Security in Nigeria

There are various laws governing water pollution and Food Security in Nigeria and some of them will be examined below.

#### 4.1 Constitution of the Federal Republic of Nigeria 1999 (As amended)

The Constitution is the supreme law of a state. All other laws derive their relevance from it and any law inconsistent with the provision of the constitution is void to the extent of its inconsistency.<sup>29</sup> Naturally, there have been a lot of environmental menaces, that most environmentally conscious

<sup>18</sup>FAO (2007), 'State of Food and Agriculture (SOFA)', *Livestock in the balance*. FAO, Rome, Italy.

<sup>19</sup>AMM Irfeey, MMM Najim, BA Alotaibi and Abou Traore, 'Groundwater Pollution Impact on Food Security' *Journal of Sustainability* (2023) 15(4202) 2; available at <<https://doi.org/10.3390/su15054202>>, accessed 13/12/2024.

<sup>20</sup>PO Agbola, 'Factors Influencing Food Security among small farmers in Nigeria', *African Journal of Agricultural Research*, 9 (27), pp. 2104-2110.

<sup>21</sup>K Havas, K & M Salman, 'Food Security: its Components and Challenges', *Int. J. Food Safety, Nutrition and Public Health*, (2011) 4 (1).

<sup>22</sup>KA Olufunke, 'Water Pollution in Nigeria and its effect on Agriculture: A case study of Niger Delta', *Research and Science Today Journal*, (2022) 1(22) 25.

<sup>23</sup>*Ibid.*

<sup>24</sup>*Ibid.*

<sup>25</sup>T Utsev, et al.: *The impacts of climate change on water resources and its effect on food security in Nigeria* *International Journal of Energy Applications and Technologies*, (2023) Vol. 10, No. 2, pp. 58-73.

<sup>26</sup>RS Ayers and DW Westcot, (1985), 'Water Quality for Agriculture', *FAO Irrigation and Drainage Paper* 29, rev. 1. Rome: Food and Agriculture Organization of the United Nations, available at <<http://www.fao.org/3/t0234e/T0234E00.htm#TOC>>, accessed December 19, 2024 in V Linderhof, T de Lange and S Reinhard (2021), 'The Dilemmas of Water Quality and Food Security Interactions in Low- and Middle-Income Countries', *Journal of Front Water* (2021) 3:736760, p 8.

<sup>27</sup>LL Ndlela, PJ Oberholster, JH Van Wyk, and PH Cheng (2016), 'An Overview of Cyanobacterial Bloom Occurrences and Research in Africa over the Last Decade', *Harmful Algae* (2016) 60, 11-26.

<sup>28</sup>UNEP (2016), 'Snapshot of the World's Water Quality: Towards a Global Assessment, Nairobi, Kenya: United Nations Environment Programme', available online at <<https://www.unep.org/resources/publication/snapshot-report-worlds-water-quality>>, accessed March 07, 2020.

<sup>29</sup>Constitution of the Federal Republic of Nigeria 1999 (as amended), Section 1(3).

countries have handled through legislative action; some countries have given these problems constitutional status for the state to deal with and many third-world countries have enacted laws to minimize the menace; such countries include Nigeria, South Africa, Mali, India, Chile just to mention a few.

In Nigeria, this is seen in section 20 of the 1999 Nigerian Constitution which states that: “The state shall protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria.” The elevation of environmental concerns to constitutional status has no doubt enhanced the priority to be accorded by Government to sound environmental management and sustainable development. Thus the inclusion of the environmental clause into the CFRN 1999 can be said to be a milestone in the quest for the protection and sustainability of the Nigerian environment. By these provisions, the ultimate responsibility for managing risks to human safety and the environment is that of the Nigerian government. Ambitunni *et al* have stated that the active involvement of the Federal Government in oil industry operations either through equity participation or as outright ownership, including downstream, means that the Federal Government is also potentially a polluter.<sup>30</sup> Indeed all the refineries owned by the Federal Government, through the State-owned NNPC, have been implicated in some of the major downstream pollution incidents.<sup>31</sup> For example, Vivan *et al.* examined the effect of the Kaduna refinery on its host environment and asserted that in addition to gaseous pollutants that are released during oil refining, solid and liquid waste emanating from the refinery pollutes the study area.<sup>32</sup> The evidence is seen in the pollution of the River Romi and the high number of adverse health issues within the community.<sup>33</sup> Thus, while the Constitution of Nigeria vests the responsibility of protecting human health and improving the quality of the environment on the government, the same government through its corporation is in this case polluting the environment and endangering the health of its citizens.

With respect to food, the right to food and food security is enshrined as a primary goal of state policy in Nigeria's 1999 Constitution (as amended in 2023). Section 16(a) mandates the government to ensure food availability, affordability, and accessibility. However, the non-justiciable nature of Chapter 2 of the Constitution under Section 6(6)(c) limits the enforceability of this right. By contrast, countries like Kenya, South Africa, and India have incorporated enforceable provisions on the right to food in their constitutions. Although the right to food in Nigeria is not explicitly justiciable, it can be linked to the constitutional right to life under Section 33. The right to life includes freedom from hunger and starvation, as interpreted in cases such as *Gbemre v Shell Petroleum Development Company of Nigeria Ltd.*<sup>34</sup> Furthermore, international legal instruments ratified by Nigeria, such as the UDHR and ICESCR, can be enforced domestically under Section 12 of the Constitution. These frameworks impose obligations on the government, individuals, organizations, and corporations to address food insecurity and mitigate environmental pollution.

Although the provisions of sections 16 and 20 of the constitution are laudable, their effect is whittled down by the fact that they are not justiciable. The implication is that a citizen of the Federal Republic of Nigeria cannot sue the Government for failing to provide food or for their inability to protect the environment from activities of polluters. That is because Section 6(6)(c) of the 1999 Constitution excludes the jurisdiction of the courts on matters relating to the provisions in Chapter II – that is on 'Fundamental Objectives and Directive Principles of State Policy'.

<sup>30</sup> A Ambitunni, *et al.*, 'Analysis of Safety and Environmental Regulations for Downstream Petroleum Industry Operations in Nigeria: Problems and Prospects', *Environmental Development*, (2014) (9) 43-60.

<sup>31</sup> *Ibid* (n 30).

<sup>32</sup> EI Vivan, VN Blamah and I Ezemokwe, 'Socio-Economic Impact of the Kaduna Refining and Petrochemical Company (KPRC) on the Rido Area of Kaduna Metropolis', *Journal of Environmental Management and Safety*, (2012) 3(15) 124-139.

<sup>33</sup> *Ibid.*, 135.

<sup>34</sup> *Jonah Gbemre v Shell Petroleum Development Company of Nigeria and 2 Others*, Unreported Suit No. FHC/B/CS/53/05, Delivered on 14 November 2005.



#### 4.2 Oil in Navigable Waters Act (ONWA)<sup>35</sup>

Oil spills severely impact marine life, a critical source of protein and income for coastal communities. Therefore, the ONWA is an important law that ought to curb this menace. The Act criminalizes oil discharge into prohibited sea areas<sup>36</sup> but provides extensive defences for offenders, weakening enforcement.<sup>37</sup> Penalties for violations are minimal, encouraging continued pollution.<sup>38</sup> The inadequacy of penalties under ONWA demonstrate inadequate prioritization of environmental health, which is foundational to the right to food.

#### 4.3 National Oil Spills Detection and Response Agency (NOSDRA) Act<sup>39</sup>

Oil spills pollute water sources, reducing agricultural productivity and access to clean water, which is essential for food production. NOSDRA oversees oil spill management, ensuring cleanups and addressing health impacts on affected communities.<sup>40</sup> However, the agency has been criticized for reliance on oil companies for investigations, limited funding, and inadequate technical capacity.<sup>41</sup> NOSDRA needs enhanced funding, equipment, and independence to fulfill her mandate effectively.<sup>42</sup>

#### 4.4 Nigeria Minerals and Mining Act<sup>43</sup>

The Act regulates solid mineral exploration and mandates environmental restoration after mining activities. With respect to water pollution, the Act prohibits the pollution of water courses<sup>45</sup> and where such pollution occurs, the operator must ensure that the water is purified.<sup>46</sup> The Act also provides that a licensee or lessee shall pay compensation to the owner or occupier who suffers damages as a result of pollution of any source of water, used for domestic and other purposes, as a consequence of the exploration or operations in any work connected with the property, for any such damage not otherwise made good.<sup>47</sup> Violations, including water pollution, are penalized with fines (₦20,000,000) and imprisonment (minimum of 5 years).<sup>48</sup>

Despite these provisions, mining activities have had considerable impacts on Nigeria's water resources, contributing to widespread water pollution. Mining activities, especially for minerals such as gold, lead, and tin, often lead to contamination of water bodies due to unregulated waste disposal,<sup>49</sup> use of hazardous chemicals,<sup>50</sup> and illegal mining operations.<sup>51</sup> The contamination of water from mining operations and hazardous discharges directly impacts soil fertility, crop production, and water

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<sup>35</sup>Oil in Navigable Waters Act (ONWA) CAP O6 LFN 2004.

<sup>36</sup>*Ibid*, Section 1.

<sup>37</sup>*Ibid*, Section 3.

<sup>38</sup>Oil in Navigable Waters Act, CAP O6 LFN 2004, Section 6. The Act prescribes a fine of two thousand naira as punishment for committing any of the offences created under the Act. This is ridiculous and cannot reasonably be expected to deter the fouling of the country's water bodies through reckless acts. Stiffer monetary penalties, in addition to imprisonment and revocation of operating licences/permits, are recommended.

<sup>39</sup>National Oil Spills Detection and Response Agency (NOSDRA) Act, CAP N157 LFN 2010.

<sup>40</sup>NOSDRA Act, *ibid*, Section 5.

<sup>41</sup>A Olaniyan, 'The Multi-Agency Response Approach to the Management of Oil Spill Incidents: Legal Framework for Effective Implementation in Nigeria', *Afe Babalola University Journal of Sustainable Development, Law*, (2015) 6(1) 114.

<sup>42</sup>A Olaniyan, 'Imposing Liability for Oil Spill Clean-Ups in Nigeria: An Examination of the Role of the Polluter-Pays Principle', *Journal of Law, Policy and Globalization* (2015) 40, 84.

<sup>43</sup>Nigeria Minerals and Mining Act, Cap N162 LFN 2010.

<sup>44</sup>*Ibid*., Section 118.

<sup>45</sup>*Ibid*., Section 123.

<sup>46</sup>*Ibid*., Section 124.

<sup>47</sup>*Ibid*., Section 125(1)(b).

<sup>48</sup>*Ibid*. See section 133 of the Act. Where the offence is continuing, the offender shall pay an additional N20, 000 for each day the offence continues.

<sup>49</sup>Many mining companies discharge tailings and waste, containing toxic substances like mercury and lead, directly into rivers and streams. The NMMA lacks stringent regulations or enforcement mechanisms to prevent this.

<sup>50</sup>The absence of strict controls over the use of chemicals such as cyanide in mining processes contributes to the leaching of harmful substances into water systems, contaminating drinking and irrigation water.

<sup>51</sup>The rise of unregulated, artisanal mining, which the NMMA does not adequately address, exacerbates pollution. These small-scale miners frequently lack the resources or knowledge to follow safe environmental practices.

quality, undermining food security. Unfortunately, the Act does not address this concern and illegal mining persists in Nigeria with the acquiescence of regulatory officials.<sup>52</sup> The abandoned mines and polluted streams in Jos<sup>53</sup> which have devastated the landscape compromise public health, indirectly affecting food access and safety. There is need to amend the NMMA to enforce stricter water quality standards through increasing penalties for non-compliance.

#### 4.5 Water Resources Act (WRA)<sup>54</sup>

This Act gives the Nigerian Federal Government the responsibility of regulating, advancing, and issuing licenses to all water providers in Nigeria.<sup>55</sup> Planning, developing, and using Nigeria's water resources, as well as protecting and managing them, as well as guaranteeing their quality, quantity, distribution, use, and management are all included in this.<sup>56</sup> The WRA provides that the Minister has the authority to specify locations from which water may be taken or used, the amount of water that may be taken by each individual, and to temporarily or permanently outlaw the use of water that poses a risk to human health.<sup>57</sup> The minister may withdraw the right to use water where it conflicts with the public interest.

According to the WRA, the Minister has the authority to control activities that may have an impact on the quantity and quality of the water resource while carrying out his duties.<sup>58</sup> The Minister also has the authority to reject an application for a license if it is anticipated that the activity may negatively impact the quality of the water resource.<sup>59</sup> As part of his responsibilities, the Minister must ensure that there is an adequate supply of water that is acceptable for livestock, irrigation, domestic and non-domestic usage, safe sewage disposal,<sup>60</sup> and pollution control.<sup>61</sup> General regulations for the effective administration of the WRA may be made by the Minister.

Anyone found guilty of violating the WRA is subject to a fine of no more than 2,000 naira, or a term of imprisonment of no more than six months, or both penalties and, in the case of a continuing offense, an additional fine of no more than 100 naira for each consecutive day the offense continues.<sup>62</sup> Any activity that affects the quantity or quality of water,<sup>63</sup> as well as the failure or refusal to use a license issued under the WRA, are all considered violations of the WRA.<sup>64</sup>

The WRA imposes an inadequate and ineffective liability and compensation provision for any pollution caused to water resources.<sup>65</sup> Sections 18 and 24 of the WRA outline the responsibility that polluters are subject to under the WRA. Any action that has the potential to affect the amount or quality of water, including pollution, is illegal under these regulations. The maximum punishment is a fine of 2,000 naira or six months in jail. The WRA's culpability clauses are not robust enough to

<sup>52</sup>V Aigbokhaevbo, 'Combating Environmental Crimes in Nigeria: A Daunting Uncertainty', *NIALS Journal of Environmental Law*, (2011) Vol. 1 210-211.

<sup>53</sup>*Ibid.*

<sup>54</sup>Water Resources Act (WRA) Cap W2, LFN 2004.

<sup>55</sup>WRA, Section 1.

<sup>56</sup>*Ibid.*

<sup>57</sup>WRA, Section 4©.

<sup>58</sup>*Ibid.*, (n 54) Section 8(d).

<sup>59</sup>*Ibid.*, (n 54) Section 11(a).

<sup>60</sup>*Ibid.*, (n 54) Section 5(b).

<sup>61</sup>Sec 20 of WRA defines water pollution to be any direct or indirect alteration of the physical, thermal, chemical, biological, or radioactive properties of any water or groundwater to render such water or groundwater less fit for any beneficial purpose for which it is, or may reasonably be used, or to cause a condition which is hazardous or potentially hazardous to public health, safety, welfare to animals, birds, wildlife, fish or aquatic life, or to plants.

<sup>62</sup>Water Resources Act (WRA) Cap W2, LFN 2004, Section 18.

<sup>63</sup>*Ibid.*, Section 11(a).

<sup>64</sup>*Ibid.*, Section 11(c).

<sup>65</sup>Water Resources Act (WRA) Cap W2, LFN 2004, Sections 18 and 24.

address Nigeria's water pollution problems. The main purpose of the WRA's provisions was to control water use, not because of any real desire to lessen water contamination. Thus it is necessary to strengthen the regulatory framework to assure and promote water pollution control in Nigeria.

#### **4.6 National Environmental Standards and Regulations Enforcement Agency (NESREA) Act<sup>66</sup>**

The National Environmental Standard and Regulations Enforcement Agency (NESREA) Act is the major environmental law in Nigeria. The agency is charged with the responsibility of enforcing environmental laws, regulations and standards in deterring people, industries and organizations from polluting and degrading the environment, biodiversity conservation and sustainable development of Nigeria's natural resources in general and environmental technology including coordination and liaison with relevant stakeholders within and outside Nigeria on matters of enforcement of policies and guidelines.<sup>67</sup> NESREA also has responsibility to enforce all environmental laws, guidelines, policies, standards and regulations in Nigeria, as well as enforce compliance with the provisions of all international agreements, protocols, conventions and treaties on the environment to which Nigeria is a signatory.<sup>68</sup>

The agency is responsible for protecting public health, enhancing water quality,<sup>69</sup> and promoting environmental sanitation. Violators of health and water quality standards face fines up to ₦50,000 or one year imprisonment,<sup>70</sup> plus ₦5,000 for each day the offence continues. Corporate offenders incur an additional ₦10,000 daily fine.<sup>71</sup> Effluent regulation violations attract fines up to ₦200,000 or two years imprisonment,<sup>72</sup> with additional daily fines of ₦5,000 for individuals and ₦50,000 for corporations.<sup>73</sup> It must be stated that the provisions regulating harmful effluents and pollutants help to reduce risks of contamination in the food supply chain. This ensures that food remains safe for consumption, thereby upholding the right to food that is nutritious and safe.

These provisions are laudable: the prohibition of hazardous discharges into water safeguards natural resources essential for agriculture, such as clean water and fertile soil. These resources are foundational to food production and food security.

The Amendment Act increased penalties under the NESREA Act by replacing maximum punishments with minimum thresholds. For instance, fines 'not exceeding' ₦50,000 or imprisonment 'not exceeding' one year are now 'not less than' these limits. This gives courts discretion to impose stricter sentences, demanding greater compliance with the law. The penalties for violations create strong incentives for industries to comply with environmental standards, reducing the likelihood of activities that could compromise food security, such as water pollution affecting fisheries or soil contamination impacting crop yields.

However, the NESREA Act largely excludes the agency from the activities of the petroleum industry, which is a significant polluter. Many authors argue that this limits the agency's effectiveness.<sup>74</sup> Faturoti and others are of the view that the exclusion of the Agency from the activities of the Petroleum industry is a major defect in the Act that unnecessarily narrows the limit and functions of the Agency, whilst watering down its significance.<sup>75</sup> It has therefore been recommended that

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<sup>66</sup> *National Environmental Standards and Regulations Enforcement Agency (NESREA) Act 2018* (as amended)

<sup>67</sup> NESREA Act (as amended), Section 2.

<sup>68</sup> *Ibid.*, Section 7(c).

<sup>69</sup> *Ibid.*, Section 23(1).

<sup>70</sup> *Ibid.*, Section 23(3).

<sup>71</sup> *Ibid.*, Section 23(4).

<sup>72</sup> *Ibid.*, Section 24(4).

<sup>73</sup> *Ibid.*, Section 24(5).

<sup>74</sup> A Musa and HY Bappah, 'Issues and Challenges on Environmental Rights: The Nigerian Experience', *American International Journal of Social Science*, (2014) 3(5) 149.

<sup>75</sup> B Faturoti, G Agbaitoro, and O Onya, 'Environmental Protection in the Nigerian Oil and Gas industry and *Jonah Gbemre v Shell PDC Nigeria Limited*: Let the Plunder Continue?' *African Journal of International and Comparative Law*, (2018) 20.

NESREA should not be excluded from the petroleum industry.<sup>76</sup> The agency also struggles with political interference, insufficient autonomy, untrained staff, and inadequate funding, hampering its efforts to combat environmental pollution effectively.<sup>77</sup> Water pollution directly impacts food security by degrading agricultural land, contaminating water sources, and reducing biodiversity critical for food production. The exclusion of oil and gas industries from NESREA's oversight aggravates pollution in these areas, threatening sustainable agriculture and access to clean water, which are essential for the right to food. Addressing these gaps in regulation and enforcement is crucial to protecting food sources and ensuring food security for all.

## 5. International Legal Framework Governing Food Security in Nigeria

Nearly 60% of annual deaths worldwide—around 36 million—are directly or indirectly caused by hunger and nutritional deficiencies.<sup>78</sup> Over 840 million people globally suffer from malnourishment,<sup>79</sup> with more than 95% residing in developing countries.<sup>80</sup> Among them, 153 million are children under the age of five.<sup>81</sup> What is even appalling is that, according to a FAO commissioned study, '[r]oughly one-third of the edible parts of food produced for human consumption, gets lost or wasted globally, which is about 1.3 billion ton per year.'<sup>82</sup> As stated earlier, Environmental pollution has been identified as one of the factors that affect food production and food security. The pollution of different aspects of the environment affects food availability and accessibility in one way or the other. The former section examined the laws governing environmental pollution. In this section, we shall examine laws governing food security in Nigeria.

The recognition of the right to food as a fundamental human right dates back to the early years of the United Nations. Even before its establishment, American President Franklin D. Roosevelt highlighted this issue in his January 1941 State of the Union address, famously known as the Four Freedoms speech, where he introduced the concept of "freedom from want."<sup>83</sup> This vision laid the groundwork for the Universal Declaration of Human Rights (UDHR), which formally acknowledged the right to food under international law.<sup>84</sup>

### 5.1 Universal Declaration of Human Rights (UDHR)

Article 25 of the UDHR provides that 'Everyone has the right to a standard of living adequate for the health and wellbeing of himself and his family, including food...'. While the provisions of Article 25 are laudable, there are no mechanisms for enforcement or effects of default in the UDHR.<sup>85</sup> However, the UDHR is relevant because it has served as a model for provisions on human rights in national constitutions. It has laid a solid foundation for international and regional human rights treaties and conventions, especially with regards to the right to food. The major limitation of the UDHR is its reliance on other international instruments for enforcement as there is no specific effect of breach.<sup>86</sup> In addition, it is not legally binding, as it is at best persuasive.

<sup>76</sup>KK Ezeibe, 'The Legislative and Institutional Framework of Environmental Protection in the Oil and Gas Sector in Nigeria – a Review' *Nnamdi Azikiwe University Journal of International Law and Jurisprudence*, (2011) 74.

<sup>77</sup>NF Stewart, 'A Roadmap for the Effective Enforcement of Environmental Laws in Nigeria', *National Environmental Law Review*, (2011) 2:48.

<sup>78</sup>This figure includes deaths that result from 'nutritional deficiencies, infections, epidemics or diseases which attack the body when its resistance and immunity have been weakened by undernourishment or hunger.' UNDP, *Human Development Report* (2000).

<sup>79</sup>Care USA, Facts about Hunger, available at <<http://www.careusa.org/campaigns/world-hunger/facts.asp>>, accessed March 26, 2005.

<sup>80</sup>*Ibid.*

<sup>81</sup>*Ibid.*

<sup>82</sup>J Gustavsson, 'Global Food Losses and Food Waste: Extent, Causes and Prevention', *FAO*, Rome, 2011) 4.

<sup>83</sup>I Rae, J Thomas and M Vidarv, 'The Right to Food as a Fundamental Human Right: FAO's Experience', in B Guha-Khasnobis, SS Acharya and B Davis, *Food Insecurity, Vulnerability and Human Rights Failure* (Palgrave Macmillan, New York 2007) 266.

<sup>84</sup>*Ibid.*

<sup>85</sup>O Taiwo Yebisi, 'Sexual Violence as a Violation of Sexual and Reproductive Health Rights: A Case Study of South African and Nigerian Law on Sexual Violence against Women', (LL.M Dissertation, College of Law and Management Studies, University of Kwazulu-Natal, South Africa, 2016) 43.

<sup>86</sup>*Ibid.*

## 5.2 International Covenant on Economic, Social and Cultural Rights (ICESCR)

Two decades after the UDHR, the ICESCR, took the right to food a step further by creating legally binding obligations for signatory states. Unlike the UDHR, which primarily established principles, the ICESCR transformed these principles into enforceable norms. Article 11 of the ICESCR stands as the cornerstone of the right to food under international law. It recognizes the “right to adequate food”<sup>87</sup> and “the right of everyone to be free from hunger.”<sup>88</sup> By addressing “freedom from hunger,” states commit to ensuring their populations do not starve, linking this right closely with the right to life as articulated in other international instruments. Article 11 provides thus:

(1) The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions. The States Parties will take appropriate steps to ensure the realization of this right, recognizing to this effect the essential importance of international co-operation based on free consent.

(2) The States Parties to the present Covenant, recognizing the fundamental right of everyone to be free from hunger, shall take, individually and through international co-operation, the measures, including specific programmes, which are needed:

(a) To improve methods of production, conservation and distribution of food by making full use of technical and scientific knowledge, by disseminating knowledge of the principles of nutrition and by developing or reforming agrarian systems in such a way as to achieve the most efficient development and utilization of natural resources;

(b) Taking into account the problems of both food-importing and food-exporting countries, to ensure an equitable distribution of world food supplies in relation to need.

Article 11 of the ICESCR, establishes two interconnected norms: the right to adequate food and the right to be free from hunger. The right to adequate food (Article 11(1)) is considered a 'relative' standard, while the right to be free from hunger (Article 11(2)) is 'absolute' and is uniquely described as 'fundamental' in both the ICCPR<sup>89</sup> and the ICESCR.<sup>90</sup> Under the ICESCR, States Parties are obligated to take steps to progressively realize the right to adequate food. Progressive realization requires states to advance toward this goal 'as expeditiously as possible'.<sup>91</sup>

Under the ICESCR, the right to adequate food imposes three levels of obligations on states: to respect, to protect, and to fulfill.<sup>92</sup> The obligation to respect requires states to refrain from actions that impede access to food.<sup>93</sup> For example, a state violates this obligation if it obstructs an individual's access to their means of subsistence. The obligation to protect demands that states ensure third parties do not interfere with people's right to food.<sup>94</sup> Failing to prevent arbitrary dismissal by private employers, which leads to food insecurity, constitutes a violation. The obligation to fulfill includes

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<sup>87</sup> ICESCR, Article 11(1).

<sup>88</sup> *Ibid*, Article 11(2).

<sup>89</sup> The ICCPR implies a right to food as part of the fundamental right to life found in Article 6. See U.N. FAO, *Implications of the Voluntary Guidelines for Parties and Non-Parties to the International Covenant on Economic, Social and Cultural Rights*, available at <<http://www.fao.org/docrep/meeting/007/j1632e.htm>>, accessed March 24 2024. See also UN CHR, *General Comment 6*, 16th Sess., at 6, U.N. Doc. HRI/GEN/1/Rev.1 (1982) (“[t]he protection of [the right to life] requires that States adopt positive measures. . . . [T]he Committee considers that it would be desirable for States Parties to take all possible measures to reduce infant mortality and to increase life expectancy, especially in adopting measures to eliminate malnutrition and epidemics.”)

<sup>90</sup> S Narula, 'The Right to Food: Holding Global Actors Accountable under International Law', *Columbia Journal of Transnational law* (2006) Vol. 44, 691.

<sup>91</sup> *Ibid*.

<sup>92</sup> CESCR General Comment No.12, para. 15.

<sup>93</sup> One of the striking features of the ICESCR and the ICCPR is that they both start with a common provision proclaiming the right to self-determination. The notion of self-determination may be value-laden and often controversial. But it has undeniable significance to the enjoyment of the right to food, as proclaimed by Article 1(2) of the ICCPR, which goes: '[i]n no case may a people be deprived of its own means of subsistence.'

<sup>94</sup> General Comment No.12, para. 15.

facilitating and providing food security.<sup>95</sup> States must actively strengthen access to resources for livelihoods, such as improving agricultural production and distribution. Failing to do so violates the right to food. Failure to fulfill any of these obligations constitutes a violation of the right to food, unless the State can demonstrate that, despite its efforts, it was unable to meet its obligations due to resource constraints.<sup>96</sup> The burden of proof lies with the State, which must not only show a lack of sufficient food supplies or funds but also prove that it sought international assistance unsuccessfully to ensure food availability and accessibility.<sup>97</sup> While the right to food enjoys broad recognition at the international level, its implementation remains weak, with states party to the ICESCR bearing primary responsibility for this gap.

The ICESCR came into force in 1976 and Nigeria ratified it on 23 October, 1993.<sup>98</sup> One limitation to the operation of the Economic Covenant as a basis for the right to food claim in Nigeria is that the treaty is yet to be domesticated in the country. The issue of non-domestication of this covenant therefore raises a potent question of its legal potency as a guarantee of the right to food. Furthermore, based on the doctrine of privity of contract, only parties to a contract or a treaty can legally compel another party to the contract or treaty to perform an obligation arising under the contract.<sup>99</sup> In that light, inasmuch as Nigerian citizens in their capacities as individual citizens are not parties to the Economic Covenant, they are hindered from enforcing the treaty obligation of the Nigerian government with regard to the right to food.

Another limitation is that the duties articulated in article 12 are significantly undercut by article 2 of the ICESCR where states agree: ... to take steps, individually and through international assistance and cooperation, especially economic and technical, to the maximum of [their] available resources, to achieve progressively the full realization of Covenant rights by all appropriate means, including particularly legislation. This limitation of state duties to progressively realize the right to food within available resources constrains the expansive promise of a right to adequate food.

### **5.3 Convention on the Elimination of All Forms of Discrimination against Women (CEDAW).<sup>100</sup>**

In 1979, the United Nations General Assembly adopted the CEDAW, which is an international human right document that establishes international standard of equality between women and men as it provides a framework for development and application of equality norms to address specific conditions in every country and legal system.<sup>101</sup>

Nigeria signed the convention on 23 April 1984 and ratified it without any reservations on 13 June 1985 and so she is under obligation to implement its provisions.<sup>102</sup> There is also the Optional Protocol to the CEDAW which permits individual complaints from citizens of States parties to the Protocol and to CEDAW and also allows the Committee to conduct independent inquiry into grave or systematic

<sup>95</sup> *Ibid.*

<sup>96</sup> General Comment No.12, para. 17.

<sup>97</sup> *Ibid.*

<sup>98</sup> O Ajigboye, 'Realization of Health Right in Nigeria: A Case for Judicial Activism' *Global Journal of Human Social Science: F Political Science*, (2014) 14 (3) 29.

<sup>99</sup> In simple terms, the doctrine of privity of contract connotes that generally no one would be entitled to or be bound by the terms of a contract to which he is not a party. *See, Price v. Easton* (1833) 4B & Ad. 433, and *Tweedle v. Atkinson* (1861) 1B&S 393. For a further reading on the doctrine of privity of contract, see M. Furmston, *Cheshire and Fifoot's Law of Contract* (1981), at 404-420.

<sup>100</sup> AI Fenemigho and EA Iyamu-Ojo, 'Appraising Reproductive Rights as Human Rights: The Nigerian Experience' *Ifé Journal of International and Comparative Law* (IJCIL), (2015) Part 1 & 2 349.

<sup>101</sup> O Olomola, 'Adoption of Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and Women's Rights in Nigeria – A Wild Goose Chase?' *African Journal for the Psychological Study of Social Issues*, (2008) 11(1) 96.

<sup>102</sup> *Ibid.*

violations of the rights under the convention.<sup>103</sup> This Protocol was adopted by the General Assembly of the UN unanimously (without a vote) on 6 October 1999 and the required 10<sup>th</sup> ratification was obtained on 22 September 2000.<sup>104</sup> Nigeria signed the Optional Protocol to the Convention in 2000 and ratified it in 2004.<sup>105</sup> Article 12.2 of CEDAW required states to ensure women receive adequate nutrition during pregnancy and lactation. Additionally, Article 14 highlighted the need for “adequate living conditions” for rural women.

One limitation to the implementation of the provisions of CEDAW is that it does not enjoy automatic enforcement in Nigeria due to constitutional constraints. Section 12 of the Constitution of the Federal Republic of Nigeria specifically requires legislative domestication through the National Assembly of international conventions before they can be legally enforced.<sup>106</sup> Nigeria has not passed any enabling legislation to domesticate the Convention, which has greatly hindered the observance and performance of its provisions.

The Convention focuses on how to combat all forms of discrimination against women. It establishes a committee to monitor the activities of state parties – to determine the progress made in complying with its provisions.<sup>107</sup> However, its contents, especially its implementation clauses, are considered weak, thereby limiting its effectiveness.<sup>108</sup> Article 20 states that the committee should not take more than two weeks to consider reports from states. This time-frame may not be adequate in cases where the committee receives a large number of reports from different countries. This has resulted in backlogs in the consideration of reports, so affecting the work of the committee.<sup>109</sup>

#### **5.4 The United Nations Convention on the Rights of the Child (UNCRC)**

This convention was adopted and opened for signature and ratification by the General Assembly (GA) Resolution 44/25 of November 1989; and entered into force on 2nd September 1990 in accordance with Article 49.<sup>110</sup> The UNCRC was ratified by Nigeria in 1991.<sup>111</sup> The UNCRC is largely recognised as the leading UN instrument dedicated to the protection of the rights of a child; it is the first legally binding international instrument that recognises, affirms and asserts the rights of a child.<sup>112</sup> The UNCRC reinforces the right to food as part of a child's right to health. Article 24 obliges states to combat malnutrition and disease by ensuring access to adequate, nutritious food through primary healthcare and available technologies.

<sup>103</sup> *Ibid.*

<sup>104</sup> *Ibid.*

<sup>105</sup> Division for the Advancement of Women, Department of Economic and Social Affairs, *Signatures and Accessions/Ratifications to the Optional Protocol*, <http://www.un.org/womenwatch/daw/cedaw/protocol/sigop.htm> (last updated March 15, 2006). Accessed 12 March, 2021

<sup>106</sup> Constitution of the Federal Republic of Nigeria 1999, section 12.

<sup>107</sup> Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), Article 17.

<sup>108</sup> T Meron 'Enhancing the Effectiveness of the Prohibition of Discrimination against Women', *The American Journal of International Law* (1990) 84(1) 213, in BO Eniola, 'Cultural Practices and Reproductive Health Rights of Women: A Comparative Study of South Africa and Nigeria' (Ph.D Thesis, School of Law, College of Law and Management Studies, University of Kwa- Zulu Natal, South Africa, 2017) 76.

<sup>109</sup> *Ibid.* 213-214.

<sup>110</sup> C Cohen, 'The Role of Non-Governmental Organisations in Drafting of the Convention on the Rights of the Child', available at <[www.savethechildren.org](http://www.savethechildren.org)>, accessed on 17th March 2021, 137.

<sup>111</sup> UNICEF NIGERIA-FACT SHEET', available at <[www.unicef.org/nigeria/childsrights\\_legislation\\_in\\_nigeria.pdf](http://www.unicef.org/nigeria/childsrights_legislation_in_nigeria.pdf)>, accessed on 3rd March 2021.

<sup>112</sup> UNICEF:20 years of the CRC, available at <<http://www.unicef.org/rightsie/237.htm>>, accessed on March 7 2021).

### 5.5 World Food Conferences and other Initiatives

In 1974, the World Food Conference<sup>113</sup> held and world leaders resolved that by 1984, 'no child will go to bed hungry, no family will fear for its next day's bread, and no human being's future and capacities will be stunted by malnutrition.'<sup>114</sup> However, hunger did not disappear by 1984. Decades later, the grim reality is that more people face uncertainty about their next meal than in 1974, despite the world becoming significantly wealthier and producing surplus food. In industrialized countries, overproduction driven by agricultural subsidies, especially in the U.S. and the EU, has resulted in challenges like 'food mountains' and 'drink lakes.'<sup>115</sup> In contrast, many poorer nations continue to suffer from underproduction due to limited technology, environmental pollution and agricultural inputs.

In 1996, world leaders gathered again at the World Food Summit in Rome,<sup>116</sup> expressing anger at the ongoing global hunger crisis, which left over 800 million people without sufficient food. Unlike the 1974 conference, where food production was the primary focus, the 1996 summit acknowledged that the true issue lay in access to food rather than availability.<sup>117</sup> Despite pledges to halve global hunger within two decades, progress has been minimal. As 2015 (which was the target year) approached, the number of people experiencing hunger had increased since 1996. Commitments to combat hunger have been largely ignored, lacking concrete follow-up mechanisms, and are nonbinding. While world leaders reaffirmed the fundamental right to access adequate and nutritious food, ambiguity about the right's precise meaning persisted.

Nigeria has also made various attempts to increase food production through programs such as the Nationally Coordinated Food Production Programme, Operation Feed the Nation, and the Agricultural Development Projects, among others.<sup>118</sup> Despite these efforts, food security in Nigeria has remained a pressing challenge, exacerbated by environmental pollution. Some recent policies governing Nigeria's agricultural sector are the Agricultural Transformation Agenda (ATA) and the Agriculture Promotion Policy (2016-2020). However, the Agriculture Promotion Policy notably

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<sup>113</sup> The World Food Conference was convened pursuant to UN General Assembly Resolution 3180 (XXVIII) of 17 December 1973, with a view to 'developing ways and means whereby the international community as a whole would take specific action to resolve the world food problem within the broader context of development and international economic cooperation.' The Conference adopted the Universal Declaration on the Eradication of Hunger and Malnutrition and twenty resolutions, which were endorsed by General Assembly Resolution 3348 (XXIX) of 17 Dec 1974. See Report of the Conference, E/CONF.65/20 (1975), or UN Publication, Sales No:E.75.II.A.3 (1974)

<sup>114</sup> This much quoted statement that 'within a decade no child will go to bed hungry...' was first made by then U.S Secretary of State, Henry Kissinger. But subsequently, it was incorporated into the first Resolution adopted by the Conference regarding objectives and strategies of food production, which set the target of eradicating hunger and malnutrition within a decade's time. From technical point of view, the declaration was hardly unrealistic, as it was buttressed by empirical evidence that 'society already possesses sufficient resources, organizational ability and technology and hence the competence to achieve [the] objective,' as reaffirmed by the Declaration.

<sup>115</sup> Y Destaw, 'Hunger and the Law: Rethinking the Right to Food', November 20, 2011, available at SSRN: <<https://ssrn.com/abstract=1962391> or <http://dx.doi.org/10.2139/ssrn.1962391>>, accessed March 7 2024.

<sup>116</sup> Food is not the exclusive domain of human rights law. The issue cuts across various spheres of contemporary international law. A wide range of international regimes and institutions involved in food production, innovation, trade, distribution, and so on, play a role in the realization of the right to food. Accordingly, not only heads of States, but also leaders of IMF, ILO, WTO, United Nations Population (UNFPA), United Nations Environment Programme (UNEP), United Nations Population Fund (UNFPA), World Meteorological Organization (WMO), United Nations Industrial Development Organization (UNIDO), International Atomic Energy Agency (IAEA), and others attended the 1996 World Food Summit.

<sup>117</sup> The World Food Summit that was held from 13-17 November 1996 was concluded with the adoption of the Rome Declaration on the World Food Security and the World Food Summit Plan of Action.

<sup>118</sup> Nationally Coordinated Food Production Programme (NAFPP, 1972, Gowon); Operation Feed the Nation (PFN, 1976, Obasanjo); Green Revolution Programme (GRP, 1980, Shagari); Directorate of Food, Roads and Rural Infrastructure (DIFRRI, 1986, Babangida); National Agricultural Land Authority (NALDA, 1990, Babangida); National Programme on Food Security (NPFS, 2000, Obasanjo); National Food Security Programme (NFSP, 2003 Yar'Adua); Agricultural Transformation Agenda (ATA, 2011, Jonathan), and the current Agriculture Promotion Policy (APP, otherwise known as Green Alternative). See Gbolagade Babalola, *Essays on Agricultural Economy: Nonexperimental Writings on Agricultural Policy and Development Administration in Nigeria* (Xlibris AU, 2018) at 31.



lacks a human rights framework. Despite mentioning 'food as a human right' as a guiding principle, the policy's measures do not reflect this framework.<sup>119</sup> Although the policy focuses on the social responsibility of government regarding food security, social security, and equity, the lack of corresponding government actions has limited its effectiveness.<sup>120</sup> It is therefore suggested Nigeria should formally recognize the right to food as a justiciable human right in its Constitution to ensure that laws and policies inconsistent with the right to food are rendered ineffective. Additionally, the government should adopt food security or right-to-food framework laws that define clear objectives, responsibilities, and principles to promote coherence across policies and programs. Further efforts include the National Agricultural Resilience Framework (NARF), aimed at enhancing the agricultural sector's resilience to climate variability. However, the NARF remains unimplemented since its adoption in 2015.<sup>121</sup> Similarly, the Agricultural Sector Food Security and Nutrition Strategy (FSNS) targets vulnerable groups, especially women and children, to improve food security and nutrition in Nigeria.<sup>122</sup>

## **Conclusion**

Water pollution significantly undermines food security in Nigeria by contaminating water sources crucial for agriculture, livestock, and fisheries. The existing legal and institutional frameworks are inadequate to address the scale and complexity of the issue. Inadequate enforcement, insufficient funding, and low penalties for violators contribute to the persistent degradation of water quality, thereby worsening food insecurity. Addressing these challenges requires urgent reforms to ensure that water resources are safeguarded for sustainable food production and public health. There is therefore, need to equip regulatory agencies like NESREA and NOSDRA with modern tools, adequate funding, and trained personnel to enhance their capacity for monitoring and enforcement. It is further recommended that existing laws, such as the Water Resources Act and ONWA, should be revised to impose stricter penalties, including substantial fines and imprisonment, for water pollution offenses. There is need to foster coordination among environmental, agricultural, and water resource agencies to create unified strategies for addressing water pollution and its impact on food security. We suggest that the Constitution be amended to include justiciable rights to food and clean water, empowering citizens to hold the government accountable for ensuring water quality and food security.

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<sup>119</sup> Similoluwa Ayoola, *Impacts of the Climate and Health Crises on Food Security: Towards Ensuring a Rights-Based Approach to Food Security in Nigeria* (A thesis submitted to McGill University, Montreal, in partial fulfillment of the requirements of the degree of Master of Laws, April 2021). 73.

<sup>120</sup> See Food and Agriculture Organisation, 'The Right to Food, Legal Processes', available at <[www.fao.org/right-tofood/areas-of-work/legal-processes/en/](http://www.fao.org/right-tofood/areas-of-work/legal-processes/en/)>, accessed 12 December 2024.

<sup>121</sup> S Ayoola, *ibid* (n.119).

<sup>122</sup> *Ibid*.