

Review of Global Climate Change on the Economic Development and Conflict Resolutions in Africa

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Abstract

This paper is an attempt to show that Climate change has been an important factor in agricultural production globally. Evidences suggesting that the increasing concentration of atmospheric greenhouse gas emissions due to human activities is mainly responsible for global warming and climate change. The procedural design for the study entails the use of descriptive method. It also included the use of secondary sources of information, such as published material, Journals and internet. African countries will be severely hit by climate change and weather extremes and need to develop the capacity to tackle this problem in order to ensure sustainable economic development and food security. Failure to integrate climate change impacts into development planning will result in major social, human and economic losses. African countries are more vulnerable than any other region to the world's changing weather patterns. Hundreds of people in Africa depend on rainfall to grow their food thus; climate change risks would be disastrous for Africa if there is change in weather patterns that affect rainfall. This paper therefore concluded that African governments should be actively involved in resolving the climate change related conflicts. African governments should take up climate change and conflict resolutions as top priorities in their national budgets with adequate provision to improve and sustain economic growth and development.

Keywords: Global Climate Change, Challenge, Conflict Resolutions, Greenhouse Gases, Economic Development.

Introduction

The word climate change is used, to describe the changes due to a rise in the average temperature of the environment. The Intergovernmental Panel on Climate Change, (IPCC 2001a; 2001b), define climate change as any variation in climate over time, whether due to natural variability or as a result of human activity. It is the statistics of temperature, humidity, pressure, wind, rainfall, sun shine intensity and other meteorological elemental measurements, in a given area over a long period of time, usually 30 years and above (IPCC, 2007). While weather is the atmospheric condition such as the intensity of sunshine and amount of rainfall for the day. Climate is the average of these meteorological elements collected over a range of time.

Climate change is a concern because it has many impacts, which might be either negative or positive, depending on location and ecosystem. Climate Change is expected to have serious effects on sustainable development in Africa, including, the ability to attain the millennium development goals (MDGs). It has been predicted that even a 20C rise in Africa will have more negative consequences than originally thought as a result of the continent's

relatively greater sensitivity to more frequent extreme weather events (FAO, 2011d). The immediate challenge is to increase production, thus contributing substantially to economic growth and the alleviation of poverty. Emission of greenhouse gases is responsible for global warming and subsequent climate variability. Climate change today is widely recognized as the major environmental challenge facing the globe, and a threat to food production. It is due to this fact that climate change is the most topical issue worldwide, because of its impacts that are threatening man and his environment.

However, recent studies from different parts of the world, (Budyko 1982) and Coakley, 2001) have confirmed the emission of additional anthropogenic induced greenhouse gases to the already existing ones. This has resulted in unprecedented global warming. These include carbon dioxide (CO₂), chloro-fluoro-carbon (CFCs), methane (CH₄) and nitrous oxide (N₂O). The International Energy Agency however, estimates that 37 percent of all man-made carbon dioxide (CO₂) emissions are due to power sector. This produces approximately 23 billion tons of CO₂ emissions per year, reaching 700 tons per second. In fact, this CO₂ continues to heat up our planet, posing a threat to human life and other environmental species, environmental imbalances and climate change.

Moreover, the production of energy by burning fossil fuels, in particular carbon-heavy coal, has a great impact on the environment. Scientists assumed that the average temperature on earth will continue to rise, if current trends in fossil fuel usage and forest degradation continue. The observed warming is most likely (90%) due to the rise in greenhouse gas emissions which appears to be largely the result of human activities.

Based on the conclusion of Intergovernmental Panel on Climate Change (IPCC, 2001), noted, that emission of carbon dioxide to the earth's atmosphere has altered the composition of the atmosphere and caused an enhanced greenhouse effect which raised the earth temperature between 1°C and 2°C. Intergovernmental Panel on Climate change (IPCC) has projected that the average global surface temperatures will continue to increase between 1.4°C and 5.8°C by 2100 (Idowu, 2005).

Climate change is a serious challenge to human livelihoods, because, it increases wide-ranging effects on the socio-economic as well as related sectors, such as water resources, agriculture and flood, human health, settlements, ecosystems, biodiversity and coastal zone (FAO, 2008). For instance, Lake Chad, the sixth largest in the world and the north-east, largest irrigation resource, is rapidly disappearing which is linked to climate change.

Some parts of the globe are equally experiencing extreme drought and flood, attributed to the climatic fluctuation. For example, some areas in the extreme south of England had less than 50 mm of rain during the period. Outbreak of crop diseases was reported and poor performance of barley, potatoes and sugar beef was emphasized. In a similar situation, fluctuations in the amount of yield in Missouri were strongly linked with climatic fluctuation associated with 1930s drought (Stephen, *et al.* 1978). Reporting a farm level study in Bangladesh, Uddin *et al.* 2014, showed that some 88% of respondents indicated that, within

the last twenty (20) years, they have experienced increases temperature, drought and flooding, cyclones and soil fertility.

Global Climate Change Challenge

Climate Change is one of the biggest global challenges. The long-term impacts of climate change in Africa include changing rainfall patterns, suitability of land and altered patterns of agriculture ((UNEP, 2016) and reducing food insecurity, worsening water security, rising temperatures, rising sea levels affecting low-lying coastal areas. Climate Change is a major global threat in relation to the growing world's population and industrialization. However, population alone is not enough to place stress on food security, rising demand from a growing population acts in concert with demographic and socioeconomic changes such as urbanization, changing food preferences, changing relationships with the global economy. Thus, contemporary overconsumption of energy is one central cause of GHG emissions and subsequently, global warming and climate change.

In 2012, seventy percent (70%) of major global droughts occurred in Africa: Kenya, Somalia, Sudan, Malawi, Angola, Chad and Ethiopia were particularly hit hard, and more than 16 million people in those countries were affected (Emergency Events Database (EM-DAT) 2013).

Acute hunger is also a common feature in parts of Africa, causing massive starvation and deaths. A number of notable famines have occurred in Africa, mostly in Sub-Saharan Africa. Examples include Ethiopia (Tigray, 1998), Wole (1973) Nigeria: Biafra (1967-1970). Somalia (1991-1992). Sudan (Darfur, 2003). Although, famines are often linked to drought, there is evidence that poor planning and inadequate access to resources have been as responsible for most of these sufferings and harsh environmental conditions.

In Nigeria, flood has become a recurrent issue in recent years, triggered by rainstorms. The impact of the situation on economy is manifest in a drastic shortage of food and a dangerously increasing food prices as well as massive destruction and displacement. Instances are consistent flood of 2018, 2019, 2020, 2021 and particularly 2022 that claimed lives, crops and properties and infrastructures.

A number of factors are responsible for the challenges facing African agriculture such as degraded soils, pests, crop disease, weeds, water and wind erosion are exacerbated by overgrazing and improper agriculture practices (FAO, 2011). Climate change poses a significant and unique challenge to Africa, because so much of its economy depends on a climate-related sensitive natural resource base such as rain-fed and subsistence agriculture. Climate change has reduced economic growth across Africa, increasing income inequality between Africa countries and those in temperate northern hemisphere climates. One estimate suggests gross domestic product per capita for 1991-2010 in Africa was on average 13.6% lower than if climate change had not occurred. Impacts manifest largely through losses in agriculture, as well as tourism, manufacturing and infrastructure.

Climate change poses a serious sustainable agricultural production and food security in many parts of the world. The situation is made worst due to factors such as widespread poverty, over dependence on rain-fed agriculture, limited access to capital and technology. By implication, climate extremes would lead to increased government expenditure and a reduction in the volume of collected revenue, ultimately resulting in a possible increase in government debt. Increasing negative impacts of climate change on both the Gross domestic product (GDP) per capita and the development capacity of most African countries could reduce Africa's ability to cope with the current and future impacts of climate change. Africa's rapidly growing cities will become hotspots of risks from climate change and climate-induced in-migration, which could double pre-existing stresses related to poverty, socioeconomic as well as governance. Over 2.6 million and 3.4 million new weather-related displacements occurred in Sub-Saharan Africa in 2018 and 2019. These factors will impede economic development across Africa, which already are resulting in lower growth and development. In their 2007 Fourth Assessment Report, the UN's Intergovernmental Panel on climate change noted that Africa is one of the most vulnerable continents to climate change and variability, despite its least contribution to the global greenhouse gas emissions, yet key development sectors have experienced widespread losses and damages attributable to human-induced climate change, such as biodiversity loss, water shortages, reduced food production, loss of lives and reduced economic growth.

It should be noted that, one third of the African population already lives in drought-prone areas. Six of the ten largest cities in Africa are located on the coast (Garcia, 2008). The Niger Delta alone is home to about 20 million people. In West Africa, 40 percent of the population lives in coastal cities and is expected that the coastline between Accra and the Niger Delta will be fully urbanized, with more than 50 million inhabitants in the coming years (Hewawsam, 2002).

Statement of Research Problem

Africa being the least responsible for greenhouse gas emissions is almost universally seen as the continent most at risk of climate induced conflict, because of its reliance on climate dependent sectors such as rain-fed subsistence agriculture. Climate change threatens the livelihoods of the people in extreme poverty. Agriculture is critical to African's economic growth and development while climate change could seriously increase food insecurity, limit economic growth and development and increase risk for agricultural sector. For instance, the Sahel is largely dependent on rain-fed agriculture and it is already hit regularly by drought and floods, both which destroy crops and reduce yield.

According to the International Food Policy Research Institute (IFPRI), by 2050, climate change will lead to higher temperatures and mixed rainfall, to changes in crop yields and growth of the agricultural sector, higher food prices, less availability of food and increased child malnutrition.

Warming in Sub-Sahara Africa is expected to be higher than the global average and many regions of the continent will get less rainfall. Reduced rainfall will be particularly devastating

in those countries that are heavily dependent on rain for agricultural production. With Africa's rate of population growth food supply will be hard-pressed to keep up with demand. Failure to reduce global warming hurts all countries on the globe, but African countries, because they are most vulnerable will be hurt most and this will impede economic growth and development. The responsibility to address these challenges lies in the national African governments' cooperation.

Research Questions

- Which climate hazards impact African livelihoods, economies, health the most?
- What are the limits and benefits of climate change adaptation in Africa?
- How can African countries secure enough food in changing climate conditions, for their growing populations?
- How can African local knowledge serve climate adaptation planning more effectively?

Research Objectives

- This research work aims to provide a reference towards understanding the impact of global climate change on economic development and conflict resolutions in Africa.
- It also intends to provide information on conflict in overcoming the effects of adverse climate conditions.

Conflict Issues and Economic Development in Africa

Zartman (2000) asserts that it is obvious that conflict is an inevitable aspect of human interaction. Conflict is thus multi-dimensional and several factors account for conflicts in Africa, such as autocratic governance, artificial boundaries, widespread extreme poverty and scarcity of basic necessities of life, resources sharing, food insecurity and religious conflicts, among others (OSSA, 2005). Conflicts remain prevalent in Africa and Nigeria in particular. It is undeniable that no country is unilaterally homogenous and as a result of this, conflicts are bound to occur.

In any nation of the world, limited resources can cause conflicts especially when such resources are not evenly distributed. In Nigeria for example, the country's heavy dependence on oil has led to instability, environmental degradation and economic exploitation and unfavourable conditions for life. Oil spills and gas flaring have contaminated, degraded and destroyed the mangrove forest and water bodies of the oil producing areas particularly the Niger Delta region, thereby causing loss of yields of crops. Conflicts between communities and oil companies in the Niger Delta, was a result of oil exploration.

It was also argued that climate change is already playing a role in existing conflicts. A report in 2007 by UNEP noted that, the conflict in Darfur has been in part driven by climate change and environmental degradation. This is because Darfur conflict began as an ecological, in part from climate change (KI-moon, 2007). De Waal (2005) argued that responsibility for

the conflict lies primarily with power and governance rather than water and pasture. He noted that mismanagement and militarization caused the war and massacre.

Competition over agricultural land also initiates conflict. The conflict in land use between arable farming and pastoralism in Nigeria, as elsewhere on the continent, is basically a systematic one, arising from differences in the perception of land resources, the institutional tools for utilizing the land resource base, and the processes of land utilization between the two systems of production. As the regional population increases (whether in terms of the farming population or pastoralists or, even worse, both communities), pressure builds up on land resources.

The farming population, in particular, expands its territorial claims on land. This makes it increasingly difficult to separate the two land use systems spatially during the critical growing seasons, and a stage of occasional clashes may develop into a stage of frequent clashes and general social instability, depending on the degree of pressure. Within this conceptual framework, we can appreciate the rapidly deteriorating relationship between arable farming and pastoral nomadism in some parts of Nigeria as elsewhere in Africa.

Clashes between pastoral and farming communities linked to disputes over grazing land, have become frequent in parts of Central and northern Nigeria in recent years. In Kwara state, Nigeria, clashes over grazing land between pastoral and farming communities has led to significant conflict in most cases among Fulani and local farmers. Such conflict has risen from farm encroachment on cattle routes and sometimes watering points. The cows stray into the fields and eat the grain of local farmers. The intensity of conflicts in Kwara state claimed lives and crops.

Priority Areas for Economic Development in Africa

Climate change poses a serious threat to sustainable agricultural production and food security in many parts of the world and in particular Africa as a vulnerable to climate change. African countries under the leadership of African Union should focus on the following areas for economic growth and development: land degradation, decreasing forest cover, biodiversity interference, water supply variability and overexploitation of fishing grounds. It is suggested that if these priority areas are focused, it would improve growth and economic development in Africa.

Conflict Resolutions in Africa

Africa, the least responsible for greenhouse gas emission, is almost universally seen as the continent most at risk of climate-induced conflict, mostly climate-dependent sectors, such as rain-fed agriculture. Over the years, the literature on conflict has reflected tensions between conflict management and conflict resolution. Those two issues seem to have been joined by the general acknowledgement that the process of conflict management can be effectively resolved towards conflict resolution. In a related context, it has been suggested that different phases of conflict such as pre-crisis conflict and post conflict stages may

require different governance, structure and systems. Conflicts at global level can be resolved through any of the international organizations: ECOWAS, UN, and AU among others.

Peace as Instrument of Unity and Economic Development in Africa

The fact that no meaningful development can be obtained in an atmosphere of rancor and chaos is undisputable (Alabi, 2012). A society engulfed by war, conflict and turmoil is likely to experience retardation and stagnation rather than progress and development. Growth and development especially in a multiethnic and diverse nation like Nigeria can only be attained when the people co-exist peacefully irrespective of their diverse culture and various religious beliefs. The importance of peace as an instrument for unity and economic development can better understood by considering the following:

- i. Peace guarantees absolute security in the continent and when it is lacking, there can be no security and conflicts always result.
- ii. Peace is a ticket for economic development in the continent
- iii. Absence of crisis or war moves the continent forward.
- iv. It paves way for technological development.

The Role of African's Regional Organizations in Conflict Prevention and Resolution

Africa has been characterized by many conflict situations that have resulted in the loss of millions of lives, widespread displacement and a wide range of human abuses. Today Africa accounts for about 70% of the United Nations Peace-keeping operation in countries, such as Liberia, Cote d'voire, Sudan and the Democratic Republic of Congo. The African Union and sub-regional organizations such as the Economic Community of West African States (ECOWAS) and the Intergovernmental Authority for development and community have shown their resolves and commitment to preventing and resolving conflicts on the continent. The African Union has succeeded in settling dispute, conflict and crisis among African countries. The 2030 agenda for sustainable development and agenda 2023 of the African countries, under the leadership of African Union, recognize the threat posed by climate change, and have been actively participating in global climate negotiations. The New Partnership in Africa's Development (NEPAD) is a pan-African programme initiated in 2001. It aims to spearhead efforts for positive political and economic change in Africa by enhancing Africa's growth, development and participation in the global economy.

However, recent years have seen the steady improvement of Africa's economic prospects, in the reduction of levels of conflicts, in the quality of governance, and the numbers and nature of its constituent regional economic communities, through their security architecture, have developed into key players in the reduction of conflict in the region.

Conclusion

Improving our understanding of the changing climate dynamics and its impact on economic

development across the world is a major challenge faced by International and Scientific Community. The scope of this challenge is much more significant for Africa due to the low level of institutional and scientific capacity in the continent. For example, if climate change leads to drops in agricultural production on a wide scale, prices of many food commodities may rise, leaving individuals and countries financially overstretched. It was reported that future warming will negatively affect food systems in Africa by shortening growing seasons and increasing water stress. However, the extent of future climate change depends on what we do now to reduce greenhouse gas emissions. The more we emit the longer future changes will be.

Recommendations

The paper therefore recommends the following:

- Greater attention needs to be paid to potential contribution of agriculture to greenhouse gas emissions.
- As African agriculture develops, support should be given to techniques, process and models which do not contribute to emissions.
- African national governments should be prepared to adapt to or mitigate the effects of climate change.
- African Union need to cooperate together in order to play their role in the global governance of climate change.
- African governments need to design social safety nets and greater empowerment of the poor for improving climate change resilience issues.
- Vulnerable segments of society need to be identified and set aside the necessary resources to reach out to these vulnerable groups.

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