

## 5.0 Malawi

AfDB	African Development Bank
ASARECA	Association for Strengthening Agriculture Research in Eastern and Central Africa
BMZ	Bundesministeriums für Umwelt, Naturschutz und Reaktorischerheit/ Ministry for Economic Cooperation and Development (Germany)
C4D	Canadian Coalition on Climate Change and Development
CCAA	Climate Change Adaptation in Africa
CGIAR	Consultative Group on International Agricultural Research
DEFRA	Department for Environment, Food, and Rural Affairs (United Kingdom)
DFID	Department for International Development (United Kingdom)
EC	European Commission
FANPRAN	Food, Agriculture and Natural Resources Policy Analysis Network
FAO	Food and Agriculture Organization
FOEN	Swiss Office for the Environment
HIV/AIDS	Acquired immune deficiency syndrome
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IDRC	International Development Research Centre
IFPRI	International Food Policy Research Institute
LDCF	Least Developed Country Fund
MGDS	Malawi Development and Growth Strategy
MMNRE	Ministry of Mines Natural Resources and Environment
MNREA	Ministry of Natural Resources and Environmental Affairs
NAPA	National Adaptation Programme of Action
NCAP	Norwegian Climate Action Partnership
PIK	Potsdam Institute for Climate Impact Research
QWeCI	Qualifying weather and climate impacts on health in development countries project
UNDAF	United Nations Development Assistance Framework
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
UNOPS	United Nations Office for Project Services
USAID	United States Agency for International Development
USDS	United States Department of State
ZALF	Leibniz-Centre for Agricultural Landscape Research

One of the least developed countries in the world and one of the most densely populated countries in Africa, Malawi is a landlocked country in southeastern Africa that borders on Mozambique, Tanzania and Zambia (MMNRE, 2006). The country is split north to south by the Great Rift Valley, and is home to Lake Malawi—the third largest lake in Africa—which comprises 20 per cent of the country’s area (USDS, 2010). The topography of the country is varied, with the area surrounding the Great Rift Valley reaching elevations of 3,000 meters (McSweeney et al, 2008).

Malawi is highly dependent on its natural resources base, including soils, water, fisheries, and forests (MMNRE, 2006). Approximately 90 per cent of Malawi’s population of 13.1 million (MMNRE, 2006) is dependent on rain-fed subsistence farming for their livelihoods; it is estimated that 60 per cent of the population experiences food insecurity on a year-round basis (MMNRE, 2006). The agricultural sector comprises 63.7 per cent of the country’s Gross Domestic Product (USDS, 2010). As firewood makes up 90 per cent of the country’s energy supply, Malawi has one of the highest rates of deforestation in Africa (MNREA, 2002). Deforestation has contributed to the degradation of lands and soil erosion. Siltation of the Shire River, the tributary linking Lake Malawi to the Indian Ocean, has compromised the country’s electricity supply, as hydropower generators within the river supply 98 per cent of the country’s electricity (MMNRE, 2006). Female and children headed households are common due to the country’s HIV/AIDS epidemic (MMNRE, 2006).

### **A. Adaptation Needs and Priorities**

Malawi’s present climate is characterized by a warm wet season from November to April (during which 95 per cent of the country’s annual precipitation falls), a cool dry winter from May to August, and a hot and dry season from September to October (UNDP, 2009). It currently experiences considerable fluctuations in year to year rainfall variability, resulting in difficulties in pinpointing long-term historical trends (McSweeney et al, 2008). However, based on recent community-level interviews with smallholder farmers, there is evidence to suggest that the climate in Malawi is changing. For example, there has been a marked change in the growing season and the crops grown over the past several decades (ActionAid, 2006; Oxfam, 2009). The country currently experiences a number of climate hazards which may

intensify over the coming years, including heavy rainfall, floods, seasonal droughts, cold spells, strong winds, thunderstorms, landslides, hailstorms, mudslides and heat waves (MMNRE, 2006). In recent years, repeated floods and droughts have compromised the country's food and water security, including impacts on health and energy supply (MMNRE, 2006).

Anticipating the future impacts of climate change in Malawi is difficult as climate models have not been adequately downscaled for the country. In addition, Malawi is influenced by two regional climate zones—southern and eastern Africa—further compounding climate projections (UNDP, 2009). Nonetheless, evidence from regional climate models suggest that Malawi will not experience extreme changes in annual levels of precipitation; rather it will experience changes in rainfall patterns, including further shifts in seasons, decreases in rainfall during dry seasons and increases during the wet season (UNDP, 2009; McSweeney et al, 2008). Regional climate models predict that temperatures will increase by 1.1 to 3°C by the 2060s and by 1.5 to 5°C by the 2090s (McSweeney et al, 2008). Malawi may also experience a “substantial increase” in the frequency of days and nights that are considered hot (McSweeney et al, 2008).

As discussed in the country's First National Communication to the United Nations Framework Convention on Climate Change (UNFCCC), Malawi's vulnerability to climate changes will be determined by socioeconomic, demographic and climate factors including the degree to which it economy has diversified away from a dependence on agriculture, inadequate health facilities, and poverty (MNREA, 2002). At present, it is expected that Malawi will experience the potential impact of climate change in the following areas (MMNRE, 2006):

- *Agriculture:* Malawi relies on rain-fed agriculture, and current droughts have caused poor crop yields or complete crop failure. Flooding has also contributed to compromised food production;
- *Human health:* Climate change is anticipated to affect infant malnutrition and ailments associated with malaria, cholera and diarrhea linked to droughts and floods;
- *Energy:* Malawi's electricity primarily comes from hydroelectricity generated along the Shire river, and this river flow has been adversely affected by present droughts and floods as well as siltation;
- *Fisheries:* Droughts and floods are already adversely affecting the fisheries sector, and have been responsible for the declining and/or drying up of water bodies, causing low fish production and loss of biodiversity;
- *Wildlife:* Increase drought is anticipated to adversely affect animal reproduction systems and migratory habits;
- *Freshwater:* Increased droughts and floods are already presenting disrupting water quality and quantity;
- *Forestry:* Extended droughts, leading to land degradation and a loss of soil fertility, and forest fires are expected to be the main impacts of climate change on the forestry sector; and

- *Gender:* The NAPA highlights that women bear the overwhelming burden of activities impacted by climate change, including collection of water, firewood, and ensuring daily access to food.

Malawi’s National Adaptation Programme of Action (NAPA) identifies a number of priority adaptation activities within the aforementioned areas by evaluating their technical feasibility, economic impact, effects on vulnerable groups, cost, level of stakeholder participation, and other cross-cutting issues (MMNRE, 2006). These priority adaptation actions are presented in Table 3. Addition studies note the need for diversification in crop varieties that are suited to future climate conditions; improved land use practices; reforestation; enhanced local government capacity; improved sectoral coordination; enhanced climate data and climate modeling; establishment of risk management and safety procedures; and strengthened policy frameworks (ActionAid, 2006).

The NAPA also discusses various barriers that inhibit the implementation of these adaptation actions, including extreme poverty, poor infrastructure, limited credit opportunities, food insecurity, existence of HIV/AIDS orphans, poor health conditions and limited analytical capability.

## B. National Level Policies and Strategic Documents

Malawi has prepared a NAPA and National Communication for submission to the UNFCCC which summarize the country’s vulnerability to climate change and adaptation priorities. As noted in Table 1, it has also developed a Development and Growth Strategy which considers how adaptation to climate change links with its broader development priorities.

**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
1. National Communication to the UNFCCC <sup>124</sup>	Ministry of Natural Resources and Environmental Affairs	Submitted in 2002	Multi-sectoral	Malawi’s National Communication provides an overview of the country’s greenhouse gas emissions profile and mitigation options, as well as key vulnerabilities to climate change and the measures that would allow the country to effectively adapt.
2. National Adaptation Programme of Action <sup>125</sup>	Ministry of Mines, Natural Resources and Environment	March 2006	Multi-sectoral	This document provides an overview of Malawi’s current climate conditions, the anticipated effects of climate change on the country, key

<sup>124</sup> UNFCCC, [http://unfccc.int/essential\\_background/library/items/3599.php?such=j&symbol=MWI/COM/1%20B#beg](http://unfccc.int/essential_background/library/items/3599.php?such=j&symbol=MWI/COM/1%20B#beg)

<sup>125</sup> UNFCCC, <http://unfccc.int/resource/docs/napa/mwi01.pdf>

Name of Policy Action	Government Division Responsible	Status	Sector(s) of Focus	Summary description
				impacts by sector and identifies priority adaptation actions.
3.	Malawi Development and Growth Strategy 2006-2011 (MGDS)	2006, revised 2009	Multi-sectoral	This document represents the government's medium-term strategy to attain the country's <i>Vision 2020</i> . The main goal of the MGDS is to generate sustainable economic growth to attain poverty reduction. The priority areas identified in the strategy are expected to accelerate the achievement of the Millennium Development Goals. The first version of the strategy did not place great emphasis on climate change. However, the revised version places climate change within the list of national development priorities and addresses the climate risks that will affect development.

### C. Current Adaptation Action

A high number of adaptation projects are currently being implemented in Malawi relative to its southern African neighbors and, perhaps, relative to its size and population. Malawi benefits from participation in a number of regional adaptation initiatives, including: the Denmark-funded “Climate Change Adaptation and Development Initiative;” the Japan-UNDP Africa Adaptation program; and the partnership between International Development Research Centre (IDRC) and the UK Department for International Development (DFID) in the Climate Change Adaptation in Africa program (CCAA). Moreover, Malawi has had one of its NAPA priority adaptation projects, “Climate Adaptation for Rural Livelihoods and Agriculture,” funded by the Least Developed Country Fund (LDCF). Additional funders include the European Commission, IDRC, the International Red Cross and Red Crescent, and the governments of Germany, the Netherlands, Norway, Spain, Sweden, Switzerland, the United Kingdom and the United States.

A majority of actions in Malawi focus on the agriculture sector, such as helping smallholder farmers understand and anticipate climate risks, crop diversification initiatives, capacity building, food security, water use, etc. A number of projects also seek to improve the capacity of government to prepare for and support adaptation to climate change. A minority of projects in the country focus specifically on freshwater resources, disaster risk management and the needs of civil society. The major of activities undertaken as part of these projects focus on research, assessment, capacity building and policy formation and integration; only a small number of projects include community based adaptation and field implementation components.

**Table 2: Current Adaptation Projects and Programs active in Malawi**

Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
<b>National Action</b>							
1. Climate Adaptation for Rural Livelihoods and Agriculture <sup>126</sup>	This project is addressing vulnerability to climate change in the subsistence agriculture sector by: (i) making investments aimed at improving agricultural practices, land management, and natural systems as well as rural livelihoods through targeted adaptation interventions in crop diversification, cropping sequences, conservation tillage, food storage and irrigation, and efficient water use; and (ii) the creation of an enabling environment for climate risk management, including activities in policy development and implementation, institutional coordination, and generation of knowledge on climate risk management.	LDCF  Budget: Total US\$27.505 million	AfDB; Environmental Affairs Department in Ministry of Mines, Natural Resources and Environment; Department of Irrigation in Ministry of Irrigation and Water Development	Community based adaptation; Capacity building; Policy formation and integration	2008 – 2013	Agriculture	Rural
2. Legume Diversification in Tobacco Systems: Climate risk and market opportunities <sup>127</sup>	The capacity of the National Smallholder Farmers' Association of Malawi (NASFAM) to use climate risk analyses to evaluate and target legume diversification strategies in tobacco producing systems in Malawi enhanced.	IDRC – Research in Tobacco Control  Budget: US\$295,731	CGIAR; International Crop Research Institute for the Semi-Arid Tropics	Research; Capacity building	2009 – ?	Agriculture	
3. Malawi Climate Change Program <sup>128</sup>	General support for Malawi's efforts to respond to climate change (note: presumably includes actions towards adaptation efforts)	DFID  Budget: GBP 990, 000			2009 – 2011		
4. Kulera Biodiversity and Mt. Mulanje Mountain	This project helps farmers in Malawi become more resilient to the effects of climate change	USAID <sup>130</sup>		Community based	2010 – ?	Agriculture; Biodiversity	Mt. Mulanje

<sup>126</sup> GEF, <http://www.thegef.org/gef/node/2153>

<sup>127</sup> AidData, <http://www.aiddata.org/project/show/37732258> and ICRISAT, <http://www.icrisat.org/what-we-do/agro-ecosystems/aes-adaption-table.htm>

<sup>128</sup> DFID, <http://projects.dfid.gov.uk/project.aspx?Project=200819>

Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
Biodiversity Increases Livelihood Security project <sup>129</sup>	by providing higher-quality farm materials, such as seeds that are high-yielding, disease-resistant, and drought-tolerant.	Budget: US\$0.5 million		adaptation			
5. Enhancing the Resilience of Lake Chilwa Basin Communities to Climate Change <sup>131</sup>	The WorldFish Center is working with communities in the Lake Chilwa Basin (Malawi) to help meet the challenges of climate change. Through participatory rural appraisals, researchers are engaged in project design using thematic working groups to solicit the views of community stakeholders including farmers, fishers, fish traders and others. They assess stakeholders' natural resource and livelihood priorities, and the constraints and opportunities stakeholders face in adapting to climate change.	Government of Norway	CGIAR; Worldfish Center	Research	2010 – 2015	Freshwater supply	Lake Chilwa basin
<b>Participation in Regional and Global Projects</b>							
6. Preparedness for Climate Change <sup>132</sup>	The aim of this program was for the Red Cross and Red Crescent National Societies in countries particularly vulnerable to climate change to gain a better understanding of climate change and its impacts to identify country-specific adaptation measures in line with risks. Activities could include organizing a workshop on risks, assessment of risks through preparation of a background document, capacity building programs, and developing climate change resilient plans.	Red Cross/Red Crescent Climate Centre	National Red Cross/Red Crescent Societies	Capacity building; Policy formation and integration	Phase 1: 2006 – 2009 Phase 2: ongoing	Disaster risk management	<i>Global:</i> 39 countries  <i>South African participants in Phase 1:</i> Madagascar, Malawi, Mauritius, Seychelles, Zimbabwe

<sup>130</sup> The U.S. has also contributed \$8.5 million to the regional climate change program 'ClimateDev Africa', a joint initiative of USAID, the African Union, African Development Bank and United Nations Economic Commission for Africa <http://www.state.gov/g/oes/rls/rpts/faststart/merge/151403.htm>. There is little information, however, regarding which countries have received funding under this initiative.

<sup>129</sup> USDS, <http://www.state.gov/documents/organization/164589.pdf>

<sup>131</sup> CGIAR, <http://ongoing-research.cgiar.org/factsheets/addressing-climate-change-by-building-social-and-ecological-resilience-in-the-lake-chilwa-basin/>

<sup>132</sup> IFRC, <http://www.climatecentre.org/site/preparedness-for-climate-change-programme>

Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
		<i>In Malawi:</i> A series of workshops took place to raise awareness on changing climatic risks and discussions around adaptation options for projected conditions. Through a film exercise, farmers identified duck rearing, diversification of crops, flood warnings with whistles, and food storage as adaptation strategies to cope with climate change. <sup>133</sup>					
7.	Advancing Capacity for Climate Change Adaptation (ACCCA) <sup>134</sup>	IDRC; DEFRA; Swiss Federal Office for the Environment; NCAP; European Commission	UNITAR	Assessment; Capacity building; Policy formation and integration	2007 – 2010	Multi-sectoral	Global: 17 countries in Asia and Africa <sup>135</sup> including Malawi and South Africa
		<i>In Malawi:</i> “Audio-visual Tools for Community-Based Adaptation: Bridging the Meteorological Service and the Red Cross' Work.” <sup>136</sup> Activities in Malawi focused on disaster management and health through improving audio-visual tools for community based adaptation.					
8.	Integrating Climate Change Risks and Opportunities into National Development Processes and United Nations Country Programming <sup>137</sup>	Spain	UNDP	Policy formation and integration	2008 – 2010 (closed)	Government	Global: Colombia, Cape Verde, El Salvador, Malawi and Nicaragua
		Budget: US\$1.2 million					
		<i>In Malawi:</i> The activities in Malawi focused on one UN document and 2 government documents: 1) UNDAF, 2) the Malawi Growth and Development Strategy, and 3) the					

<sup>133</sup> Climate Centre,

<http://www.climatecentre.org/downloads/File/programs/Final%20PFCC%20General%20Assembly%20Document%20with%20renewed%20table.pdf>

<sup>134</sup> ACCCA, <http://www.acccaproject.org/accca/>

<sup>135</sup> *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.

<sup>136</sup> ACCCA, <http://www.acccaproject.org/evolution/modules/knowledgebox/external2/view.php?id=294&kbid=5> and UN CC: Learn, <http://www.unclearn.org/sites/www.unclearn.org/files/inventory/UNITAR43.pdf>

<sup>137</sup> <http://www.adaptationlearning.net/project/integrating-climate-change-risks-and-opportunities-national-development-processes-and-unite-2> and UNDP, [http://www.undp.org/climatechange/integrating\\_cc\\_risks.shtml](http://www.undp.org/climatechange/integrating_cc_risks.shtml)



Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
		Agriculture Sector-wide Approach.					
9.	Climate Change Adaptation and Development Initiative (CC-DARE) <sup>138</sup>	Danish Ministry of Foreign Affairs	UNEP and UNDP	Capacity building; Knowledge communication; Field implementation	2008 – 2011	Multi-sectoral	African: Benin, Ghana, Ethiopia, Malawi, Mozambique, Rwanda, Senegal, Seychelles, Tanzania, Togo, Uganda
		<p><i>In Malawi:</i> The following four projects are being implemented:</p> <ul style="list-style-type: none"> <li>• Project 1: integrating climate change adaptation and mitigation in the agriculture and natural resource curriculum in Malawi;</li> <li>• Project 2: strengthening the management of natural resources in the impoverished Blantyre North area and enhancing the communities' resilience to climate change adaptation;</li> <li>• Project 3: streamlining of climate change, adaptation and environment into national science and technology policy;</li> <li>• Project 4: mainstreaming climate change into the district.</li> </ul>					
10.	Community Based Adaptation to Climate Change in Africa <sup>139</sup>	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
		<i>In Malawi:</i> Further information required.					

<sup>138</sup> CC-DARE, <http://www.ccdare.org/>

<sup>139</sup> ACTS, [http://www.acts.or.ke/index.php?option=com\\_content&view=article&id=60&Itemid=53](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](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)
	<p>Technologies to Enhance Capacity;”</p> <ul style="list-style-type: none"> <li>• Develop a tried and tested methodology for setting baselines, monitoring and evaluating changes in climate adaptation capacity;</li> <li>• Enhance particularly vulnerable communities’ capacity to adapt in eight African countries;</li> <li>• Develop the capacity of relevant stakeholders to mainstream climate change adaptation into plans and activities through knowledge exchanges and information provision;</li> <li>• Strengthen existing networks to enhance understanding of the climate adaptation needs of vulnerable communities; and</li> <li>• Enlarge the body of knowledge and information on vulnerability and adaptation.</li> </ul>						
11. Strategies for Adapting to Climate Change in Rural Sub-Saharan Africa: Targeting the most vulnerable <sup>140</sup>	<p>“Promote adaptation among vulnerable populations through developing 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.”</p>	<p>BMZ</p> <p>Budget: US\$91,241</p>	<p>IFPRI (lead); ASARECA; FANRPAN; PIK; ZALF</p>	<p>Capacity building; Community based adaptation; Policy formation and integration</p>	<p>2008 – 2011</p>	<p>Rural areas; Agriculture; Government</p>	<p>African: Angola, Botswana, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Tanzania, Zambia and</p>

<sup>140</sup> FANRPAN, <http://www.fanrpan.org/themes/eachproject/?project=2> and [http://www.fanrpan.org/documents/d00539/BMZ\\_Climate\\_Change\\_Adaptation\\_Jun2008.pdf](http://www.fanrpan.org/documents/d00539/BMZ_Climate_Change_Adaptation_Jun2008.pdf)

Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)	
							Zimbabwe	
<i>In Malawi: Further information required.</i>								
12.	Groundwater in sub-Saharan Africa: Implications for food security and livelihoods <sup>141</sup>	The project aims to enhance the role of groundwater in providing improved food security and livelihoods in the countries targeted by AGRA. The specific objectives include: assessing groundwater availability and sustainability, including the impacts associated with its use and role in adapting to climate change; identifying opportunities and constraints in using groundwater, and provide advice to investors in groundwater interventions; and developing a groundwater strategy for the region.	Alliance for a Green Revolution in Africa (AGRA)	International Water Management Institute	Research; Policy formation and integration	2009 – 2011	Freshwater supply	<i>African:</i> Burkina Faso, Ethiopia, Ghana, Kenya, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Tanzania, Uganda, Zambia
<i>In Malawi: Further information required.</i>								
13.	Linking African Researchers with Adaptation Policy Spaces <sup>142</sup>	This project will help build the capacity of researchers to influence policy. In particular, researchers will investigate the complexity of adaptation policy processes in different countries and identify policy spaces.	DFID and IDRC through the CCAA program	IDRC, Institute of Development Studies	Research; Policy formation and integration; Capacity building	2009 – 2011	Civil society	<i>Regional:</i> Kenya, Tanzania  <i>Plus:</i> Malawi,
<i>In Malawi: Further information required.</i>								
14.	Supporting Integrated and Comprehensive Approaches to Climate Change Adaptation in Africa (or Africa Adaptation Program – AAP) <sup>143</sup>	Under this program, UNDP will assist 20 African countries in implementing integrated and comprehensive adaptation actions and resilience plans. The projects will ensure that national development processes incorporate climate change risks and opportunities to	Japan International Cooperation Agency	UNDP	Capacity building; Policy formation and integration; Knowledge	2008 – 2011	Government	<i>African:</i> 20 African countries <sup>144</sup> including: Lesotho, Malawi,

<sup>141</sup> IWMI, <http://gw-africa.iwmi.org/>

<sup>142</sup> AfricaAdapt, <http://www.africa-adapt.net/aa/ProjectOverview.aspx?PID=3ESdwbjcwM%3D>

<sup>143</sup> ALM, <http://www.adaptationlearning.net/program/africa-adaptation-programme> and UNDP-APP, <http://www.undp-aap.org/>

<sup>144</sup> These countries are Burkina Faso, Cameroon, Congo, Ethiopia, Gabon, Ghana, Kenya, Lesotho, Malawi, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome et Principe, Senegal, Tanzania and Tunisia.

Name	Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
	secure development gains under a changing climate. UNDP will help countries establish an enabling environment and develop the capacity required to design, finance, implement, and monitor long-term and cost-effective adaptation policies and plans.	US\$92 million		communication			Mauritius, Mozambique, Namibia
<i>In Malawi:</i> The project is aimed at building capacity for integrated and comprehensive approaches to climate change adaptation in Malawi. It is focused on strengthening: (1) adaptive long-term planning capacities (2) institutional and human resource capacities, (3) policies and measures, (4) A sustainable financing strategy (5) knowledge management activities.							
15.	Urban-Rural Interdependence and the Impact of Climate Change in Malawi and Tanzania <sup>145</sup>	DFID and IDRC through the CCAA program	University of Dar es Salaam	Research; Capacity building	2009 – 2012	Agriculture; Urban area; Rural area	African: Malawi, Tanzania
<i>In Malawi:</i> Further information required.							
16.	Strengthening Local Agricultural Innovation Systems in Less Favourable and High-Potential Areas of Tanzania and Malawi <sup>146</sup>	DFID and IDRC through the CCAA program	Institute of Resource Assessment	Research; Capacity building	2007 – 2011	Agriculture	African: Malawi, Tanzania
<i>In Malawi:</i> Further information required.							

<sup>145</sup> IDRC, [http://www.idrc.org/en/ev-83053-201\\_105836-1-IDRC\\_ADM\\_INFO.html](http://www.idrc.org/en/ev-83053-201_105836-1-IDRC_ADM_INFO.html)

<sup>146</sup> IDRC, [http://www.idrc.org/cca/ev-127586-201\\_104141-1-IDRC\\_ADM\\_INFO.html](http://www.idrc.org/cca/ev-127586-201_104141-1-IDRC_ADM_INFO.html)

Name		Objectives	Funder(s)	Implementing Agency(s)	Type of project	Duration	Priority Sector(s)	Geographic focus (if any)
17.	Zambezi River Basin Initiative <sup>147</sup>	In recognition of increasing flood events within the Zambezi River Basin, this project aims to reduce the vulnerability of communities within the basin to extreme weather events and climate change, including the impact of flooding. Activities include developing community hazard maps, training staff in community disaster preparedness, implementing community based early warning systems, and training in adaptation techniques.	International Foundation of Red Cross and Red Crescent Societies	National Red Cross and Red Crescent societies	Capacity building; Community based adaptation	2009 – 2013	Disaster risk management	<i>Regional:</i> Botswana, Malawi, Mozambique, Namibia, Zambia Zimbabwe
<i>In Malawi:</i> Further information required.								
18.	Southern Africa Regional Climate Change Program <sup>148</sup>	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	<i>African:</i> Angola, Botswana, DRC, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe
<i>In Malawi:</i> Further information required.								
19.	Enhancing Adaptive Capacity to Climate Change Impacts through well-managed	The project goal is to contribute to improving food security and well-being of sub-Saharan rural households trapped in a	BMZ	International Center for Living Aquatic	Assessment; Research	2010 – 2013	Freshwater fisheries	<i>Regional:</i> Malawi, Mozambique,

<sup>147</sup> ICP, <http://www.icp-confluence-sadc.org/projects/zambezi-river-basin-initiative-zrbi>

<sup>148</sup> Southern Africa Regional Climate Change Program, [http://www.rccp.org.za/index.php?option=com\\_content&view=article&id=68&Itemid=61&lang=en](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)
Water Use for Aquaculture integrated with small-scaled Irrigation in the Chinyanja Triangle in Africa <sup>149</sup>	cycle of poverty and vulnerability exacerbated by climatic vagaries and climate change impacts, through well-managed water use for aquaculture integrated with small-scale irrigation. The project will enhance the benefits of integrating aquaculture and small-scale irrigation by reducing conflicts over water use and improve capacity for adapting to drought and flood events that are expected to be increasingly frequent in the face of climate change.		Resources Management (WorldFish Center), International Water Management Institute				Zimbabwe
In Malawi: Further information required.							

#### D. Proposed Adaptation Action

Malawi's NAPA lists five priority adaptation projects as summarized in Table 3. These projects focus on capacity building and community based adaptation initiatives in the areas of agriculture, forestry, freshwater supply, electricity production, disaster risk management, climate information services and freshwater fisheries.

**Table 3: Proposed Adaptation Projects and Programs in Malawi's NAPA**

Name	Objectives	Type of project	Priority Sector(s)	Geographic focus (if any)
1. Improving community resilience to climate change through the development of sustainable rural livelihoods	The main objective of this project is to develop and promote user-friendly sustainable livelihood strategies to target communities in areas that are vulnerable to climate change, such as the Shire Valley in southern Malawi.	Community based adaptation	Agriculture	Shire Valley, and other vulnerable areas
<b>Notes:</b> Funded through the LDCF.				
2. Restoring forests in the Shire River Basin to reduce siltation	Objectives are to reduce siltation and enhance water flows through the reforestation of the Upper, Middle,	Community based adaptation	Forestry; Freshwater supply; Energy	Shire River Valleys

<sup>149</sup> CGIAR, <http://ongoing-research.cgiar.org/factsheets/enhancing-adaptive-capacity-to-climate-change-impacts-through-well-managed-water-use-for-aquaculture-integrated-with-small-scale-irrigation-in-the-chinyanja-triangle-in-africa/> and FARA, [http://www.infosysplus.org/db/db\\_index.php/door/upcome/main\\_unit/project/dataset\\_id/1215/URL\\_NAME/fara](http://www.infosysplus.org/db/db_index.php/door/upcome/main_unit/project/dataset_id/1215/URL_NAME/fara)

Name	Objectives	Type of project	Priority Sector(s)	Geographic focus (if any)
	and the associated water flow problems			
3.	Improving agricultural production under erratic rains and changing climate conditions	and Lower Shire Valley's catchments by adopting co-management strategies at the community level.	<b>Notes:</b>	
		The main objective is to improve agricultural productivity in areas characterized by erratic rainfall so as to improve the living standards and sustainable livelihoods of vulnerable rural communities.	Capacity building; Community based adaptation	Agriculture  Rural communities
			<b>Notes:</b>	
4.	Improving Malawi's preparedness to cope with droughts and floods	The objective of this project is to enhance the country's preparedness in swiftly responding to emergencies caused by floods and/or droughts so as to reduce the negative impacts on vulnerable communities.	Capacity building	Disaster risk management
			<b>Notes:</b>	
5.	Improving climate monitoring to enhance Malawi's early warning capability and decision making and sustainable utilization of Lake Malawi and lakeshore areas resources	The main objective is to establish a climate monitoring and early warning system on Lake Malawi and lakeshore areas for the timely provision of information for pre-disaster preparedness to rural fishing and farming communities as well as short and long-term adaptation livelihood skills to riparian communities.	Capacity building; Field implementation	Climate information service; Disaster risk management; Freshwater fisheries  Lake Malawi and lakeshore areas
			<b>Notes:</b>	

## E. Assessment

Overall, the many adaptation projects currently being implemented in Malawi appear to be responding to its adaptation priority needs as identified through the country's NAPA and other sources. The focus of current actions on agriculture and governance is consistent with the adaptation needs profile of the country, given that its dependence on the agricultural sector is a key element of its vulnerability to climate change. The number of projects in these sectors suggests the need for coordination of action to establish lessons-learned and ensure future investments are targeted to areas where there is the greatest need. However, the specific focus of the current actions appears to be mainly on capacity building, research and policy initiatives, with a small number involved in on-the-ground community-based adaptation efforts. The latter types of projects are identified in the NAPA as being important priorities.

Despite the significant number of adaptation activities currently underway in Malawi, certain gaps remain. As mentioned, the country is currently affected by a range of environmental challenges—deforestation, soil erosion, sedimentation in rivers, etc.—that further exacerbate the country's vulnerability to climate change and compromise its agricultural productivity. However there are few projects that

focus on these issues. In addition, it is notable that Malawi explicitly identifies the impacts of climate change on women as a concern in its NAPA; however, none of its current adaptation projects have addressing gender issues as one of their explicit objectives. In addition, there is a need for improved weather forecasting and climate modeling in the country in order for Malawi to properly anticipate the impacts of climate change; although there are a few current initiatives that touch on this need there likely is room for expansion. Additional gaps include projects focused on health, forestry and other issues that play a role in the success of adaptation in the country.

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