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ABSTRACT

That the effects of climate change are absolutely injurious and have over the years caused disasters deeply affecting human lives and property is an established fact which needs no proof. The immediate causes of climate change are traceable to some natural occurrences and basically anthropogenic acts. In recent times, there have been concerted efforts – through publication of works, holding of symposia etc. – to enlighten the public on the far-reaching consequences of climate change, its causes as well as a drive to provide a corpus of laws to specifically deal with this all-important topic. As part of the effort to contribute to the existing literature in this regard, this paper examines the causes, effects and legal framework of climate change in Nigeria.

1.0. INTRODUCTION

Climate change is a global problem which directly affects human life and also destroys property. It is the resultant effect of pollution of the atmosphere. When there is excessive emission of Green-House-Gases (GHG) into the atmosphere, it becomes polluted. Greenhouse gases are accumulating in Earth's atmosphere as a result of human activities, causing surface air temperature and subsurface ocean temperature to rise.[1] Anthropogenic acts such as burning of fossils fuels, deforestation, gas-flaring amongst others, are some of the major causes of climate change in Nigeria.

The causes of climate change have also been attributed to some natural factors such as continental drifts, volcanoes, ocean currents,

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[1] O.A. Fagbohun, *Law and climate change in Nigeria* (Being paper presented at the 2010 Edition of the Faculty of Law, University of Ilorin Law workshop on the 13th of May, 2010).

the earth's tilt, comets and meteorites.[2] The corollary of the above are the effects of climate change which include changes in rainfall patterns, change in wind patterns, increase in temperature *et al.,* which would inevitably result to natural disasters such as flood, drought, desertification amongst others.

The manifestation of these baleful effects of climate change in Nigeria makes it expedient on the part of the government to enforce laws to regulate the acts of individual citizens and industries which induce climate change.

The important question however is: Is there any law or enactment in Nigeria as a country which seeks to regulate the causative acts of climate change? The objective of this paper is to analyse the legal framework of climate change in Nigeria and if any, the causes of climate change and its effects.

2.0. DEFINITION OF TERMS

The Climate Change Convention, that is, the United Nations Framework Convention on Climate Change (UNFCCC), has defined climate change as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods."

The Nigerian Climate Reports 490 has described climate change as any long-term change in the statistics of weather over durations ranging from decades to millions of years. It can be manifested in changes to averages extremes, or other statistical measures, and may occur in a specific region or the earth as a whole. Climate change refers to a change in climate that is attributable directly or indirectly to human activities, that alters the atmospheric composition of the earth which leads to global warming. Climate change has the potential of affecting all natural and human systems and may be a threat to human development and survival socially, politically and economically.[3]

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[2] Y.O. Ali "Legal Profession And Climate Change in Nigeria" available at https://yusufali.net/articles/LEGAL_PROFESSION_AND_CLIMATE_CHANGE_IN_NIGERIA.pdf, (accessed 7 June 2020).

[3] *Ibid.*

It has been argued on several occasions that, Global warming and Climate change are coequal and indistinguishable. This is actually not correct as global warming can be described as one of the major after-effects of climate change.

According to Fagbohun, global warming is an overall warming of the planet, based on average temperature over the entire surface, while climate change is a change in regional climate characteristics including temperature, humidity, rainfall, wind and severe weather events[4].

Climate change betides as a result of pollution of the atmosphere through excessive emission of green-house-gases. According to the National Oceanic and Atmospheric Administration (NOAA), of Europe, there are seven indicators that would be expected to increase in a warming world as a result of climate change, they are: tropospheric temperature, humidity, temperature over oceans, sea surface temperatures, sea level, ocean heat content, temperature over land; and three indicators would be expected to decrease, they are: glaciers, snow cover and sea ices.[5]

3.0. CAUSES

In reality, the causes of climate change in Nigeria are largely Anthropogenic (man-made) in nature. Human causes have been influenced by the industrial revolution of the 19th century, which saw the large-scale use of fossil fuels for industrial activities. Natural resources are being used extensively for construction, industries, transport and consumption.[6] Human factors have contributed to climate change and presently, the scientific consensus on climate change is that human activity is very likely the cause for rapid increase in global average temperature over the past several decades.[7]

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[4] *Ibid.*
[5] M.B. Anzaki, "Climate Change: The Legal Framework", available at http://www.thelawyerschronicle.com/climate-change-the-legal-framework/ (accessed 2 September 2019).
[6] *Supra* n 2, at p. 1.
[7] *Ibid.*

However, reference has been made to some specific natural factors which also cause climate change. Thus, both the natural causes and human causes of climate change shall be examined respectively.

3.1. Natural Causes

3.1.1. Volcanic Eruptions

The main effect volcanoes have on the climate is short-term cooling. Volcanic eruptions pump out clouds of dust and ash, which blocks out some sunlight. The ash particles being heavy, they fall to the ground within three months[8]. Volcanoes affect the climate through the gases, and dust particles thrown into the atmosphere during eruptions. The effect of the volcanic gases and dust may warm or cool the earth's surface, depending on how sunlight interacts with the volcanic materials.[9]

3.1.2. Ocean Currents

The oceans are a major component of the climate system. Ocean currents are located at the ocean surface and in deep water below 300 meters (984 feet). They can move water horizontally and vertically and occur on both local and global scales.[10] Ocean currents carry heat around the Earth. The direction of these currents can shift so that different areas become warmer and cooler. Oceans store a large amount of heat, so that small changes in ocean currents can have a large effect on coastal and global climate.[11]

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[8] NOAA Earth System Research Laboratory, "Teacher Background: Natural climate change" available at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjY3Kqvz_DpAhWI2BQKHVKiBlEQFjAAegQIAxAB&url=https%3A%2F%2Fwww.esrl.noaa.gov%2Fgmd%2Feducation%2Finfo_activities%2Fpdfs%2FTBI_natural_climate_change.pdf&usg=AOvVaw0Uy4U7TvDnjA9Y-dH5Olil, (accessed 23 February 2020).

[9] British Geological Survey, "Discovering Geology" available at https://www.bgs.ac.uk/discoveringGeology/home.html (accessed 23 February 2020).

[10] *Supra* n 8.

[11] *Supra* n 9.

3.1.3. Meteorite Impacts

Meteorite Impacts have contributed to climate change by releasing some powerful materials into the atmosphere. These materials insulate the earth from solar radiation and cause global temperature to fall; the effects can last for a few years. After the materials released (such as dust and aerosols) fall back to earth, the greenhouse gases (Carbon-di-oxide, water, methane etc.), caused by the interaction of the impact remain in the atmosphere and can cause global temperature to increase; the effects can last decades.[12]

3.1.4. Solar Variations

The sun is the source of energy for the earth's climate system. Although the sun's energy output appears constant from an everyday point of view, small changes over an extended period of time can lead to climate changes.[13] It is reasonable to assume that changes in the sun's energy output would cause the climate to change, since the sun is the fundamental source of energy that drives our climate system.[14]

Other natural causes are: (v) Continental Drift (vi) The Earth Tilt and (vii) Comets.

3.2. Anthropogenic (Man-Made) Causes

The main cause of climate change in Nigeria has been attributed to high concentration of greenhouse gases (GHGs) in her atmospheres. The excessive emission of these GHGs causes the atmosphere to be in a polluted state.

Basically, the greenhouse gases which contribute to the surfacing of climate change are the following:

3.2.1. Carbon-di-oxide (CO_2)

Carbon dioxide is a component of the atmosphere which is released through natural processes such as respiration and volcanic eruptions and through human activities such as deforestation, land use changes, and burning of fossil fuels. The concentration of carbon dioxide in the

[12] *Ibid.*
[13] *Supra* n 8.
[14] *Ibid.*

atmosphere has increased through human activities and industrial works.

3.2.2. Methane

This is a hydrocarbon gas produced through both natural sources and human activities including the decomposition of works in landfills, agriculture, ruminant digestion and manure management associated with domestic livestock.

3.2.3. Nitrous Oxide

Nitrous Oxide is a powerful greenhouse gas which is produced through soil cultivation practices, especially the use of commercial and organic fertilizers, fossil fuels combustion, nitric acid production and biomass burning.

3.2.4. Chlorofluorocarbon (CFCs)

They are gases of industrial origin used in a number of applications, but now largely regulated in production and release to the atmosphere by international agreement for their ability to contribute to destruction of the ozone layer.[15]

However, of all the greenhouse gases listed above, carbon dioxide (CO_2) has been identified as the gas which singularly contributes the most to climate change.[16]

The immediate question which then comes to mind is: what are the elements of carbon dioxide? With particular respect to Nigeria, the sources of carbon dioxide (CO_2) are (i) The burning of Fossil fuels; (ii) Deforestation and (iii) Gas Flaring

3.3. Burning of Fossil fuels

The components of fossil fuels are oil, coal and natural gas. The actual combusting of these components causes excessive carbon dioxide to flow into the atmosphere, thus, causing pollution of the atmosphere which inevitably results into climate change.

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[15] *Supra* n 9.

[16] S.G. Ogbodo, "Climate Change and Natural Disasters: Issues and perspectives" (2013) 1(3) *Olabisi Onabanjo University Journal of Public Law: Environmental Law and Practice*.

3.4. Gas Flaring

Gas in this content relates to the associated gas in oil production process. This associated gas could be harnessed to the benefit of the country when employed for domestic use and export. Unfortunately, in Nigeria, associated gas is extravagantly flared into the atmosphere, channelling ways for climate change to surface.

Nigeria has been reported to be flaring an estimated 2.5 million cubic feet of gas each day which amounts to almost 40% of the total gas consumption in Africa.[17] Additionally, Nigeria is responsible for one-sixth of the entire gas flared in the world as it pumps over 400million tons of carbon dioxide into Nigeria's environment.[18] With all these statistics, Nigeria has been held as the country which flares gas the most in the world. It is however hoped, that the provisions of the very recent enactment, *The Flare Gas (Prevention of Waste and Pollution) Regulations 2018*, would be strictly adhered to in order to protect the environment through reduction of the environmental and social impact caused by the flaring of Natural gas.

3.5. Deforestation

This is a process of clearing of forests, by cutting down or burning all the trees grown in such forest. Nigeria also leads the world in deforestation as the thick forests have been wantonly cleared for logging, timber export, wood fuel, agriculture etc.[19] It has been reported that between 2000 and 2005, the country cleared 55.7% of forests.[20]

Sadly, these trees which are cut down serve as a major absorbent of carbon-dioxide ($C0_2$) through the process of photosynthesis. Thus, by the reckless removal of trees for economic and domestic utilization,

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[17] "Is the Clean Development Mechanism An option in Nigeria's Quest to Eliminate Gas Flaring?", available at http://www.trp-ng.com/pdf-files/Is%20clean%20development%20mechanism%20an%20option%20in%20Nigeria.pdf (accessed 8 June 2020), p. 2.

[18] A. Sampson, "Gas Flaring: Nigeria Govt Under Pressure", available at https://www.scoop.co.nz/stories/WO0812/S00359/gas-flaring-nigerian-govt-under-pressure.htm (accessed 8 June 2020).

[19] *Supra* n 16, at p. 5.

[20] *Supra* n 17, at p. 5.

the atmosphere is substantially deprived of the instruments which should protect it against carbon-dioxide ($C0_2$) effects. A major effect of deforestation is desertification. This leads us to the next discussion which is the effects of climate change in Nigeria.

4.0. EFFECTS

When climate change surfaces, there is a sudden change in rainfall patterns, wind patterns, and also increase in temperature amongst others which result inevitably to natural disasters like flood, drought, desertification etc. For the purpose of this paper, the effects of climate change would be sub-divided into primary and secondary effects, and same shall be discussed *seriatim*.

4.1. Primary Effects

The primary effects consist of the major effects of climate change on the environment, which thereafter, form the basis of the secondary effects. The primary effects are:

4.1.1. Flood

Climate change effectuates irregularity in rainfall patterns. Thus, causing rain to fall in an unusual manner, this sometimes may be excessive. Excessive rainfalls result in flooding, which brutally destroys lives and property of the citizens.

In 2002, more than 16 states were flooded in Nigeria, resulting in many deaths as well as displacement of over 2 million people.[21] The rise of sea levels beyond its carrying capacity, due to climate change, may lead to overflow of the sea waters which is capable of causing flood also.

4.1.2. Drought

When irregularity in rainfall occurs, rain ceases to fall for an unusual long period of time. The effects of this when taken with the after effects of the increasing average temperature of the earth due to climate change will result in drought. Drought is a period of dryness that causes damage to crops and prevents successful growth of plants.

4.1.3. Desertification

[21] *Supra* n 16, at p. 5.

This is the process by which an area becomes a desert. It is substantially caused by the combined effect of deforestation and the unusually over-heated climate. It occurs majorly in the northern parts of Nigeria. Reports have it that, 35% of previously cultivable land in 11 northern states of Nigeria has been overrun by desertification.[22] This has deeply affected agricultural practices negatively in Nigeria.

4.1.4. Bad Health Condition

Climate change affects human health directly or indirectly. According to the World Health Organization, "climate change is expected to cause approximately 250,000 additional deaths per year" between 2030 and 2050. As global temperature rises, so do the number of fatalities and illnesses from heat stress, heat stroke and cardiovascular and kidney disease.[23] Omoruyi and Onafalujo explained that, one of the direct consequences of climate change in Nigeria includes cerebra-spinal meningitis, cardiovascular respiratory disorder of elderly people, skin cancer, high blood pressure, malaria, cholera and child and maternal health issues.[24]

4.2. Secondary Effects

4.2.1. Crisis between Nigeria Regions

Due to the problem of rainfall variability, leading to drought, there have been clashes between herdsmen and farmers, which is a serious and prevailing social problem in Nigeria. Herdsmen in the core north, now push down south more frequently, in order to feed their cattle in farmer's cultivation. This has mutated over time in the destruction of investments and effort. The herdsmen have also been responsible for attacks on outspoken farmers, a situation for which hundreds of lives have been brutally lost in Benue, Taraba, Nasarawa, Ogun and

[22] *Supra* n 17.
[23] M. Denchak, "Global Climate Change: What You Need to know" https://www.nrdc.org/stories/global-climate-change-what-you-need-know (accessed 8 June 2020).
[24] I.F. Monday, "Investigating Effects of climate change on Health Risks in Nigeria", available at https://www.intechopen.com/online-first/investigating-effects-of-climate-change-on-health-risks-in-nigeria (accessed 2 February 2020).

several other states according to statistics corroborated by the National Emergency Management Agency (NEMA).[25]

4.2.2. Diminishing Agricultural Productivity

Due to the irregularities in weather conditions, farmers now find it hard to predict the perfect season for planting. Farmers now plant in the midst of great uncertainties, thus resulting in untold losses as their investment waste away from lack of rainfall at the right time. Consequently, this results in decline in productivity and the income of Nigerian farmers.[26] With respect to desertification, the agricultural and economic consequences of the loss of such significant portion of cultivable land are incalculable.

4.2.3. Loss of Lives and Properties

Many lives and properties of citizens have been destroyed due to the primary effects of climate change such as flooding, drought and desertification. Although already stated above, it is expedient to note that, in 2012, more than 16 states were flooded in Nigeria, resulting in many deaths and displacement of over 2 million people.[27] Farmlands suffer massive destruction also due to the effects of drought in significant portion of cultivable lands.

4.2.4. Dirty Air

Air pollution and climate change are inextricably linked, with one exacerbating the other. When the earth's temperature rises, not only does our air get dirty, but there are also more allergenic air pollutants released into the environment causing dangerous air-bone diseases.

5.0. LEGAL FRAMEWORK

It is now a cliché that the Nigerian constitution which is the "grundnorm" of all other laws in the country lacks any enforceable

[25] M. Olufemi, "Climate change and its effects on present-day Nigeria", available at https://tribuneonlineng.com/climate-change-effects-present-day-nigeria/ (accessed 2 February 2020).
[26] *Ibid.*
[27] *Supra* n 17.

provision for the protection of the Nigerian environment. It is expedient to note that the Constitution has it enshrined in its provision that "the state shall protect and improve the environment and safeguard the water, air and land, forest and wild life of Nigeria".[28] However, the above being accommodated under Chapter 2 of the Constitution is non-justiciable by virtue of Section 6(6) (c) of the 1999 Constitution.

Apparently, the absence of an enforceable provision which protects the environment makes the absence of any enforceable provision with respect to atmospheric protection understandable. Fortunately, as a member of the United Nations (UN), Nigeria has ratified and has thus became a party to a number of International Laws, conventions, agreements, treaties and protocols. Some of these international conventions and agreements are of much relation to the Environment generally, and to climate change in particular.

However, even with the president's assent to these international treaties which makes them ratified by the country, they do not automatically become an applicable law in Nigeria, until domesticated by the National Assembly as provided in Section 12 of the 1999 Constitution (as amended).

Thus, for the purpose of this discussion, the legal frameworks regulating climate change both internationally and locally would be examined *seriatim.*

5.1. International Legal Framework

5.1.1. The Intergovernmental Panel on Climate Change (IPCC)

This is a scientific intergovernmental body, and an organ of the United Nation, tasked with evaluating the risk of climate change caused by human activity. The panel was established in 1998 by the World Meteorological Organization and the United Nations Environmental Programme.

[28] The Constitution of the Federal Republic of Nigeria (CFRN) (1999) (as amended), s. 20.

According to IPCC, the extent of climate change effects on individual regions will vary overtime and with the ability of different societal and environmental systems to mitigate or adapt to change.[29]

5.1.2. The United Nations Framework Convention on Climate Change (UNFCCC)

The first report of IPCC in 1990 was what led to the adoption of the UNFCCC at the United Nation Conference on environment and development, Rio de Janeiro in 1992. It was ratified by 50 countries and came into force in March, 1994.[30]

The UNFCCC is the most recognized international agreement on climate change. It was based on the concept of "common but differentiated responsibility" recognizing the need for global actions and the differing levels of obligations placed upon industrialized and developing countries.

By virtue of Article 2 of the Convention, the main objective of the Convention was to stabilise greenhouse gas emissions at a level that would not interfere with the climate system or food production, but which would still allow sustainable economic development. Sequel to the above, the Convention also provided that, objectives are to be met within a time frame that would allow ecosystems to adapt to any changes.

The Convention provided also that there be intergenerational equity; common but differentiated responsibility; the right to sustainable development and the need to cooperate within a supportive and open international economic system.[31]

The Convention divides countries into two main groups namely;

i. Industrialised countries (41 countries) comprising of Organization for Economic Cooperation and Development (OECD) countries and economies in transition.

[29] *Supra* n 5.
[30] *Supra* n 1.
[31] *Ibid.*

ii. Developing countries (145 countries).[32]

By way of general commitments, countries (based on common but differentiated responsibilities) were to compile inventories of GHGs emissions caused by human activities; compile inventories of activities which remove GHGs from the atmosphere (sinks); develop regional programmes to mitigate climate change; develop and transfer technologies, practices and processes to control GHGs in all relevant industrial sectors (including energy, transport, agriculture, forestry, and waste management); promote mechanisms to remove GHGs from the atmosphere; take climate change considerations into account in formulating and implementing social, economic and environmental policies; and promote research, education and public awareness.[33]

The UNFCCC established a conference of parties (COP), a law-making body that meets annually and is charged with devising ways to implement UNFCCC goals.

The foremost conference of parties took place in Kyoto, Tokyo. Kyoto protocol and subsequent COP which held shall be discussed below:

I. **The Kyoto Protocol**:

The Kyoto protocol (KP) was negotiated and came into force in 2005. It sets binding emissions limitations on developed countries that have signed it. It was intended that the limitations must be met between 2008 and 2012.

The protocol aimed to reduce emissions to above 30% below what would have occurred under a business atmosphere.[34] An advantage of the protocol is that it provides for flexibility by allowing each country to make its own decisions on how to reduce emissions.

II. **The Bali Action Plan (Bali Road Map)**:

The parties to the UNFCCC met in Bali (Indonesia), to review implementation of the convention in 2007. It noted that climate change

[32] *Ibid.*
[33] *Ibid.*
[34] *Supra* n 5.

is unequivocal and recognised the need for cuts in global emissions. There was also the agreement that the role of forests as carbon sinks should be specifically recognised and deforestation in developing countries should be avoided.[35]

III. **Copenhagen Climate Change Summit 2009:**

In December 2009, parties to UNFCCC met in Copenhagen, Denmark, for the 15th Conference of the Parties (COP15). A framework for international climate change mitigation as a successor to the Kyoto protocol after 2012 was to be agreed upon there.

The document recognised that climate change is one of the greatest challenges of the present and that action should be taken to keep any temperature increases to below 2^0c. The Kyoto protocol succession was endorsed by the Copenhagen accord.[36]

IV. **Paris Climate Agreement 2015**:

This agreement happens to be the most recent conference of parties in implementation of the UNFCCC, which held in Paris (France) in 2015. At this conference, nearly every nation on earth committed to actions aimed at shifting away from fossil fuels and towards cleaner, smarter energy options in order to limit global temperature rise to 2^0c – or 1.5^0c if possible.[37]

It is noteworthy however that, the above international convention and agreements such as the UNFCCC, the Kyoto protocol etc. have been ratified by Nigeria, but are yet to be domesticated, thus having no application to the country. It is hoped that, the government would do the needful as regards this as soon as possible.

5.2. Legal Framework in Nigeria

In spite of the fact that, the Nigerian Constitution lacks any enforceable provision with respect to environmental protection, some legislations which enable the protection of the Nigerian environment

[35] *Supra* n 1.
[36] *Ibid.*
[37] *Supra* n 23.

have been made available courtesy of the development of Environmental Law in Nigeria.

Thus, legislations of close relation to climate change shall be discussed below:

5.2.1. The National Environment Standard and Regulations Enforcement Agency (NESREA) Act

The NESREA Act became operational in 2007. It replaced the defunct Federal Environmental Protection Agency (FEPA) Act[38] and has since become the leading environmental protection legislation in Nigeria.

By virtue of section 7(a) of the Act, the agency amongst others is mandated to "enforce compliance with Laws, guidelines and standards on Environmental matters". In furtherance, the agency is also empowered to:

> Enforce compliance with the provisions of International agreements, protocols, conventions, and treaties on the environment, including climate change, biodiversity, conservation, desertification, forestry, oil and gas, chemicals, hazardous wastes, ozone depletion, marine and wildlife, pollution, sanitation and such other environmental agreements as may from time to time come to force.[39]

The above provisions validate the enforcement of the aforementioned International Convention on climate change i.e. The UNFCCC in Nigeria. However, for NESREA to enforce compliance of such relevant treaty, its domestication into the Nigerian laws must have been made by the Legislative arm of government both at the Federal and State level.

The Agency is additionally mandated to "enforce compliance with guidelines and legislation on sustainable management of the ecosystem, biodiversity conservation and the development of Nigeria's natural resources."[40]

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[38] Cap. F10, Laws of the Federation of Nigeria, 2004.
[39] NESREA Act, s. 7(c).
[40] NESREA Act, s. 7(e).

5.2.2. The Environmental Impact Assessment (EIA) Act[41]

The EIA Act is of relevance also to the regulation of climate change in Nigeria. It is currently administered by the NESREA. Although, by virtue of section 5 (1*)* of the Act, certain projects have been excluded from the requirement of an environment assessment, the Act generally is designed to ensure that Environmental Impact Assessment (EIA) is conducted with respect to any project which is likely to cause significant effect on the Nigerian environment.

5.2.3. The National Oil Spill Detection and Response Agency (NOSDRA) Act[42]

Of relevance to climate change is the NOSDRA Act also. The major objectives of the Agency are to co-ordinate and implement the National Oil spill contingency plan for Nigeria.[43] In so doing, the Agency shall "establish a viable national operational organisation that ensures a safe, timely, effective and appropriate response to major or disastrous oil pollution".[44] By virtue of section 5(c) of the Act, the Agency is further charged with the responsibility of establishing the mechanism to monitor, assist and direct the response with a view to saving lives, protecting threatened environment, and cleaning up impacted sites.[45]

5.2.4. The Flare Gas (Prevention of waste and pollution) Regulations 2018

As discussed above, gas flaring is a major cause of climate change in Nigeria. Thus, the remarkable step taken by the government in enacting a legislation which directly regulates the flaring of gas into the Nigerian environment is a significant leap. This regulation was made by President Muhammadu Buhari, in his capacity as Minister of Petroleum Resources in pursuance to the powers conferred upon him by section

[41] Cap. E12, Laws of the Federation of Nigeria, 2004.
[42] The National Oil Spill Detection and Response Agency (NOSDRA) (Establishment) Act, 2006.
[43] NOSDRA Act, s. 5.
[44] NOSDRA Act, s. 5(a).
[45] *Supra* n 16.

9 of the *Petroleum Act* and section 5 of the *Associated Gas Re-injection Act*. The objectives of the regulation by virtue of section 1 are: the reduction of the environmental and social impact caused by the flaring of natural gas; the protection of the environment; the prevention of waste of natural resources; and the creation of social and economic benefits from gas flare capture.[46]

In furtherance of the objectives of this regulation, the regulation by virtue of section 12 provides that: "no producer shall flare gas from any facility operated by such producer except pursuant to a certificate issued by the minister further to the provisions of the Associated Gas Re-Injection Act.[47] It provided also that "no permit holder shall engage in Routine Flaring or venting of natural gas from any facility operated by such permit holder."[48] Additionally, "no producer shall engage in Routine Flaring or vent natural gas from any green field project."[49]

It is believed that, the strict compliance with these regulations will effectuate the reduction of gas flaring in Nigeria which shall mitigate the concentration of GHGs in the atmosphere.

6.0. RECOMMENDATION AND CONCLUSION

Research has it that, there is a climate change Bill before both Houses of the National Assembly that shall address salient issues connected with climate change and will provide an institutional and legal framework for climate change governance in the country.[50] It is said also that the Bill will provide appropriate policies and institutional structures to combat ecological and environmental problems in Nigeria when passed into law.[51] It is hereby suggested that this Bill be passed into law as soon as possible, as this would also help to enforce compliance of international agreements on climate change.

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[46] Flare Gas (prevention of waste and pollution) Regulations 2018, s. 1(a),(b)(c).
[47] Flare Gas (prevention of waste and pollution) Regulations 2018, s. 12(1).
[48] Flare Gas (prevention of waste and pollution) Regulations 2018, s. 12(2).
[49] Flare Gas (prevention of waste and pollution) Regulations 2018, s. 12(3).
[50] *Supra* n 2.
[51] G.F. Bert, Senate committee chairman on environment and ecology at round table organized on 16 March 2010.

As proposed by the UNFCCC, the injurious effects of climate change in Nigeria can only be curtailed through the process of mitigation and adaptation. By mitigation, the UNFCCC encourages parties to avoid the unmanageable, while by adaptation encourages parties to manage the unavoidable.[52]

One of the major reasons for adaptation is because climate change cannot totally be avoided as it is impracticable to put an end to all its causes in Nigeria. While mitigation primarily involves reduction in the concentration of GHGs either by reducing their sources or increasing their sinks, adaptation involves acting to minimise the effects of climate change. Mitigation policy helps reduce future increases in climate change while adaptation policy deals with the unavoidable impacts of climate change.[53]

Thus, it is humbly advised that, mitigation and adaptation strategies be implemented in order to enhance protection of citizens from the dangerous effects of climate change to a satisfactory extent in Nigeria.

[52] *Supra* n 5.
[53] *Supra* n 1.