

**ACTSA Briefing Paper**

# **Climate change in southern Africa**

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## Contents

|   |             |
|---|-------------|
| <b>Introduction</b>                                   | <b>p.3</b>  |
| <b>The causes</b>                                     | <b>p.3</b>  |
| <b>Case Study: Deforestation in DRC</b>               |             |
| <b>The impacts</b>                                    | <b>p.4</b>  |
| <b>Agricultural productivity and food security</b>    |             |
| <b>Case Study: Flooding and drought in Mozambique</b> |             |
| <b>Water and sanitation</b>                           |             |
| <b>Health</b>   |             |
| <b>Gender equality</b>                                |             |
| <b>Migration</b>                                      |             |
| <b>Displaced peoples and conflict</b>                 |             |
| <b>Governance</b>                                     |             |
| <b>Human rights</b>                                   |             |
| <b>Decent work</b>                                    |             |
| <b>Reversing the trend and managing the impacts</b>   | <b>p.9</b>  |
| <b>Mitigation: reducing the cause</b>                 |             |
| <b>Energy</b>   |             |
| <b>South Africa's mitigation strategy</b>             |             |
| <b>Adaptation: reducing the risk</b>                  |             |
| <b>The adaptation programme in Malawi</b>             |             |
| <b>Confronting other regional challenges</b>          | <b>p.12</b> |
| <b>Food Miles</b>                                     |             |
| <b>Tourism</b>  |             |
| <b>International response</b>                         | <b>p.13</b> |
| <b>Southern African response</b>                      |             |
| <b>Civil society response</b>                         |             |
| <b>Financing for Climate Change</b>                   | <b>p.15</b> |
| <b>ACTSA position and recommendations</b>             | <b>p.16</b> |
| <b>Endnotes</b>                                       | <b>p.18</b> |

Front cover photo: Storm brewing on Mozambique's coast [mtp flickr]

*"Climate change can undermine our continuing efforts to achieve the Millennium Development Goals...Reducing the impact of climate change must involve greater commitment to the search for local solutions to the adversities arising from such phenomena as droughts or floods."*

**President of Mozambique, Armando Guebuza**

## Introduction

Global warming is the greatest environmental challenge facing the world today. Increasing global temperatures are bringing about rapid changes in weather patterns, rising sea levels and increased frequency and intensity of extreme weather. The impact of this global warming is increasingly apparent; especially in the developing world, where livelihoods are being destabilised due to more frequent and prolonged floods and droughts. Developed countries, whose high-carbon economies are driving the causes of climate change, will also suffer the impacts and have the responsibility to act.

Southern Africa contributes little to climate change but suffers disproportionately from its effects. It is one of the most vulnerable regions to the negative effects of climate change and faces great challenges to sufficiently respond in both its rural communities and urban centres. Recent droughts and flooding have demonstrated the region's openness to multiple impacts (e.g. food and water insecurity, health consequences, migration and displacement), its limited capacity to react and infrastructural and institutional weaknesses. The Intergovernmental Panel on Climate Change (IPCC) predicts that, "the effects of climate change are expected to be greatest in developing countries in terms of loss of life and relative effects on investment and economy." It describes Africa as "the continent most vulnerable to the impacts of projected change because widespread poverty limits adaptation capabilities"<sup>1</sup>.

## The causes

Scientific evidence gathered by the IPCC<sup>2</sup> confirms that global warming is occurring and that the increase in global temperature is a result of human activities. These activities, principally the large-scale use of fossil fuels, including coal, oil and gas, result in increasing emissions of greenhouse gases into the atmosphere, including carbon dioxide (CO<sub>2</sub>), methane and fluorocarbons. Coal remains the primary source of fuel for power plants and most countries are heavily dependent on fossil fuels for their energy needs. The transport sector is responsible for high carbon emissions, especially car travel, road freight, shipping and air transport, since almost all of the energy consumed is oil based.

Rich industrialised countries have historically produced most of the carbon emissions and are still the principle polluters, albeit with emerging economies catching up in the last decade. For instance, in 2006 China became the biggest contributor to greenhouse gas emissions globally. Today, the Group of 20 (G20) countries, those with the largest global economies, are responsible for approximately 80 percent of the world's greenhouse gas emissions.

The least developed countries, including most of those in southern Africa, are minor contributors. Nevertheless, South Africa, a member of the G20, is the largest carbon emitter on the African continent and in 2007 was the 13<sup>th</sup> highest emitter globally; however, they are still far behind the likes of USA, China and UK. The South African government has recently committed to limiting its emissions significantly by implementing energy efficiency measures and investing in carbon-friendly technologies [see South Africa mitigation strategy on p.7]. The country currently relies on coal to produce most (90%) of its energy.

Another principle cause of increasing global CO<sub>2</sub> levels is deforestation. Trees and plants absorb CO<sub>2</sub> from the atmosphere and turn it into biomass, including wood and leaves. Therefore, deforestation can lead to further global warming by contributing to significant levels of emissions in the atmosphere. According to estimates by the IPCC, deforestation produces 5.9 billion tonnes of CO<sub>2</sub> per year and 18 per cent of global CO<sub>2</sub>. Furthermore, deforestation illustrates the ingoing reliance by many African countries on primary extraction rather than sustainable industrial and manufacturing activities. In addition, several other human activities have led to increased atmospheric concentration of a number of greenhouse gases, including changes in land use pattern, land clearing and agriculture.

## Case Study: Deforestation in the DRC

The Democratic Republic of the Congo is the largest country in the Southern Africa Development Community (SADC). It is a country with a very unstable political situation, however, the DRC is an environmental treasure, whose forests contain 30% of Africa's freshwater resources and hold the largest carbon stocks of any African country. The forests are a shared national wealth of inestimable value for both the people of DRC and, more broadly, of the world.

Congolese forests are diminishing due to mass deforestation. In the past decade over 20,000 square miles (approximately two and half the size of Wales) of the DRC's forests were wiped away. The majority of deforestation in the DRC continues to be driven by small scale slash-and-burn agriculture. However, extractive industries – mining and commercial logging – are also significant drivers.

In 2004, encouraged by the World Bank, the Congolese government announced its plans to step up the commercial logging of its rainforest. The timber industry is a major employer in Congo countries and thousands of workers rely on logging companies for basic healthcare and other services. In addition, in 2007, a Chinese company signed a contract to develop over three million hectares (approximately the same size as Italy) in the DRC as palm oil plantations. Currently the commercial gains outweigh the environmental incentives to overturn the current trends in the DRC.

The maintenance of DRC's forests and their contribution to the earth's environmental balance are international issues that supersede the boundaries of the DRC itself. The 2006 Stern report on the economics of climate change makes the clear recommendations that better governance, internationally, is fundamental if we are to avoid the negative impacts of deforestation.



Deforestation in the DRC used the following sources: Friends of the Congo; Greenpeace; Convention on Biological Diversity-Belgian Clearing House Mechanism; <http://rainforests.mongabay.com/congo/deforestation.html>

Commercial deforestation in DRC. [New Scientist]

## The Impacts

Southern African states, like the majority of developing countries, are dependent on their natural ecological systems, which form the backbone of their economies. 70 percent of southern Africans rely on agriculture for their livelihoods and income generation, especially women farmers. Food security, already an issue for the most vulnerable in the region, is likely to be

further aggravated by climate variability and climate change. With a temperature rise of four degrees, some projections show that an increase in droughts across Africa may cause a fall in harvests of roughly 15 - 35 percent, in stark contrast to an average global decline of 10 percent, according to a study published by proceedings of the US National Academy of Sciences in February 2008<sup>3</sup>. As a further consequence of global warming, southern Africa is expected to experience persistent flooding and droughts in the coming decades. In particular, scientific findings indicate that the warming of the Indian Ocean will cause severe drought in southern Africa, where over the last decades recurrent droughts have led to crop failures in Angola, South Africa, Swaziland, Zambia, Zimbabwe and Mozambique.

The impact of climate change is a severe threat to economic growth and development in southern Africa. It will cause damage mainly to the agriculture and fishery sectors as well as infrastructure, which will lead to increased numbers of environmental migrants and refugees. The rise in extreme weather events due to climate change will, have unevenly distributed long-term economic impacts since many southern African countries, like Malawi and Mozambique, are crop and fishery dependant and have a relatively weak response capability to natural disasters. The implications on other development challenges such as health, gender equality and human rights and security are devastating.

### **Agricultural productivity and food security**

Climate change is already having a significant impact on southern Africa's food security. Over the last decade, erratic rainfall has led to increased food shortages in southern Africa where droughts damaged and destroyed maize crops in Lesotho, Namibia, Mozambique, Swaziland, Zimbabwe and South Africa. According to South Africa's Council for Scientific and Industrial Research (CSIR) southern Africa's cereals production is projected to be halved over the next 70 years, causing increased hunger and poverty<sup>4</sup>. Whilst climate change is a process and care needs to be taken in linking any one event with it, the average number of food emergencies in southern Africa has nearly tripled since the mid 1980s, with over 25 million people in the last year alone facing food crises, according to the Food and Agriculture Organisation (FAO) of the United Nations<sup>5</sup>. One of the greatest threats climate change brings to southern Africa is unpredictability, which makes subsistence farming an even more difficult endeavour, and increases the difficulties of commercial farming.

Many other agricultural activities in Africa are also significantly affected by rainfall. Commercial cash crop cultivation of tea, coffee, wheat, bananas, rubber, palm oil and sugar cane is heavily dependent on rainfall. The staple crop in southern Africa is maize, which is extremely susceptible to drought. Climate change is having an adverse affect on the growth of these crops, which will directly affect those growing crops to feed themselves and those dependent on a single cash crop for survival. Poor food supplies will be detrimental to people suffering illnesses, especially those living with HIV and AIDS, further damaging their already weakened immune systems.

### **Water and sanitation**

Many countries in southern Africa have long experienced considerable water shortages as a result of insufficient and unreliable rainfall, changing rainfall patterns or flooding. With floods disrupting water infrastructure systems and droughts increasing water scarcity, climate change is leading to additional pressure on water availability, accessibility, supply and demand. Lack of clean water inevitably leads to poor sanitation and it is estimated that 25 percent of the population living in Africa (approximately 200 million people) currently experience water stress, with more many more people expected to face high risks in the future. This will hinder the capabilities of southern African countries to meet the target set by the UN Millennium Development Goals (MDG) of halving the number of people without access to clean water or sanitation by 2015. According to a study published by the Africa Earth Observatory Network, Cape Town, one of the richest parts of the southern Africa, is predicted to experience a 20 percent drop in rainfall and a reduction in perennial water supply of 60 percent by 2070<sup>6</sup>.

## Case Study: Flooding and drought in Mozambique

Mozambique has emerged from the civil war into a country of progress, development and democracy. Yet this newly established stability and growth is being threatened by the adverse impacts of climate change. The southern part of the country is a very arid area and in 2009, it experienced a third consecutive year of drought. At the other end of the scale, central Mozambique has more frequently suffered from floods and experienced torrential flooding, in the Zambezi River basin, in 2000, 2001 and more recently in 2007 and again in 2008.

In February 2000, one third of the country's crops were destroyed by a massive flood. There were devastating impacts on the country's infrastructure with roads and railway lines destroyed and entire villages submerged. Worse still was the effect on people's livelihoods with thousands losing their homes and jobs. Six months before the flood, the Mozambican Government appealed to the international community for US\$2.7 million to prepare for the impending crisis. It received less than half this amount.

Years of development work in Mozambique were washed away by these floods. Yet the government and communities are making efforts to adapt; at a national level, viable disaster contingency plans have been implemented, including irrigation schemes to counter drought conditions, but the projects have remained small in scale because of limited national resources and insufficient development aid funding.

Local communities are also making efforts to adapt to the destructive conditions; the Zifuva community have developed localised solutions to these life-threatening changes. For example they have channelled water for irrigation in their community fields which enables them to yield more from their crops in times of flooding. Although comprehensive adaptation programmes need to be implemented, it is also imperative to support community based localised solutions. Without such a perspective, these natural disasters will continue to prevent sustainable development and progress.

A recent report launched by the Mozambique's National Disaster Management Institute (INGC) on the effects of climate change on Mozambique confirmed that the southern African country will be overwhelmed over the coming 20 years by flooding, droughts and disease outbreaks and hundreds of thousands of people will need emergency food assistance, unless immediate action is taken by the international community. "Projections are that Mozambique won't be able to face the threat posed by climate change if nothing changes," said Michel Matera, head of the UN Development Programme Environment Unit in Mozambique.



Flooded village in Mozambique [The Humanitarian Coalition]

## Health

Climate change has the power to accelerate the negative effects of disease and HIV/AIDS in the region. High temperatures, longer rainy seasons and inadequate rainwater drainage, all issues exacerbated by climate change, tend to create the perfect incubation conditions for mosquito-borne diseases, particularly malaria. Southern African countries that do not suffer prevalent malaria, such as South Africa, Lesotho and Swaziland, will become at great risk endangering millions more people to the disease. With food insecurity heightened, HIV/AIDS treatment, which is reliant on good nutrition, will become increasingly difficult leading to many more deaths. Other health concerns centre on cholera and meningitis. Cholera is on the increase again in Africa, especially in Zimbabwe, where a lack of clean water will perpetuate those at risk coupled with countries weak detective and responsive capacities. In addition, according to Luis Sambo, World Health Organization (WHO) regional director for Africa, meningitis, not traditionally prevalent in southern Africa, is expanding through the region due to climatic changes enabling the air-borne disease to spread causing further challenges to the medical sector.

## Gender equality

Gender equality and women's empowerment is deeply affected by climate change. Traditional activities undertaken by southern African women are heavily impacted upon by an adverse climate, including the collection of water, firewood and ensuring daily access to food. In addition, impoverished women, especially in rural areas, have less financial, physical and human resources than men and they will have fewer options for responding to the impacts of climate change. In southern African gender inequality still persists despite all the progress made, including the SADC protocol on gender equality, and women bear a disproportionate burden of poverty compared to men. With fewer employment opportunities, women tend to rely on natural resources more than men, so when these are directly struck by climate change, women's livelihoods will also be seriously affected. Interventions to tackle climate change need to consider these differences in vulnerability and women have to be fully engaged in adaptation strategies and involved in recovery projects after weather disasters.

## Migration

The greatest single impact of climate change could be on human migration, with millions of people forced to move because of advancing desertification, coastal flooding and agricultural disruption. The link between the impacts of climate change and migration is clear and particularly apparent in southern Africa, where there is already evidence of population movements towards urban centres or across borders, as a result of decreased and unreliable agricultural production. While South Africa has been the principal destination of intra-regional migration, in the future southern African migrants may be increasingly likely to choose rich industrialised countries, less affected by extreme weather events, as their final destination contributing further to the 'brain drain' and family disruption in Africa as well as causing social tensions in migrants' host countries. These patterns are not being met with appropriate levels of urban planning or even issues of refugee reception strategies, which lead to further tension around already scarce resources among the poorest people. In South Africa, recent violent xenophobic attacks illustrate the need for this phenomenon to receive urgent participative planning to mediate these tensions and patterns of behaviour.



Migrants leaving DRC. [Amnesty International/USA]

## Displaced peoples and conflict

Worsening droughts, flooding and increased famine will take a direct toll on already dwindling resources in southern Africa, thus causing knock-on effects such as displacement and conflict.

The UN Refugee Agency states that Africa, with 3.6 million refugees, accounts for 30 percent of the world's refugee population and for almost half of the globe's estimated 20-25 million internally displaced persons. In southern Africa, the Democratic Republic of Congo and Angola have the highest number of refugees who left due to civil conflict. Globally, the International Red Cross has identified 25 million people who owe their displacement to climate change and projections by the IPCC state that by 2050 climate change could be responsible



Refugee camp in Eastern DRC.  
[Amnesty International USA]

for increasing that number to 150 million environmental refugees<sup>7</sup>. Floods caused by extreme rainfall have already displaced thousands of people in Angola and Namibia, where more rain fell in the first three months of 2009 than during the whole rainy season of 2007-2008. The Angolan Red Cross reported that 25,000 people have lost their homes in the southern part of the country<sup>8</sup>, while more than 50,000 people were displaced in Namibia.

### Governance

Institutional weaknesses are often exposed during periods of climate stress. The ability to deliver public services is often hindered on the one hand by a lack of accountability and on the other, by a lack of financial or skilled human resources. Such are the obstacles that southern African governments must overcome to maintain sustainable economic levels in periods of climate stress. Africa is also characterised by institutional and legal frameworks that are, in some cases, unable to react to environmental degradation and disaster risks to avoid prolonged periods of economic and social decline. Therefore, there is a need to reconfigure certain structures in southern Africa, especially in the agricultural sector, to improve responses to climate change. The Malawi adaptation strategy appears to be a positive example for the region; the Malawian government has committed to improving preparedness for extreme weather events as well as agricultural production and rural livelihoods.

### Human rights

The 2008 United Nations Human Rights Council resolution “Human rights and climate change”<sup>9</sup> clearly states that climate change will have severe consequences for the respect of human rights. The worst impacts of climate change constitute a threat for a large range of rights, including the right to safe and adequate water and food, the right to health and adequate housing. Oxfam International argues that, due to the developed world's continued excessive greenhouse-gas emissions, climate change is set to undermine human rights on a massive scale due to the premise of international human-rights law that states that, ‘In no case may a people be deprived of its own means of subsistence’<sup>10</sup>. Recently protesters have taken the streets in South African townships to demand better housing and services; the effects of climate change will worsen the situation, making governments' efforts to solve these problems even more difficult and protests like those in South Africa could be more frequent and widespread.

### Decent work

Climate change will affect labour through knock-on effects initiated by reduced and unpredictable agricultural production. For instance, damage to commercial crops will have adverse effects on agricultural workers, in particular seasonal workers (harvesting, crop processing); damage to infrastructure will have adverse effects on urban employment (lack of transportation to reach workplaces, workplaces destroyed); and health damages will negatively impact on workers' productivity and income. In southern Africa, vulnerable workers, who often work in the informal sector, are not in a position to deal with the impacts of climate change and will accordingly suffer disproportionately to less vulnerable workers which perpetuates the great threat posed by climate change to social justice and equity.

## Reversing the trend and managing the impacts

It is widely accepted that in order to avoid the worst impacts of climate change we will need to limit global mean temperature increases to no more than 2 degrees centigrade above average pre-industrial levels. The most recent IPCC assessment report concludes that in order to achieve this objective, global greenhouse gas levels should peak by 2015 and then fall to 50 to 85 percent of 2000 levels by 2050<sup>11</sup>. At the same time, the adverse effects of climate change are already being felt and initiatives to adapt to those effects is a critical partner in the response to climate change, especially in southern Africa. The two accepted strategies to reverse the current trend and manage the impact of climate change are: mitigation and adaptation.

### Mitigation: reducing the cause

Mitigation refers to the measures undertaken to reduce or eliminate greenhouse gas emissions into the atmosphere. Mitigation includes energy efficiency and conservation, switching from fossil fuels to cleaner and renewable energy sources, capturing methane from coal mines and landfill sites and changing land-use practices.

It is important to choose mitigation strategies that are sensitive to national and regional development needs and this is particularly true in southern Africa. The South African government has assumed a leading role in the region, producing reports on the issue and developing a national mitigation response strategy. The long term aim of the government's plan is to structurally transform the economy "from an energy-intensive to a climate-friendly path as part of a pro-growth, pro-development and pro-jobs strategy," as stated by the South African cabinet in July 2008<sup>12</sup>. This is particularly significant given the fact that currently South Africa's energy sector is hugely dependant on coal and by far the biggest carbon emitter in Africa.

At the same time, other southern African countries, including Angola, Zambia and Zimbabwe, have started to set up environmental programmes focussing on an efficient use of energy, a greater use of renewable sources, better agricultural practices and a sustainable management of forests. Regional options to tackle climate change also need to be taken into consideration since intra-regional and global cooperation is essential for mitigation to be effective.

### Energy

Industrialised countries must reduce and eventually eliminate their dependence on fossil fuels as an energy source in order to manage and reverse the threats of climate change. Energy-efficient technologies and renewable energy sources need to be promoted to reduce greenhouse gas emissions in energy markets in both the developing and developed world. It is essential to accelerate the shift to and invest in renewable energy technologies that are already attracting large industrial companies and financial institutions. While being pioneered in the developed world, it is critical that the necessary financial and technological support is given to southern African nations in their efforts to shift their energy usage patterns according to top South African environmental official, Alf Wills.



Cooling towers in South Africa [ACTSA]

Cleaner fossil fuels could potentially be part of the solution, while laying the basis for a zero-carbon energy sector. Cleaner coal can be developed by introducing stringent thermal efficiency standards and carbon capture and storage (CCS) systems for coal fired power stations,

however, many doubts still remain on the feasibility of this method. Similarly, many remain sceptical about nuclear power as a viable alternative, especially with toxic nuclear waste remaining an unresolved complication to this resource. Furthermore, fossil fuels are a finite resource and the only long-term sustainable solution are renewable sources, including biomass, water, geothermal, wind and solar. It is essential for both developed and developing nations to invest in the innovative technologies available, both currently and in the future. It is also important to note that people's involvement is also key to developing energy efficiency behaviour. Engaging people at a local level in participative fora would ensure a greater ownership and commitment to implementing the strategies and would provide for people to develop strategies appropriate to their own location and natural advantages. Critically, the developed world with its technological and financial capabilities must show political leadership and sensitivity to the requirements and potential benefits southern African governments and people can offer to the struggle against climate change.

### South Africa's mitigation strategy

The South African government has stated that both developed and developing countries need to act to prevent the global climate emergency from worsening. The costs of inaction would be much higher than the costs of emission reduction, in a compelling economic case for immediate international action made by the South Africa Department of Environment Affairs. Mindful that South Africa is Africa's largest carbon emitter, the government has taken the decision to develop a comprehensive mitigation strategy.

In 2006, the government began a Long-Term Mitigation Scenario (LTMS) and involved stakeholders from the government, the private sector, civil society and labour. The aim of this detailed consultation was to formulate a range of realistic strategies for future climate action. Its final findings and policy recommendations were used by the South African cabinet to adopt a policy framework concerning climate change. "By adopting this strategic direction South Africa takes a leading position in the developing world and demonstrates it is ready to shoulder its fair share of responsibility as part of an effective global response," Marthinus Van Schalkwyk, then-Minister of Environmental Affairs and Tourism said.

Specifically, the government's vision is based on a radical shift to a climate resilient and low-carbon economy and society. The national target set by the South African government is for greenhouse gas emissions to peak by 2020-2025, plateau for ten years and then start declining.

The long term goal of the mitigation strategy is to structurally transform the economy "by shifting from an energy-intensive to a climate-friendly path as part of a pro-growth, pro-development and pro-jobs strategy," Van Schalkwyk indicated. Energy efficiency and conservation measures will be implemented across all sectors, including industry, commerce, transport and residential, while building standards will be more stringent. At the same time, the government pledged to invest in "new" technologies for the future by increasing research and development funding in order to develop carbon-friendly technologies. In addition, more funds will be diverted to renewable and nuclear energy sources as well as cleaner coal, including carbon capture and storage for coal fired power stations and all coal-to-liquid plants.

The strategy also takes into account the inevitable impacts of climate change and aims at strengthening the country's adaptive capacity, especially by enhancing early warning and disaster reduction systems as well as improving basic services, water resource management, infrastructure planning, agriculture and the health sector. South Africa's ambitious plan to address the challenge of climate change may become a model for the developing world. Yet, only if developed countries play their role, by cutting down carbon emissions and providing technology and financial support to developing countries, will the effort made by South Africa succeed in protecting the poor from the effects of climate change.

## Adaptation: reducing the risk

Adaptation strategies are aimed at reducing both the risks posed by climate change to people's lives and livelihoods and the vulnerability of affected economic sectors. Adaptation can be planned or it can occur spontaneously through self-directed efforts. Understanding individual and community responses to changes in climate is particularly important in exploring approaches to adaptation, because stimulating or improving existing grassroots strategies would be less expensive and less demanding on institutional capabilities than large scale national adaptation programmes.

Nonetheless, comprehensive adaptation strategies and their implementation by national governments are essential. Several southern African countries, including notably Zambia, Tanzania and Malawi, are adopting specific national plans to minimize the adverse impacts of climate change on the economy and the most vulnerable people. In particular, Malawi has developed a National Adaptation Programme of Action to increase climate monitoring while improving community resilience, agricultural production and preparedness for droughts, floods and other extreme weather events. The aim of Malawi's programme is to "ensure sustainable livelihoods for all its citizens"<sup>13</sup>, a major challenge that southern Africa can only meet with a great deal of commitment and the support of the international community.

### The adaptation programme in Malawi

Malawi is rich in natural resources, including good soils, abundant water, wildlife, fisheries and forests; its population relies and depends on these resources and is thus highly vulnerable to climate change. With more than 90 percent of the population engaged in subsistence rain-fed agriculture, the country is greatly dependent on predictable and steady rainfall. A vulnerability and adaptation assessment report undertaken in 2002 indicated that Malawi is experiencing a variety of climatic hazards, which include intense rainfall, floods, droughts, landslides and heat waves.

In this context, a wide range of adaptation practices are needed to assist Malawians in dealing with the most severe climate change impacts. These adaptation measures include shading the soil and cutting soil erosion as well as smoothing water flows in order to reduce sudden flooding. At the same time, the productivity of the agricultural sector must continue to increase and promote a crop diversification programme. Malawi is very dependent on maize and adaptation measures are essential to allay the potential decrease in maize productivity, caused by a shorter crop growing season due to higher temperatures and reduced rainfall. In short, effective adaptation is clearly interrelated to people's livelihood and economic development.

As an attempt to respond to the challenges posed by extreme climate events on food, health, water and energy, the Malawian Government has decided to prepare a National Adaptation Programme of Action (NAPA), in order to "ensure sustainable livelihoods for all its citizens" as stated by the Malawian Minister of Natural Resources and Environment. The NAPA plans to increase climate monitoring while improving community resilience, agricultural production and preparedness for droughts, floods and other extreme weather events. Although the international community pushed Malawi to develop this programme, it has not yet provided the necessary resources. Substantial funding for adaptation is required to provide vulnerable people in Malawi with indispensable technology, machinery and knowledge.

With the little resources available, the Malawian Government has already started to make target investments aimed at enhancing water distribution and promoting better irrigation efficiency as well as changing irrigation schedules and water recycling. The adaptation project's general objective is to "improve resilience to current climate variability and future climate change by developing and implementing cost-effective adaptation strategies, policies and measures that will improve agricultural production and rural livelihoods," as stated in the NAPA. In the context of the government's development and poverty reduction targets, the adaptation measures have been prioritised due to the challenge of food insecurity. If the climate crisis continues to deepen, Malawi's efforts to meet its numerous development challenges are less likely to succeed.

## Confronting other regional challenges

Climate change not only presents the social, economic and political challenges facing people of southern Africa outlined through the paper, it also faces prejudice from the developed world with a shifting focus toward national protectionism and a 'local is always best' ideology which can have very negative impacts on the development challenges and opportunities facing southern Africa. ACTSA has, therefore, set out to address the issues of food miles and tourism in the context of the climate change challenge in southern Africa.

### Food Miles

"Food miles" refers to the total distance in miles the food item has to travel from field to store. Since importing food products is associated with transport, including international sea and air freight, there is a relationship between food miles and carbon emissions. As a result, some people criticise the globalisation of the food industry and campaign for moving towards local production and local consumption. However, simply focussing on the distance food travels avoids the other complex issues around the sustainability of international food trade and production. Gareth Thomas, the UK Minister for Trade and Development, recently stated, "the distance food has travelled is not a good way to judge whether the food we eat is sustainable. Driving 6.5 miles to buy your shopping emits more carbon than flying a pack of Kenyan green beans to the UK."

Agriculture is a fundamental economic sector for southern African countries and the battle against climate change needs to harness and incorporate efforts to reduce poverty and promote development in the region. Southern African products can access western markets through international fair trade channels, which can assist in sustaining the regional economy and improving local people's working standards. In addition, there could be concerted regional strategies developed to maximise regional food trade rather than produce food which returns through European markets. Agricultural production in the developing world, including southern Africa, tends to be more environmentally friendly than in the West. The latter often makes use of much bigger amounts of oil-based fertilisers as well as agricultural machines that burn diesel. Although it seems reasonable to incorporate any type of environmental cost in the product price including transportation, the poorest producers in southern Africa must not be penalised since agriculture remains their main source of economic growth and poverty reduction.

### Tourism

International tourism, whose rise has been strong and sustained over the past fifty years, can provide some benefits to developing countries by boosting the local farming and fishing industries, handicrafts and the construction industry as well as bringing foreign currency and employment opportunities to the local people. This can have a multiplier effect on the local economy and contribute to development and poverty alleviation. Southern Africa has great natural resources to attract tourists and responsible tourism, which involves and benefits local communities can help to achieve poverty reduction goals in the region.

Favourable climatic conditions are a key factor for tourism's success and their variability can affect tourism, including the availability and quality of freshwater supply at destinations. Therefore, the effects of climate change impact on a wide range of tourism activities, potentially jeopardising a crucial sector for southern Africa. Conversely, tourism encompasses transport, often air and road travel, which is a significant cause of carbon emissions. Promoting a variety of technological options to improve fuel efficiency within the transport sector and introducing an emission charge on airline tickets could be effective ways of addressing this problem. As such, tourism is both a victim of and a contributor to climate change. However, responsible tourism, inspired by principles of social and economic justice, can be a fundamental pillar of poor countries' development process and "giving up" tourism is not a plausible option. Different actions must be identified to encourage sustainable travel and tourism to the developing world, including to southern Africa, with a lower carbon footprint. Developed countries can also be challenged to promote more environmentally sensitive tourism attractions.

## International response

Before the beginning of the 1990s little was done by the international community to seriously address climate change. An international convention, the 'United Nations Framework Convention on Climate Change' (UNFCCC) launched in 1992 during the UN Conference on the Environment and Development (the Rio Conference), finally placed the global focus on the issue. The objective of the UNFCCC is to stabilise "greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system."<sup>14</sup> Each year the countries that have signed/ratified or acceded to the UNFCCC come together at 'Conference of the Parties' (COP) and 'Subsidiary Body' meetings to discuss and negotiate the actions required in order to meet the objectives of the UNFCCC.

The Bali Conference, which took place in 2007, ended with the adoption of the Bali Roadmap, which outlines a framework for the adoption of a post 2012 climate treaty, aiming to be completed in 2009 at the next conference in Copenhagen in December 2009. At Bali, developing countries agreed for the first time to consider measurable, reportable and verifiable mitigation actions in return for the delivery of technological and financial support, making new headway in international cooperation. It will be at COP15 in Copenhagen, however, where the real test of international cooperation will be tested. Developing nations will negotiate in a strong bloc, known as the Group of 77 (G77), and will make strict demands on developed nations, who they hold accountable for the onset of climate change, to reduce their emissions and provide the necessary financing to manage the effects. There is a danger that responses at all levels are more likely to be developed in terms of short term responses to the symptoms as set out above rather than being able to address, appropriately, macro structural vulnerabilities.

## Southern African response

African Ministers of Environment coming from more than 30 different countries, including South Africa, Angola, Malawi, Swaziland and Zimbabwe adopted on 29 May 2009 the Nairobi Declaration on climate during a special session of the African Ministerial Conference on the Environment (AMCEN). The Declaration is a landmark document that stresses the major climate challenges faced by African countries and the need of support for Africa on mitigation against and adaptation to climate change. Six months before the climate conference in Copenhagen, African Ministers of the Environment have agreed to commit to introducing adaptation measures, but have also made a strong case for international support. "No money, no deal," affirmed Alf Wills, of the South Africa Department of Environmental Affairs, who represents South Africa at the climate change negotiations. "We need the support - the financial and technological support," he said.



SADC Heads of State [denfordmagora.blogspot.com]

The main resolutions and demands of the Nairobi Declaration are:

- increasing the international support to Africa under the future climate regime according to the priorities determined by Africa: adaptation, capacity-building, research, financing and technology development and transfer;
- integrating climate change adaptation measures into national and regional development plans, policies and strategies;
- promoting regional and international cooperation to develop appropriate adaptation financing mechanisms;

- expanding eligible sectors that benefit from carbon credits and other international incentives to include sustainable land use, agriculture and forest management;
- establishing an international compliance mechanism to ensure a more effective delivery of commitments made with regard to greenhouse gas reduction, finance, technology and capacity-building;
- urging developed countries to set ambitious targets to reduce their emissions and support Africa by providing finance, technology and capacity-building in a measurable, reportable and verifiable manner;
- stressing that Africa needs scaled-up finance, technology and capacity-building for adaptation and risk management and should be equitably compensated for environmental, social and economic losses, in the context of environmental justice;
- emphasising that the financial resources required to tackle climate change should be new and additional, adequate, predictable and sustainable;
- building economic and social resilience through the diversification of economies to reduce dependence on climate-sensitive sectors;
- scaling up investments to provide access to affordable and sustainable cleaner energy and identifying other mitigation measures, including sustainable agriculture and land-use management to reduce emissions from deforestation.

The Declaration places these climate change programmes in the broader context of sustainable development and poverty reduction. In particular, addressing the climate crisis is seen as a way to alleviate poverty and attaining the Millennium Development Goals, with a special emphasis on the most vulnerable, including women and children.

### Civil society response

The Africa-wide Civil Society Climate Change Initiative for Policy Dialogues (ACCID), which was created to facilitate dialogue around the Africa Bio-Carbon proposal on sustainable agriculture and forestry management, is a leading civil society voice in Africa, particularly through SADC and COMESA. It is working to ensure alignment between African governments and civil society organisations on Africa's approach to tackling the current Climate Change negotiations and beyond. The ACCID is calling for release of funding for research and the development of demonstration activities to enhance learning and ensure that agriculture, forestry and land use activities are rewarded and eligible for funding in the international post-2012 framework. Their strategy centres on the reduction of greenhouse gas emissions by forest sources and carbon sequestration through agriculture, forestry and land use.

The South Africa Climate Action Network supports a multilateral approach to addressing climate change under the UNFCCC. This includes addressing climate change through the measures outlined in the Kyoto Protocol and an equitable approach to future commitments under the Convention. Similarly, the Congress of South African Trade Unions (COSATU) supports a strong and innovative multilateral solution but this must be a parallel process which also combats social injustice. A viable solution to climate change requires a more socially, economically and environmentally sustainable society with a 'just transition' to green economies and jobs. COSATU believes that a commitment to eradicating poverty, promoting equality and realising sustainable development while reducing emission are necessary ingredients in climate change policy making and action.

Leading environmental non-governmental organisations (NGOs) including Greenpeace and World Wide Fund for Nature (WWF) are calling for severe cuts in greenhouse gas emissions globally and for developed nations to pay \$160 billion from 2013-2017 to fund developing nations' work to tackle climate change. "It's going to be unpopular with almost everyone, but we need more ambitious targets" said Tasneem Essop, of WWF South Africa. Within its proposal to raise the money features the auctioning of carbon dioxide emissions allowances with a new authority to oversee these carbon markets.

## Financing to address climate change

Rich industrialised countries, who are the principal culprits for the rising greenhouse gas emissions, must commit to radical reduction targets to begin to redress the current trend. These countries also have a responsibility to provide significant financial support to help poor countries adapt to climate change and shift to cleaner economies. The immediate economic challenge of moving towards low-carbon economies will be expensive and need considerable political will. However, if no intervention is taken the challenge will be much greater and dealing with the economic consequences of a deepening climate crisis would be far more expensive, up to 20 percent of global GDP according to the Stern Review<sup>15</sup>. Therefore, the argument for adopting progressive measures and making ambitious investments to combat climate change globally must be taken very seriously.

While developed and developing countries share a common responsibility for the future, it is the wealthy minority of the world's nations that bear the historical responsibility for the causes and consequences of climate change. Funding pledged by European countries and the USA has been so far been completely insufficient to tackle climate change in the developed world; the average annual amount pledged so far to tackle climate change stands at around \$3.9 billion each year<sup>16</sup>.

Developing countries, including those from southern Africa, are demanding that the financing to combat climate change in non-industrial countries must be *new and additional* to the current Official Development Assistance (ODA). In advance of the crucial UN climate convention meeting in Copenhagen on 7 December 2009, southern African countries have joined other developing nations in demanding the establishment of a multi-billion dollar fund aimed at supporting their efforts to tackle climate change. "We need the financial and technological support. No money, no deal!" affirmed Alf Wills, of the South African Department of Environmental Affairs, claiming that without a new approach to financial flows from developed to developing countries, the Copenhagen climate conference would be a failure.

British Prime Minister Gordon Brown has recognised the importance of helping developing countries adapt to the effects of a changing climate and estimated that up to \$100 billion per year will be needed by 2020 to meet the challenge<sup>17</sup>. However, the African Group is calling for an investment of at least \$267 billion a year by 2020 for both mitigation and adaptation costs<sup>18</sup>. Similarly, the G77 bloc of developing nations, including African nations, wants the level of new funding to be set at 0.5% to 1% of the global GDP (between \$150-300 billion in monetary terms) per year<sup>19</sup>. Furthermore, both G77 and African proposals state clearly that only developed countries should be required to contribute to the new fund in order to fully pay their climate debt to developing countries.

There is a strong movement in both developed and developing nations towards the 'polluter pays' principle, which includes private companies responsible for polluting. This would generate finances outside of national governmental budgets. This is the underlying principle of the Norwegian government's climate financing proposal which suggests the establishment of a global price on carbon emissions and could stand to raise \$69 billion per year between 2013 and 2020. The advantage of the polluter pays principle is that it is seen as fair and equitable solution based on the principle that national contributions should vary to reflect responsibility and capacity to pay.

While there are other financing proposals from governments, there is a movement towards innovative finance that could play a part in raising the relevant finances for the new climate fund. The International Air Passenger Adaptation Levy and the IMERS levy on international shipping could raise an estimated \$25 billion per annum. There is also the proposed Currency Transaction Tax, which could raise in the region of \$40 billion annually<sup>20</sup>. The great advantage of such proposals are that in they would address the concerns of those doubting the political will of developed nations to deliver 'new' finances from national budgets for climate change.

## ACTSA position and recommendations

ACTSA accepts the current scientific evidence that climate change is a direct result of the rapid mass industrialisation in developed countries and the consequential greenhouse gas emission causing global temperature increases and the resulting extreme weather conditions. In order to prevent this crisis from deepening, emissions must be reduced and a range of measures need to be implemented to adapt to the inevitable impact of climate change.

The challenge of climate change is urgent and failing to act would lead to disastrous consequences for the people of southern Africa who suffer disproportionately. It is our view that we must ensure the responses and actions to climate change do not exacerbate poverty and solidify current inequalities in southern Africa, but serves as an opportunity to alleviate poverty and redress social inequalities in the region. Action is needed at a local, national and international level.

ACTSA stands in solidarity with the people of southern Africa in the struggle against the multiple and critical threats of climate change. We are campaigning to ensure the voice of southern Africans is heard in international fora, where the decisions on climate change are made. Therefore, with the evidence gathered from this report, ACTSA, in support of the demands of civil society organisations, trade unions and governments in the region, makes the following recommendations:

### On financing to address climate change:

- We call for the establishment of a new multi-billion dollar fund for developing countries at the 2009 UN climate change conference in Copenhagen to assist them in implementing sustainable development programmes and dealing with the impact of climate change.
- We support the approach that only developed countries must contribute to the new climate fund, since they bear the historical responsibility for the causes and consequences of climate change. These finances must be *new and additional* to current Overseas Development Assistance, and be adequate, predictable and sustainable. Additional revenue to tackle climate change should also be raised according to the 'polluter pays' principle, involving the private sector and other innovative financing mechanisms so that the fund is not solely dependent on government budgetary financing.

### On reducing green house gas emission:

- We call on governments, especially those of the developed countries, to respect the UNFCCC's mandate, to firmly commit to emission reductions on the basis of their different responsibilities and respective capabilities. No longer should emission reductions be considered a barrier for growth. We support the need for ambitious and effective emission reduction targets, agreeing on ambitious targets for mitigation as an important first step.
- We call for an equitable sharing of the responsibilities for green house gas emission reductions. This requires developed countries to set ambitious targets and support southern Africa in managing and reducing their emissions by providing finance, technology transfer and capacity-building in a measurable and accountable manner to enable them to develop their economies using low-carbon energy technologies.
- We call for the promotion of terrestrial carbon sequestration through agriculture, forestry and land use in southern Africa. We also support the call for the expansion of eligible sectors that benefit from carbon credits and other international incentives, including sustainable agriculture, sustainable forest management and reforestation, reduced emissions from deforestation and forest degradation.

### On southern African mitigation and adaptation strategies:

- We believe international support to southern Africa under the future climate regime must be in accordance with the priorities determined by southern Africa. Among these priorities are adaptation, capacity-building, research, financing and technology development and transfer.

- We support localised solutions to climate change with an emphasis on supporting local adaptation strategies, securing livelihoods at the local level by creating effective responses to climate change challenges depending on local circumstances is vital. This includes disaster risk management and mapping health impacts among others.
- We note the positive adaptation efforts already made in southern African countries, Malawi in particular, and call for these efforts to be met with the financial assistance to fully realise these strategies. We support the notion of ‘best practice’ regional case studies that can be implemented and replicated by both governments and development partners and civil society bodies in the development of effective adaptation strategies. We support people-driven solutions and believe national consultation with local and national stakeholders as a constructive and representative vehicle to understand and engage with local vulnerabilities.
- We also support the South African mitigation strategy to structurally transform the economy by shifting from an energy-intensive to a climate-friendly path as part of a pro-growth, pro-development and pro-jobs strategy. We believe the South African approach should be a model for other countries in southern Africa and the rest of the developing world.

### **On addressing the social impacts of climate change in southern Africa:**

- We support the call from civil society organisations in the region, including the Congress of South African Trade Unions, for southern African governments to address social inequality in the region in their mitigation and adaptation programmes. We believe there must be a thorough analysis of the social consequences of both climate change and emission reductions. We believe tackling climate change presents an opportunity for social justice and equity and support the call for a ‘just transition’ towards green economies in southern Africa.
- We emphasise the need for gender equality in the design and implementation of mitigation and adaptation strategies and we believe that women must play a central role at every decision-making level including on climate change.
- We stress the role of public services in areas such as education, health and transportation, and access to energy to cover basic needs, among others. A reduction in green house gas emission will be facilitated by more extensive and convenient public transport which at the same time would increase access to mobility for the poor.
- We recognise that implementing efficient climate change policies will require an educated and skilled workforce. We, therefore, emphasise the need for investment in public education and in developing a skilled labour through measures such as skill and technology transfer. We also stress the importance of the respect of workers rights and the need for increasing access to social protection and specifically income security.

### **On addressing other regional development challenges:**

- We support the transportation of fairly traded southern African produce internationally. We note that fair and sustainable trade is one of the key means for countries and communities to reduce poverty. We acknowledge the environmental impact of international transportation and other associated agricultural impacts. We support the development of local and regional markets in Africa that are currently limited, to reduce dependency on international markets.
- We support responsible tourism, inspired by principles of social and economic justice. We acknowledge the damaging impact of transport, especially aviation, and encourage the promotion of a variety of technological options to improve fuel efficiency within the transport sector and introducing an emission charge on airline tickets. We note that tourism can bring challenges but also economic and social benefits. We call for governments and individuals to continue to support development efforts in southern Africa through sustainable tourism.
- We call for poverty alleviation to be central in all climate change strategies in southern Africa. We support a commitment to sustainable economic growth and specifically, we call for investments in southern Africa to be scaled up to provide access to affordable and sustainable cleaner energy and identifying other mitigation measures, including sustainable agriculture and land-use management to reduce emissions from deforestation.

## Endnotes

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