

IMPACT OF CLIMATE CHANGE POLICIES ON AFRICA'S DEVELOPMENT CONCERN

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Abstract

Is there a need for Africa to participate in Climate Change Negotiations? Can Africa play any significant role in controlling the human causes of climate change?

This paper discusses the impact of the multilateral agreements with concerns to climate change, and analyses the role that African states play in response to the growing crisis. It also examines the diplomatic strategies involved in such negotiations, how they are initiated and the politics involved. The paper has discussed in simple aspect the science of climate change. My argument is that African states are getting involved in issues they have little to say about. That they implement policies that benefit the western countries and as such, lag behind implementation of their development projects.

Introduction

With the increased transformation or rather, advancement in technology, it is becoming easier to make scientific predictions that in reality, affect the day to day activities of the human community. The field of meteorology has benefited much from such technological advancements, and it is now easier to forecast the weather patterns within specific time frames. The details of such methodology is not what I intend to discuss here, but how the predicted patterns of climate change, the daily weather patterns experienced by different regions, are influencing the foreign policy orientation of many African states.

People in each culture develop certain responses to common situations. These responses to certain stimuli make it possible to predict behaviours and therefore persuade others....when a group of people wants to change your way of thinking to its way of thinking without consideration of your values or beliefs, this is brainwashing (Hogan, 2003)

Placid Tempels, in his book, *Bantu Philosophy*(Presence Africaine, 1959) notes that behavior can neither be universal nor permanent, unless it is based upon a concentration of ideas, logical system of thought, a complete positive philosophy of the universe, of man and of things which surround him, of existence, life, death and of the life beyond.

This is truly scientific, and responds to the quest of living, how we must exist with each other and how, in political perspective, the survival of nation-states persists in the international agenda.

Broadhead (2002) has henceforth coined a term, “Green Diplomacy’ to refer to a situation where governments around the world send out diplomats – adroit negotiators with an eye to national interest – to bargain over details with their counterpart in the hope of establishing rules to govern behavior in areas deemed to be suffering as a result of human action.

He argues further that nature is considered instrumentally (i.e. in terms of its use as a means to an end) and humans are most certainly seen as being outside nature and able to fix any problem arising by developing even more advanced technologies. There is a fundamental problem with this instrumental view of nature, the underpinnings of which allow one group of green diplomats to negotiate international action, for instance, ozone depletion, without recognizing that their actions are deepening the problems of global warming.

That the exploitation of natural resources has long played a central part in the musings of interstate power struggles. The dominance of the realist school of thought in the aftermath of world war II echoed widely held belief that, the natural world could be considered as nothing more than stocks of resources that could be brought under control in the interests of industrial production (including war-fighting capability) and therefore, as an important element in calculation of power. Hans Morgenthau – widely regarded as the grand master of realist thinking – argued (correctly) that “as the absolute importance of the control of raw materials for natural power has increased in proportion to the mechanization of warfare, so certain raw materials have gained importance over others. The objective then was to ensure the national interest of the state by protecting the existing resources and ensuring access to those that were not plentiful within states boundaries.

It is thus evident that human effects on climate change, as I shall discuss later, are all as a result of the quest for natural resources, greed of international power and more so, the advancement of technological methods in acquisition, processing and extraction of natural resources.

Christensen et al. on the report of the ecological society of America committee on the scientific basis for ecosystem management (Journal for the Ecological Society of America, 1996) explains that “Ecosystem management is management driven by explicit goals, executed by policies, protocols and practices, and made adaptable by monitoring and research based on our best understanding of the ecological interactions and processes necessary to sustain ecosystem composition, structure and function.

Hanna J. Cortner and Margaret Moote (1999) argues that ecosystem management involves preserving intrinsic values or natural conditions of the ecosystem; commodities are secondary by-products, much like interest on capital. The first priority is conserving ecological sustainability; levels of commodity and amenity outputs are adjusted to meet the goal. Science is viewed highly uncertain, evolving and multidisciplinary.

It is on this note that we must now delve into the science and politics of climate change before we explain, in diplomatic perspective, the impact of this crisis on international relations per se.

UNDERSTANDING CLIMATE

To understand the issues involved on the topic of climate change, we must first understand what climate change really is, what determines climate change and why it is so important to negotiate on the future of climate. This is only possible if we invite some clarification from the natural scientists after which we shall explain these transformations in a social context.

The physics and chemistry of Earth's atmosphere largely determines our climate. The Earth's atmosphere is layered. In the lower atmosphere, from the surface up to about 11-km (troposphere), temperature decreases with increasing altitude. This layer is about 1/1200 of the diameter of the globe, but its physics and chemistry are crucial to sustaining life on planet. Because the cold dense air on top of warm less dense air is unstable, the layer is fairly turbulent and well mixed. It contains 99% of the atmospheric mass. From 15 to 50 km, the temperature increases with altitude, resulting in a stable upper atmosphere (stratosphere) with almost 1% of the atmosphere mass. Above 50 km are the mesosphere and the thermosphere, which have little effect on climate.

Three primary gases make up 99% by volume of Earth's atmosphere – Nitrogen (78.09%), Oxygen (20.95%) and Argon (0.93%). However, it is the rare trace gases, that is, Carbon dioxide (CO₂), Methane (CH₄) Carbon Monoxide (CO), Nitrogen Oxides (NO_x), Chlorofluorocarbons (CFCs) and Ozone (O₃) that have greatest effect on our climate.

These trace gases are known as **green-house gases** or radioactively important trace species (RITS). They are radioactively important because they influence the radiation balance or net heat balance of the Earth.

The important feature of greenhouse gases is that they absorb certain infrared wavelengths, thus, they trap heat in the troposphere and stop it from escaping to space. Therefore, the greater the concentration of greenhouse gases, the greater the amount of heat trapped in the lower atmosphere.

Climate Change is therefore defined as a change of climate that is attributed directly or indirectly to human activity that alters the composition of global atmosphere and which is, in addition to natural climate, observed over comparable periods of time.

It is argued that green house emissions of one country affect all countries. The solution to such a global problem can only come through international cooperation.

Many of the negotiators in climate policies have brought strategic concerns as a priority to any multilateral or bilateral agreements. That the science of climate change, like all science, contains some degree of uncertainty. Thus, in the face of uncertainty, many policy makers, as well as scientists and individuals, advocate the precautionary principle. That taking action to reduce greenhouse gases will be less costly now than waiting until later.

To achieve greenhouse gas emission reductions, governments have formulated national policies and signed international agreements. Almost 100 countries have agreed to an international treaty – the 1997 Kyoto Protocol – to reduce greenhouse gas and lessen the rate of climate change. However, some argue that science has not yet proven beyond a doubt, that climate change will result in a significant damage to ecosystems. They believe that reducing fossil-fuel use will place too large burden on industry and economy.

THE POLITICS OF CLIMATE CHANGE

Many politicians and policy makers claim that climate change is not only the most serious environmental problem currently facing the world, but also, one of the most important international problems per se. That many nations were varied as per “What do we know about climate change”.

In 1988, the Intergovernmental Panel on Climate Change (IPCC) was jointly established by the World Meteorological Association and the United Nations Environmental Program to provide member governments with state of the art assessments of the science, the impacts and the economics of – and the options of mitigating and /or adopting to - climate change (IPCC 2001c,p.vii).

It has been continuously becoming an issue of development for those African countries involved in balancing and checking of how the climate change policies impact on their national politics, economy and wellbeing.

It is true to say that the problem described as Climate Change is as old as the industrial revolution that was witnessed in Europe during the sixteenth century, and it will even be more accurate to express the issue by postulating that climate change problem came about because of wealth creation and can only be solved if we use that money to address the problem.

Africa is a third world, and it is evident that the poorest countries on earth are found in Africa hence science proves that climate related deaths are highest in Africa and are very minimal in other continents. This prompts the issue of injustice. That climate issue is more of an issue of justice.

As argued earlier by Broadhead; that the exploitation of natural resources has long played a central part in the musings of interstate power struggles, this has much weight in this paper. And many scholars insist that Africa has been absent on climate change negotiations, though represented, the issue has not formed the agendas of the state leaders. That problem of

desertification is unguided, that poverty still strengthens as a social ill. While the western countries are getting stronger, richer and technologically advanced, Africa is bearing the burden of becoming a good boy in the arena. We provide the west with resources, they continue to produce more greenhouse gases and it is Africa that experiences the evils associated with accumulation of the radioactively important trace species, commonly referred to as the greenhouse gases.

It is further argued that in order to stem the problem of climate change, there shouldn't be any poverty reduction paper developed in absence of climate consideration. That Africa, as a continent, is different from the rest of the world. Thus different countries must be treated differently when implementing these climate change policies.

The African Center for Technological Studies (ACTS) defines climate change to mean, permanent changes in traditional mean climate conditions of the local environment.

In recent and ongoing climate change debate and negotiations, the majority of African policy makers have partially attributed their national socio-economic constraints, in relation to climate change, to drought, floods, diseases, pests and other calamities. In an attempt to address these disasters, African national development plans have, as a general rule, focused on alleviation of poverty, improvement of social welfare and investment in income generating activities.

Africa faces severe land degradation resulting from agricultural activities, deforestation, human settlements, desertification, poor crop choices and poor land practices. As scientists have noted, land deterioration is a severe threat to climate stability, Africa has a role to play in stabilizing global climate conditions. But, must Africa play its role at the expense of its populace or must it play its role in the light of being a participant in this process. These and many more continue to be the questions asked by negotiators or green diplomats in the global arena when discussing the issue in detail. We will thus have to examine the theories of International relations that support biased concerns in defense of Africa's Strategic Interests in climate change talks.

CLIMATE CHANGE EFFECTS ON AFRICA

Globally, climate change will modify risk characteristics through: (a) increased frequency and intensity of extreme climatic hazards, such as drought and flood, (b) occurrence of hazards (such as malaria) in areas previously free from their impacts, and (c) increased vulnerability as climate-induced hazards exacerbate underlying risk conditions, such as sea-level rise.

The impacts of climate change in Africa are likely to encompass the following (AfDB et. al. 2002):

- (a) increase in drought, flood, windstorms and other extreme climate phenomena will negatively affect water resources through reduced freshwater availability, food security, human health (such as spread of malaria in the arid zones), industrial production and weakened physical infrastructure base for socio-economic activity, resulting in reduced development;
- (b) changes in rainfall (including likely wetting in east Africa and drying in southeast Africa) and more intense land use will result in increased deforestation, loss of forest quality and woodlands degradation across the continent that will worsen desertification (particularly in west, northern and southern Africa). This will exert greater pressure on already strained coping strategies and will very likely result in increased poverty;
- (c) Sea level rise leading to coastal erosion and flooding, particularly in west, eastern and north Africa, and bleaching of coral reefs along the Red sea and Indian ocean coastal zone. With more than one-quarter of the population living within 100 km of the coast and most cities concentrated along the coastline, the vulnerability to marine-induced disaster from tidal waves and storm surges will increase;
- (d) the decrease in river basin run-of and water availability for agriculture and hydropower generation due to changes in rainfall and river sensitivity to climate variation will likely result in increased cross-boundary tensions. This will result in more conflicts, intensification of existing conflicts or reduced ability to resolve them.

RESPONDING TO CLIMATE CHANGE IN AFRICA

There are two basic approaches to responding to climate change: mitigation and adaptation. Mitigation refers to limiting global climate change through human interventions to reduce sources, or enhance the sinks, of greenhouse gases. Thus, mitigation aims at improving long-term climate patterns by reducing the hazard of climate change impacts.

The second approach to responding to climate change effects is to change human use patterns of the earth system so as to better adapt to climatic conditions before excessive or unsustainable losses occur. Adaptation is defined as adjustments in ecological, social or economic systems in response to actual or expected climatic stimuli and their effects or impacts. Adaptation aims at moderating the adverse effects of climate change by reducing vulnerability to climate effects through a wide range of interventions.

The two approaches of mitigation and adaptation are not mutually exclusive in responding to climate change effects: both are necessary in addressing climate change risks. However, the choice of either approach, or the optimal combination, depends on several considerations, including the underlying nature of climate risks, the development context of decision-making and time-lags to realize benefits of implementing the specific approach.

GENERAL STRATEGIES FOR ADAPTING TO CLIMATE CHANGE

The following six general strategies for adapting to climate change should form the basis for developing adaptation responses to be mainstreamed into development instruments:

- (a) preventing losses, for example increasing the resilience of infrastructure and physical development and reforesting degraded hillsides
- (b) reducing losses to tolerable levels, such as improving management of climate-sensitive natural resources and economic production systems, promoting economic diversification to reduce over reliance on climate-sensitive primary industries, and, emphasizing agricultural processes that guarantee minimum yields even under the worst conditions
- (c) sharing or spreading risk, to ease the burden on those directly affected by climate change, such as through insurance or disaster assistance
- (d) changing a use or activity that is no longer viable, such as retrofitting a thermal power station with combined cycle gas turbines to enhance conversion efficiency
- (e) changing the location of an activity, such as re-siting critical service infrastructure restoring sites, such as reclamation of degraded coast land

THE POLICY CONTENT OF ADAPTATION TO CLIMATE CHANGE

The ultimate objective of the UNFCCC Convention is to achieve, in accordance with the relevant provisions of the Convention, stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

Briefly, the Convention prevails upon countries to, among other things, formulate, implement, publish and regularly update national and where appropriate, regional programmes containing measures to mitigate climate change; cooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas, particularly in Africa, affected by drought and desertification, as well as floods.

In addition, signatories are expected to take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimising adverse effects on the economy, on public health and on the quality of the environment, or projects or measures undertaken by them to mitigate or adapt to climate change.

INTERNATIONAL THEORIES TO APPROACH ON GLOBAL ECOLOGY

John Cairn (2003) notes: It is well to remember that all sustainability strategies involve both micro and macro – co evolution of human societies and natural ecosystems. If successful sustainability strategies are developed, they will also require coevolution in understanding among policymakers/managers and natural and social scientists. These coevolution strategies will greatly influence sustainability issues, as well as how humans behave towards the environment, those in other cultures and financial mechanisms. Most importantly, it will require abandoning the many unsustainable cultures found in almost every culture on the planet and substituting sustainable practices despite the attractiveness of the unsustainable ones to which humans have become accustomed. These are groups unaccustomed to working together on a long term, meaningful basis on such complex issues as sustainability strategies. At worst, some groups have no regard or trust in some of the other groups, and, at best, there is often poor understanding on the ways in which other groups function. Ethics is an obvious ‘bridge ’between groups, so that misunderstandings can be reduced.

John Cairn (2003) explains that ecotoxicology (the science of the potential effects of toxicants upon the biosphere) is a logical extension of the field of toxicology (the science of the effects of the chemical substances upon individual organisms). Literally, ecotoxicology applies to all biological organization levels, from a single species embedded in its niche to the biosphere, including humans.

That humankind is engaged in global experiment in which there has been a massive change in both biological and physical worlds. Most of these effects were unintended (e.g. holes in the

ozone layer, global warming, biotic impoverishment/species extinction), but it does not diminish the severity of the consequences. Humankind has introduced toxicants into the ecosystem at a large scale and in a short time. By being ignorant of the experiment does not exempt humankind from the consequences, nor does it excuse them from the responsibility for the experiment and fate of other species in the experiment. Thus the rate of growth of science must not outpace the growth of ethics.

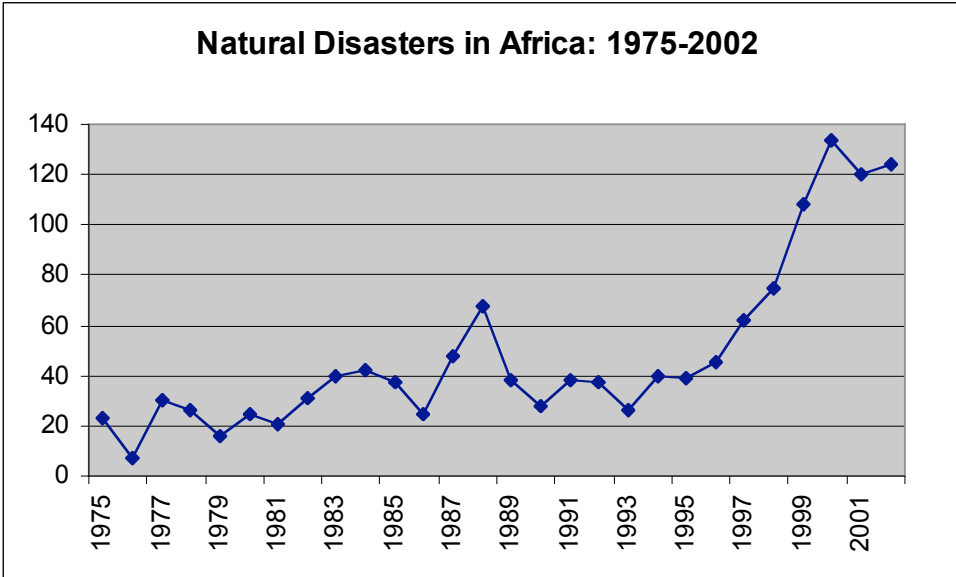
Sustainability ethics, the ethics of a sustainable world, appears to be the most promising means of reestablishing the feeling of connectedness, before a global catastrophe results from unsustainable practices. Ethics offers the pattern of transcending the many isolating mechanisms that have resulted in culture wars, which will most certainly be exacerbated by resource wars. It is imperative that humankind live sustainably and in harmony with other life forms. Failure to adopt new conditions resulted in extinction of species long before humans appeared on the planet. The human race cannot plea with nature. It can however, develop an ethic compatible with the desire for a sustainable world.

Robert Nisbet (1973) explains 'ecological' as a mode of communication. This word, in its Greek root, *oikos*, refers directly to the household and, by clear implication, to the natural and harmonious interdependences of household economy. This is the sense in which Aristotle uses *oikos*. In post-Darwinian usage, ecology has reference to the natural interdependences found among organisms, including human beings, and between organisms and their environment. In our day, the world has come to take on an added dimension of meaning, one that is moral, concerned with preserving or restoring environment in such a way that now-threatened interdependences among human beings and other organisms, and the myriad physical and biological contexts of these interdependences, may be protected, or else the ground laid for their renewal.

Prof. Otto Kinne explains that life on earth has evolved and exists in ecosystems. Healthy ecosystems are the prime prerequisite for the continuation of life as we know it. That dynamic forces of ecosystems control creation, maturation and death of all forms in which life manifests itself. In ecosystems, everything changes, everything flows. In contrast, traditional ethics tend to

resist change and to be static; in addition, they are one-sided and focus on a single life form among millions – Homo Sapiens.

To be able to meet the immense tasks confronting modern humanity, we need a new ethical concept – a construct that extends beyond the narrow and self-centered world we have built for our immediate ends. We need a construct that can grow, adapt and mature in concert with nature and humanity and that is open to change, development and critique.



Source: From the EM-DAT: The OFDA/CRED International Database

CONCLUSION

Climate is important for development but natural climate fluctuations from autonomous climate cycles (such as those linked to the El Nino phenomenon) disrupt ecological, economic and social systems. However, human factors have also impacted local and global climate patterns.

Continued rates of high population growth, increasing reliance on fossil fuel-driven growth technologies, and, land use effects, (particularly urbanization, agriculture and deforestation) cause global climate change, largely due to increases in concentrations of atmospheric green house gases (GHGs) and aerosols. Together with natural climate variability, long-term climate changes are showing clear impacts on development and ecosystems. Globally, activities that have contributed to climate change are continuing and are adding momentum to changes that will be evident in the future. Therefore, the earth's climate is very likely to change over the decades to come, with likely adverse effects such as increases in temperatures, sea levels and extreme weather events.

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