INSTITUTIONAL RESPONSES TO THE IMPACT OF GLOBAL CLIMATE CHALLENGES ON AFRICA: THE CASE OF NIGERIA SECURITY AND CIVIL DEFENCE CORPS

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ABSTRACT

Recently, Africans have been experiencing serious climate conditions such as fluctuating rainfall, temperature rise, increase in sea level and flooding, desertification, drought, land degradation, more recurrent extreme weather condition, affected freshwater resources, and loss of biodiversity. These conditions have led to seasons of drought and excess flood, which affected the health of the people, and agricultural activities and caused a loss of shelter, especially in Nigeria. This means that the role of the Nigeria Security and Civil Defence Corps (NSCDC) cannot be ignored in responding to the climate challenges in Nigeria. Therefore, this paper presents the conceptual framework, sources of climate change, consequences of climate change, climate change policy in Nigeria, and the response of NSCDC to the climate challenges in Nigeria. It concludes that Africa has to adapt to the effects of climate change and mitigate the negative impact of climate change at the national and individual levels. It, therefore, recommends among others that, the government at all levels should collaborate with stakeholders in the relevant ministries/agencies to ensure that policies are revised and implemented based on current environmental needs and challenges.

Keywords: Institutional Response, Global Climate Challenges, Climate Change Mitigation, Climate Change Adaptation and NSCDC.

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INTRODUCTION

Climate change is mainly a major problem caused by the increase of human activities leading to several direct and indirect impacts on health. These climatic changes have wide-range harmful effects, including an increase in heat-related mortality, dehydration, the spread of infectious diseases, malnutrition, damage to public infrastructure, and migration of both man and animals among others. The consequence of climate change affects the poor and the rich countries of the world (Ologunorisa & Ologunorisa, 2017). Nowadays, environmental problems are receiving attention at world levels, and therefore, the world communities are incessantly creating efforts towards guaranteeing that the globe could be a healthier place for human habitation. For example, On 1 April 2016, the United States and China issued a joint statement confirming that both countries would sign the Paris Climate Agreement to cut carbon emissions by half within the next fifteen years. This endorsement is important because the USA and China are said to account for about 40% of global carbon emissions (Pashley, 2016). Undoubtedly, the world continues under the threat of climate change problems like global warming, greenhouse gas effects, flooding, acid rain typhoons, rising sea levels, rising sea temperatures resulting in depletion of marine organisms, earthquakes, wind storms, land and mudslides, desertification, tsunami, erosion, volcanic activities, hurricanes, pollution, deforestation among several others (Beyioku, 2016).

In Africa, increasing temperatures and sea levels, changing precipitation patterns, and more extreme weather are threatening human health and safety, food and water security, and socio-economic development (UN Climate Change News, 2020). Climate change is having a growing impact on the African continent by hitting the most vulnerable and contributing to food insecurity, displacement of the population and stress on water resources. In recent years, Africans have seen devastating floods, and an invasion of desert locusts and are now faced with the looming spectre of drought (UN Climate Change News, 2020). Moreover, the Intergovernmental Panel on Climate Change [IPCC] projected that by 2020, between 75 million and 250 million

people would be exposed to an increase in water stress due to climate change in Africa (IPCC, 2007). This adversely affected livelihood and exacerbated water-related problems.

Africa's Agenda 2063, which ended in 2013, acknowledges climate change as a serious challenge to the continent's growth. Since 2015, the Nationally Determined Contributions (NDCs) to the Paris Agreement is responsible for policy on climate change. In this regard, fifty-two (52) African countries submitted their NDCs in 2020 (UN Climate Change News, 2020). However, Africa has made great efforts in driving the global climate agenda. This is incontestable by the extremely high levels of confirmation of the Paris Agreement (over 90%) (UN Climate Change News, 2020). Several African nations have committed to changing to green energy within a reasonably short time frame. Clean energy and agriculture are, for example, prioritized in over 70% of African NDCs (United Nations International Children's Emergency Fund, n.d). Also, the 27th annual UN Climate Change Conference is expected to take place in Sharm El-Sheikh in Egypt from 7-18th November 2022, which will advance the global climate discussions, mobilize action, and provide an important opportunity to look at the impacts of climate change in Africa. This ambition needs to be an integral part of setting the economic growth priorities of the continent.

In Nigeria, climate change results from temperature increases and rainfall variability. This means that there is an increase in rainfall in coastal areas and a decline in rainfall in the continental areas). It also reflects in drought, desertification, rising sea levels, erosions, floods, thunderstorms, bushfires, landslides, and loss of biodiversity (Olaniyi, Olutimehin & Funmilayo, 2019). All of these will continue to negatively affect human life and the ecosystems (Dada & Muhammad, 2014). Although, regions experience climate change with important extreme temperatures throughout the dry seasons depending on location while rainfalls throughout rainy seasons assist to keep the temperature at a tender level. Climate change in Nigeria threatens economic growth in sectors depending on climatic conditions (FutureLearn, 2021).

Climate projections for the approaching decades reveal a major increase in temperature over all the ecological zones. This rapid review synthesis's evidence on the impact of climate change in Nigeria (geographic, sectoral, demographic, and security impacts) and responses to address it (i.e. climate change mitigation and adaptation, adaptive capacity, and capacity development). For example, the Great Green Wall of the Sahara Desert is a way to forestall desertification. It is to be implemented in Nigeria in eleven frontline States of Adamawa, Bauchi, Gombe, Kebbi, Sokoto, Zamfara, Katsina, Kano, Jigawa, Yobe, and Borno (Beyioku, 2016). There are a few reports and papers that give helpful proof and discussion of the various impacts of climate change throughout Nigeria. For example, Haider (2019) reported that the vast majority of the literature that provides evidence of climate change impacts and responses, however, focuses on the agricultural sector and individual farming communities in particular regions of the country.

Responding to climate change is a very important phenomenon and many organizations are still only coming to terms with its implications. It requires working together with professionals from other disciplines, with residents and community representatives, with government officials from various levels of government, and with private businesses (UN-Habitat, n.d.). It also involves dealing with different kinds of uncertainty, because most of the benefits of dealing with climate change, such as reduced greenhouse gas concentrations in the atmosphere and better-adapted societies, lie in the future (IPCC, 2007). Therefore, this paper presents the institutional responses to the impact of global climate challenges on Africa: The case of Nigeria Security and Civil Defence Corps

CONCEPTUAL FRAMEWORK

Understanding Climate Change

To understand climate change, there is a need to first understand the difference between weather and climate. Weather refers to the actual atmospheric situations that are being experienced now. It also includes changes that are forecast over the next few days, for example, in temperature and rainfall. Climate can be defined as the kind of weather

that is particularly anticipated in a region. This means describing the scope f circumstances that are possible. Climate change is a long-term move in the average weather circumstances of a region, such as its typical rainfall, temperature, and windiness (Government of Canada, 2020). It also means that the scope of circumstances anticipated in many regions will change over the coming decades. This means that there will also be changes in maximum conditions.

Climate Change Mitigation

Climate change mitigation has been defined in the following ways:

1. It implements policies to reduce greenhouse gas emissions and enhance sinks (Intergovernmental Panel on Climate Change [IPCC], 2007).
2. It is a human intervention to reduce the sources or enhance the sinks of greenhouse gases (United Nations Framework Convention on Climate Change [UNFCCC], 1997).

The first definition refers to the policies to reduce greenhouse gas emissions while the second definition goes further to define mitigation as any human intervention to reduce greenhouse gas emissions. Reducing greenhouse gas emissions to reduce overall long-term climate change is a primary responsibility of high-emissions countries (UN-Habitat, n.d.). It is also important for rapidly developing countries, to avoid high-carbon emissions development that may contribute significantly to climate change in the future.

Climate Change Adaptation

Climate change adaptation is a kind of response to climate change that is focused on the impacts of climate change on the natural and human world. It is defined in the following ways:

1. Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, moderates harm or exploit beneficial opportunities (UNFCCC, 1997).

2. Initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects (IPCC, 2007).

The first definition explains that adaptation is both about human and natural systems, about currently observable as well as future changes, and both about negative and positive consequences. While the second definition introduces the concept of vulnerability. That is, the notion of vulnerability reduction is the ultimate goal of adaptation. Adaptation measures can take a myriad of forms, from technological measures to measures related to planning and design, to social measures such as raising awareness and education (UN-Habitat, n.d.).

SOURCES OF CLIMATE CHANGE

Although natural hazards like volcanic eruptions contribute to climate change, scientists have now discovered that certain human activities are also responsible. Environmental scientists associate climate change effects with the use of the ozone layer in the atmosphere. The ozone layer put a stop to the heat from the sun from getting to the earth at maximum intensity. The ozone layer is consumed when certain gases are released into the atmosphere from human and natural factors (FutureLearn, 2021). These gases are carbon monoxide, sulfur dioxide and chlorofluorocarbon. Once these greenhouse gases contribute to global warming, especially where the heat from the sun is confined to the earth's surface, it leads to excess heat depending on the consumption level and amount of the gases emitted over time.

According to FutureLearn (2021), human activities that cause climate change, especially in Africa are:

1. **Emission of greenhouse gases from vehicles:** Some vehicles emit greenhouse gases such as sulfur dioxide and carbon monoxide from their exhaust.
2. **Burning of hydrocarbon products:** This releases carbon dioxide and other gases into the atmosphere.

3. **Deforestation:** This refers to the cutting down of trees, usually for agriculture. Trees form a protective barrier against the heat from the sun and cutting them down affects this purpose.
4. **Industrial emissions:** Industrial activities and equipment produce greenhouse gases that are emitted into the atmosphere instead.

Consequences of Climate Change

The variations in temperature, rainfall, and humidity associated with climate change could result in the following:

1. The low crop produces.
2. Food shortage.
3. Reduction of income.
4. Public health disaster.
5. Erosion of shelter and road networks.
6. Reduced livestock production.
7. Decreased hydroelectric power supply.
8. Security challenges.

CLIMATE CHANGE POLICY IN NIGERIA

The Nigerian government introduced some of the following policies to aim at mitigating the climate change effects (FutureLearn, 2021):

1. **National environmental policy:** The goal of the National Policy on the Environment is to ensure environmental protection and the conservation of natural resources for sustainable development. Its strategic objective is to coordinate environmental protection and natural resource conservation for sustainable development. This goal will be achieved by the following strategic objectives: securing a quality environment for good health and well-being; promoting sustainable use of natural resources and the maintenance of biological diversity; promoting an understanding of the essential linkages between the environment, social and economic development issues; encouraging individual and community participation in

environmental improvement; raising public awareness and engendering a national culture of environmental preservation; and building partnership among all stakeholders on environmental matters ensuring that gender is mainstreamed at all levels and times (UN Environment Programme and Law Environment Assistance Platform, 2016).

2. **National drought and desertification policy:** This policy was produced to profound solutions by collecting and analyzing environmental information from drought and desertification-prone areas. It also covered the major issues related to climate change in the context of drought and desertification. It made a few policy statements and provided strategies for implementation in the National Drought Plan. The general aim of the National Drought Plan is to provide an effective and systematic means of assessing drought conditions and develop mitigating actions and programmes that will reduce the potential vulnerability and impacts (Federal Ministry of Environment, 2018).
3. **National forest policy:** The policy was enacted to encourage the development of trees so that these trees will provide the preventive gap against the sun's heat. It discussed some climate change adaptation or mitigation measures (e.g. tree planting for carbon credits, drought, and desertification amelioration). According to the Federal Ministry of Environment 2006), the extant national forest policy which is included within the document "Agricultural Policy for Nigeria" published by the Federal Ministry of Agriculture in 1988 recognized forestry as the management and utilization of forests as renewable natural resources. It provides goals, targets, and implementation strategies for the management, development, and use of forests and their resources and products. The Policy is "demand-led" since its stated objective is the development of the forestry sector to meet the increasing national demand for forest products: This is to be achieved through the expansion of Nigeria's forest estate, by among other measures, increasing the amount of forest under

conservation from 10 per cent to 20 per cent (Federal Ministry of Environment, 2006).

4. **National erosion and flood control policy:** It addresses the problems related to erosion and flooding. The general aims of this policy are to protect human life and the environment; minimize losses due to flood and erosion and their effects on vulnerable areas by regulating land-disturbing activities; and control accelerated soil erosion, flooding and sediment disposition in water bodies and water courses to prevent pollution of theses water resources (Law Nigeria, 2011). This policy is to stop the washing away of nutrients in the soil that reduce the quality of growing crops.

RESPONSE OF NIGERIA SECURITY AND CIVIL DEFENCE CORPS TO THE CLIMATE CHALLENGES IN NIGERIA

1. Provision of the Mandate.

The Nigeria Security and Civil Defence Corps (NSCDC) as an institution established by Law and empowered by the Act of parliament in 2003 and amended in 2007 is registered with the International Civil Defence Organization (ICDO) as a 67-member nation with a mandate foundational in disaster management. There is no doubt that climatic challenges and their consequences are subjects to be addressed by the mandate of the Corps. Climate challenges and their consequences are a global emergency which requires a multidimensional global approach. Furthermore, Act no 2 of 2003 as amended in 2007 establishing NSCDC part II (functions of the Corps), paragraph 3(1a) empowers the Corps to rescue the civil populace during a period of emergency. Paragraph 3(1f) also empowers her on the prevention of chemical poisoning, oil spillage, and pipeline vandalisation.

2. Response of Disaster Management Unit to the Climate Challenges.

The disaster management unit is structured to respond to and manage disasters that could arise during climate change and also rescue the civil populace during a period of emergency. The unit can respond

to complex incidents within the framework of the National Crisis Management Doctrine and deal with threats in a built-up area. The officers from the Disaster Management Unit work directly with communities to help support their capability during disasters. The unit also provides security during disaster periods because every disaster site is a potential crime site. However, the Corps collaborates with the National Emergency Management Agency (NEMA) to respond effectively to disasters across the country because it is very important to promote stronger inter-agency support to address the frequent human and nature-induced hazards. This is necessary especially as there is a need to make a new resolve to confront the complex adversities and humanitarian outcomes nationwide.

3. Response of Chemical Biological Radiological Nuclear (CBRN) Unit to Climate Challenges.

The Corp's institutional response has an international affiliation with international bodies like the Organization for the Prohibition of Chemical Weapons (OPCW), a body with the ultimate aim of achieving a world permanently free of chemical weapons and contributing to international security, stability, and complete disarmament of all forms of non-conventional Weapons of Mass Destruction even though Nigeria has not experienced any established threat. The nation had, however, accepted the provision of the convention and became a state party has signed the Chemical Weapons Convention (CWC) on 13 January 1993 and ratified it on 1 March 1999. Since becoming a Member State, Nigeria has strongly supported all efforts to achieve the fundamental objectives of the CWC to prohibit the production, acquisition, stockpiling, retention, transfer and use of chemical weapons, as well as their destruction within a time-bound framework which is recognized as a mitigate to climate challenges.

4. Response of Agro-Rangers Unit to the Climate Challenges.

Also, in response to climate challenges, the role of the Agro-Rangers Unit cannot be overemphasized. The drying up of Lake Chad Basin and droughts especially in the Northern region have caused the

movement of pastoralists with their cattle from one region to another in search of greener pastures and better livelihood. This movement has caused farmer-herder clashes in every region in Nigeria. Thus, Agro-Rangers toil day and night to provide physical security to farmers and farmlands to reduce the incidents of farmer-herder clashes.

5. Response of Gender Unit to the Climate Challenges.

Women's role in climate change adaptation and mitigation cannot be ignored. Interestingly, women have the knowledge and understanding of what is needed to adapt to changing environmental conditions and come up with practical solutions. Proactively, the Corps has made a more productive impact in enacting a Gender Policy to address the issues of sexual and gender-based violence within and outside the workplace. Thus, the Gender Unit works to address women's and girls' vulnerabilities to climate change issues resulting in sexual and gender-based violence. Also, in line with the policy, Female Squad Unit was established to assist in solving gender issues and provide security in emergency cases during the disaster period.

6. The Role of the Corps in the National Crisis Management Doctrine.

A careful study and interpretation of the roles of the Corps revolve around protection and assistance against mass casualties. This made the Corps play a major role and attain the status of the lead agency in Hi-tech disaster incidences of CBRN as documented in the National Crisis Management Doctrine, which was signed by the President of the Federal Republic of Nigeria in December 2021, as a working tool for responses to national emergencies in Nigeria. The NSCDC preparedness strategy majors on mitigation/crisis management which gives birth to the Crisis Management Directorate with relevant and functional specialized departments that major in management and risk mitigation, CBRNE and Counter-Terrorism.

7. The Role of the Corps in Actualizing the Mandate of the Organization for the Prohibition of Chemical Weapons.

It is a known fact that Weapons of Mass Destruction or Mass Casualties is a chemical, biological, radiological, nuclear, or any other weapon that can kill and bring significant harm to numerous individuals or cause great damage to artificial structures, natural structures, or the biosphere. Studies prove that the greatest threat to climate challenges comes from the four principal categories of Weapons of Mass Destruction (WMD), which include Chemical, Biological, Radiological/Nuclear, and Explosive (CBRNE), as stated earlier. They formed the bases and origin of environmental hazards from the aftermath of nuclear and other Weapons of Mass Destruction utilization with its effect causing radiation poisoning in the environment. Radiation poisoning can reduce plant growth, contaminate regional water supplies and greatly affect agriculture. History has it that recent research in China used "nuclear fusion" to build an "artificial Sun" that is 5 times higher in temperature than the "natural Sun". If this research is allowed to subsist, then it is bound to have a great effect on climate change.

8. NSCDC Collaboration with Hi-Tech Agencies.

NSCDC recognizes the National Authority on Chemical and Biological Weapons Convention as the umbrella /coordinating body to work in collaboration with other relevant agencies to achieve the mandate of the organization for the Prohibition of Chemical Weapons (OPCW), which invariably has the potential of mitigating climatic challenges in Africa as well as the globe.

CONCLUSION

A changing climate could have a real impact on military and paramilitary personnel and their operational functions. They could be called upon more often to support civil authorities, and provide humanitarian assistance and disaster relief in the face of more frequent and more intense natural disasters if the climate change issues are not resolved. Nigeria has to adapt to the effects of climate change and

mitigate the negative impact of climate change at the national and individual levels. Mitigation involves enforcing the Nigerian climate change policy and enacting laws that prohibit the release of toxic gases from industrial areas, especially by petroleum companies in the Niger Delta region.

RECOMMENDATIONS

The following recommendations are made:

1. The legislative arm of government should enact a law to ban human activities that contribute towards the depletion of the ozone layer.

   Implementation strategies:

   i. The National Assembly to deliberate and enact a law that will criminalize and control gas emissions as noxious fumes affecting the ozone layer.
   ii. The National Assembly is to charge NSCDC to be responsible for the implementation of this law.

2. There should be public awareness campaigns through mass media channels to educate Nigerians on the cause and impact of climate change on the environment.

   Implementation strategy:

   i. Government to direct the National Orientation Agency to carry out awareness campaigns and advocacy to enlighten the citizens on the dangers of climate change.

3. Other agencies need to partner with NSCDC to solve the reoccurring problems associated with climate change in Nigeria.

   Implementation strategy:

   i. Government to direct deliberate and scientific partnership between NSCDC and other agencies such as Nigerian Meteorological Agency (NiMet), National Emergency Management Agency (NEMA), Federal Fire Service (FFS), Federal Road Safety Corps (FRSC), Nigeria Police Force (NPF) among others.

4. There should be the need for dredging of the Lake Chad basin which could provide water and better livelihood for the pastoralists. This could eradicate or reduce the farmer-herder clashes in Nigeria.

Implementation strategy:

i. All countries bordering Lake Chad (Chad, Cameroon, Nigeria and Niger) to come together for periodic dredging.

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