

Africa's Climate Change Strategy: Case Study South Africa

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Introduction

There is an increasing amount of evidence across the academic community which proves beyond any shadow of reasonable doubt that the world is in the midst of an anthropogenic climate change. The world is getting warmer, sea levels are rising and human activity is largely responsible for this. According to a recent report by national geographic, "as humans continue to pour greenhouse gases into the atmosphere, oceans have tempered the effect. The world's seas have absorbed more than 90% of the heat from these gases, but it's taking a toll on our oceans: that 2018 has set a new record for ocean heating" (geographics n.d.) This rise in ocean temperature is very alarming as the Oceans play a very important role in regulating the earth temperature which is necessary so that the earth can continue to be suitable for human existence. Our very lives are inseparable to the health of our environment. A report by NASA's Global climate change Education initiative claims that warming climate is rising sea levels at a rate of more than 3 millimetres (mm) a year. That this sea level rise will have increasingly serious consequences for human health and life quality, with coastal populations at risk for dislocation due to flooding (Planet 2019). If this challenge of global warming is not addressed we are bound to see and experience more environmental hazards to human health, such as extreme weather, ozone depletion, increased danger of wild land fires, loss of biodiversity, stresses to food – producing systems and the global spread of infectious diseases. In addition climate change is estimated to cause around 150, 000 deaths globally each year.

In Africa there has been independent studies conducted on the impact and effects on climate change on the continent. According to the Intergovernmental Panel on Climate Change (IPCC, 2006a), there has been a warming of approximately 0.7°C over most of the African region during the twentieth century. According to the report this warming occurred at the rate of about 0.01°C per decade and is expected for the next two decades, even if greenhouse gas and aerosol concentration are kept at the year 2000 level. The report also states that extreme events including floods and droughts are becoming increasingly frequent and severe. Those certain regions of Africa are more prone to such extreme events than others. Most recently we have witnessed a deadly cyclone Idai, which tore through Southern Africa and devastated Malawi, Mozambique and Zimbabwe. The tragedy, left hundreds dead, many more missing and millions of people left destitute without food or basic services. A second disaster, cyclone Kenneth then followed hitting northern Mozambique – which delivered another massive blow to the country (International n.d.). It is probable that the increased frequency of recorded disasters is a result of a combination of climate change and socio-economic and demographic changes (B.Osman-Elasha n.d.).

Africa is particularly vulnerable to climate Change because currently it is faced with a number of interlinked challenges. These challenges include land degradation, poverty and climate change. These challenges are referred to as "wicked problems" since they are complex and caused by a number of factors, many of which have global dimensions. What further exacerbates the problems is that the African continent is exposed to damaging climate risks including extreme drought, flooding and storms (Vogel 2015). Indeed, these will remain wicked problems if there is no sense of urgency and political will to remedy the effects of climate not only for today but for the future generations of people who will inhabit the earth.

Furthermore, the high rate of poverty, financial and technological constraints and heavy reliance on rain-fed agriculture leaves Africa exposed to the dire consequences of Climate change (Vogel 2015). That other non-climatic factors like high prevalence of disease, chronic conflicts, low levels of development are just other is which make the African in danger of suffering severely from the effects of climate change.

The challenge of climate change in Africa and its effects is a growing one on the African continent and there is a desperate need to address it in one form or another. What appears to have made and still makes this challenge worse is the incapacity of the continent together with other international partners, to take effective measures to eradicate the global threat of climate change indefinitely. Historically, we have seen some African initiatives. For instance in 1988, the Executive director of the United Nations Environment Programme (UNEP), Dr. Mustafa Tolba, and Prof. G.O.P Obasi, Secretary General of the World Meteorological Organization (WMO), decided to bring together a team of climate scientists, academics, researchers and meteorologists to investigate the causes of climate change and the unprecedented warming of the planet.

The initiative taken by the two distinguished scientist of Africa led to the establishment of the IPCC, the leading international scientific body on the causes of climate change, its socio-economic impacts, and the challenges facing countries on mitigation and adaptation. The Assessment Report issued from time to time by the IPCC is the most authoritative source of information on climate change ((OSAA) n.d.).

The Organisation of African Unity (OAU) now referred to as African Union (AU), is trying to address challenges on the continent and one of them is climate change and the above mentioned effects. In some cases African Union (AU) has been successful to a certain degree in dealing with climate change. For example, setting up institutions to fight climate change, and enhancing research, education, awareness and advocacy on issues related to climate change. Although the effects of climate change continue to be felt with increasing frequency in some regions of the continent, the AU has played an important role in trying to improve the situation.

The African Union, through a number of legal instruments and frameworks, has created strategies to deal with the global threat of climate change through the African Unions strategy on climate change. The African Union has played a key role in ensuring that Africa takes a united stand in global negotiations and evolving mechanisms. The African group of negotiators in the UNFCCC processes, inputs from relevant STCs, the work of the CAHOSCC and AMCEN has been brought into a coherent AU framework. The African Heads of State and Government, having appreciated the gravity of the climate change challenge unfolding in the continent, made a number of seminal decisions to help Member States deal effectively, efficiently and equitably with the risks posed by climate change((OSAA) n.d.).

If nothing is done to mitigate the global threat of Climate challenge then future generations are will face dire consequences. According to the IPCC report the projected impact of climate change will affect a wide range of systems and factors. These includes a serious and negative impact of fresh water resources and their management, Ecosystems for example through the acidification of Oceans, Food, fibre and forest products for example there will be less yields of crops due to droughts etc, coastal erosions in low lying areas.

Defining Climate Change

Today, there are various definitions of climate change. Some consider human activity as the cause of it, and other scholars believe that it is a natural process. However, the most widely accepted and scientifically proven definition in my opinion is the one by the United Nations Frame Convention on climate change.

(UNFCC) defines climate change as; “Climate change” means change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

The intergovernmental Panel on Climate Change (IPCC) refers to climate change in the state of the climate that can be identified (e.g. using statistical tests) by changes in the mean and/ or the variability of its properties and that persists for an extended period, typically decades or longer. It refers to any change in climate over time, whether due to natural variability or as a result of human activity.

This usage differs from that in the United Nations Framework Convention on Climate Change (UNFCCC) where climate change refers to a change of climate that is attributed directly or indirectly to human activity that alters that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods (change 2011).

Climate change in Africa

Africa regards the global climate change crisis as the defining challenge of our time. From the evidence of science and the scenarios projected by the world climate experts and the community of scientist, it is acknowledged that Africa as a region will bear the greatest brunt and suffer the worst devastating effects from the virulent excesses caused by the world’s most gigantic externality. African countries have been the aggrieved party all along considering that they virtually played no part in precipitating the menacing global threat. This has been all the more excruciating because the historic emitters have shown no factual interest in assisting Africa evolve resilient economics. Moreover, many of the historic emitters are expected by Africa to demonstrate greater sensitivity towards the principle of common but differentiated responsibilities, because their acceptance would mean subscribing to the canon of equity ((OSAA) n.d.). The historic emitters of carbon dioxide should be encouraged to reduce their carbon emissions drastically and to shoulder most of the responsibility in addressing the impact of climate change. Africa should continue with its commitment to credible global scientific evidence based approach in alleviating the effects of climate change. However, Africa should also unite against any external efforts which seek to impose climate change policies which hinder the much needed economic development and threaten or question the very existence of the people. Climate change policies should be sensitive to the different cultures, religions and feelings of the African people in order to be successful and widely accepted on the continent.

Climate Change in South Africa

According to report by South Africa's second National Climate Change report South Africa is especially vulnerable to the impacts of climate change. As such South Africa has the task of balancing the acceleration of economic growth and transformation with the sustainable use of environmental resources and responding to climate change (environment n.d.).

Water is the primary medium through which the impacts of climate change are being felt in South Africa. Water is the primary medium through which the impacts of climate change are being felt in South Africa according to the National Water Resource Strategy. Increases in climate variability and climatic extremes are impacting both water quality and availability through changes in rainfall patterns, with more-intense storms, floods and droughts; changes in soil moisture and runoff; and the effects of increasing evaporation and changing temperatures on aquatic systems. South Africa has been experiencing a serious drought since 2015, with associated crop losses, water restrictions, and impacts on food and water security (environment n.d.). According to a report published on 16 July 2018, man-made climate change and its effect on rainfall made drought in South Africa's Western Cape Province over the past few years about three times more likely, according to a new study by an international group of climate change scientist (centre 2018).

The reports further states that: The main factor behind the drought and the consequent water shortage was below-average rainfall rather than surface evaporation caused by high atmospheric temperatures. According to Piotr Wolski, researcher at University of Cape Town and a joint author of the study "This drought is still a rare event in the current climate, but our results suggest the risk is changing and it's important to improve resilience to drought," (centre 2018). Friederike Otto, lead author of the study and Deputy Director at Oxford University's Environmental Change Institute, a WWA partner organisation, adds: "These results and the generally increased likelihood of drought are in line with our understanding of what climate change means for semi-arid regions like Southern Africa; preparing for more of the same would be wise" (centre 2018).

According to the report South Africa is undertaking significant actions to respond to climate change risks and impacts. The Climate Change Annual Report reflects on the progress in undertaking these actions with the aim of recognising on-going actions, quantifying their impact, catalysing new actions and indicating how these actions contribute to the national imperatives of reducing poverty and inequality, and achieving continued economic growth(environment n.d.). The response of the South African government to climate change has been to develop and implement a framework for young people for policy input and decision-making on climate change in order to strengthen and improve youth participation and involvement on climate change and related issues.

The Framework covers the following:

- The promotion of youth participation at national, local and sectoral levels. Leading agencies on climate change must promote these interests in collaboration with other ministries and organisations that have experience in facilitating youth participation.
- The development of youth-specific participation programmes that address cultural, language and other barriers. For example, 'youth-friendly' policy briefs in different languages on important issues.
- The improvement of local capacity to integrate children and youth into local programmes, planning and decision-making forums through.
- Capacity development to understand and critically evaluate national and international policy planning processes and decision making on climate change.
- Facilitate an enabling environment on climate through:
- The adoption of a more interdisciplinary approach to climate change education on all levels of formal education, to ensure inclusion of climate change issues in all fields. For example, introducing the topic of climate change to subjects such as business studies, design and the language subjects.
- The adoption of a more comprehensive approach to climate change education on all levels of formal education. Climate change is a complex topic, and young people should have the opportunity to learn about as many aspects of climate change as possible.
- Offering support and climate change resources to teachers and activists in the formal and informal education system to ensure that recipients are well-informed and equipped to face climate change challenges.
- The development of channels of communication and climate change education resources that are targeted specifically at children and youth. This should be developed and designed mostly by young people (environment n.d.).

The African Unions position on Climate Change

18 September 2009: During his monthly press conference on 17 September 2009 in Addis Ababa, Ethiopia, Jean Ping, President of the Commission of the African Union announced that Africa will request “polluting countries,” regardless of their participation in the Kyoto Protocol, to reduce their emissions “drastically” (HUB n.d.). This was definitely a step in the right direction. For Africa to develop a united position on climate change is a sign that there is a degree of political will and an acceptance that alleviation of climate change will require cooperation and a united voice.

Priorities are to implement climate change programmes and projects to attain development goals, including the Millennium Development Goals, in particular to alleviate poverty with emphasis on achieving food security, especially for the most vulnerable groups ((OSAA) n.d.). Under the international multilateral process, developed countries and partners are to provide full support for the implementation of adaptation strategies in Africa, in particular the implementation of national adaptation programmes of action prepared by least developed countries in Africa.

AFRICA’S COMMON POSITION ON MITIGATION

Aware of the need to promote a common position on climate change and also a common understanding on how to mitigate the effects of climate change African states convened to formulate Africa’s common position on mitigation.

Enhanced action on mitigation encompasses consideration of:

- Nationally appropriate mitigation commitments by developed country Parties
- Nationally appropriate mitigation actions by developing country Parties
- Reducing emissions from deforestation and forest degradation;
- Sectorial approaches to implement Article 4.1(c) (UNFCCC)
- Various approaches to enhance the cost-effectiveness, and to promote, mitigation actions; and
- Economic and social consequences of response measures ((OSAA) n.d.).

Some African countries like South Africa have already started implementing some of these policies. For instance, on May 26, 2019 President Cyril Ramaphosa signed a measure to adopt a carbon-pricing program. This makes South Africa one of about 40 countries worldwide to adopt a carbon-pricing program (South Africa's carbon Tax set to go into effect next week 2019). However, some labour unions and opposition parties have expressed concern that this move could increase the cost of electricity which could also increase the cost of living as South Africa is still very dependent of coal as a source of generating electricity.

Proponents of the carbon tax say the true cost of carbon emissions, a key contributor to climate change, is not reflected in the price of fossil fuels. Many economists have argued that taxing carbon would result in a shift toward cleaner sources of energy (South Africa's carbon Tax set to go into effect next week 2019).

Nationally Appropriate Mitigation Actions by Developing Country Parties, under the UNFCCC

African countries may, based on their specific national circumstances and in the context of their national economic development, take mitigation actions including, where appropriate, strategies, policies, plans, programs, projects and other activities. However, the following must be noted about African countries mitigation actions:

- Developed countries commit to the mitigation outcome (QERCs), while developing countries commit to taking action, and are not bound to the outcome.
- Support and action go together. The scale of finance needed for mitigation in African countries depends on extent of action being undertaken.
- Developing country action is conditional on technology, financing and capacity building, in a measurable, reportable and verifiable manner.
- Non Annex I nationally appropriate mitigation actions supported and enabled by developed country Parties in terms of technology, finance, and capacity building, may be subject to measurement, reporting and verification in accordance with relevant rules and procedures established by the Conference of the Parties.
- Developing country action is conditional on technology, financing and capacity – building, in a measurable, reportable and verifiable manner

Reducing Emissions from Deforestation and Forest Degradation (REDD)

UNFCCC, COP/MOP decision 1/CP.16 developing country Parties to contribute to mitigation actions in the forest sector by undertaking the following activities, as deemed appropriate by each Party and in accordance with their respective capabilities and national circumstances:

- Reducing emissions from deforestation;

- Reducing emissions from forest degradation;
- Conservation of forest carbon stocks and
- Sustainable management of forests

Parties agreed to implement these activities in phases, beginning with the development of national strategies or action plans, policies and measures, and capacity-building, followed by the implementation of national policies and measures and national strategies or action plans that could involve further capacity-building, technology development and transfer and results based demonstration activities, and evolving into results-based actions that should be fully measured, reported and verified.

Mitigation and Climate-Proofing Development

Climate change affects poor people in particular, because of their weak adaptive capacities. Development projects of all kinds can strengthen or weaken those capacities. At the same time, they can influence greenhouse gas emissions, the main cause of climate change, positively or negatively. It is therefore important to evaluate the impacts of development projects on adaptive capacities and climate change mitigation. This process is called climate proofing. It forms the basis for measures to improve projects in the face of climate change (Keller 2009).

According to...”while Africa has attached far-reaching policy importance and premier significance to adaptation and the need to build climate-resilience capabilities in Member States, that does not imply that mitigation is not a concern in its own right. Yes, urgent priority is placed on adaptation, but mitigation is valued crucially in the context of evolving green economies, and therefore avoiding the pitfalls of environmentally-harmful techno-industrial and agricultural change that characterized the unsustainable economic trajectories of some countries. But Africa also recognizes that certain adaptation investments have significant mitigation dynamics as well. For instance, when watersheds and catchment areas are conserved through further investments, they tend to foster resilience and strengthen the adaptive capacities of nearby communities (less floods, improved local climate stability etc.). But the injected conservation investments also tend to enhance the sink function of the watersheds and catchments resources, leading to more carbon dioxide being sequestered. As a further illustration, consider a mitigation project where renewable energy, such as solar power, is introduced to replace the burning of charcoal. The investment means that carbon dioxide gases are no longer emitted and deforestation is avoided. As a result, the adaptive capacity of a nearby community is enhanced. There are instances where the pursuit of mitigation actions, while enhancing local resilience, can also strengthen adaptive capacities. The advantages of natural resource systems and communities can be mutually reinforcing” ((OSAA) n.d.).

In my opinion, the climate proofing system should be applied carefully and with proper consultations of the communities involved. The implementation of the system should be done in a way that it helps to place climate change and the centre of Africa’s development agenda.

TECHNOLOGY TRANSFER AND THE LOW-CARBON GROWTH PATH

The African Union is determined to ensure that member states have access to technology that can make it easier to reduce the challenge of Climate change.

According to the African Unions strategy on climate change” Africa’s quest to evolve robust, climate-resilient green economies that trend on a path of low carbon growth would be well anchored if adaptation and mitigation investments are guided by a proactive technology policy depending on the nature and complexity of the technology transformation chain invariably conditioned by sectorial specificities, decisions over which African Climate Change Strategy Page 24 technological capabilities (whether production, investment and innovation) a Member State or region would need to build would depend on a wide range of considerations. Key factors include how strategic the sector is, the ease with which a technology can be mastered, the number of projects being considered, the time horizons, repair and maintenance requirements, and the potential size of the market (domestic and export). If investments concern renewables where numerous projects are envisaged over time, then the need to build pre-investment, project execution, and project implementation, technological capabilities would be strategically important. The challenge is that, because some renewable energy technologies are proprietary and owned by established overseas companies found in other countries, procuring them has often been beset by a host of restrictions and monopolistic business practices. Proprietors of climate-friendly technologies have not only exploitatively extracted monopoly rents from developing country buyers of technologies, but have also imposed conditions that inherently undermine the potential of procurers to build relevant technological capacities where buyers from utilizing local capabilities, where they exist, often through mechanisms that insist on maximization of the foreign content of technology suppliers and minimization of local content ratios. If the harsh technology transfer experiences of developing countries in the 1960s, 1970s, etc. are anything to go by, then it is evident that some countries have often demonstrated reluctance to offer environmentally-friendly technologies, at concessionary rates, however compelling the arguments favouring environmental conservation in these countries.

Such restrictive attitudes towards technology transfer have persisted to the present. Despite the emergency nature of the climate change challenge, some countries have not found it urgent to transfer low carbon technologies to Africa at concessionary rates ((OSAA n.d.).” It is therefore; clear that the international community should join hands and through the United Nations pass resolutions that will regulate the costs of renewable energy technologies.

Enhanced Action on Technology Development and Transfer

In search of relevant and necessary technology for both mitigation and adaptation, Africa has prioritised the acquisition of firstly technology for adaptation, and secondly technology to avoid emission in order to promote African development that is clean.

- On adaptation, Africa’s key priorities include water, health and agriculture. Key adaptation technologies including: appropriate technologies for dealing with the impacts of desertification; drought resistant crop varieties; early warning systems.

- On mitigation, Africa needs appropriate environmental sound technologies for low carbon sustainable development. Africa’s current emissions are low, and the region’s need for economic development is high. So what we need is technology for low carbon economic growth.

According to the Office of the special on Africa, Africa stands for enhanced cooperation to promote research, development, demonstration, deployment, transfer and diffusion of environmentally friendly technologies. Africa shall explore means of ensuring development and transfer of technology and removal of barriers to technology development, transfer and use ((OSAA n.d.).

Technology Mechanism

In Cancun, Parties agreed on the establishment of a new Technology Mechanism to accelerate technology development and transfer, guided by a country-driven approach based on national circumstances and priorities. In this context:

- All the activities of the technology development and transfer should be accompanied by capacity building activities; and
- The Mechanism should build on national/regional technology institutions (e.g. excellence centres or innovation agencies; strengthening research in the public domain)

Conclusion

It is clear that the AU has put in place a number of measures to help address the challenge the global challenge of Climate change particularly on the African continent. The various initiatives touch on a number of issues such as fostering cooperation, and coordination amongst African states in the fight against climate change, reducing emissions from deforestation and forest degradation, nationally appropriate mitigation actions by developing country parties, under UNFCCC, mitigation and climate proofing development, technology transfer and low –carbon growth path. However, despite the many decisions, and initiatives in the name of fighting climate change, the effects of climate change continue to be felt across the globe and in particular on the African continent. It therefore, appears as if Africa should do more to accelerate and sharpen efforts to reduce the impact of climate change. I therefore, conclude that the African, together with its partners in the international community should refrain from the practice of formulating policies that achieve very little, and instead develop more plans that are action centred, practical and bear fruit. A current example is President Trump administration which keeps coming up with new proposals that make it easier for new coal fired power plants. African Union should do more to discourage this type of reckless and irresponsible actions which ultimately endanger all of humanity and future generations. The new carbon emissions tax laws in South Africa, as painful as they are, are a good example of what a responsible government should be doing in this era of anthropogenic climate change.

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