

10.0 South Africa

ACCCA	Advancing Capacity for Climate Change Adaptation program
ASARECA	Association for Strengthening Agriculture Research in Eastern and Central Africa
BMU	Federal Environment Ministry (Germany)
CCAA	Climate Change Adaptation in Africa program
CGIAR	Consultative Group on International Agricultural Research
DEA	South Africa Department of Environmental Affairs
DEAT	South Africa Department of Environmental Affairs and Tourism
DEFRA	Department of Environment, Food, and Rural Affairs (United Kingdom)
DFID	Department for International Development (United Kingdom)
FANPRAN	Food, Agriculture, and Natural Resources Policy Analysis Network
GDP	Gross Domestic Product
GEF	Global Environment Facility
GSA	Government of South Africa
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit / German Agency for Technical Cooperation
ICLEI	International Centre for Local Environmental Initiatives
IDRC	International Development Research Centre
IFPRI	International Food Policy Research Institute
NCAP	Netherlands Climate Assistance Program
NCCRP	National Climate Change Response Strategy
PIK	Potsdam Institute for Climate Impact Research
SIDA	Swedish International Development Agency
SCCF	Special Climate Change Fund
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
UNITAR	United Nations Institute for Training and Research
USAID	US Agency for International Development
USDS	United States Department of State

WRI World Resource Institution
ZALF Leibniz-Centre for Agricultural Landscape Research

Located at the tip of the continent of Africa, extending from the Atlantic Ocean in the west to the Indian Ocean in the east, South Africa is the dominant country of southern Africa in terms of its size, population and economy. South Africa is a middle-income developing country and boasts the continent's largest economy based on a strong manufacturing sector and many natural resources (DEAT, 2003; USDS, 2010). Around 7 per cent of South Africa's Gross Domestic Product (GDP) is generated by the agricultural and mining industries, 73 per cent by the services sector, and 20 per cent industry (USDS, 2010). Despite its economic strength, economic inequality persists; 25 per cent of the population is unemployed and 47 per cent live below the lower bound poverty line (Madzwamuse, 2010). Approximately 50 per cent of South Africa's nearly 50 million people reside in the country's urban areas (DEAT, 2003; USDS, 2010).

Geographically, the country is comprised of three main regions: a large central plateau covered mainly by grasslands; a continuous escarpment of mountain ranges that surround the plateau on the west, south and east; and a narrow strip of low-lying land along the coast (Benhin et al, 2006). The country is located within a drought belt and is the fifth most water scarce country in sub-Saharan Africa (USAID, 2008). Approximately 50 per cent of the country's water supplies are currently being used by the agriculture sector (Benhin, 2006; DEAT, 2004). Even without climate change, it is predicated that South Africa will use up much of its surface water resources (DEAT, 2009).

A. Adaptation Needs and Priorities

South Africa's climate varies from desert to semi-desert in the drier northwestern region to sub-humid and wet along the eastern coast; approximately 50 per cent of the country is arid or semi-arid (Benhin, 2006; DEAT, 2004). On average, the country receives only 464 millimeters of rain annually compared to the global average of 851 millimeters, and 65 per cent of the country receives less than 500 millimeters (DEAT, 2003). Rainfall in the country is highly variable spatially as well as within and between years, although the majority falls within the summer months of November to March; the southwest of the country receives a winter rainfall from June to August (Benhin, 2006). There is evidence that South Africa has grown warmer over the past several decades, with average annual temperatures increasing by 0.13°C per decade between 1960 and 2003 (Benhin, 2006).

The anticipated effects of climate change in the country include rising temperatures as well as changing intensity and seasonality of rainfall (DEAT, 2009). The country's Initial National Communication to the United Nations Framework Convention on Climate Change (UNFCCC) presents the results of a number of downscaled climate models for the country, noting that within the next 50 years South

Africa may experience: a continental warming of between 1 and 3°C; reductions in annual average precipitation of between 5 and 10 per cent; increases in summer rains in the northeast and southwest, and an increase in winter rains in the northeast; and an prolongation of summer season characteristics (DEAT, 2003). The magnitude, timing and distribution of severe storms that produce floods may also increase (DEAT, 2009).

Given the country's current state of water scarcity, many studies note that the agriculture and water sectors are particularly vulnerable to climate change. Given that South Africa produces more than half of the southern African region's maize yields, climate change impacts within the country have broader regional implications (Benhin et al, 2006). Other studies have identified energy, mining, health, biodiversity, and rangelands as being vulnerable sectors (Madzwamuse, 2010). Collectively, there are estimates that climate change could cost South Africa 1.5 per cent of its GDP each year by 2050 (DEAT, 2009).

Both South Africa's National Climate Change Response Strategy (NCCRS) as well as the country's National Communication list possible climate change impacts and adaptation options by the following socioeconomic sectors (DEAT, 2003; DEAT, 2004):

- *Human health:* Impacts on human health include a possible spread of water-borne diseases as well as an increase in the occurrence of strokes, dehydration and bilharzia. Adaptation options include the integration of climate change into prevention and monitoring programs for disease prevention, the extension of treatment facilities, and the improvement of monitoring and forecasting systems to warn of disease outbreaks.
- *Freshwater resources:* South Africa's National Communication notes that climate change may already be impacting water availability in the country, including changes in the season distribution and intensity of precipitation. Increased temperatures are expected to lead to higher rates of evapotranspiration, and desertification may intensify. Adaptation options identified through the NCCRS include improvement of water resources management, including water demand management and conservation measures, and contingency planning for extreme events such as droughts and floods. Additional measures include drought relief measures, improved water infrastructure, and public awareness measures.
- *Rangelands:* Rangelands currently occupy over 70 per cent of South Africa's territory and climate models indicate that acidification of rangelands will take place over the medium- to long-term, with implications for pastoralists (DEAT, 2003). Adaptation options include enhanced monitoring and forecasting systems to predict fire hazard and droughts, breed switching, and preventative measures to guard against livestock disease outbreaks.
- *Agriculture:* Certain climate models foresee that South Africa's maize production will decrease by 10 to 20 per cent by 2050, whereas food production in the country would need to increase by 3 per cent annually in order to meet projected demand (DEAT, 2003).

Adaptation options in the agricultural sector include: changes in agricultural management practices such as planting dates and row spacing; water conservation measures; and diversification of crops planted.

South Africa's NCCRS also identifies a number of overarching adaptation actions that should be given high priority for the country. These include accelerating the process of education, training and awareness raising around climate change and its impacts; the extension of health protection and promotion measures; accelerated water resources management and contingency planning; adaption agricultural, rangeland, and forestry practices; developing a protection plan for priority plant, animal, and marine biodiversity; and setting a timeframe for action with specific milestones and responsibilities (DEAT, 2004).

B. National Level Policies and Strategic Documents

South Africa has developed a number of policies and reports that address the country's adaptation priorities. These reports include an Initial National Communication under the UNFCCC, the National Climate Change Response Strategy, and a National Strategy for Sustainable Development. Regional and city governments within the country have also prepared climate change adaptation reports and policy documents, including the city of Cape Town.

In addition, the South African government, through its Department of Environmental Affairs (DEA), is in the process of developing a National Climate Change Response Policy (NCCRP), which will serve as the country's comprehensive adaptation strategy. It is expected to build on the National Climate Change Response Strategy of 2004. Consultations with a few environmental experts and civil society organizations took place in March 2009, and the official strategy was expected to be released towards the end of 2010 (WRI 2010).

Table 1: Key Government Policies and Reports reflecting Adaptation Needs, Priorities and Planned Actions

Name of Policy Action		Government Division Responsible	Status	Sector(s) of Focus	Summary description
National Reports and Policies					
1.	Initial National Communication under the UNFCCC ²³¹	Department of Environmental Affairs and Tourism	Submitted in 2003	Multi-sectoral	South Africa's national communication provides an overview of the country's national circumstances, presents its emissions profile, provides a vulnerability assessment of key sectors, and outlines adaptation options.
2.	Climate Change Response Strategy	Department of Environmental Affairs and Tourism is the lead	Released in 2004	Multi-sectoral	The objective of this strategy is to support the policies and principles laid out in the Government White Paper on Integrated

²³¹ UNFCCC, http://unfccc.int/essential_background/library/items/3599.php?rec=j&preref=3996#beg

Name of Policy Action		Government Division Responsible	Status	Sector(s) of Focus	Summary description
		department, although cross-sectoral nature of challenge noted.			Pollution and Waste Management. It lays out a number of strategies objectives, principles and proposals to deal with climate change in South Africa, including measures for adaptation as well as education, research, and international concerns. This document notes that the health sector, maize production, plant and animal biodiversity, water resources and rangelands are areas of highest vulnerability to climate change and those which should be targeted for adaptation measures, with the mining and energy sectors also particularly vulnerable.
3.	South Africa's National Strategy for Sustainable Development ²³²	Department of Environmental Affairs and Tourism	Published in 2005	Multi-sectoral	Mentions the importance of addressing the impacts of climate change.
Local/Regional Reports and Policies					
4.	Framework for Adaptation to Climate Change in the City of Cape Town ²³³	City of Cape Town Environmental Planning Department (prepared by University of Cape Town researchers)	Released in August 2006	Multi-sectoral	This document presents an overarching framework for a city-wide consolidated and coordinated approach to reducing vulnerability to climate impacts. The ultimate goal is to develop a City Adaptation Plan of Action for the City of Cape Town. The study outlines some of the anticipated effects of climate change on the city as well as potential adaptation measures in key sectors.
5.	eThekweni Municipality Integrated Development Plan ²³⁴ (city of Durban)	City of Durban	Implemented 2006; effective 2006-2011	Multi-sectoral	This overall development/strategy document identifies the impacts of climate change on the municipality, and calls for the establishment of a municipal pollution reduction and climate protection program.
6.	Climate Change Strategy and Action Plan for the Western Cape ²³⁵	Department of Environmental Affairs and Development Planning, Western Cape	Released in 2007	Multi-sectoral	Sets out a longer term strategy to improve understandings of the impacts of climate change, as well as planning and adaptation measures. Includes both mitigation and adaptation.

²³² GOSA, <http://www.environment.gov.za/HotIssues/2008/nfsd/nfsd.html>

²³³ GOSA, http://www.capetown.gov.za/en/EnvironmentalResourceManagement/publications/Documents/Framework_for_Adaptation_to_Climate_Change_%28FAC4T%29_08_2006_38200713832_465.pdf

²³⁴ GOSA, <http://www.durban.gov.za/durban/government/policy/idp/idp/idp2011/idp1>

²³⁵ GOSA, http://www.capegateway.gov.za/Text/2007/10/climate_change_strategy_final_draft_june2007.pdf

C. Current Adaptation Action

A moderate number of adaptation projects financed by international donors are currently being implemented in South Africa. Additional projects, such as those financed by the government of South Africa, as well as those in which adaptation considerations have been integrated into the design of projects in various sectors, have not been captured by this review. Of the discrete adaptation projects identified as being underway in the country, most are also being implemented in other (mostly African) developing countries; less than half of the identified projects are occurring solely within South Africa. These country-specific projects are addressing issues in a variety of sectors, including agriculture, freshwater resources, urban areas, human health, tourism, climate information services, and disaster risk management. They include the project “Reducing Disaster from Wildfire Hazards Associated with Climate Change” financed by the Special Climate Change Fund (SCCF).

South Africa is participating in a shared adaptation projects that focus on a narrower range of sectors, namely: urban issues, agriculture, freshwater resources and building governance capacity. This includes involvement in the projects “Community Based Adaptation to Climate Change in Africa,” “Five-City Network to Pioneer Climate Change Adaptation in sub-Saharan Africa,” and the “Southern Africa Regional Climate Change Program.” The types of activities being undertaken in these multi-country projects, as well as those only underway in South Africa, generally are research, capacity building, knowledge communication and supporting policy formation and integration. Only a small number of projects contain components that support implementation of “on-the-ground” adaptation measures.

Although South Africa is receiving funding from a number of different sources, several of its projects are financed through the Climate Change Adaptation in Africa (CCAA) program of the United Kingdom Department for International Development and the International Development Research Centre (IDRC), and by the government of Germany.

Table 2: Current Adaptation Projects and Programs active in South Africa

Name		Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
National Action								
1.	Building the Capacity of Urban Project Teams in Participatory Action in Research ²³⁶	Climate change threatens to increase the stress on communities that are ill-prepared to face the impacts of this phenomenon, including in urban areas. This project will	DFID and IDRC through the CCAA program	IDRC	Capacity building; Knowledge communicatio	2008 – 2010	Urban areas	Urban areas

²³⁶ IDRC, http://web.idrc.ca/en/ev-113692-201_106241-1-IDRC_ADM_INFO.html

Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
	strengthen the knowledge and skills of urban project teams in participatory action research, as well as ways of adapting them to the urban context.			n; Research			
2.	Adaptation by Small Scale Rooibos Tea Farmers in Wypperthal and Suid Bokkeveld areas of Western and Northern Cape ²³⁷	SouthSouthNorth Budget: US\$50,000	UNEP	Assessment; Capacity building	2008 – ?	Agriculture	Western and Northern Cape
3.	Managing Climate Risk to Agriculture and Water Resources in South Africa ²³⁸	DFID and IDRC through the CCAA program Budget: CND 1,086,900	DFID	Research; Knowledge communication	2009 – 2011	Agriculture; Freshwater supply; Climate information services	South Africa
4.	Climate Change Support Program ²³⁹	BMU	DEA	Assessment	2009-2012	Tourism; Human health	South Africa

²³⁷ Adaptation Atlas, <http://www.adaptationatlas.org/activityDetail.cfm?id=2564>

²³⁸ ALM, <http://www.adaptationlearning.net/project/managing-climate-risk-agriculture-and-water-resources-south-africa> and IDRC, http://web.idrc.ca/en/ev-113692-201_104150-1-IDRC_ADM_INFO.html

²³⁹ GIZ, <http://www.gtz.de/en/weltweit/afrika/suedafrika/32091.htm>

Name		Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
5.	Reducing Disaster from Wildfire Hazards Associated with Climate Change ²⁴⁰	To develop and implement integrated disaster risk management strategies to address climate change -induced fire hazards and risks. Expected outputs: (1) early warning and hazard risk information system put in place to deal with the additional fire hazard risks associated with climate change; (2) paradigm shift from reactive firefighting to integrated fire management system to cope with climate change-induced fire hazards and capacity built at local level; (3) innovative risk reduction interventions implemented; and (4) good practices on adaptive management of fire risks disseminated at national and regional levels.	Special Climate Change Fund Budget: US\$35,336,400	UNDP	Policy formation and integration; Capacity building	2011 – 2014	Disaster risk management; Fire management	Western Cape, Eastern Cape, and Freetown province
Participation in Regional and Global Actions								
6.	Food and Water Security under Global Change: Developing adaptive capacity with a focus on rural Africa ²⁴¹	This project aims to understand the impacts of global change on agriculture and water resources at the global, national, and river basin levels; to assess the effects of global change on water and food security in vulnerable rural areas of Africa, particularly rural Ethiopia and South Africa; and to identify adaptation measures that reduce the impacts of global change on these communities.	German Government through the Advisory Service on Agricultural Research for Development	International Food Policy Research Institute	Assessment	2007 – 2009 (closed)	Agriculture; Freshwater supply	African: Ethiopia, South Africa
			In South Africa: To be determined					
7.	Advancing Capacity for Climate Change Adaptation (ACCCA) ²⁴²	The rationale for this project is that countries lack scientific knowledge and understanding of climate risks, and that this is an	IDRC; DEFRA; Swiss Federal Office for the	UNITAR	Assessment; Capacity building;	2007 – 2010	Multi-sectoral	Global: 17 countries in Asia and

²⁴⁰ ALM, <http://www.adaptationlearning.net/project/reducing-disaster-risks-wildfire-hazards-associated-climate-change>

²⁴¹ IFPRI, <http://www.ifpri.org/book-1043/ourwork/program/food-and-water-security-under-global-change> and <http://ongoing-research.cgiar.org/factsheets/food-and-water-security-under-global-change-developing-adaptive-capacity-with-a-focus-on-rural-africa/>

²⁴² ACCCA, <http://www.acccaproject.org/accca/>

Name		Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
		impediment to addressing climate variability. Activities include the following: identify and prioritize climate risks; assess available knowledge about risks and adaptation opportunities; develop, test, and disseminate risk communication materials that are designed to assist adaptation decisions; and identify critical knowledge gaps that impede effective adaptation decisions.	Environment; NCAP; European Commission		Policy formation and integration			Africa ²⁴³ including Malawi and South Africa
			In South Africa: “Climate Change Adaptation Options in Informal Communities in Durban, South Africa.” ²⁴⁴ A vulnerability assessment is being conducted of the Amaoti community which will recommend appropriate adaptation strategies aimed at reducing the community’s vulnerability to climate change • <i>Implementing agency:</i> Golder Associates Africa; UNITAR • <i>Duration:</i> 2008 – 2010					
8.	Community Based Adaptation to Climate Change in Africa ²⁴⁵	The project involves identifying ways of communicating climate information to poor and vulnerable communities and from communities to other stakeholders. Capacity building and support is being given to NGOs and communities through training to facilitate integration of climate change into their plans and activities. The project will generate information on community-based climate change adaptation, and disseminate the information to inform other stakeholders including researchers, NGOs, national and international policy and decision makers, among others.	DFID and IDRC through the CCAA program Budget: CND 1,398,500	African Centre for Technology Studies	Capacity building; Field implementation; Community based adaptation; Research	2008 – 2011	Multi-sectoral	African: Kenya, Malawi, South Africa, Sudan, Tanzania, Uganda, Zambia and Zimbabwe
			South Africa: Further information required.					
9.	Strategies for Adapting to Climate Change in Rural Sub-	“Promote adaptation among vulnerable populations through developing	BMZ	IFPRI (lead); ASARECA;	Capacity building;	2008 – 2011	Rural areas; Agriculture;	African: Angola,

²⁴³ *African countries include:* Burkina Faso, Cameroon, Ethiopia, Ghana, Kenya, Malawi, Mali, Niger, Nigeria, Tanzania, Tunisia and South Africa. *Asian countries include:* Bangladesh, India, Mongolia, Nepal and the Philippines.

²⁴⁴ ACCCA, http://www.acccaproject.org/accca/files/ACCCA_Brochure_19pilotactions.pdf

²⁴⁵ ACTS, http://www.acts.or.ke/index.php?option=com_content&view=article&id=60&Itemid=53 and IDRC, http://www.idrc.ca/cp/ev-83067-201_104898-1-IDRC_ADM_INFO.html

Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
Saharan Africa: Targeting the most vulnerable ²⁴⁶	comprehensive systems for assessing global changes and the changes of these impacts across disaggregated systems, groups, and factors influencing initial state of vulnerability. Provide regional organizations, policy-makers and farmers in sub-Saharan Africa with tools to identify and implement appropriate adaptation strategies.”	Budget: US\$91,241	FANRPAN; PIK; ZALF	Community based adaptation; Policy formation and integration		Government	Botswana, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Tanzania, Zambia and Zimbabwe
In South Africa: Further information required.							
10. Five-City Network to Pioneer Climate Change Adaptation in sub-Saharan Africa ²⁴⁷	Local governments and coastal cities in southern Africa face a serious threat associated with climate change. This project aims to design a framework for managing increased risk from climate change, and is anticipated to lay the groundwork for a local climate change adaptation strategy and action plan in the five urban areas in the participating countries: Cape Town (South Africa); Dar es Salaam (Tanzania); Maputo (Mozambique); Windhoek (Namibia); and Port Louis (Mauritius).	DFID and IDRC through the CCAA program	International Council for Local Environmental Initiatives	Capacity building; Policy formation and integration)	2009 – 2012	Urban area	Regional: Mauritius, Mozambique, Namibia, South Africa and Tanzania
In South Africa: Further information required.							
11. Regional Science Service Centre for Adaptation to Climate Change and Sustainable Land	The objective is to develop a program that will conduct problem-oriented research in the area of adaptation to climate change and sustainable land management and provide	Germany Federal Ministry of Education		Research; Capacity building; Knowledge	2009 – 2012	Ecosystem conservation	Regional: Angola, Botswana, Namibia,

²⁴⁶ FANRPAN, <http://www.fanrpan.org/themes/eachproject/?project=2> and http://www.fanrpan.org/documents/d00539/BMZ_Climate_Change_Adaptation_Jun2008.pdf

²⁴⁷ IDRC, http://www.idrc.ca/EN/Regions/Eastern_and_Southern_Africa/Pages/ProjectDetails.aspx?ProjectNumber=105868

Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
Management in Southern Africa ²⁴⁸	evidence-based advice for all decision-makers and stakeholders. Research will be geared towards filling current regional or local gaps in integrated knowledge. The research will aim to: integrate research on land- and resource management; link science and theory to practice and decision-making; compile, analyze and disseminate best practices.	and Research		communication			South Africa, Zambia
		In South Africa: Further information required.					
12. Strengthening the Role of Civil Society in Water Governance in African Cities: Durban, Maputo, Nairobi ²⁴⁹	This project aims to increase the capacity of civil society to influence water sector governance in the context of climate change adaptation. Researchers will identify stakeholders' vulnerability to and perception of climate change and examine how civil society institutions adjust programs to cope with climate change.	DFID and IDRC through the CCAA program	York University (Canada)	Research; Capacity building	2010 – 2013	Freshwater supply; Civil society; Urban areas	African: Kenya, Mozambique, South Africa
		In South Africa: Further information required.					
13. Southern Africa Regional Climate Change Program ²⁵⁰	The program aims to synthesize relevant climate change science, develop strategic research and strengthen the science-policy-governance-finance dialogue. The program will aim to build an evidence base for transboundary responses to climate change, strengthen the region's voice in international platforms, and enhance its ability to access necessary finance for climate change adaptation.	DFID, SIDA	OneWorld Sustainable Investments	Policy formation and integration; Research	2009 – 2014	Government; Climate information services	African: Angola, Botswana, DRC, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa,

²⁴⁸ SASSCAL, <http://www.sasscal.org/>

²⁴⁹ IDRC, http://www.idrc.ca/EN/Programs/Agriculture_and_the_Environment/Climate_Change_and_Adaptation_in_Africa/Pages/ProjectDetails.aspx?ProjectNumber=106002

²⁵⁰ Southern Africa Regional Climate Change Program, http://www.rccp.org.za/index.php?option=com_content&view=article&id=68&Itemid=61&lang=en

Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
							Swaziland, Tanzania, Zambia, Zimbabwe
In South Africa: Further information required.							

D. Proposed Adaptation Action

South Africa, along with nine other African countries, is proposed to be involved in the project “Microeconomic Costing of Discrete Adaptation Options in the Agriculture Sector: A Sub-National Level Analysis of the Welfare Gains of Dynamic Adaptation.” Funding for this project has been requested from the SCCF. A second project, “Community Adaptation to Climate Change in the Limpopo Basin,” has also been submitted to the SCCF. Countries expected to participate in this project are Botswana, Mozambique, South Africa and Zimbabwe. Otherwise, it appears that South Africa has not proposed a suite of adaptation actions for the country. However, this information may be forthcoming in the National Climate Change Response Policy.

Table 3: Proposed Adaptation Projects and Programs in South Africa

Name	Objectives	Type of project	Priority Sector(s)	Geographic focus (if any)
1. Microeconomic Costing of Discrete Adaptation Options in the Agriculture Sector: A Sub-National Level Analysis of the Welfare Gains of Dynamic Adaptation ²⁵¹		Research	Agriculture	Burkina Faso, Cameroon, Egypt, Ethiopia, Ghana, Kenya, Niger, Senegal, South Africa, Zambia
Notes: Proposal submitted for funding to the SCCF. Budget: Proposed to from the SCCF: US\$2.0 million; proposed co-financing: to be determined.				
2. Community Adaptation to Climate Change in the Limpopo Basin ²⁵²				Botswana, Mozambique, South Africa and Zimbabwe
Notes: Project submitted for funding from the SCCF. Budget: Proposed funding from the SCCF: US\$4.45 million; proposed co-financing: US\$12.0 million.				

²⁵¹ GEF, http://www.thegef.org/gef/sites/thegef.org/files/publication/adaptation-actions_0.pdf

²⁵² GEF, http://www.thegef.org/gef/sites/thegef.org/files/publication/adaptation-actions_0.pdf

E. Assessment

South Africa identified several adaptation options in its National Communication to the UNFCCC, but did not prioritize these actions according to level of urgency/importance. It is therefore difficult to assess South Africa's progress in acting on priority adaptation actions. Nonetheless, South Africa has made progress in addressing some of its various adaptation needs at the policy level and through implementation of a number of adaptation projects and programs. In addition, there is evidence that South Africa is undertaking comprehensive consultation and outreach leading to the establishment of a national climate change adaptation strategy, and various municipalities and regions are also integrating climate change adaptation into their policy frameworks.

Ongoing projects in South Africa target a number of the areas identified as priority adaptation actions, including the freshwater and agriculture sectors identified as being particularly vulnerable to climate change. However much of this work is currently focused on research, policy formation and capacity building. Although these are important endeavors, it is possible that particularly vulnerable communities and sectors have not yet realized the benefits of on-the-ground activities through community based adaptation measures.

In addition, certain key gaps remain based on the range of adaptation options identified in the National Communication:

- *Freshwater resources:* Greater emphasis could be made on drought relief measures, improved water infrastructure, communications around water efficiency, planning across river basins, and development of short term contingency plans.
- *Rangelands:* Progress has been made in monitoring/forecasting fire hazard and drought, but gaps remain in investigating breeds with higher heat tolerance, guarding against disease outbreaks and disaster management.
- *Agriculture:* Various projects address vulnerability in the agriculture sector but few seem to be building capacity to adapt farming practices through techniques such as row spacing, planting density and seed banks. (It is possible, however, that these actions are being undertaken as part of other development focused initiatives).

Other sectors in which greater adaptation programming may be appropriate include human health, understanding the different implications of climate change for men and women, tourism, coastal zone management and disaster risk management.

The World Resources Institute also notes in a recent report that although South Africa has a strong policy framework compared to many other African countries, adaptation planning in South Africa has been hindered by insufficient coordination and social capacities (WRI 2010). In particular, integrating climate projections into development policy in South Africa could be improved in provincial and local level authorities. There is also a need to ensure that agrarian provinces, such as the Northern Cape and Limpopo, understand and incorporate climate protections in policy formation and economic development efforts. Enhanced public information campaigns would also address

the gap of communicating the effects of climate change to civil society; current efforts lack a strategy to share information with key stakeholders (WRI, 2010).

References:

Benhin, et al (2006). *Climate Change and South African Agriculture: Impacts and adaptation options*. Pretoria: Centre for Environmental Economics and Policy in Africa. Accessed April 2011 from: <http://www.ceepa.co.za/docs/CDPNo21.pdf>

Department of Environmental Affairs and Tourism [DEAT] (2004). *National Climate Change Response Strategy for South Africa*. Accessed April 2011 from: http://unfccc.int/files/meetings/seminar/application/pdf/sem_sup3_south_africa.pdf

Department of Environmental Affairs and Tourism [DEAT] (2009). Effects of Climate Change. In *State of the Environment*. Accessed April 2011 from: <http://soer.deat.gov.za/174.html>

Government of South Africa [GOSA] (2000). *Initial National Communication under the United Nations Framework Convention on Climate Change*. Accessed April 2011 from: <http://unfccc.int/resource/docs/natc/zafnc01.pdf>

Madzwamuse, Masego (2010). *Drowning Voices: The climate change discourse in South Africa*. Cape Town: Heinrich Boll Stiftung Foundation. Accessed April 2011 from: http://www.boell.org.za/downloads/Masego_Madzwamuse_.pdf

United States Agency for International Development [USAID] (2008). Case Study: Water Resource Planning and Natural Resource Management. Accessible here: http://www.adaptationlearning.net/sites/default/files/USAID_southafrica.pdf

United States Department of State [USDS] (2010). Background Note: South Africa. Accessed April 2011 from: <http://www.state.gov/r/pa/ei/bgn/2898.htm>

World Resources Institute (2010). Moving Forward on Climate Adaptation in South Africa. Accessed April 2011 from: <http://www.wri.org/stories/2009/09/moving-forward-climate-adaptation-south-africa>