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An Examination of Climate Change Mitigation Policies in Nigeria 1999-2021

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Abstract

Climate change has been on the front burner of national and international discourse for decades, this is because of its devastating impact on the socio-economic development of communities across the globe. This paper examines climate change mitigating programmes and policies in Nigeria from 1999 -2021. It addresses the challenges confronting the implementation of strategic policies at all levels of governance in Nigeria. It argues that corruption and poor programme implementation has continued to hamper efforts to tackle the menace of climate change in Nigeria despite enormous resources expended on programmes. The paper identified some of the challenges of tackling the impact of climate change to include poor funding, illiteracy and lack of public awareness, inadequate legislation and political will on the part of government at all levels amongst others. The paper used the system theory as propounded by David Easton to explain government response to the issue of climate change in Nigeria; it also used quantitative research methods in carrying out its analysis by gathering data from secondary sources. The paper concludes that developing countries are grappling with the menace of climate change basically because they are doing little to combat the problem and policies put in place are not yielding the desired results. The paper recommends policy harmonization between the various tiers of government in the country, effective utilization of donor funds, eradication of corruption in the management of the programmes and strict adherence to the various multilateral climate change protocols in place.

Keywords:
Climate change,
Mitigation policies

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Background to the Study

Climate change is one of the major threats to mankind in the 21stcentury; the devastating effect of climate change is being felt across the globe and affecting many communities. In Nigeria, the threat posed by climate change is visible across the country, notable impact is experienced in northern States of Katsina, Sokoto, Jigawa, Borno, Yobe where drought and desertification are affecting several of the communities. The southern parts are not spared also as soil erosion and oil spillages are prevalent in Bayelsa, Anambra, Delta and Rivers states affecting fishing and farming activities of the communities.

There have been several global efforts to combat the menace of climate change such as the Kyoto protocol which revolutionized climate change laws, the Paris agreement on climate (Sutter and Belinger, 2016), the COP21 which is based on an agreement under the United Nations Framework Convention on Climate Change (UNFCCC) that seek to deal with emission of greenhouse gases mitigation around the world and became the globally legal binding climate law, just like the Kyoto protocol, the Cop21 massively mobilized global political commitment to the threat of climate change and placing mitigation and adaptation strategies on all parties that were involved. (Vlassopoulos, 2012)

The scientific postulations that the West Antarctic ice shelf is melting faster than predicted by the global community could lead to increase in sea levels and a threat to small island states and many coastal states of many countries including developing countries like Nigeria who cannot deal with climate change (Runnals, 2016).

The Nigerian government have been implementing policies and programmes to mitigate the effect of climate change in the country to assuage the impact on the populace, these policies are geared towards addressing issues of climate change. The government is taking proactive step due to the increasing global warming which is estimated to raise to around 4°c (7.2°F) by the end of the 21st century. Most of the mitigation policies has not made an appreciable impact in restoring the damage done to the climate; gas emissions of the greenhouse gases from human activities persist especially Co2 emission from cars, gas and other machines and lack of clean energy sources have continued to raise questions on the role of government in mitigating the impact of climate change. This paper, therefore, seeks to interrogate the mitigation policies of the Nigerian government in respect to climate change.

Conceptual Clarification

Climate Change

Climate change is the gradual shift in climate patterns over some time; it could be desert encroachment, shrinking water sources such as Lake Chad, flooding and droughts in Nigeria and a rise in temperature and change in the pattern of rainfall.

Mitigation policies

A mitigation policy of government involves government deliberate intervention towards addressing environmental and climate change. It means policy responses geared towards reducing greenhouse gas emissions and switching to cleaner energy sources.

Conceptual Reviews

The concept of climate change

The definition as to what constitutes climate change has been varied and has generated a lot of heated debates, the UNFCCC (1992) refers to climate change as the gradual changes in the configuration of the global atmosphere and which are in addition to natural climate variability observed over a period and can be attributed directly or indirectly to human activities. Climate change affects the capacity of countries especially third world nations to meet the millennium development goals objectives and other efforts at reducing extreme poverty across the globe. The Intergovernmental Panel on Climate Change (IPCC) on the other hand in its fourth assessment report stated that changes in climate that can be identified by using statistical tests by changes in mean/or variability of its properties, and that persist for an extended period typically decades or longer. The 1979 World-Climate Conference (WCC) is the first in giving a much clearer definition of human-induced climate change as a main environmental problem. This made way for World Meteorological Organization (WNO) and the UN environmental programme to be the major institutional gladiators put in place to tackle the problem of climate change.

Harvard University reported in 2012 that climate change would affect energy, cause social disruption due to climate extremes such as heatwaves, wildfires and destructive storms (Lippert 2019). According to IPCC, the actions and activities of man could be responsible for global warming, it argues that there is 90% assurance that the careless flame and burning of fossil fuel and anthropogenic conditions like cutting of trees and the application of harmful chemicals has led to an average globular temperature of 0.75 over the last ten decades, causing a rise in hurricane and tropical cyclone strength since 1970, including causing artificial weather conditions.

If climate change is not tackled the globe is heading for a Co2 concentration in the atmosphere that is above 100ppm whereas that level is limited to 450ppm in the already proposed mitigation scenario (IEA reference scenario report 2009). Several countries had responded to the issue of climate change in various forms, these measures are different depending on the nation's priorities, resource availability and location, the responses could be in the form of construction of levees for protection of land from storm and surges caused by a rise in sea levels, taking proactive measures to deal with damages to farm products caused by climate changes.

Osita and Agaba (2010), posited a lot of diversity in the policy and strategy to combat the effect of climate change. He maintains that it is more about government effort to identify the problem and set in place policy measures according to the specific authority's view. For example, a scientific authority would find the cause of GHG emission and other natural phenomena creating 'Climate Change' problem and the impacts are environmental degradation including drought, sea-level rise, extreme weather events etc. whereas a development organization would perceive Climate change.

Furthermore, the “Stem Review” report (2006), provided the first comprehensive assessment of the economics of climate change. The Review's most important conclusions

regarding the potential negative economic impact of climate change warrant reiteration: the costs of extreme weather events could reach 0.5-1% of GDP by the middle of the century; a 2 to 3 degree Celsius rise in temperature could reduce global output by 3% and if that rise should become 5 degrees, up to 10% of global output could be lost. The review also concluded that it would cost 1% of GDP to stabilize emissions at manageable levels. It also highlighted the role of employment creation programmes in developing countries that help buffer households from the effects of poor harvests and other negative shocks, indicating that governments in developing countries should pay more attention to issues of climate change.

Theoretical Framework

This paper adopts the system theory as espoused by David Easton. According to Easton (1965) every system performs the input and output functions. The input function consists of demand and implementation of government policies and other problems that are brought to bear on the system. Most of the demands or requests from the society are processed through bureaucratic system of government, legislative houses, the media public opinion poll and eventually into outputs in form of policies, programmes and projects which are injected into the society, Easton in his postulation likens the system to a human body that consists of many sub-systems that work for the survival of the system, all the subsystems are important and any malfunctioning of any of them affects the entire system. A system may break down if it fails to authoritatively allocate values and its input-output functions cannot be performed as a result of system overload, system breakdown associated with poor policy implementation, disorder, violence among others.

Every organization including governments has subsystems which may include departments, ministries, agencies and tiers of government with divergent but harmonious cooperation for the continued existence and survival of the system. The system theory aptly suits this work because the issue of climate change mitigation policies in Nigeria has to do with government input policies put in place through the environment ministry and collaborative programme with states and local government to produce outputs that enhance mitigation of climate change policies in b Nigeria. Some of the input function provided by the Nigerian government includes the national Energy master plan, forestry development programme, urban renewal programmes; stoppage of gas flaring some of the notable out- put control of droughts and desert encroachment amongst others.

An Overview of the Role of Nigeria Ministry of Environment in Climate Change Mitigation

The Ministry of the Environment which coordinates Nigeria environmental and climatic programmes has collaborated with several institutions within and outside the country towards finding ways of mitigating the effects of climate change. For instance, it established the Nigeria Meteorological agency to build an early warning system to enhance disaster management as a result of climate change in country the agency has also increased a lot of public awareness on the various climatic conditions in the various parts

of the country through its periodic weather reports. The ministry has also been ensuring that Nigeria is effectively represented at climatic meetings within the continent of Africa and beyond. For example, it participated in the 14th Anglo and Francophone countries Regional project to build capacity for greenhouse gases inventory in West and Central Africa it also signed a Memorandum of Understanding (MOU). It also signed an MOU with the UNDP for capacity-building in the area of the clean development mechanism and was among the African delegation to Nigeria is participating in the UNFCCC, the Kyoto Protocol processes the 2009 Copenhagen conference.

Through the ministry Nigeria has been mobilizing and encouraging African countries, to pursue their collective interest as regards climate issues in the International arena Africa speak with one voice ensuring that African peculiar situations on climate change are put on the front burner of discourse. The ministry has also developed a working synergy with the state and local government through periodic disbursement of ecological funds in conjunction with the presidency ecological fund office to carry out environmental projects across the country. It has been at the forefront of developing policies and (Economic Confidential, June, 2009). The action plans consistently pursued by Nigeria through the environment ministry include the National action plan to mitigate the effects of climate change, National Forestry Development Programme.

Nigeria was concerned about the effect of climate change and the inability of the ministry and parastatals under it to effectively handle issues of environmental pollution, oil spillages, desertification and others necessitating the need to reorganized the environment ministry to discharge its mandate efficiently in mitigating the effects of climate change. The Nigeria government conscious of the devastating effect of climate change across the country developed the National Climate Change Policy Response and Strategy (NCCPRS), it also created the Special Climate Change Unit (SCCU) under the Federal Ministry of Environment to coordinate Climate Change issues in Nigeria.

Analysis of Some Nigeria Government Mitigation Policies
Droughts and Deforestation control programme
The Nigeria government has been trying to promote reforestation through its forest development programme, this is because forested land keeps diminishing. The deforestation rate deft is estimated to be in the region of 1.3 per cent which translates to about 160,000 hectares per year. Some of the factors identified as responsible for the country's high deforestation rate include, The high price of kerosene and gas which is used for cooking has made most households resort to using firewood, putting pressure on the forest which is the major source of wood used for cooking. The dependence on firewood for domestic cooking remains a serious threat to government efforts to boost the nation's forest reserves. Under the Goodluck Jonathan administration over 9 billion naira was voted for the purchase of stove pots for usage to ease the pressure on firewood little have been achieved in that direction, also the planting of threes a forestation has not matched the rate of depletion creating a serious gap in the forest development programme "(Vanguard News, 2017)".

Encouraging the use of alternative sources of energy such as solar, wind bio-fuels will drastically assist in reducing the depletion of the forest, the government has been slow and implementing its clean energy initiatives as most homes in the country especially in the rural areas and urban slums rely heavily on firewood obtained from the forest. The activities of loggers or timber merchants have not been properly checkmated and regulated due to corruption and unwholesome practices by corrupt forest guards and officials (Akunna, 2004). The national tree planting campaign, however, has yielded some results in the far north but a lot still needs to be done as desertification and arid lands are still stripped thus exposing the areas to harsh climatic conditions. The indiscriminate clearing of forest to make room for farms and ranches and other agricultural practices in Nigeria also need to be mentioned because if it remains unchecked by the government. The food and agricultural organization of the united nation (FAO) observed that the rate of deforestation in Nigeria is quite high. It reported that, between 2000 and 2005, the country lost 55.7% of its primary forests and the rate of forest change increased by 31.2% to 3.12% per annum. Nigeria is said to have lost an average of 409,700 hectares of forest every year equal to an average annual deforestation rate of 2.38%. Forests, which have a great capacity for absorbing carbon, thus reducing greenhouse gases, are cleared mainly for subsistent agriculture, logging and timber export. The drought and deforestation programmes also spread to international collaboration for example the government is also collaborating with the prince of Wales rainforest resources and the launching of a three-year strategic awareness program on climate change through the organization of seminars and workshops on special issues relating to climate change.

Policy on Industrial Compliance Monitoring and Enforcement of Environmental Regulation

Gas flaring has always been a serious problem, especially in oil-producing areas. The extent of flared gas fell from 53.0 per cent in 2000 to 34 per cent in 2007. Gas flaring produces extra carbon dioxide thereby constantly using up oxygen at a staggering rate; causing an artificial imbalance between production and consumption of oxygen; emitting at least six dangerous green-house gases (GHGs); and as such, depletes the ozone layer; leading to the extra-ordinary rise in earth's temperature (Global Warming); the melting of polar ice; and consequent rise in sea-level; Climate Change) Ajayi (2018). The resultant effect on humans and ecology include leaf-spotting, discolouration and stunted growth of plants and other bodies, as well as their extinction.

Nigeria has made some landmark legislation in line with international instruments to mitigate gas flaring for example it enacted the associated gas re-injection Act (AGRA) Cap A25, Laws of the Federation of Nigeria (LFN) 2004which makes it illegal to flare gas without the consent of the Minister of Petroleum, who may issue a certificate if satisfied that it is not feasible to utilize or re-inject the associated gas the major snag with the act is the provision that imposes a penalty sum of N10 for every 1000 standard cubic feet of gas flared is obsolete and the fines and punishment seen as weak and incapable of preventing flaring of gas and other emissions. This development continues to embolden major industrial concern to disregard environmental policies and laws and is responsible for making Nigeria among one of the top countries in the world where a huge volume of gas is flared, with about 2.5 bcf, flared daily (Umukoro, 2008).

Adoption of a gas reinjection programme in the country rather than wasteful flaring of gas may be the way out of the flaring of gas and its concomitant pollution which affects the socioeconomic conditions of oil host communities. According to Oladipo (2010). The oil industry there is alleged to be recording gas flaring in the Delta of up to some 70 million tones of CO2 a year, higher than the emission for Portugal, Sweden and Norway". The long term implication of the continued pollution of the atmosphere is that the sea level will rise gradually until many communities in the Niger Delta within the next two decades which roughly is estimated to be about 40km-wide strip of the Niger Delta. Thus, the very existence of the indigenous people of the Niger Delta and adjoining coastal zone is seriously threatened by environmental degr5adation caused by petroleum and industrial pollution. The use of gas re-injection technology is a novel idea which Nigeria must ensure all oil drilling companies use mandatorily, most oil producing countries have taken advantage of using the technology to reduce gas flaring and ensure a healthier environment.

Another major concern as regards the issue of effective regulation of the oil sector by the Nigerian government is the seemingly lack of effective monitoring and enforcement policies by regulation agencies of government. Some of the agencies despite huge and scarce resources used to fund them has performed abysmally, for example, some of them set up to monitor and regulate gas flaring such as the department of petroleum resources (DPR), The National Environmental Standards and Regulations Enforcement Agency (NESREA) and even the Ministry of environment has been bedevilled with problems ranging from lack of proper coordination among them, poor policy formulation and implementation, funding challenges and overbearing influence of the multinational companies in their regulatory activities to the detriment mitigating the effect of climate change.

The government irrespective of the challenge of regulation has tried in the area putting project on the ground in the oil belt to aid elimination of Gas flaring such project include, The Bonny Island LNG export terminal, the West Africa Gas Pipeline (WAGP), and the gas processing infrastructure associated with the escravos (GTL Project, flare gas-to-power projects have begun feeding the Nigerian power sector with energy, shell also committed USD 2billion to reduce gas flaring at 24 sites across the Niger Delta (Ismail and Umukoro, 2012). the multinationals are also not lagging in trying to assist in putting infrastructure to strive to meet government policies on zero tolerance for gas flaring and pollution, chevron is also investing in 3A & 3B gas processing plants in the Escravos, Delta West, the Gbaran-Ubia gas project aimed at using flare gas to feed power projects in Bayelsa state is on-going and reinjection has started in some offshore oil facilities in Rivers and Bayelsa states capturing associated gas and sending it to the Bonny LNG facility. These initiatives have a lot of impact on gas flaring in Nigeria and have reduced gas flaring by about 28% which is a far cry for zero tolerance for gas flaring set by the federal government the oil gas sector still wastes more than 15 bcm of natural gas annually. Eseduwo (2018). Similarly, Agbola and Olurin (2003) noted that about 45.8 billion kilowatts of heat are discharged into the atmosphere of the Niger Delta every day. Greenhouse gas emissions (mostly Carbon dioxide Nitrous Oxides, Chlorofluorocarbon,

Hydrocarbons such as methane, ozone, and water vapour) lead to an atmosphere, heart that would normally be radiated back to space. Thus, increase in heat has led to the greenhouse gas flaring by oil multinational companies such as ELF, AGIP and shell petroleum development company (SPDC) have led to an increase in heat and temperature and rendered some areas almost uninhabitable in the Niger Delta. Acid rain which is associated with the flaring of gas was reported to be higher in the Niger Delta region and decreases further away from the region Uyigue and Agho (2007)

Furthermore, the government has been very slow in passing legislation and enforcing the law banning the importation of new and used refrigerators, air conditioners and cars which are the major sources of green gas emissions. Fossil Co2 emissions in Nigeria were estimated at 82,634,214 tons in 2016 an increase by 0.70% in 2015 over the previous year meaning an increase of, 578,037 tons over 2015 when emissions were 82,056,175 tons (www.worldmeters.info. Nigeria).

Similar to the issue of gas flaring and greenhouse emission appliances is the menace of oil spillages and its attendant Pollution of the environment in Nigeria, despite the establishment of the National oil spill Detection and Response Agency (NOSDRA) set up specifically to address the issue of oil spillages which are a threat to the ecosystem, Nigeria has lost over ₦53 billion to petroleum pipeline vandalization alone between 2006 and 2007 (The Guardian, Feb. 16, 2008:3) which is one of the major causes of these oil spillages. The November 2008 Report of the Technical Committee on the Niger Delta, revealed that the Country has lost about ₦8.84 trillion or S 61.6 billion to oil bunkering and sabotage in the volatile region between 2006 and 2008 resulting in shutdowns and spillages in the first nine months of 2008 (Newswatch, 2009:12).

Challenges of Mitigation Policies and Programmes

Corruption

Corruption has been one of the cankerworms that continues to prevent development in most underdeveloped countries like Nigeria, many government agencies and parastatals are a cesspit of massive corrupt practices, including enforcement and regulation officers who collect bribes to allow illegal felling of trees in the forests' thereby posing challenge to Nigeria commitment to reduce its greenhouse gas emissions and other ecological problems. The issue of corruption has made many projects aimed at addressing climate change achieve minimal success According to (Akunna, 2004) illegal logging, lack of respect for forest resources, diversion of funds meant for addressing environmental issues are some of the challenges facing the management of environmental issues in Nigeria. The government setting up of the Economic and Finacial Crimes Commission (EFCC) has been applauded for fight corruption in government establishments some progress was made in the environment sector when a former governor of plateau state Joshua Dariye was jailed for abuse of ecological funds in tune of 1.6billion naira taken from state ecological funds (Ewhanewe2011). The inabilities of the government to monitor budgetary releases and punish those who fail to executive projects continue to affect the implementation of mitigation policies.

Lack of Public Awareness

The level of knowledge about climate change issues in Nigeria is low and there is a need for all stakeholders to increase the level of public awareness and mobilization. A study carried out by Ayotunde and Melvin (2009), on climate change and the perception, and attitude, of Nigerian youths in Ile-Ife-Southern Western Nigeria, gives a picture of the level of awareness on climate change. Out of a total of three hundred and fifty (350) respondents, 144 (41%) reported previous awareness of climate they are not aware of climate change. 44 representing 13.7% of the respondents called climate change another gimmick'. The conclusion drawn by this study is that active education of the populace about the subject matter should be given attention for enhanced management of climate change. The overall observation is that the awareness of climate change issues among Nigerians is generally inadequate. Even among government officials and the private sector officials, the understanding is still superficial (Vanguard Newspaper, November 7, 2009). Due to the low level of awareness of climate change, there is a tendency for people to violate pollution control regulations and other policies put in place by the government.

Lack of Political Will

The Nigerian government lack the requisite political will to enforce a ban on items that emit gases that affect the climate, it is instructive to note that though legislations are in place banning the importation or production of refrigerator**,** air conditioners and used cars, smugglers and other enforcement officials such as customs and regulatory agencies like the standard organization of Nigeria are incapable of preventing the importation of these categories of goods, therefore, constituting a serious challenge to mitigating climate change, this challenge is not only in Nigeria, A study by Yale university environment 360 group revealed that many countries in Africa including Nigeria, Kenya, South Africa have minimum performing standard for new Air conditioners and refrigerators due to weak policies and minimal enforcement. In the prohibited list of items banned by the Nigerian customs, used compressors, freezers, used motor cars above 15years are included. (Custom.gov.ng/py.30275). It is disheartening that these banned items still find their way into the country.

Conclusion

Stopping climate change is the responsibility of all, government, citizens, private corporations and the international community. We must insist on the government making it a priority area in the annual budget to avert the looming environmental, economic and humanitarian catastrophe which is within our control. All hands must be on deck to drastically reduce emissions of greenhouse gases to slow or stop the process of climate change and to help mitigate the impact of climate change. The Nigerian government and the international community are making efforts to address the issue but there is a need for more collaboration and partnership among African countries and the rest of the developed economies. Mobilization of the people to participate in climate change mitigation is strategic in countries like Nigeria.

Recommendations

1. Public education and enlightenment on climate change should be intensified by relevant government agencies, mass media, schools and other public places, this will facilitate w public participation in the overall efforts to mitigate the effects of climate change in the country.
2. The government must enforce it policies of zero tolerance for gas flaring and pollution in oil-producing region, oil exploration activities of multinational companies who cannot function without flaring gas should be suspended immediately,
3. Domestic uses of clean energy sources should be encouraged in Nigeria such as solar, wind and other energy sources.
4. Aforestation projects and tree planting programmes should be reorganized and sustained and activities such as tree felling, forest decimation and bush burning.
5. The government should empower enforcement agencies like the customs to seize and confiscate used generators, motorcycles, freezers and second hand or used cars.
6. The federal state and local governments should periodically meet to assess the level of progress in mitigating climate change in Nigeria.
7. Collaboration with development and donors partners, such as Global Environmental Facility (GEF), World Bank, Infrastructure Development Bank (IDF), UNICEF, UNDP, and water Aid amongst others should be sustained
8. Government should stamp out all forms of corruption in the management of climate mate change programmes under it's ministry of environment and other agencies like the Ecological fund Office, NOSDRA and NESREA.
9. The budget for climate change mitigation activities should continuously be reviewed upwards annually to ensure that goals and targets are met.

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