AN APPRAISAL OF THE IMPACT OF ENVIRONMENTAL LAW IN MITIGATING CLIMATE CHANGE IN NIGERIA

Abstract

The need for exploitation of natural resources for the development of modern state cannot be underestimated, but these activities have negatively affected the environment and the eco-system. Human activities have led to increase in greenhouse gases, alarming rates of deforestation, loss of biodiversity and rising global temperatures. In Nigeria, with the effects of oil spillages and many other major environmental problems, desertification has become a major problem. The paper submits that the unsustainable development of natural resources and other activities of human beings have caused climate change. Therefore, the paper discusses the causes of climate change and its negative impacts. On the global sphere, global warming and the depletion of Ozone layer has being on the increase, causing climate change. These problems have made countries of the world to discuss solutions to environmental problems, which has resulted in the signing of various instruments to curb environmental degradation and to mitigate Global Warming which causes Climate Change. Signatory member countries are encouraged to implement the provisions of the instruments as well as domesticate them in their national laws. Nigeria has been a signatory to most of these international instruments and has domesticated them, but how well has Nigerian fared in the implementation of its environmental laws? The paper noted that there is poor implementation of environmental laws in Nigeria and makes recommendations to ensure compliance with environmental laws to protect the environment for present and future generations.

Key words: Climate change, global warming, environment

1. INTRODUCTION

It is well known that essential to having of human rights is a sanitary, fit and working environment, which include the rights to life, health, food and suitable living conditions. Anthropogenic climate change is the biggest, more common threat to the native surroundings and civilized groups throughout the globe. The most recent panel review released by the Intergovernmental Panel on Climate Change (IPCC) illustrates how observed and predicted shifts in atmospheric environment will devastate the world's civilizations and the ecosystems, natural resources, and physical infrastructure upon which they depend. Harmful effects of said climate change include quick-acting results which cause a immediate danger to humanity's existence and wellbeing, including more progressive forms of ecological ruin guaranteed to cause unavailability to clean water, food, and further fundamental resources that sustain humankind.[1]

Climate change will then have a great impact on the exercise of human rights by people and human civilizations all over the world in effect. The above results are more than a theoretical, potential likelihood. At present, Climate change is affecting weather and hydrologic conditions, bionetwork functioning, and agrarian output in a lot of places.

The rise in the global warming puts the environment at a very precarious position as the entire ecosystems are currently facing serious crisis. Major environmental changes have resulted in the extinction or relocation of species with economic importance to the balancing of the ecosystem. Furthermore, weather conditions are being greatly influenced by climate change, with the record of warmer temperature, increase in water vapour and consequently heavy and intense rainfall occurs. Besides the increase in rainfall frequency, the melting of the ice glaziers also takes place and they both further result into altitude increase and flooding. Although to liquefy the ice glaziers is important because it aids in irrigation farming, providing source of drinking water and the continuous flow of streams, the rapid rate of the melting is still alarming**.**

[1] 'Climate Change and Human Rights,' published by UNEP in collaboration with Columbia Law School and Sabin Centre for Climate Change Law 2015 (PDF); Design and Layout: Jennifer Odallo, UNON Printshop Printing: UNON Publishing Services Section, Nairobi – ISO 14001:2004-certified.

The negative impact of climate change cannot be underestimated. Nigeria being an agrarian country is adversely affected. Economic sectors such as agriculture, fishery and forestry are more predisposed to the negative effects of climate change. It is important to note that farmers in Nigeria largely depend on the weather forecast for planting of crops and as a result of the unstable weather due to climate change the raining and dry seasons are not discernible any longer. The climate change has led to drought and excessive rainfall leading to floods which has resulted in various economic losses like loss of several acres of farmlands, loss of shelter and other businesses that are situated near the river courses. During the dry season or drought wildfires and dust storms occur, and these environmental hazards cause respiratory illnesses in some individuals. Climate change increases the number of diseases and causes preventable deaths among Nigerians.

Also, the northern part of Nigeria is experiencing drought and deforestation which causes the herders to move south wards in search of green pasture for their animals. The crisis caused by this south wards movement of the Fulani herders is phenomenal in Nigeria. It has led attacks on farmers and vice versa.

This paper thus discusses the causes and impacts of climate change in Nigeria. To reduce the negative effects of climatic change and to ensure a sustainable use of the environment the Nigerian government introduced national climate change policy which aims to create an environment that has low levels of air pollutants, reduced deforestation and other human activities that worsen the effects of climate change. Furthermore, this paper discusses climate change policy framework. Nigeria has endorsed some international instruments like United Nations Framework Convention on Climate Change (UNFCCC) aimed at reducing climate change and also signed the Kyoto Protocol and Paris Climate Change Agreement. The paper discusses the implementation of UNFCCC, Kyoto Protocol and Paris Climate Change Agreement in Nigeria. The paper also examines national laws aimed at domesticating the international agreements in Nigeria.

2. CONCEPTUAL CLARIFICATION

2.1 Global Warming

Global warming (as well as global cooling) talks specifically about any shifts in the global average atmospheric temperature. Global warming is often usually misconstrued to mean that the globe will warm homogeneously. Contrary to this misconception, a rise in average global atmospheric conditions will as well cause the circulation of weather conditions to shift, ensuing in particular regions globally warming more, others less. A number of regions can get cooler e.g Iceland, Australian continent and other areas surrounding Antarctica. Unfortunately, even though it considerably does not tell the full story of what in reality occurs, the expression 'global warming' is over and over again used by news outlets together with other media to depict climate change. Climate change exceeds the concept of a warming trend (hence the reason that "global warming" wrongly depicts this experience).[2] Nevertheless, part of the outcomes of global warming is changes in weather conditions of a place or area, resulting in changes in climate of the area.[3]

Climate Change

Climate change is any long-term change in the statistics of weather over durations ranging from decades to millions of years.[4] It can be manifest 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.[5] 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.[6] The UNFCCC also defined climate change as an alteration in the Atmosphere temperature caused by greenhouse Gases (GHGs) which accumulates in Earth's atmosphere as a result of human activities.

[2] O. Adedeji and O. Reuben and Olatoye 'Global Climate Change' (2014) Journal of Geoscience and Environment Protection, 2, 114-122 www.scirp.org/journal/gep accessed 4 October, 2021.
[3] Climate is the average weather condition of an area over a period of time between 35-40 years.
[4] Nigerian Climate Reports, 490.
[5] YO Ali, 'Legal Profession and Climate Change in Nigeria' www.yusufali.net accessed 5 October, 2021.
[6] Ibid.

2.2 Greenhouse Gases

Greenhouse gases are typically translucent to inward bound Ultra Violet (UV) and perceptible luminosity, but they do not allow the outgoing IR through—akin to the roof of a greenhouse. The release of anthropogenic CO_2 into the atmosphere which already contains natural quantities of CO_2 is causing the Earth's greenhouse blanket to be a little thicker. In theory, together with all other variables remaining secure, the rise in CO_2 shuts in additional heat and amplifies the global average temperature.[7]

The amount of warming directly caused by the additional CO_2 is comparatively fragile, however. By explanation, CO_2 contains a global-warming possibility of 1 per molecule over 100 years and is the yardstick by which others are compared for instance, according to IPCC, the global warming potential is 25 for CH_4, 298 for N_2O, and 22,800 for SF_6,. Diatomic gases namely nitrogen and oxygen, which the atmosphere is mainly comprised of, feebly soaks up IR radiation, hence these are not reckoned as greenhouse gases. However these gases do add to physical and chemical mixtures in the environment, which can affect climate.[8]

3. THE IMPACTS AND EFFECTS OF CLIMATE CHANGE IN NIGERIA

3.1 Effect on Agriculture and Land Uses

Rosenzweig and Hillel[9] (1995) gave their opinion that climate change of a few degrees can possibly raise agricultural output; however it might not occur in the same locations where crops are cultivated previous to the shift. Luo et al and SWCS both stated a higher fervour of droughts, floods and an ever shifting propagating season for the reason that changing weather conditions has the likelihood of resulting in soil productivity, food supply and water resources downturns. Consequently, the earth's flora and fauna will experience much privation and dearth. In the same

[7] SK Ritter,'Global Warming And Climate Change: Believers, deniers, and doubters view the scientific forecast from different angles,' <http://cen.acs.org/articles/87/i51/Global-Warming-Climate-Change.html> accessed 14 July, 2020.
[8] Ibid.
[9] C Rosenzweig and D Hillel 'Climate Change Challenges to Agriculture, food security, and health in our warming Planet Lectures in Climate Change Vol. 1 , 373-395.

way, Manstrandrea and Schneider (2009) relayed that semi-dry humid farmlands in a number of African locations will possibly turn out to be more pauperized as a result of climate change. An important outcome of climate change caused by higher levels of CO2 would be seen by the production of both C3 crops (such as cassava, yam, cowpea, wheat, soybeans, rice and potatoes), as well as C4 crops (such as millet, sorghum, sugar cane, and maize). Generally, a rise in output can be gotten from the C3 crops in contrast to the C4 crops (FME, 2003). Therefore, the C4 crops would by and large be negatively affected because a lot of these have been operating on close to perfect climate in this day's comparatively much less CO2 levels. C3 weeds will develop faster and therefore contend more harshly with some C4 crops. Likewise, projected changes in crop development and phenology are able to cause decreasing or elongating of the crop cycle that might result in reduction or enhancing productivity as well.

For instance, in Nigeria, flood is the primary threat for at least 96% of the land at risk. With a 1 -m rise in sea level, up to 600 Ian2 of land would be at risk. This area includes parts of Lagos and other smaller towns along the coast. For the Mud Coast, a 1 -m rise will place as much as 2,016 km2 of land at risk. Even with no acceleration in sea-level rise, current rates of landless through edge erosion alone could cause losses of as much as 250 km2 by the year 2100.[10] This land loss is equivalent to an average shoreline recession of 3 km. Erosion threatens a higher percentage of the land on the Strand Coast Legal Profession and Climate Change in Nigeria.[11]

3.2 Floods and Droughts

Climate change would result in increased variability in rainfall, predictably resulting in floods in many parts of Nigeria, particularly the humid areas, with devastating consequences. Single extreme climate events have the potential to wipe out years of development. For example, the total value of destroyed physical and durable assets caused by the 2012 floods has been estimated to be N1.48 trillion (US$9.5 billion) or about 2% of the rebased GDP of US$510 billion. While floods may further ravage the humid areas to the south, a decrease in precipitation is expected in the savannah north. This may result in increased drought frequency and decrease in surface water resources, thus increasing its dependence on underground water sources. The

[10] Ibid, (n 5).
[11] Ibid, (n 5).

increasing aridity in the northeast of the country has drastically reduced opportunities for sustainable agriculture and is considered a contributing factor to the current conflict and high degree of insecurity in the region.

The effects of climate change in Nigeria are visible for example in parts of the country especially in Jigawa State where flooding ruined crops creating food scarcity. Also, gully erosion has sacked many communities especially in Edo and Anambra States; as a result of persistent drought, the Lake Chad has almost dried up, while there had been persistent desert encroachment in the north.[12]

Climate change has caused conflict over the use of water resources among different economic sector has adversely affected the hydropower plants in Kanji, Jebba and Shiroro which is the key to the security of electricity supply in the country and represent about one-third of the country's total installed electricity generating capacity. These plants have produced significantly lower energy leading to epileptic power supply as a result of excessive drought that lead to evapo-transpiration affecting water volume and the capacity of the power plants to produce optimally.[13]

3.3 Effect on Water Availability

Agriculture is powerfully affected by water accessibility. Rosenzweig and Hillel believe that climate change will likely change rainfall, evaporation, run-off and moisture storage. Some regions in tropical and subtropical Africa began experiencing droughts from the 1970s. The World Bank Group (1998) predicts that droughts will become longer as well as more severe in tropical and subtropical Africa. Climate change causes water to disperse quicker out of the soils, enabling the soils to dry out very quickly amid rains and in so doing necessitating a well-matched crop management.[14] Warmer climates raise the requirement for irrigation, requiring extra investment for dams, reservoirs, canals, wells, pumps and pipes to build up irrigation systems.

[12] Ibid, (n 5).
[13] OA OLaniyi 'Review of Climate Change and Its Effect on Nigeria Ecosystem' (2013) International Journal of African and Asian Studies - An Open Access International Journal Vol.1, 60.
[14] Southworth *et al*., (2002) Pfeifer and Habeck, 2002.

3.4 Effect of Higher Temperatures

In Africa, higher temperatures can possibly speed the level at which plants discharge CO2 in the progression of respiration, causing less than adequate climate for total crop development. When weather conditions go beyond the ideal for biological activities, crops repeatedly acts hazardously in response with a sharp fall in total expansion including yield. A further significant consequence of increased temperature atmospheric conditions is accelerated physiological expansion, causing quickened growth plus decreased produce. In Nigeria, an average of 0.4o C increase in mean yearly temperature was adduced in the final twenty years of the 1990's in places all over the country. The effect of such impacts is likely to be experienced in numerous industries, which include health, water, biodiversity, agriculture, forestry and fisheries.

3.5 Effect on Vegetation

A variation in the kind, circulation as well as exposure of plant life will likely take place when climate change occurs. Some changes in the weather will possibly cause increased rainfall and warmth, causing enhanced plant development plus the ensuing sequestration of airborne CO2. Bigger, quicker or additional far-reaching changes, nevertheless, could produce foliage stress, speedy plant loss as well as desertification in some situations.[15] Current information obtainable points to the fact that world terrestrial overall key production was enlarged by 6% from 1982 to 1999, with the main part of that such enhancement in tropical regions, subsequently reduced by 1% from 2000 to 2009.[16] While plant ecosystems attempt adapting to the moving atmospheric conditions by shifting in the direction of colder regions, the animals which live on them will be mandated to migrate to other regions for survival. Lack of growth and other obstacles may block the migration of both plants and animals.

[15] D Bachelet et al, 'The Importance of Climate Change for Future Wildlife Scenarios in the Western United States (2007) www.resarchgate.net accessed 4 October, 2021.
[16] Ibid.

3.6 Effect on Pests and Diseases

Warmer climates present better environment in favour of insect pests and diseases rise. Distorted wind models will likely affect the increase of equally wind-borne pests together with bacteria and fungi that are the carriers of crop diseases. Crop-pest interdependence will likely change depending on when growth phases of both hosts and pests are equally changed. Livestock diseases could be likewise affected. A number of animals may be prone to cases of increased high temperature pressure, higher disease spread as well as probable resistance to disease management procedures by economically important pests and diseases in the majority of African environments.[17] In addition, a rise in the speed of acute events like protracted dryness or extreme flooding may perhaps produce climates which may be favorable to disease or pest epidemic, along with severely upsetting the predator-prey interactions that as a rule control the increase of pests (FME, 2003). Warmer and cooler climates would boost the growth of bacteria and moulds on various kinds of food reserved, moreover this would enhance food spoilage as well as produce several particular toxicological health exposures.

3.7 Effect on Food Security

IPCC appraisal of the effect brought on by climate change point towards the fact that a number of places seem to be able to gain from higher agrarian output even as others will likely have a lower output, based on regions and their respective reliance on the agricultural industry.[18] The IPCC has assessed the outcome of a lot of modeling research which predicts upcoming modulations in crop produce caused by climate change. Climate change will possibly lead to a rise in cereal grains at high as well as mid latitudes, however may lessen produce at lower latitudes. Africa, where per capita food manufacture has reduced as from the 1960s will probably come across still yet increasing hardships in a warmer planet. A little harmful change in the type of farming engaged in Africa, which hires up to 70% of human labour in addition to accounting for 40% of its GNP will likely be the reason for harsh effects on food security including the wellbeing of the African people.[19] In Nigeria there is declining rainfall in already desert-prone areas in northern Nigeria causing increasing desertification, the former food basket in central

[17] Manstrandrea and Schneider, 2009.
[18] (1996b)
[19] Paehler, 2009.

Nigeria is now empty, and people in the coastal areas who used to depend on fishing have seen their livelihoods destroyed by the rising waters.[20]

4.2 United Nations Framework Convention on Climate Change (UNFCCC)

The principle of solidarity is evident in different forms throughout the international climate change framework, reflecting the fact that international cooperation is fundamental to the success of any global climate change agreement. However, there are three features of the climate change framework that are worth highlighting, owing to the way in which the principle of solidarity can be seen to be operating in a practical way.[21]

The first is in relation to the principle of 'common but differentiated responsibilities' ('CBDR'), which is based on the need for states to cooperate 'in a spirit of global partnership' in order to conserve and protect the Earth's ecosystem. Specifically, the principle recognises that 'in view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. This means that industrialised states should acknowledge the responsibility that they bear in the international pursuit to sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command. The CBDR principle represents a clear manifestation of solidarity integrating responsibilities for cooperation, along with recognition of existing disparities within the (in this case, global) community and facilitating support and assistance measures. For instance, the United Nations Framework Convention on Climate Change ('UNFCCC') represents a common agreement on how to respond to the global problem of climate change, but participating states vary enormously in terms of both their contribution to the problem and their capacity to respond. Nevertheless, a global solution and universal participation is imperative if the problem is to be properly addressed.

The UNFCCC recognises that 'the largest share of historical and current global emissions of greenhouse gases has originated from industrialised countries' and that 'per capita emissions in developing countries are still relatively low'. However, it is similarly acknowledged that 'the global nature of climate change calls for the widest possible cooperation by all countries and

[20] Olaniyi (n 10).
[21] A Williams, 'Solidarity, Justice and Climate Law,' Melbourne Journal of International Law, Vol. 10, 10-16.

their participation in an effective and appropriate international response'. The UNFCCC thus adopted the CBDR principle, requiring parties to the Convention to 'protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities'. In light of this, the UNFCCC requires industrialised states parties to take the lead in combating climate change, seemingly endorsing solidaristic behaviour.[22]

A second way in which solidarity can be seen to operate within the climate change framework is by way of the flexibility mechanisms, and in particular, the Clean Development Mechanism ('CDM'). One of the unique features of the Kyoto Protocol is the introduction of 'flexible mechanisms' created to make it easier, or more cost effective, for Annex I parties (that is, industrialised nations) to meet their commitments. Some of the mechanisms are also considered to provide assistance to developing states in respect of ongoing sustainable development and adapting to low-carbon economies. The so-called flexible mechanisms are Joint Implementation, the CDM, and Emissions Trading.[23] Discussion will focus on the CDM, which has received the greatest attention to date from participating states and best demonstrates the application of solidaristic behaviour.

The CDM is considered to embody a dual purpose: first, to assist developing countries in achieving sustainable development and contributing to the overall objective of the UNFCCC, and second, to assist industrialised states in achieving compliance with their emission reduction commitments established in the Kyoto Protocol. The CDM operates by allowing Annex I parties (that is, the developed states listed in Annex I who have agreed to specific emission reduction targets) to establish project-based activities that reduce anthropogenic greenhouse gas emissions in non-Annex I states.[24] Essentially, the mechanism permits industrialised nations to invest in low-carbon projects in developing country parties. In return for such investment, the Annex I party receives credit by way of Certified Emission Reductions ('CERs') that can be used to contribute to its own emission reduction target.

[22] Ibid.
[23] Ibid, 38.
[24] Non-Annex I States are the developing countries.

A third way in which solidarity appears in terms of international climate change law is by the creation of funding initiatives. The Adaptation Fund was created to finance adaptation projects in developing countries that are especially vulnerable to the adverse effects of climate change. The Special Climate Change Fund, designed to complement other funding mechanisms in the UNFCCC, was also established to finance projects relating to adaptation, such as technology transfer and capacity building; 'energy, transport, industry, agriculture, forestry and waste management'; and economic diversification (for example, for oil-exporting countries). In line with the CBDR principle, these funds, promote solidarity by encouraging industrialised nations to take the lead and provide support and assistance to less capable states. Thus, analogous with socialist traditions, the concept of solidarity has been employed by the climate change framework as a way of organising our global society and providing a mechanism for social welfare.

4.3 KYOTO PROTOCOL

The Kyoto Protocol is an international agreement that aimed to reduce carbon dioxide (CO_2) emissions and the presence of greenhouse gases (GHG) in the atmosphere. The essential tenet of the Kyoto Protocol was that industrialized nations needed to lessen the amount of their CO_2 emissions.[25]

The protocol was adopted in Kyoto, Japan in 1997, when greenhouse gases were rapidly threatening our climate, life on the earth, and the planet, itself.[26] Today, the Kyoto Protocol lives on in other forms and its issues are still being discussed. The Kyoto Protocol is an international agreement that called for industrialized nations to reduce their greenhouse gas emissions significantly. Other accords, like the Doha Amendment[27] and the Paris Climate Agreement, have also tried to curb the global-warming crisis. Talks begun by the Kyoto Protocol continue in 2021 and are extremely complicated, involving politics, money, and lack of consensus.

[25] United Nations Climate Change 'What is Kyoto Protocol' https://www.investopedia.com/terms/k/kyoto.asp accessed 12 June, 2021.
[26] Ibid.
[27] UN Climate Change confirmed Nigeria had formally endorsed the climate treaty hours before a deadline that required 144 of the 192 signatories to ratify the deal for it to come into force on 31 December 2020 — a day before it is due to expire. The Doha Amendment came into force last year after Nigeria became the 144th country to ratify the climate treaty, in a last-minute scramble to tie the loose ends of the Kyoto Protocol era.

The 1997 Kyoto Protocol set binding climate targets for developed countries. The amendment was signed in Qatar in 2012 extended their obligations and created a second commitment period for 37 countries to cut their emissions from 2013 to 2020.

The Protocol's second phase, called the second commitment period, was established by means of the Doha Amendment in 2012 and runs from 2013 – 2020. The Amendment strengthened quantified emission limitation or reduction commitments for developed countries and set a goal of reducing GHG emissions by 18% compared to 1990 levels.[28]

Last year (2020) was critical with respect to climate change ambition as 2020 was the year in which Parties submitted their new or updated Nationally Determined Contributions (NDCs). NDCs are at the heart of the Paris Climate Change Agreement and embody efforts by each country to reduce national emissions and adapt to the impacts of climate change. Each NDC reflects the country's ambition, taking into account its domestic circumstances and capabilities. "The submission of new or updated NDCs represents an important opportunity for all countries to raise their ambition and to put the entire world onto a reduced emissions pathway,".[29] The assessment under the Doha Amendment revealed that the GHG reductions have generally been achieved through national mitigation actions. According to Ms. Espinosa "This shows the potential of consistently implementing climate change policies and actions at the national level. Through the NDC process, countries have the opportunity to further advance climate policies and actions, and to ratchet them up over time."[30]

The Protocol thus clearly plays a key part in reaching the objective of the UN Climate Change Convention, namely to stabilize greenhouse gas concentrations and reduce the consequences of climate change.[31]

[28] Kyoto's Second Phase Emission Reductions Achievable But Greater Ambition Needed (2020) https://unfccc.int/news/kyoto-s-second-phase-emission-reductions-achievable-but-greater-ambition-needed accessed 12 June, 2021.
[29] Ibid.
[30] Ibid.
[31] Ibid.

4.4 Paris Agreement

The next is Paris Agreement. The aim of the Agreement is to enhance the implementation of the UNFCCC and strengthen the global response to the treat of climate change.[32] With a view to achieving the aforesaid objectives, the following principles are captured under Paris agreement *viz*: Common but differentiated responsibilities (CBDR), Common concern of mankind, principle of cooperation, and principles of sustainable development. These principles are the *modus operandi* that will guide the parties jointly or severally in carrying out their obligations as set out in the agreement.

Since the 1990s, developed nations have traditionally been expected in these agreements to shoulder the greatest burden in terms of emissions reductions, as they engaged in significant pollution in order to develop, and are thus considered by some to be more responsible for climate change and its current impacts. Meanwhile, developing nations have contributed significantly less pollution and believe they should bear much less of the responsibility for reducing emissions. This does not sit well with developed nations who point to the rapidly rising emissions and economies of developing nations. This notion of 'common but differentiated responsibilities' was enshrined in the 1992 UNFCCC treaty.[33]

The Common but Differentiated Responsibilities and Respective Capabilities (CBDR–RC) is a principle within the United Nations Framework Convention on Climate Change (UNFCCC) that acknowledges the different capabilities and differing responsibilities of individual countries in addressing climate change. This principle underpinned the 1997 Kyoto protocol,[34] the last global climate treaty agreed, which only required wealthy nations to cut their emissions.

In the final draft of the agreement the notion of CBDR remains. For example, Article 2(2) states: this Agreement will be implemented to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.[35]

Again, Article 4(3) provides as follows: Each party's successive nationally determined contribution will represent a progression beyond the party's then current nationally determined

[32] See Art. 2 of the Agreement.
[33] See para.7 of the preamble to the convention, see also Art.4(1)
[34] Art.10 of the Protocol.
[35] Emphasis added; See also para.4 of the preamble to the Agreement;

contribution and reflect its highest possible ambition, reflecting its common but differentiated responsibilities[36] and respective capabilities, in the light of different national circumstances.[37]

The first leg of the phrase which is 'common responsibilities' can be found under Articles 4(2), (9), (13), (14), (15), (16), (17), and (19); 5(1), 6(2), *etc*. These provisions of the articles amongst others do not recognize the differences between developed and developing countries and therefore impose similar obligations on all the parties.

For example, Article 4(13) of the Agreement provides as follows:

> Parties [38] shall account for their nationally determined contributions. In accounting for anthropogenic emissions and removals corresponding to their nationally determined contributions, parties [39] shall promote environmental integrity, transparency, accuracy, completeness, comparability and consistency, and ensure the avoidance of double counting, in accordance with guidance adopted by the Conference of the Parties serving as the meeting of the Parties to this Agreement.

The above provision imposes same responsibility on all the parties irrespective of their designation. Therefore, it does not distinguish between developed and developing countries. Annalisa Savaresi has argued that this principle of common but differentiated responsibilities is not clearly out as the Agreement does not define what 'developed country' or 'developed country' means or set out means of identifying each without making recourse to UNFCCC.[40]

5. IMPLEMENTATION OF UNFCCC AND KYOTO PROTOCOL IN NIGERIA[41]

The Federal Environmental Protection Agency (FEPA) was initially saddled with the implementation of UNFCCC in Nigeria. However, when FEPA was upgraded to a full fledge Federal Ministry of Environment (FMEnv) in 1999 the implementation of UNFCCC thus

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[40] A Savaresi, 'The Paris Agreement: A Rejoinder;' <https://www.ejitalk.org/the-paris-agreement-a-rejoinder/> accessed 9 July, 2020.

[41] U Abdullahi *et al* 'A Review of Implementation of United Nations Framework Convention on Climate Change, other Related Instruments and the Implication for Sustainable Development in Nigeria' (2019) www.researchgate.net 4 October, 2021.

became the responsibility of the Ministry of Environment. In 2006, government approved the establishment of the Special Climate Change Unit in the Ministry to facilitate a speedy coordinated national implementation of activities related to the UNFCCC. The specialized unit subsumed the functions of the former Climate Change Unit of the Department of Environmental Assessment and that of Presidential Implementation Committee on CDM. Koblowsky and Speranza[42] (2010) observed that long before SCCU was created, the Inter Ministerial Committee on Climate Change (ICCC), a technical and advisory network for climate change related issues comprising of representatives of key Ministries, Departments and Agencies (MDAs) had been established. In 2009, the two chambers of Nigerian National Assembly had passed the bill for the creation of National Climate Change Agency / Commission. This was a legislation that could not scale through and secure Mr. President's accent to make the bill matured into an Act.

With regards to policy implementation, the country through the Department of Climate Change (DCC) has done a lot of activities within and outside the country. Some practical measures taken in tackling climate change include that Nigeria has in 2003 prepared and submitted its 1st National Communication on Climate Change.[43] National Communication is a document containing a wide range of information on climate change including the nation's capacity to respond to impacts of climate change that is parities to UNFCCC periodically prepare and communicate it to other parties through the UNFCCC Secretariat in Bonn, Germany. Nigeria has actively participated in international climate negotiations within and outside the country. Canadian International Development Agency has been in partnership with Nigerian government and a home based non-governmental organization called Nigerian Environmental Study/Action Team (NEST) in the area of adaptation to climate change. Collaborative projects such as Canada-Nigeria Climate Change Capacity Development Project 2001-2003 funded by CIDA; Building Nigeria's Response to Climate Change Project which culminated into the National Adaptation Strategy and Plan of Action for Climate Change in Nigeria (NASPA-CCN) in 2011 tremendously helped in building capacity of policy makers, enlighten the general public and evolved a policy-implementation framework in the area of climate change called NASPA-CCN.

[42] P Koblowsky and I Speranza, 'Emperical Studies- The Political Economy of Clean Energy Transitions' (2010) www.ebrary.net accessed 4 October, 2021.

[43] FMEnv, National Environmental, Economic and Development Study (NEEDS) for Climate Change in Nigeria (Final Draft) (2010) https://unfccc.int accessed 4 October, 2021.

In September 2012, the Federal Executive Council approved the Nigeria Climate Change Policy Response and Strategy (NCCPRS). Nigeria submitted its Second National Communication in February 2014 to UNFCCC.

There had been high hope for CDM projects implementation in the country. Around 2010, it was anticipated to drastically reduce Nigeria's deforestation rate by at least 80% and attract foreign investments representing several hundreds of millions of US$. Though, this has not been achieved, it is encouraging knowing that Nigeria has been host to a number of CDM projects especially in the area of natural gas recovery (which would have been flared), improved efficient fuel wood stoves, municipal solid waste composting, hydro-power rehabilitation and Substitution of Alternative Fuels in Cement Facilities. Nigeria occupied 40% of all African Certified Emission Reductions (CERs). Thus, Nigeria took Africa's leading position as CDM nation, holding largest CDM project worth US$ 600 million. Another area where the Country has benefited from UNFCCC processes is in the United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation (or UN-REDD Programme) which is a collaborative programme of the Food and Agriculture Organization of the United Nations (FAO), the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP), created in 2008 in response to the UNFCCC decisions on the Bali Action Plan and REDD at COP-13. The project recorded a minor success in the country.

5.1 Climate Change Policy Framework

In order to reflect the increasing importance of climate change issues in Nigeria, the Federal Executive Council adopted in 2012 the Nigeria Climate Change Policy Response and Strategy. To ensure an effective national response to the significant and multi-facetted impacts of climate change, Nigeria has adopted a comprehensive strategy, as well as a number of specific policies. The strategic goal of the Nigeria Climate Change Policy Response and Strategy is to foster low-carbon, high growth economic development and build a climate resilient society through the attainment of the following objectives: Implement mitigation measures that will promote low carbon as well as sustainable and high economic growth; Enhance national capacity to adapt to climate change; Raise climate change related science, technology and R&D to a new level that will enable the country to better participate in international scientific and technological cooperation on climate change;

Significantly increase public awareness and involve private sector participation in addressing the challenges of climate change;

Strengthen national institutions and mechanisms (policy, legislative and economic) to establish a suitable and functional framework for climate change governance.

5.2 Nigeria's commitment to the implementation of UNFCCC

With the submission of an updated Nationally Determined contribution (NDC) document to the United Nations Framework Convention on Climate Change (UNFCCC) on July 2, 2021 Nigeria affirmed its pledges to follow the path of low carbon development by 2030 as enshrined in the Paris accord endorsed in 2015.[44]

The NDC is a document embodying ambitious pledges and actions set by countries that have endorsed the Paris Agreement in order to effectively and efficiently reduce carbon emissions, thus mitigating the devastating impacts of climate change in their respective countries. It also contains actions countries intend to take in order to build resilience to adapt to the impacts of the rising temperatures.[45]

In the updated NDC, the Nigerian government has proposed to mitigate four greenhouse gases(GHG), namely, carbon dioxide (CO2), Methane (CH4), nitrous oxide (N2O) and hydrofluorocarbons (HFCs), as against the three GHG (CO2, CH4 and N2O) proposed in the previous NDC submitted. GHGs are gases that have the property of absorbing infrared radiation (net heat energy) and radiating it back to earth's surface, thus contributing to greenhouse effects.

Nigeria fleshed out its Intended Nationally Determined Contributions (INDCs) based on the National Climate Change Policy Response Strategy (NCCPRS) which has the ambitious goal of reducing greenhouse gases by 20% unconditional and 45% conditional mitigation objectives with a target year of 2030 and implementation period of 2015 to 2030. In effect, Nigeria's GDP per capita emission which stands at 2,950 in 2014 will by 2030 increase to 3,964. According to government, the mitigation actions included in the INDC to a large extent implement or enforce

[44] **A** Mojeed, ANALYSIS: How Nigeria plans to meet low carbon pledge by 2030, www.premiumtimesng.com accessed 4 October, 2021.
[45] Ibid.

existing policies or strategies. Additional legislation and regulatory changes will be required if the country will meet its pledges. Government also promised to carry out an assessment of the changes required to the regulatory and legislative framework upon finalization of the INDC.[46]

5.3 Challenges to Implementation of Unfccc and Related Instruments in Nigeria

Despite the above mentioned success stories, the implementation of UNFCCC and related instruments in Nigeria has been characterized with some constraints which include the lacking in the effectiveness of environmental and other policies in Nigeria, as well as their potentials to support adaptation and mitigation measures which have not been fully realized. Most of the policies remain very broad and are not in position to provide the country the required focused response to climate change concerns of the country.[47] Government has not been able to put in place a comprehensive implementation strategy that will enable these policies to translate into meaningful inter-sectoral activities for sustainable environmental management, which could easily make these policies become anticipatory adaptation options for Nigeria's response to climate change.[48]

One fundamental constraint observed with legal and institutional arrangement in Nigeria is with regards to the fact that FMEnv has to cooperate with a multitude of other MDAs which have exclusive rights related to some environmental matters. This according to Umeh, (2004)[49] concerns the oil sector, leading to institutional clashes and to a doubling of political mandates in many cases which turns out as an efficiency and implementation problem of Nigeria's whole environmental policy. Underfunding of the activities of FMEnv and its dependence on foreign funding provided predominantly by the funding agencies of the international development

[46] AI Sadiq, et al Assessment of the Implementation of Nigeria's Nationally Determined Contribution (NDC) In Transition to a Low Carbon Economy (2017), Nigerian Journal of Management Sciences Vol. 6 No.1, 377.
[47] GT Amangabara, Perceptions and Realities of Flood Hazards, Floof Mitigation, Global Journal of Environmental Sciences (2010) Vol 9, No. 1&2 www.ajol.info accessed 4 October, 2021.
[48] FMEnv, National Environmental, Economic and Development Study (NEEDS) for Climate Change in Nigeria (Final Draft) (2010) www.unfccc.int accessed online at accessed 4 October, 2021.
[49] Umar, A., Adamu, I.A., Wali, S.U. and Aliyu, H. (2018). "The Earth Summit and the Incubation of Environmental Management in Nigeria" in Isah, A.D., S.B. Shamaki, V.A.J. Adekunle, and A.G. Bello (ed.) *Book of Proceedings of 6th Biennial National Conference of the Forests and Forest Products Society* themed Forests and Forest Products: Key to Environmental Conservation and National Development 23rd = 27th April, 2018, 315 – 319.

cooperation has been acknowledged by numerous studies.[50] This shortage of funding portrays environmental issues and concerns as peripheral issues in the overall developmental process in Nigeria.[51]

6.0 NATIONAL LAWS AND THE ENVIRONMENT

6.1 The flare gas (prevention of waste and pollution) regulations 2018

The Flare Gas Regulations institute a lawful structure to work towards the aims of Nigerian state for the diminution of greenhouse gas (GHG) discharges by the flaring as well as venting of natural gas. The main objectives of the regulations are:

1) to decrease the environmental plus social impact occasioned by the flare of natural gas,

2) to avert the misuse of natural resources,

3) to generate social and economic gains from gas flare capture.

The document raises many facts:

1) the legal basis for the realization of the Nigerian Gas Flare Commercialisation Programme (NGFCP),

2) a novel payment regime for gas flaring - "polluter pays" concept

3) responsibilities on manufacturers as well as gas flare out projects for the reporting of data.[52]

A visible technical omission in Nigeria National Policy on Environment is the way the document is being structured. The structure of the document shows clear ignorance of the surrounding circumstances under which the document is to operate. For instance, Makinde observed that the regulatory bodies have got to exhibit firstly, a secure grasp of the social, economic, political as well as cultural variables in which any procedure is to function in order for it to succeed or else it

[50] World Development Report 2006: Equity and Development www.openknowledge.worldbank.org accessed 4 Ocober, 2021.
[51] Okeke, D. C. Government efforts in environmental management in Nigeria (2004), in: H. C. Mba et al. (eds.): *Management of environmental problems and hazards in Nigeria* Aldershot, Burlington: Ashgate, 189–203.
[52] www.climate-laws.org/geographies/nigeria/policies/the-flare-gas-prevention-of-waste-and-pollution-regulations-2018

will experience implementation gap syndrome.[53] Such ignorance of the regulation makers has bedevilled its users with a severe managerial deficiency syndrome known as execution gap.[54] The manner in which the policy is written in its present form cannot escape the implementation gap because of the existing vacuum between intentions of government and the procedures set for the achievement of stated goals. It is written in form of an academic proposal on environment. There is no timeline for any action, say, when a particular problem for instance, gas flaring will come to an end. No one or agency is following up on actions outside National Environmental Standards and Regulations Enforcement Agency (NESREA). It is more of a proposal for an environmental event that is why it does not state authoritatively as a document of action any timeline for implementable actions.[55] Beyond a regulatory document, a more substantive legislative enactment by the national assembly might be more appropriate for improved governance of climate change in Nigeria.

6.2 The 1999 Constitution (as amended)

The Constitution of Nigeria in section 20 protects the environment. It provides that the environment must be takencare of under the environmental policy objective.[56] The government is under an obligation to ensure safe and sound environment. It has been argued that the obligation of government to its citizens translate to rights which must be protected. For instance, Nigeria was taken to the African Commission on 14 March 1996 by Social and Economic Rights Action Centre (SERAC) and Centre for Economic and Social Rights (CESR) for violation of the fundamental rights of the people living in the South South region.[57] SERAC accused the military government of the Nigerian state of, inter alia, infringements of the right to health, the right to dispose of wealth and natural resources, the right to a clean environment as well as family rights, because of its allowing as well as making possible the working of oil corporations in Ogoniland.

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[53] T makinde, 'Problems of Policy implementation in Developing Nations" *Journal of Social Sciences*, vol. 11, 63-69.

[54] Ibid.

[55] UB Akamabe and Gbenemene Kpae, A Critique on Nigeria National Policy on Environment: Reasons for Policy Review, IIARD International Journal of Geography and Environmental Management ISSN 2504-8821 Vol. 3 No.3 2017 www.iiardpub.org accessed 12 June, 2021.

[56] Fundamental Objectives and directive Principles of State Policy, 1999 Constitution (as amended), Chapter II, section 20.

[57] *Social and Economic Rights Action Centre (SERAC) and Another v Nigeria (200I) AHRLR 60 (ACHPR200I)*<www.achpr.org/files/sessions/30th/comunications/155.96/achpr30_155_96_eng.pdf> (para 1) 1 accessed on 13 July 2020.

The claim of breach of economic and environmental rights of the South-South people brought against the Nigerian Government was admitted by Nigeria on that basis the African Commission held the Federal Republic of Nigeria as being in breach of Articles 2, 4, 14, 16, 18(1), 21 and 24 of the African Charter on Human and peoples' Rights. The Nigerian government was appealed to by the commission to guarantee safeguard of the environment, wellbeing along with the livelihood of the people of Ogoniland.

6.3 National Environmental Standards and Regulations Enforcement Agency Act (NESREA)

National Environmental Standards and Regulations Enforcement Agency Act (NESREA), 2007 replaced the repealed Federal Environmental Protection Agency (FEPA).[58] However, the power to regulate the petroleum sector was taken away from it and given to the National Oil Spill Detection and Response Agency (NOSDRA) which then had the responsibility to implement ecological regulations in the petroleum industry.[59] This step also undermined any autonomous administration of the petroleum sector by considerably limiting the authority of the Ministry of Environment in managing the ecological effects of the sector.

The main objectives of NESREA are the sustainable development of Nigeria's natural resources, biodiversity preservation, environmental safeguard, as well as sustainable administration of ecosystems and enforcement of the provisions of global treaties on the environment, climate change, biodiversity conservation, desertification, forest management, crude oil, chemicals, toxic wastes, ozone depletion, marine and wildlife, among others.[60]

Apart from NESREA operating as the national body on environment, there are State Environmental Protection Agencies. Because of this, there is overlapping of functions between bodies set up to implement EIA and by attempting to satisfy these bodies, permit seekers encountered more challenges, particularly expenses and time used in implementing reports for two or more of the administrating authorities.[61] At times permit seekers simply ignore one of the

[58] Act No. 25 of 2007.
[59] National Oil Spill Detection and Response Agency (Establishment) Act 2006, section 6 (1) (a).
[60] Section 2 of the NESREA Act 2007.
[61] OA Ogunba'EIA systems in Nigeria: evolution, current practice and shortcomings' (2004) *24(6) Environmental Impact Assessment Review* 643-660 <www.sciencedirect.com/science/article> accessed 02 June 2017.

agencies.[62] Despite the elegant provisions of the law to protect the environment, the Nigerian environment still suffers degradation because the regulatory authorities are affected by lack of capacity as well as resources.[63]

6.4 The Petroleum Act

The Petroleum Act, 1969 is the foremost indigenous law to regulate searching and utilization of petroleum resources in Nigeria. The Act authorised the Minister to formulate policies on a range of issues, like the deterrence of contamination of the environment. Pursuant to the Regulation made by the Minister, for instance, most leases contained standard provisions which enjoin lessees to take "all practicable precautions" whilst operations for the stoppage of environmental contamination continued. Pursuant to the Act, the Petroleum (Drilling and Production) Regulations were formulated for the purpose of protecting area susceptible to pollution as a result of oil prospecting and mining activities which are water resources, trees, land as well as air. The Act protects aquatic animals and states that no licensee or lessee is allowed to exercise the rights bestowed by his permits or lease in a way as unjust to obstruct the utilisation of any fishing rights, where he does, he shall pay sufficient remuneration hence to any person wronged by the exercise of the foremost mentioned rights.[64]

6.5 Climate Change and Associated Gas Re-Injection Act 2004[65]

Section 1 of the Act mandates all company manufacturing crude oil in Nigeria to present to the Minister a introductory programme for the practical utilization of all connected gas generated from a field or cluster of fields plus venture or ventures to put back all gas manufactured in connection with oil but not exploited in commercial project.[66] In addition to that, companies are

[62] OA Ogunba (n 61) 643-660.
[63] World Bank, Defining an Environmental Development Strategy for the Niger Delta, 25 May 25 1995, Vol II, Industry and Energy Operations Division West Central Africa Department 45-53; The World Bank, Nigeria Rapid Country Environmental Assessment, Final Report 11/30/2006, 39, which states: "Environmental inspectors belonging to the FMEV often have to rely on private companies for providing cars to undertake monitoring activities, in addition to hotel bills, per diems and other expenses, compromising legitimacy and effectiveness in the environmental monitoring process."
[64] Paragraph 25.
[65] Cap A25 Laws Federation of Nigeria 2004.
[66] Section 1(a) and (b).

required to submit comprehensive strategies for the execution of gas re-injection; schemes for the viable utilization of all manufactured associated gas.[67]

Also, Regulation 43 of the Petroleum (Drilling & Production) Regulations provides for the mandatory exploitation of Associated Gas for the period of five years after production has commenced.[68] The reason for the grace period of five years to flare gas is not given. Flare-out Policy is contained in Section 3 (1) while the Flare Penalty is contained in Section 3 (2) of the Act, which states that where violation of the provisions of the Act occurs, the licensee or lessee forfeits the acreage concerned.[69]

The Act made copious provisions for gas flaring to be stopped by 1984; Section 3 (1) which provided for the empowerment for the Minister to issue a license allowing gas flaring to continue where the exploitation or re-injection of the manufactured gas is inappropriate or viable in a certain field or fields wakened the above provision. Regulation 1 tagged Associated Gas Re-Injection (Continued Flaring of Gas) Regulations later in 1985 [70] gave few reasons why flaring might be permitted. For the gas flared, the erring company was required to pay penalty fees depending on the volume of gas flared.

Earnings from gas flare sanctions are shown to be a source of considerable profits, which appears as being of further importance to the Nigerian Government than the urgent demands by the people to discontinue gas flaring bearing in mind verified dangerous impacts on human health.[71] Suffice to state the fact that the quantity taxed as a fine for flaring ought to be correlated to the destruction occasioned thus. This Act along with the Associated Gas Re-Injection (Continued Flaring of Gas) Regulations, formulated pursuant to, were evidently not enacted to accomplish the policy to stop gas flaring because the gas could be flared on the permission of the Minister and upon payment of a required penalty.[72]

[67] Section 2(a) and (b).
[68] Regulation 43 of the Petroleum (Drilling & Production) Regulations, Decree No. 51 of 1969.
[69] That is Associated Gas Re-Injection Act.
[70] Associated Gas Re-Injection (Continued Flaring of Gas) Regulations, 1985.
[71] OA Ogunba (n 61) 643-660.
[72] OA Ogunba (n 61) 643-660.

Apparent, is the case of *Jonah Gbemre v Shell Petroleum Development Company and others*[73] which was sponsored by Environmental Rights Action (Friends of the Earth Nigeria) and the Climate Justice Programme; the suit was pursued to its logical conclusion but the judgment was not implemented. It is expected that the case will be followed up to ensure compliance with the court order that flaring should be stopped at a fixed date and that Shell should also submit a plan to stop gas flaring. However, this system relies on the resolve of the victims to follow up cases to their determination because most of the time the oil company uses financial inducement to force the litigants to discontinue their suits.[74]

7.0 Conclusion

Climate change has no doubt occurred with attendant negative consequences ranging from negative weather condition leading to excessive heat and unpredictable weather. The change in weather has negatively affected farmers in Nigeria with its negative consequence and the resultant food insecurity. The causes of climate change can be natural or man-made; the emphasis is on human causes which could be avoided through sustainable use of the environment. Some of the stated human causes are: Greenhouse Effect, Ozone layer depletion, Deforestation and agricultural activities. The negative impacts of climate change on the environment were also discussed to drive home the point that there is urgent need to reduce global warming which is one of the causes of climate change.. Although laws have been enacted to curb this menace, the laws are not adequately implemented. As such, this work has also discussed the effectiveness of the Nigerian legal regime aimed at curbing environmental degradation and reducing climate change. It has been submitted that government is expected to play positive roles by implementing the national laws to ensure stable climate and also ensure sustainable development of the natural resources.

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[73] (2005) Suit No. FHC/8 /CS/53/05.

[74] For example, in the Tiomin mining incident which resulted in *Rodger Muema Nzioka and 2 others v Tiomin Kenya limited*, Civil case No.97 of 2001, High Court of Kenya, Mombasa, available at http://www.elaw.org/node/1996, there was the allegation that some of the parties were bought off thereby facilitating easy extra-judicial settlement of the dispute. See Kameri-Mbote P, Towards Greater access to Justice in Environmental Disputes in Kenya: Opportunities for Intervention (Geneva: International Environmental Law Research Centre, Working Paper 2005-1, 2005), < www.ielrc.org/about_kameri-mbote.php.> accessed 9 June 2020.

8.0 Recommendation

Consequent upon findings of this work, the following recommendations are proffered:

The government should fully implement the Paris accord, as this will improve climate change governance.

The government as a matter of urgency should implement laws that forbid indiscriminate burning of bushes, felling of trees and emission of greenhouse gases.

The government should implement the 'end gas flaring' deadline by imposing heavier penalty on the defaulters.

There are various laws enacted to curb environmental degradation. These laws should be harmonized and codified into a single law. It will make for easy accessibility and understanding of the laws.

There is the need for enlightenment campaign to enlighten the people on the evils of climate change and what could be done to ameliorate the situation at the national, regional and at the international levels.

The Nigerian government should make available to the people the data needed to understand the effects of climate change on ecological and economic systems.

In case of projects that cannot but have negative effects on the environment, the government should ensure that the Environmental Impact Assessment (EIA) of the projects is carried out before embarking on such projects.