ACS11581

ENVIRONMENT AND NATURAL RESOURCES GLOBAL PRACTICE POLICY NOTE

# FINANCING CLIMATE-RESILIENT GROWTH IN TANZANIA

SEPTEMBER 2015
WORLD BANK GROUP REPORT NUMBER ACS11581

WORLD BANK GROUP

ENVIRONMENT AND NATURAL RESOURCES GLOBAL PRACTICE POLICY NOTE

# FINANCING CLIMATE-RESILIENT GROWTH IN TANZANIA

THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

1818 H Street NW
Washington, DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org
E-mail: feedback@worldbank.org



**Cover Photo:** Scott Wallace/World Bank.

# CONTENTS



**BOXES**

**FIGURES**



**TABLES**

# ACKNOWLEDGMENTS

The preparation of this policy note was part of a larger effort by the World Bank, in collaboration with development partners, to assist the government of Tanzania (GoT) in assessing the implications of climate change for the country's economic development. The policy note was developed by a Tanzania-based team led by Ann Jeannette Glauber (Senior Environmental Specialist, World Bank) and Magdalena Banasiak (U.K. Department for International Development [DFID]) under the guidance of Magda Lovei (Practice Manager for Environment and Natural Resources, World Bank), and Philippe Dongier (Country Director, World Bank).

The primary author is Amy Faust (Consultant), with inputs from the Global Climate Adaptation Partnership (GCAP) on climate finance mechanisms. The following persons contributed valuable comments: Pablo Cesar Benitez (Senior Economist, Global Climate Change Knowledge Network [GCCKN]); Shailaja Annamraju (Lead Economist, DFID); Malcolm Smart (Senior Economic Adviser, DFID); Lars Mikkel Johannessen (Consultant); Paul Watkiss (Consultant); Gerard Hendriksen (Consultant); and Kahana Lukumbuzya (Consultant).

The team benefited from close engagement with the Tanzania Ministry of Finance (MoF); Vice President's Office—Division of Environment; the First Vice President's Office—Division of Environment and President's Office of Finance; Economic and Development Planning in Zanzibar; the Ministry of Natural Resources and Tourism; and the University of Dar es Salaam (UDSM). Local development partners in Tanzania have also provided substantial inputs, including the United Nations Development Programme (UNDP) and the Royal Embassy of Norway.

The World Bank team is grateful for the financial support of the Bank-Netherlands Partnership Program and the U.K. International Climate Fund.

# ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| ACRP | Agriculture Climate Resilience Plan |
| AF | Adaptation Fund |
| BCCSAP | Bangladesh Climate Change Strategy and Action Plan |
| BCCRF | Bangladesh Climate Change Resilience Fund |
| BCCTF | Bangladesh Climate Change Trust Fund |
| CIF | Climate Investment Fund |
| CDM | Clean Development Mechanism |
| COP | Conference of the parties |
| CMIP5 | Coupled Model Intercomparison Project phase 5 |
| CRGE | Ethiopia Climate Resilient Green Economy |
| CRGE-F | Ethiopia Climate Resilient Green Economy Facility |
| CSO | Civil society organization |
| DFID | U.K. Department for International Development |
| DPG-E | Development Partners Group on Environment |
| DPL | Development Policy Lending |
| DPO | Development Policy Operation |
| EIT | Economies in transition |
| EMA | Environmental Management Act |
| EnDev | Energising Development |
| EPA | Environmental Protection Authority |
| ETF | Environmental Trust Fund |
| EU | European Union |
| FONERWA | Rwanda Environment and Climate Change Fund |
| FYDP | Five Year Development Plan |
| GCAP | Global Climate Adaptation Partnership |
| GCCA | Global Climate Change Alliance |
| GCF | Green Climate Fund |
| GCM | Global circulation model |
| GDP | Gross domestic product |
| GEF | Global Environment Facility |
| GHG | Greenhouse Gas |
| GoB | Government of Bangladesh |
| GoR | Government of Rwanda |
| GoT | Government of Tanzania |
| ICCTF | Indonesia Climate Change Trust Fund |
| IFC | International Finance Corporation |
| IPCC | Intergovernmental Panel on Climate Change |
| ITCZ | Inter-Tropical Convergence Zone |
| IMF | International Monetary Fund |
| LDC | Least developed country |
| LDCF | Least Developed Countries Fund |
| LGA | Local Government Authority |
| M&E | Monitoring and evaluation |
| MAFC | Ministry of Agriculture, Food Security, and Cooperatives |
| MDA | Ministries, Departments, and Agencies |
| MEDEC | México: Estudio sobre la Disminución de Emisiones de Carbono (low carbon study) |
| MINECOFIN | Ministry of Finance and Economic Planning |
| MINIRENA | Ministry of Environment and Natural Resources |
| MKUKUTA | National Strategy for Poverty Reduction and Economic Growth |
| MoF | Ministry of Finance |
| MoFED | Ministry of Finance and Economic Development |
| NAMA | National Appropriate Mitigations Actions |
| NAPA | National Adaptation Programme of Action |
| NCCS | National Climate Change Strategy |
| NCF | National Climate Fund |
| NCFM | National Climate Change Financing Mechanism |
| NGO | Nongovernmental organization |
| NIE | National Implementing Entity |
| NSA | Non-state actor |
| ODA | Official Development Assistance |
| ODI | Overseas Development Institute |
| OECD | Organisation for Economic Co-operation and Development |
| PMO-RALG | Prime Minister's Office-Regional and Local Government |
| POPC | President's Office Planning Commission |
| PSF | Philippines People's Survival Fund |
| RBF | Results-based finance |

| | |
|---|---|
| RCP | Representative Concentration Pathway |
| REDD | Reduced Emissions from Deforestation and Degradation |
| REMA | Rwanda Environment and Management Authority |
| SAGCOT | Southern Agricultural Growth Corridor |
| SCCF | Special Climate Change Fund |
| SREP | Scaling Up Renewable Energy Program |
| UDSM | University of Dar es Salaam |
| UNDAP | United Nations Development Assistance Programme |
| UNDP | United Nations Development Programme |
| UNFCCC | United Nations Framework Convention on Climate Change |
| URT | United Republic of Tanzania |
| USAID | United States Agency for International Development |
| VPO-DoE | Vice President's Office—Division of Environment |
| WSDP | Water Sector Development Programme |
| ZCCS | Zanzibar Climate Change Strategy |

# BACKGROUND

**Climate change is a core development challenge in Tanzania, and the potential costs of inaction are significant.** Current climate variability (including extreme events such as droughts and floods) already leads to major economic costs in mainland Tanzania and in Zanzibar. Individual annual events have economic costs in excess of 1 percent of gross domestic product (GDP) and occur regularly, reducing long-term growth and affecting millions of people and livelihoods. Future climate change could lead to large economic costs, equivalent to a further 1 to 2 percent of GDP per year by 2030 (GCAP 2011). Given this context, there is a clear need for strong and sustained effort by the government to help establish a growth path for the country that is resilient to climate variability and able to adapt to future change, as well as help Tanzania take advantage of external and domestic finance opportunities for sustained action on climate risks.

**Tanzania has responded to growing climate risks by adopting the National Climate Change Strategy (NCCS), which is the guiding framework for taking action on climate change.** Zanzibar has also adopted its own climate change strategy, the Zanzibar Climate Change Strategy (ZCCS). Together, these documents set forth the strategic priorities for climate action and are a step toward integrating climate change into development planning. These plans are relatively new, and while some implementation is planned, there is still significant need for further clarifying priority investments to improve Tanzania's resilience to climate change and to assist in leveraging and channeling climate finance more strategically, to deliver results on the ground.

**In response to a request by the United Republic of Tanzania (URT) for technical assistance in improving the impact of the national climate change strategies, the Bank has developed a series of policy notes complemented by targeted capacity building focused on key areas of vulnerability and financing.** These policy notes include the following:

(a) *Financing Climate Resilient Growth.* Outlines Tanzania's experience and challenges to date in accessing and channeling climate finance and provides recommendations to the URT to help guide design decisions around their planned climate finance mechanism.

(b) *Toward Climate-Resilient Agriculture in Tanzania.* Recommends key policy and investment areas to target to address the most urgent impacts posed by weather variability and climate change to the crop subsector and mainstream climate change decision making within agricultural policies, strategic initiatives, and plans. The policy note process supported the Government of Tanzania (GoT) in its preparation of the Agriculture Climate Resilience Plan (ACRP), the first climate action plan to have been endorsed.

(c) *Toward Climate-Resilient Cities in Tanzania.* Looks at the climate risks faced by the country's larger cities based on an evaluation of recent historical flooding events and outlines key vulnerabilities and recommended responses.

(d) *Tanzania's Coastal Zone: Vulnerability to Climate Change and Priorities for Action.* Assesses the anthropogenic and climate-related threats to the entire coastline, including both mainland and Zanzibar, and outlines the process to identify and prioritize responses to build resilience.

(e) *Lights Out? Vulnerability of Tanzania's Hydropower to Climate Change.* Evaluates the sustainability of existing and planned hydropower schemes in Tanzania, including assessing the impacts of climate change versus upstream and downstream anthropogenic activities on future hydropower production, and proposes adaptation measures to improve hydropower sustainability.

**These policy notes were financed through resources from the Bank-Netherlands Partnership Program, the Nordic Development Fund, the U.K. International Climate Fund, the Water Partnership Program, and Bank funds.** The Bank gratefully acknowledges the importance of the financial and technical resources provided by each donor.

# EXECUTIVE SUMMARY

## TANZANIA IN 2050: CHANGING ECONOMY, CHANGING CLIMATE

**Tanzania will look dramatically different by mid-century.** Tanzania envisions reaching middle-income status by 2025, with a modernized agriculture sector lifting smallholder farmers out of poverty, increased energy connectivity, and GDP boosted through power generation fueled largely by exploiting domestic natural gas and coal resources. The population will nearly triple from 45 million in 2010 to 130 million in 2050—and for the first time, more Tanzanians will live in cities than rural areas.

**By 2050, Tanzania's climate will also change.** Temperatures are already rising and rains are less predictable. Temperatures will likely increase by at least 1°C, possibly 3°C in some areas (see box ES.1). Projected rainfall reductions inland could make water scarcer, and Tanzania will need to feed more people with less rainfall in some key agricultural areas. On the coast, key to industry, the population is already swelling into largely informal settlements in urban areas that cannot keep up with new migrants—heavier rains are likely, affecting settlements, infrastructure, and mobility. Key economic sectors are already vulnerable to the climate; by 2050, the costs just to adapt to climate change impacts could be in the order of US$1 billion per year (GCAP 2011).

**Building resilience to climate variability and long-term climate change is an urgent development issue for Tanzania**, **and the coming decades are critical for the country's planned economic transition.** Tanzania's diverse landscapes and natural resources are already experiencing the impacts of climatic shifts combined with current development challenges stemming from rapid population growth, unsustainable resource use, and environmental degradation. The economic costs of weather-related risks can ripple through the entire economy: for example, the 2005/06 drought affected millions of people and imposed costs of at least 1 percent of GDP. By 2030 climate change could account for net economic costs of 2–3 percent of GDP per year (GCAP 2011), threatening the goal of reaching middle income status. These potential costs represent a challenge that spans Tanzania's core growth and poverty reduction priorities, from agriculture to energy and from rural to urban development.

## BOX ES.1. WHAT ARE THE POTENTIAL IMPACTS?

Historic climate trends, as well as projections, point to shifts in temperature and precipitation that will fundamentally alter Tanzania's weather patterns:

- *Tanzania is getting hotter.* The evidence is clear from climate trends that monthly temperatures across Tanzania have steadily increased over the past thirty years (URT 2007), with the average temperature rising by 1°C between 1960 and 2006 (McSweeney et al. 2010). Future average annual temperatures are projected to further increase by 1°C to 3°C by the 2050s (Wambura et al. 2014).[1]
- *Rainfall patterns are less predictable and expected to become increasingly variable.* Tanzania has a diverse range of climatic zones ranging from arid lands to wetter highland areas to coastal and lake zones. The impacts of climate change will vary across these areas: this includes shifts in the onset of the rainy season (especially in the south) and increasing seasonal variations (Ndaki 2014). Some areas will likely experience heavier, more concentrated rainfall, most likely in areas including the Lake Victoria basin, coastal areas, and northeast highlands, with increases from 5 to 45 percent (Matari et al. 2008) Other places will likely experience rainfall decreases, including many arid and semiarid areas.
- *Extreme weather events including droughts and floods are becoming more frequent and can cause significant shocks at the local level.* Adverse impacts of climate variability have already been witnessed through extreme weather events such as the major droughts of 2005/06 (with costs estimated at 1 percent of GDP) and floods in 2014 near the central coast and inland, which destroyed critical transportation infrastructure in several regions and assets in Dar es Salaam.

[1] Projections based on Coupled Model Intercomparison Project phase 5 (CMIP5) model using Mid-Century Representative Concentration Pathway (RCP) 8.5. A total of 20 global circulation models (GCMs) were downscaled based on the 11 Tanzania climatological zones using 13 synoptic weather stations.

**Given clear risks, neglecting climate change in today's development decisions will have significant future costs.** This note recommends measures for Tanzania to more effectively integrate climate change into development planning and finance. It draws from international case studies of countries that have embarked on similar processes, interviews with key stakeholders from government, development partners and the private sector, literature and consultative meetings toward two main objectives:

1. To assess current climate change planning and finance in Tanzania
2. To recommend measures Tanzania can take to operationalize existing climate change plans and more strategically leverage technical and financial support toward those climate goals

# THE CASE FOR INVESTING IN CLIMATE ACTION NOW

**The cost of adapting to climate change is rising, and early action is critical to reduce future costs.** Addressing current climate risks is estimated at approximately US$500 million per year, with an additional US$100–150 million annually needed to build resilience to future changes. As the climate changes, the resources needed for adaptation will rapidly rise, potentially reaching US$1 billion per year by 2030 to adapt to climate impacts if no action is taken (GCAP 2011). Recognizing the need to prepare now in light of future costs of inaction, in 2013, Tanzania adopted the National Climate Change Strategy (NCCS) and Zanzibar Climate Change Strategy (ZCCS) to guide the response to climate vulnerability and mobilize additional resources needed to take action. National economic growth strategies recognize climate risks as well (United Republic of Tanzania [URT] President's Office Planning Commission 2011). These initial steps at the strategic level are consistent with recent findings that economic growth is compatible with addressing climate risks, regardless of a country's income level, and that today's decisions are particularly critical to transition to an economy that can deliver both better growth and climate resilience (Global Commission on Climate and the Economy 2014).

**Tanzania has mobilized climate finance, but results have been limited.** Between 2003 and 2014, Tanzania secured over US$200 million in international climate finance commitments, with an additional US$400 million in the pipeline. Although financing is substantial, there is a significant shortfall given the resources needed to adapt to climate change. More than 80 percent of existing resources are from local development partners, with modest access to United Nations Framework Convention on Climate Change (UNFCCC) funds. Despite adoption of the

NCCS and ZCCS, finance has not yet been committed from domestic or international sources to specifically support their implementation. The approach to climate change adaptation has been largely project-based, fragmented, and donor-driven and results have gone largely unmeasured.

**Current climate finance is (a) insufficient for what is needed to adapt, (b) not targeted to vulnerability, and (c) supporting small-scale projects rather than large-scale transformation.** Despite the urgent need to build resilience, securing finance for climate resilience has been a challenge, and current funding levels are insufficient as conservative estimates suggest that at least US$600 million is annually required for adaptation alone. Interestingly, although adapting to climate change is the stated priority of the NCCS and ZCCS, more than 65 percent of climate finance is directed toward mitigation activities. Given the reality that international funding for adaptation is scarce and public funds dedicated to adaptation are unlikely to ever approach the levels that are needed, it is important to ensure climate funds are used as strategically as possible. Yet, existing strategic plans give little indication of sector or geographic priorities to address in terms of vulnerability, which makes effective targeting a challenge. In parallel, support for climate adaptation and mitigation has been predominantly directed to standalone project-level interventions, and mainstreaming at strategic and programmatic levels is not yet systematic.

## TAKE ACTION TODAY TO ACHIEVE A RESILIENT FUTURE

**For Tanzania to scale up access to climate finance, this policy note proposes four key pillars for creating the necessary enabling environment:**

- Strong *leadership* to advance climate goals, champion key reforms to policies and the institutional framework, and clarify roles and responsibilities
- *Planning* that is long-term, results-oriented, and aligned to clear priorities
- A strategic framework for accessing a range of *climate finance* sources
- *Implementation* that includes transparent tracking of investment performance and finance

**Building upon the NCCS and ZCCS, which set forth general priority themes for climate action, Tanzania must put in place processes and financing structures that meet the considerable challenges of financing and implementation.** Strategic decisions must be taken to leverage and use scarce resources to convert plans into transformational action, learning from past challenges to deliver large-scale resilience results that will safeguard livelihoods, the economy, and the environment. This note recommends the following as Tanzania moves forward:

1. *Approach a national climate fund (NCF) with realistic expectations.* Although Mainland Tanzania and Zanzibar are in the process of establishing dedicated climate change funds, expectations should be realistic, taking into account the costs of establishing and managing such funds as well as the scope of expected funding sources. Experience shows that the time and resources needed to create new funds are high, and operational management costs can be substantial. If Tanzania does choose to set up a dedicated climate fund (or funds), the objectives and expectations should be carefully and clearly defined. Attracting climate financing more broadly, however, will depend on the quality of programs developed to support climate action.
2. *Build resilience into sector programs for transformational impacts.* Rather than relying upon a single funding mechanism, mainstreaming climate change into existing sector programs is considered to be more likely to achieve large-scale, sustainable results. Most key vulnerable sectors and landscapes (see box ES.2) are already targeted for significant investment. Taking advantage of such opportunities—through mainstreaming climate change in, for example, basket funds for water and agriculture as well as select urban infrastructure operations—could improve the climate resilience outcomes of US$2 billion in investments through the Bank's portfolio alone. Climate finance could be used strategically to incorporate resilience elements into planned infrastructure investments (for example, to promote green infrastructure that builds urban resilience) or to design new programs targeting specific gaps for vulnerable sectors or geographical areas.

## **BOX ES.2.** HOW WILL CLIMATE CHANGE AFFECT GROWTH?

**Current changes in weather patterns as well as projected long-term shifts in temperature and rainfall trends affect several of Tanzania's key engines of economic growth:**

- *Agricultural productivity* already suffers at least US$200 million in annual losses as a result of weather-related risks (largely drought) (World Bank 2013), and despite investments in modernization and enhanced productivity most agriculture will continue to depend on rainfall in the foreseeable future. Looking ahead, rainfall decreases of 10 percent have been correlated with a 2 percent decrease in national GDP (Seitz and Nyangena 2009). A temperature rise of 2°C could reduce maize yields by 13 percent and rice by over 7 percent (Manneh et al. 2007).
- *Energy generation* is vulnerable, especially hydropower, which currently provides 35 percent of Tanzania's electricity and is expected to provide even more when the Power System Master Plan is fully implemented. The Rufiji River, for example, feeds most of Tanzania's hydropower supply; yet, the catchment area is expected to experience both greater droughts and floods (GCAP 2011) as well as increased pressure from irrigation.
- *Urbanization* rates in Tanzania are unprecedented, with the urban population expected to grow from 9.4 million in 2005 to 29 million by 2030 (United Nations 2011). Cities are one of the most important drivers of economic growth in Tanzania; most domestic revenues are collected in urban areas, and productivity of labor is 2.3 times higher than in rural areas (World Bank 2008). However urbanization in Tanzania is largely informal and unplanned, with expanding informal settlements in marginal lands and infrastructure that is not keeping pace with rising populations. Flooding is frequent even during average rain events and can become severe. Flooding in Dar es Salaam in December 2011–January 2012 displaced at least 10,000 people and caused 40 deaths, with the most serious impacts on settlements in natural drainage basins.[1]
- *Water* is a critical and increasingly scarce resource that underpins agricultural productivity, hydropower generation, tourism, human health, and industrial development—but growing scarce in some key development areas given the high competition for resources. Higher temperatures will increase evaporation, and increasing variability will likely make dry seasons drier, wet seasons wetter, and rains more unpredictable, which is likely to exacerbate existing water stress.

[1] International Federation of Red Cross and Red Crescent Societies. 2012. *DREF Final Report: Tanzanian Floods.* http://reliefweb.int/report/united-republic-tanzania/tanzania-floods-dref-operation-n%C2%B0-mdrtz013-final-report.

3. *Empower action at the local level.* Tanzania can better ensure technical assistance and finance reaches local governments. Local governments lack discretionary spending for weather-related risks and need better capacity to plan and respond. Innovative instruments, such as district-level adaptation funds, show promising results from giving local governments the flexibility to quickly respond to climatic variability but also to finance resilience priorities that may differ from central government plans. Although this work has been limited to date to rural districts, there may be similar opportunities for urban areas.
4. *Diversify funding sources and verify results.* Although climate resilience financers are likely to continue to support their own priorities, Tanzania can and should recognize that funds will not be sufficient to fully adapt to climate change and will need to be complemented by additional sources, including from nongovernmental organizations (NGOs) and the private sector. Corporate social responsibility funding, for example, could support climate objectives, including perhaps leveraging significant ongoing natural gas investments to contribute to national, sector, or local climate priorities. Clearly, Tanzania's ability to attract climate finance at scale will be contingent upon demonstration of results. Toward that aim, a robust tracking system would be important to verify that climate finance and mainstreaming achieves results. Such a tracking system would enable measurement of the outcomes of strategic plans and finance levels and (if successful) could unlock additional finance, given the higher confidence that Tanzania can deliver on its priorities.

# CHAPTER ONE
# INTRODUCTION

**Climate change is a core development challenge in Tanzania, and the potential costs of inaction are significant.** Current climate variability (including extreme events such as droughts and floods), already leads to major economic costs in mainland Tanzania and in Zanzibar. Individual annual events have economic costs in excess of 1 percent of GDP and occur regularly, reducing long-term growth and affecting millions of people and livelihoods. Future climate change could lead to large economic costs, equivalent to a further 1 to 2 percent of GDP per year by 2030 (GCAP 2011). Given this context, there is a clear need for strong and sustained effort by the government to help establish a growth path for the country that is resilient to climate variability and able to adapt to future change, as well as help Tanzania take advantage of external and domestic finance opportunities for sustained action on climate risks.

**Tanzania has responded to growing climate risks by adopting the NCCS, which is the guiding framework for taking action on climate change.** Zanzibar has also adopted its own climate change strategy, the ZCCS. Together, these documents set forth the strategic priorities for climate action and are a step toward integrating climate change into development planning. However, there has been little implementation of these plans to date and it is unclear how they will guide investments toward climate-resilient economic development.

**Both mainland Tanzania and Zanzibar are exploring options for effectively implementation of strategic plans.** Mainland Tanzania has begun to scope the possibility of a dedicated climate change fund, as well as options to improve management of climate finance. The Revolutionary Government of Zanzibar has also signaled interest in designing a climate change fund.

**This policy note responds to a request by the United Republic of Tanzania for technical assistance on next steps for implementing the NCCS and ZCCS.** With strategies in hand, both mainland Tanzania and Zanzibar are at a crossroads where strategic actions have been identified but not yet supported with resources or adequate frameworks for implementation (see box 1.1). Development partners are active in financing and supporting climate change activities in general, but more than

## **BOX 1.1.** CLIMATE FUNDS, MECHANISMS, AND FRAMEWORKS

Several terms are used throughout this note to refer to different aspects of climate finance:

- *Climate finance* refers to funds invested in activities that promote climate change adaptation and mitigation. International climate finance refers to specific climate funds under the United Nations Framework Convention on Climate Change (UNFCCC), bilateral funds such as the U.K. International Climate Fund, and multilateral funds such as the Climate Investment Funds (CIFs).
- *Financing frameworks* are overarching strategic plans for programmatic climate finance, including identifying sources of finance to fit investment objectives, mobilizing funds, and establishing finance mechanisms and financial management systems.
- *Climate finance mechanisms* include a range of modalities for providing climate finance in support of climate plans, including budget support, basket fund arrangements, and project-based support. Several mechanisms might make up part of a finance framework.
- *Climate funds* are one type of climate finance mechanism, which direct finance toward climate change-related projects and programs. Their role is typically to channel, collect, blend, and coordinate different sources of climate finance, and they can take a variety of forms, including endowments, revolving funds, and sinking funds, and can be on-budget or off-budget.

one year after its adoption, a unified approach in support of the NCCS has yet to materialize. Tanzania has requested guidance for mobilizing additional funds, using funding sources more strategically, and delivering results on the ground.

**This note is one component of a larger joint technical assistance program on climate change planning provided by the Bank and the U.K. Department for International Development (DFID),** which also includes components focused on two climate-sensitive sectors: agriculture and urban development. Section 2 outlines the baseline situation with climate change planning and finance in Tanzania, to assess what is being done to prepare for climate challenges. Section 3 explores what it will take for Tanzania to implement action on climate change. Last, section 4 outlines a typology of support mechanisms that Tanzania can make use of for implementation of strategies and action plans. The note draws on inputs from a range of stakeholders and literature review, including those listed here:

- Semi-structured interviews with key informants across government and other actors, including development partners, Nongovernmental organizations (NGOs), private sector, and research or technical bodies;
- Collaborative workshops, including a South-South learning event held in Namibia with high-level Tanzanian officials and climate change authorities from several developing countries (Comprehensive Climate Change Planning: Learning Week on Global Practices);
- Stakeholder consultations under the "Mainstreaming Environment and Climate Change Adaptation in the Implementation of National Policies and Development Plans" program implemented by the Vice President's Office—Division of Environment (VPO-DoE) with support from the United Nations Development Programme (UNDP);
- Desk research of strategy documents, programs and policies, and scientific literature; and
- Case study review and analysis of climate financing mechanisms and related institutional frameworks for climate change in five country case studies—including Bangladesh, Philippines, Indonesia, and Rwanda—to analyze strengths and weaknesses of various institutional frameworks as well as relevance for Tanzania.

## CHAPTER TWO

# THE CHALLENGE: CLIMATE RISKS TO KEY GROWTH AREAS

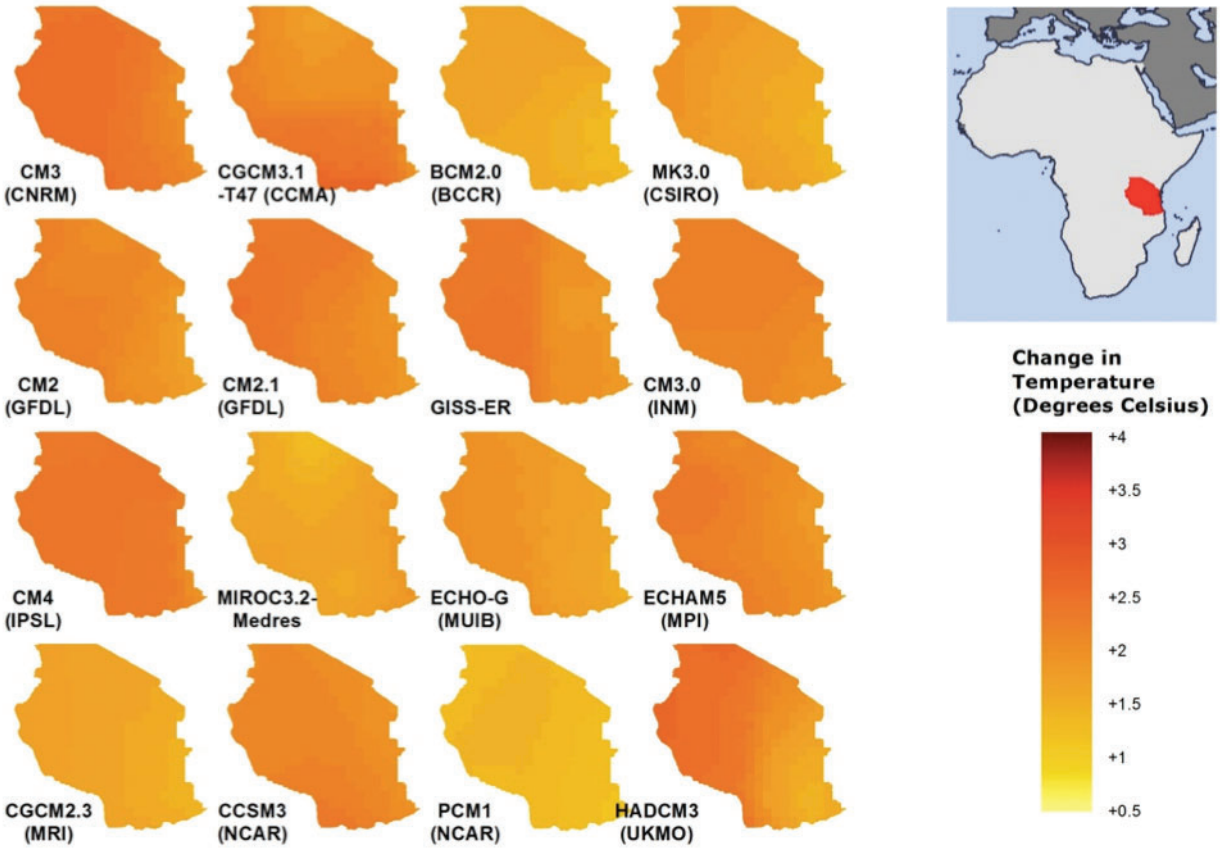
**Historic climate trends as well as projections point to shifts in temperature and precipitation that will fundamentally alter Tanzania's weather patterns.** Tanzania's climate is driven by tropical processes, the Inter-Tropical Convergence Zone (ITCZ), which influences rainy and dry season patterns. El Niño and La Niña years are associated with extreme flood and drought events. Although annual seasonal temperature variation for locations is fairly small (approximately 3–4°C), variability for rainfall is much higher both geographically and seasonally, with extreme dry and wet conditions over the course of the year. Alternating dry conditions with heavy rainfall combine with inadequate land management in many areas, which exacerbates land degradation and increases vulnerability to weather-related shocks (Enfors and Gordon 2007).

**Tanzania is growing hotter.** The evidence is clear from climate trends that monthly temperatures across Tanzania have steadily increased over the past thirty years (URT 2007), with the average temperature rising by 1°C between 1960 and 2006 (McSweeney et al. 2010). Mean maximum and minimum temperatures, for January and July, have increased in almost all zones between 1961 and 2005 (Munishi 2009). This is consistent with the latest Intergovernmental Panel on Climate Change (IPCC) report for Africa, which provides strong evidence of a warming trend across Africa and predicts likely mean annual temperature rise of over 2°C by 2100 (IPCC 2014).[1] Climate models for Tanzania indicate future increases in average annual temperatures between 1°C to 3°C above the baseline period (1961–1999) from a range of models and emission scenarios by the 2050s (see figure 2.1), with the latest projections indicating a high certainty of a 1°C rise across the country (Wambura et al. 2014).[2]

[1] Chapter 22: Africa.

[2] Projections based on Coupled Model Intercomparison Project phase 5 (CMIP5) model using Mid-Century Representative Concentration Pathway (RCP) 8.5. A total of 20 GCMs were downscaled based on the 11 Tanzania climatological zones using 13 synoptic weather stations.

**FIGURE 2.1.** COMPARISON OF CLIMATE MODELS AND CHANGE IN TEMPERATURE BY THE 2050s[3]




*Source:* World Bank Africa Spatial Services Helpdesk, using data from http://www.climatewizard.com (accessed 2013).

**By 2100 temperatures could increase by 1.5°C to 5°C.** Studies agree that the rise in temperature will be greater during cooler months (June to August) than warmer ones (December to February) and will result in consistent patterns of seasonal temperature increase (Wambura et al. 2014).

**Rainfall is already highly variable across Tanzania.** Annual rainfall varies from below 500 mm to 2,500 mm, depending mostly on altitude and climatic zone, and amounts vary significantly throughout the year. Seasonality of rains also varies, with the northern areas tending to have one short and one long rainy season, and the rest of the country including central, southern coast, southwestern highlands, southern, and western areas experiencing a single rainfall pattern (see figure 2.2). The majority of Tanzanians, still dependent on agriculture,[4] makes planting decisions based on these seasonal cycles. The changing climate is particularly challenging for smallholder farmers, many of whom lack the tools and knowledge needed to make adequate farming decisions. Consequences include changes in cropping production (which could increase or decrease depending on the crop variety and geographic area) and food security.

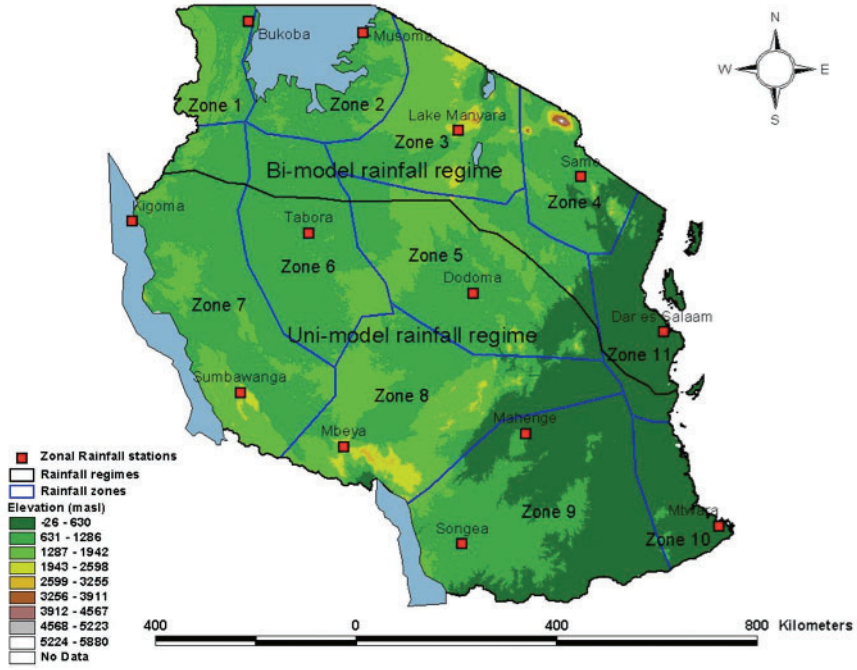
**Projected changes in precipitation are uncertain.** Historical records have shown decreasing trends for mean annual rainfall as well as increasing dry spells in some areas[5] and also show high variability between annual rainfall cycles (URT 2007). However, determining the impact of climate change on rainfall patterns is highly

[3] Study used the A2 climate scenario, which assumes high rates of population growth, energy use, and land use changes.

[4] The economy of Tanzania depends largely on agriculture, which accounts for about one quarter of GDP, provides 85 percent of exports, and employs about 80 percent of the workforce.

[5] See, for example, Matari et al. 2008; Enfors and Gordon 2007.

**FIGURE 2.2.** TANZANIA RAINFALL ZONES



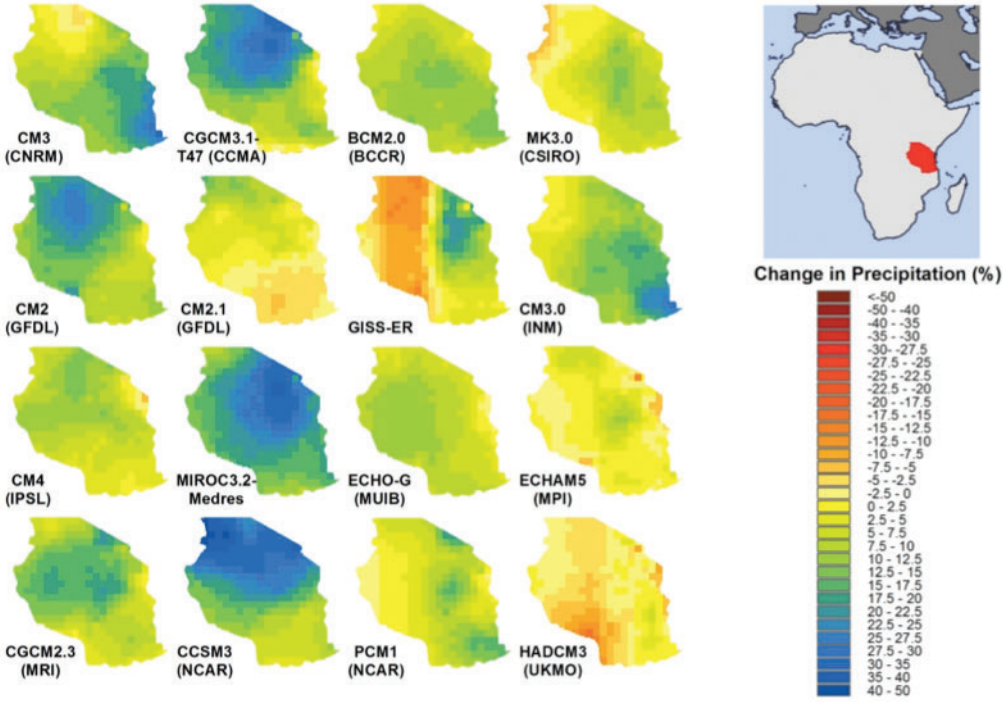

*Source:* Wambura et al. 2014.

uncertain: climate models show that rainfall regimes will change by the 2050s, but the degree and even the direction of change differ across the models (see figure 2.3). Projections also vary widely between seasons, regions, and rainfall regimes.

**Changes in rainfall patterns will vary depending on current climate and geography.** Although overall rainfall is expected to increase on average by as much as 10 percent by 2100 (Sokoine University of Agriculture, Soil Water Management Research Group 2010), not all climatic zones will experience the same changes. When climate impacts on precipitation are examined at a subnational level, three different patterns emerge in separate areas:

- *Some areas will likely experience rainfall decreases.* This is most likely in areas that already have unimodal rainfall seasons, which could experience annual rainfall decreases of 5–15 percent (URT 2007 and Matari 2008). However, recent projections also indicate decreases of up to 26 percent by 2050 in northern regions in the bimodal zone though these areas showed a relatively higher degree of uncertainty to unimodal areas (Wambura et al. 2014). Southern regions might be particularly vulnerable to reductions in rainfall, with some projections indicating up to 10 percent (Paavola 2003). This is most likely in the central, western, southern, southwestern, and eastern zones. Although the projection is uncertain, it does align with studies of current and historic trends. For example, there is evidence of changing rainfall patterns in the Same District (a semiarid area), showing negative changes in rainfall since the early 1980s, including a decline in the long rainy season and total annual rainfall and overall greater unpredictability of rains (Liwenga et al. 2012).
- *Some areas will likely experience heavier, more concentrated rainfall.* Some areas will likely experience rainfall increases overall, but the trend is toward more extreme rainfall events. This is mostly likely in bimodal areas including the Lake Victoria basin, coastal areas, and northeast highlands, with increases from 5 to 45 percent (URT 2007 and Matari 2008). More recent projections also indicate that rainfall in central Tanzania could increase by 9 percent whereas the south would have an even greater increase of 13 percent. These increases would largely be in the month of April, indicating more rain but in a short time span (Wambura et al. 2014).

**FIGURE 2.3.** COMPARISON OF CLIMATE MODELS FOR PERCENT CHANGE IN ANNUAL PRECIPITATION BY THE 2050s UNDER THE A2 SCENARIO



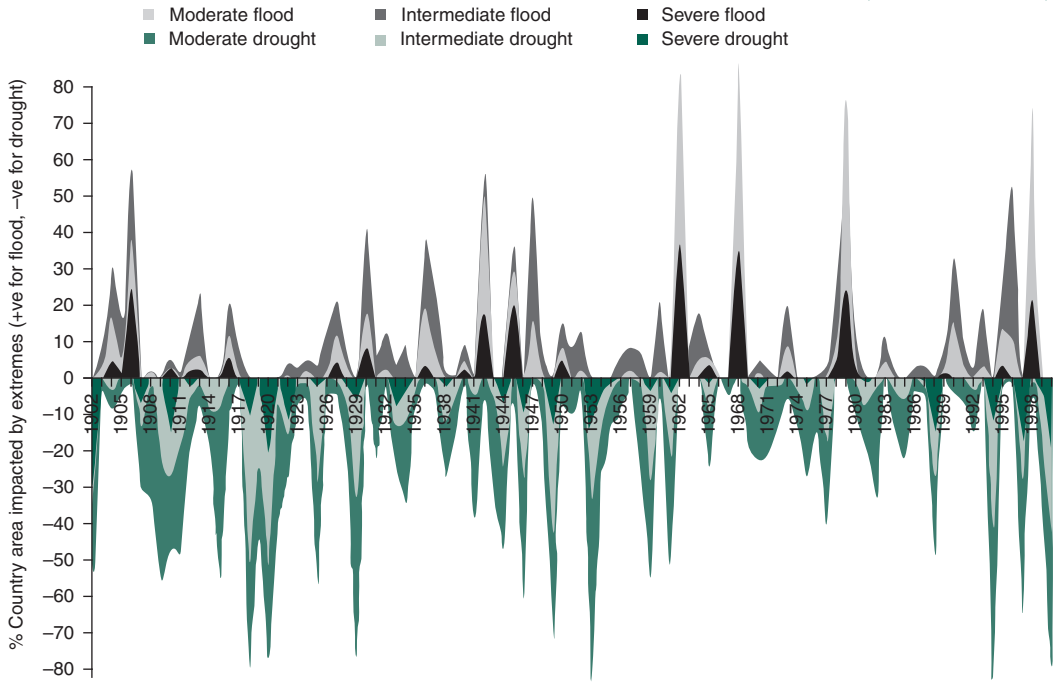

*Source:* World Bank Africa Spatial Services Helpdesk, using data from http:\\www.climatewizard.com (accessed 2013).

- *In other areas, rainfall will both decrease during dry periods and increase during rainy seasons.* Some models indicate a potential 6 percent decline in rainfall from June through August (a typically dry season) and over 16 percent increase in the short rains between December and February (Agrawala et al. 2003).
- *In many areas, rainfall will become more variable and less predictable. This includes shifts in the onset of the rainy season* (especially in the south) as well as increasing seasonal variations (for example, changes in the distribution of rainfall within seasons) (Ndaki 2014). Certain areas may already be shifting from bimodal to unimodal, which could continue and cause more dramatic shifts in agroecological zones and thus major impacts on agriculture. The onset of the rainy season, which is particularly important for planting decisions in rain-fed systems, is already observed by farmers and viewed as a major risk to crop productivity, thus having impacts on food security and the economy (World Bank 2013).

**Extreme weather events, including droughts and floods, are frequent and can cause significant shocks to the economy and food security.** Although most of the above changes are projected over the long term (30–60 years), the adverse impacts of climate variability have already been witnessed through extreme weather events such as the major droughts of 2005/06 and flooding in 1997/98, both of which had significant economic costs for Tanzania. Costs from the 2005/06 drought have been estimated at 1 percent of Tanzania's GDP. Most extreme wet conditions can be linked to El Niño episodes (1961, 1968, and 1997). Figure 2.4 shows the frequency and geographic scale of drought and flood conditions from 1900 to 2000, demonstrating that the country is severely affected by extreme events, sometimes with both droughts and floods within the same calendar year.

**The impacts of current climate variability and projected climate change affect various sectors essential for Tanzania's economy and livelihoods, including water resources, energy**

**FIGURE 2.4.** EXTREME EVENT FREQUENCY AND IMPACT (1900–2000)




*Source:* World Bank Africa Spatial Services Helpdesk, using data from the International Research Institute (IRI) (accessed 2011).

**generation, food security, ecosystems and biodiversity, and human health.** Although many sectors are affected by climate variability, several key engines of Tanzania's economic growth, poverty reduction, and productivity are also highly sensitive to the climate, for example, agriculture; power generation and functional, productive cities; and water resources that are essential for all sectors to function. Climate vulnerability is complex in that it affects sectors in different ways that responses must consider:

- *Agriculture*, a dominant sector of the Tanzanian economy, generates 25 percent of GDP and 24 percent of exports and is the mainstay of 75–80 percent of livelihoods in the country. Agricultural productivity already suffers at least US$200 million in annual losses as a result of weather-related risks (largely drought) (World Bank 2013), and despite investments in modernization and enhanced productivity, most agriculture will continue to depend on rainfall in the foreseeable future. Looking ahead, rainfall decreases of 10 percent have been correlated with a 2 percent decrease in national GDP (Seitz and Nyangena 2009), and a temperature rise of 2°C could reduce maize yields by 13 percent and rice by over 7 percent (Manneh et al. 2007).
- *Energy generation* is vulnerable, especially hydropower, which currently provides 35 percent of Tanzania's electricity and is expected to represent an even greater share of the generation capacity when the Power System Master Plan is fully implemented. The Rufiji River, for example, feeds much of Tanzania's hydropower supply; yet the catchment area is expected to experience both greater droughts and floods (GCAP 2011) as well as increased pressure from irrigation. The economic impacts of disruption to power generation can be considerable: for example, the load shedding and black-outs experienced during 2011 as a result of reduced hydropower generation led the International Monetary Fund (IMF) to adjust Tanzania's economic growth forecasts from 7.2 percent down to 6.0 percent.
- *Urbanization* rates in Tanzania are unprecedented, with the urban population expected to grow from 9.4 million in 2005 to 29 million by 2030 (United Nations 2011). Cities are one of the most

important drivers of economic growth in Tanzania; most domestic revenues are collected in urban areas, and productivity of labor is 2.3 times higher than in rural areas (World Bank 2008). However urbanization in Tanzania is largely informal and unplanned, with expanding informal settlements in marginal lands and infrastructure that is not keeping pace with rising populations. Flooding is frequent even during average rain events and can become severe. Flooding in Dar es Salaam in December 2011–January 2012 displaced at least 10,000 people and caused 40 deaths, with the most serious impacts on settlements in natural drainage basins (International Federation of Red Cross and Red Crescent Societies 2012).

» *Water* is a critical and increasingly scarce resource that underpins agricultural productivity, hydropower generation, tourism, human health, and industrial development—but growing scarce in key development areas given the high competition for resources. Higher temperatures will increase evaporation, and increasing variability will likely make dry seasons drier, wet seasons wetter, and rains more unpredictable, which will likely exacerbate existing water stress.

**In addition to key sectors, several important landscapes are also at risk.** As mentioned earlier, Tanzania has a varied topography and a wide range of climatic zones. Certain areas exhibit unique vulnerabilities, which have been identified through climate change vulnerability assessments, research, and interviews with practitioners on the ground:

» *Coastal zone.* Tanzania's coastal zone includes large population centers, high economic activity (for example, ports, natural gas infrastructure, and fisheries), and important ecosystem services. Demands on coastal and marine resources are rapidly increasing, and as coastal areas become more developed and populated, as is the case in Tanzania, the vulnerability of human settlements to natural hazards also increases. Dar es Salaam alone has infrastructure assets worth approximately US$5.3 billion at potential risk from projected flood impacts (Kebede et al. 2010). Projected changes in climate, particularly temperature increases, are already affecting the natural resources such as fisheries and seaweed farming on which sustain many coastal livelihoods.

» *Key river basins.* Water resources in Tanzania's river catchments (including the Rufiji, Wami/Ruvu, and Pangani Basins) are under increasing pressure largely from irrigation and land degradation. The Rufiji, Tanzania's largest river catchment, is slated for a US$2.1 billion private investment to modernize agriculture and triple agricultural output, largely through increased irrigation of water-intensive crops. The river also feeds over 80 percent of Tanzania's hydropower generation, and low flows have resulted in power cuts in Dar es Salaam. The Pangani basin in the northeast supports over 3 million livelihoods, including agriculture in its fertile soils and fisheries and 17 percent of Tanzania's hydropower, but river flows have already been reduced from several hundred to less than 40 $m^3/s$ (IUCN 2011), with consequences for the ecology and socioeconomic development of local communities and the national economy. Strong law enforcement is required to scrutinize future investments and to ensure mitigation measures are in place, implemented, and conducted as scheduled.

» *Dry lands.* Predictable rains matter most where water is scarce. Dry lands (arid and semiarid areas) cover 50 percent of Tanzania's land area and support millions of livelihoods, largely agricultural and pastoralists who are entirely dependent on water for livelihoods and food security. Livestock mortality in northern Tanzania as a result of the 2009 drought was estimated at over 80 percent, undermining local and national food security and longer-term development (Melewas et al. 2010). The impact of an increase in the frequency and intensity of extreme weather events (droughts and floods) is likely to become more severe in the dry lands of Tanzania.

**Institutional and fiscal structures can drive vulnerability at the sector, landscape, and local levels.** Climate vulnerability is not solely a result of biophysical factors—some institutional and financial structures for example, can indirectly contribute to environmental

degradation or inhibit spending on vital adaptation efforts because of budgetary constraints. Some notable examples found during this review are described here:

- *Growing competition for water resources may lead to water insecurity.* Demand for water is increasing faster than available supply, and water conflicts are becoming more common. In the past years, high priority has been placed on improving the productivity of the agricultural sector through expanding irrigation, as evidenced in current sector development plans.[6] Concurrently, unplanned, informal irrigation systems have expanded at a greater rate, and conflicts are growing, particularly in the dry season. This not only increases vulnerability for other users such as hydropower and tourism but degrades the value of ecosystem services and poses risks for the agriculture sector itself if insufficient water is available for irrigation schemes. The country's Integrated Water Resources Management approach is helpful to ensuring both sustainable water resource uses and ecosystem functions but requires difficult decisions be made among water-using sectors.
- *Adaptation happens largely at the local level, but local governments face obstacles to action.* Local governments—districts and municipalities—are on the front line of preparing for and responding to climate impacts such as droughts in dry lands and urban floods. However, local governments have less own-source revenues, relying upon transfers with spending earmarked according to sector priorities set by the central government (ODI 2013). Transfers are already inadequate for immediate needs, and given earmarking, local authorities often lack resources to respond to extreme events and emergencies (such as droughts and floods). Capacity at the local level to design and implement adaptation actions is limited and good data upon which to base decisions is lacking. Climate adaptation is thought of as an expensive luxury in the present rather than as a long-term investment to safeguard future growth.

[6] Including the Agricultural Sector Development Program (ASDP), Southern Agricultural Growth Corridor of Tanzania (SAGCOT), and Tanzania Agricultural and Food Security Investment Plan (TAFSIP).

## CHAPTER THREE

# THE CURRENT STATE OF CLIMATE PLANNING AND FINANCE

The impacts of climate change in Tanzania are already significant, but what are the risks and how is Tanzania currently responding to them? The following section outlines the existing strategic planning framework for climate change in Tanzania as well as the current situation with climate finance.[7] Because climate change is a broad issue with policy and planning implications across the government, this section only summarizes climate change at the highest level of strategic planning. This is not intended as a comprehensive policy or institutional review, which can be found in complementary work,[8] but instead it highlights key aspects to consider when mobilizing and managing climate finance and delivering results on strategic planning frameworks.

## STRATEGIC PLANNING

**Tanzania's strategic development plans indicate a growing recognition that climate change is a threat to both growth and poverty reduction.** Tanzania's overall development policy is outlined in Vision 2025, which sets future development objectives for the country. This vision is operationalized through medium-term plans, including the National Strategy for Poverty Reduction and Economic Growth (MKUKUTA-I and II) and more recently, the Five Year Development Plan (FYDP) for 2011/12 to 2015/16. The FYDP, led by the President's Office Planning Commission (POPC), aims to unleash Tanzania's economic growth potential and transform Tanzania into a middle-income country, as envisioned by the Tanzania Development Vision 2025 (URT President's Office Planning Commission 2011).

**Both programs recognize climate change as a threat to growth and poverty reduction.** The FYDP emphasizes risks to key growth sectors such as agriculture and water and includes two key outputs by 2015 for addressing climate change (see table 3.1): first, to develop a climate change strategy and second, to develop an

[7] This section largely emphasizes Mainland Tanzania though it does consider Zanzibar as well.

[8] See, for example, GCAP 2011; ODI 2013.

**TABLE 3.1.** CLIMATE CHANGE IN THE FYDP

| FYDP Goal | Climate Change Interventions | Climate Change Targets for 2015 |
|---|---|---|
| • Formulation of a coherent NCCS | • Institutional framework to identify, mobilize, and monitor global climate finance created.<br>• The VPO-DoE takes lead role in formulating the NCCS, covering adaptation and mitigation.<br>• Training programs for selected number of individuals from all concerned ministries on climate change impacts and mitigation and adaptation measures.<br>• Institutional framework to synchronize existing climate change initiatives in Tanzania will be created.<br>• Applied research on climate change impacts, costs, mitigation, and adaptation to be conducted. | • Institutional framework to identify, mobilize, and monitor global climate finance created.<br>• National Climate Change Policy formulated.<br>• Targeted number of government policy makers trained in climate change issues in all selected government ministries. |

institutional framework to identify, mobilize, and monitor global climate finance. MKUKUTA-II explicitly focuses on the risks of climate change to reduce poverty and inclusive economic growth, particularly in agriculture and disaster risk reduction.

**Both MKUKUTA-II and the FYDP include climate change as a cross-cutting issue that needs to be considered in climate-sensitive sectors.** In the FYDP, successful climate change adaptation is framed as an "underlying prerequisite" for economic development that must be achieved to ensure success of the core growth priorities (including infrastructure, agriculture, industry, human capital development and social services, and tourism, trade, and financial services). MKUKUTA-II also includes climate change as a cross-cutting issue to address in terms of both reducing poverty and protecting investments, and climate activities have been mainstreamed in several sectors of the strategy, including agriculture, energy, disaster risk management, and health.

**Development plans recognize the importance of building and funding climate resilience through different mechanisms.** The FYDP recognizes that climate finance could be a source of funding for achieving the overall FYDP goals and also that Tanzania does not yet have systems in place to access and manage finance at a larger scale (see box 3.1). More importantly, the FYDP proposes to fill this gap through formation of an institutional framework to identify, mobilize, and monitor global climate finance by 2015. The FYDP also recognizes the potential to mobilize significant amounts of climate finance, including through several different potential innovative modalities: an NCF to better access and manage climate finance, drawing from international examples,[9] carbon credits from industry and reduced emissions from deforestation, and a carbon tax on fossil fuels.[10] Unlike the FYDP, MKUTUTA-II does not propose to mobilize outside climate finance sources but instead mainstreams climate objectives into corresponding sector activities and budget allocations (DFID 2011).

**BOX 3.1.** THE CASE FOR CLIMATE FINANCE: TANZANIA'S FIVE YEAR DEVELOPMENT PLAN

"There are considerable sources of environment and climate change finance available for developing countries on a global scale, which could be harnessed to finance most of Tanzania's environmental initiatives and response strategies to climate change. This, however, has been ineffective in the absence of an effective national climate change institutional framework. **Such an institutional framework to coordinate Tanzania's efforts to seek global partnerships to environment and climate change finance will be given priority in the FYDP. Such an institutional framework will help in building resilience to climatic and environmental variability and ensure sustainable and inclusive growth."**

*Source:* Five Year Development Plan, 2011/2012–2015/2016 (emphasis added).

**Although climate change is incorporated into all key planning documents, implementation is**

[9] Brazil, China, and Indonesia are specifically mentioned.

[10] These possible instruments are discussed later in section 4.

**BOX 3.2.** SECTOR AND THEMATIC PRIORITIES OF THE NCCS

| Adaptation | Mitigation | Adaptation and Mitigation | Cross-Cutting Issues |
|---|---|---|---|
| • Water resources<br>• Coastal and marine environment<br>• Wildlife<br>• Human health<br>• Tourism<br>• Fisheries<br>• Infrastructure<br>• Human settlements<br>• Land use | • Transport<br>• Mining<br>• Wetlands<br>• Waste management | • Forestry<br>• Agriculture and food security<br>• Energy<br>• Industry<br>• Livestock | • Research and development<br>• Information, communication, education, and public awareness<br>• Technology transfer and development<br>• Capacity building and institutional strengthening<br>• Systematic observation<br>• Early warning systems<br>• Disaster and risk management<br>• Impacts of response measures<br>• Gender and vulnerable groups<br>• Planning and financing<br>• International cooperation<br>• Security |

**relatively limited.** For example, although the FYPD describes climate change as a key risk to growth, the actual investment plan does not include the proposed outputs on climate change, so climate change in effect has no budget allocation. However, the FYDP goal of formulating the NCCS has been reached and other targets are in progress, largely through the support of the UNDP via the VPO-DoE and MoF. Although the POPC is the FYDP's driver and developing an institutional framework for climate finance is a priority of the FYDP, to date the POPC has had little involvement on climate issues, including the development of the NCCS or the consultative process on climate finance (Yanda 2013). MKUKUTA-II does include monitoring indicators related to climate change for awareness raising on climate issues at the household level, though it is unclear if there has been progress on its implementation because related indicators provide limited information: an initial MKUKUTA status report describes results on climate change only in terms of strategic frameworks that have been developed rather than measuring if plans are actually implemented (URT 2011).

## CLIMATE CHANGE PLANS

**In March 2013, Tanzania, through the VPO-DoE, adopted the NCCS**, representing an important achievement for the country. The NCCS is an ambitious plan, outlining climate change risks for 18 sectors and 12 cross-cutting areas (see box 3.2) and proposing over 200 strategic interventions to mitigate risks. Sectors and local governments are largely tasked with implementation of the strategy, including a requirement that relevant Ministries, Departments, and Agencies (MDAs) prepare sector-specific climate change action plans. The NCCS emphasizes cooperation with the MoF to enhance existing resource mobilization and financial management systems to cope with increasing demand in financial support for addressing climate change (URT 2013). Zanzibar, which was not covered in the NCCS, adopted the ZCCS in June 2014 (Revolutionary Government of Zanzibar 2013)

**Implementation of the NCCS will be challenging.** The strategy has a complex decentralized implementation framework, which relies upon sectors and local government to develop and implement climate change action plans in 19 priority sectors for adaptation and mitigation. Environmental decision making in Tanzania has historically been centralized in the VPO-DoE, which combined with insufficient human and budgetary resources has been a factor in slow decision making and coordination challenges on cross-sectoral environmental issues (Universalia 2009). The NCCS framework, which aligns with the institutional framework for broader environmental management set out in the 2004 Environmental Management Act (EMA), is a significant step in decentralizing decision making and implementation of climate change-related

activities. As mentioned earlier, the NCCS intentionally deferred the development of detailed activities, priorities, and cost estimates to sectors and local governments through the development of standalone action plans, with implementation to be monitored by the VPO-DoE on an annual basis (URT 2013).

**The NCCS builds upon other strategic climate change plans in Tanzania.** These include the National Adaptation Programme of Action (NAPA 2007), the NCCS (2013), the ZCCS (forthcoming), National Reduced Emissions from Deforestation and Degradation (REDD) Strategy and corresponding Action Plan (2013), and the National Strategy on Gender and Climate Change (2011).

**These plans and strategies are largely consistent with one another in terms of the content and messages, but there is no overarching strategy addressing institutional coordination among climate change plans nor between climate plans and national development plans.** Such coordination challenges are not new to Tanzania's environment sector, given the resources and capacity needed to effectively reach across sectors (Universalia 2009). Early experience suggests similar coordination challenges will be relevant for climate change.

**Although strategic climate change plans are oriented toward demonstrating readiness for climate finance, it is not yet clear how such action would be financed**. Implementation of earlier climate plans, such as the NAPA, was hindered by difficulties in securing timely funds despite including cost estimates and detailed proposals. The NAPA did not, however, include an implementation framework or funding strategy. Current plans and strategies risk the same challenge, in part because of limited analysis of likely sources of funding, especially for adaptation. For example, the NCCS and ZCCS include lists of potential finance sources but do not assess which funding sources might be appropriate for strategic priorities; provide estimates of financing needs; nor provide a plan for optimizing, accessing, and managing those resources. Likewise, current climate strategies and plans lack a clear institutional or financing framework, which poses a risk to their implementation. Importantly, the NCCS's emphasis on adaptation as the strategic priority together with the continuing uncertainty about availability of adaptation finance, must be taken into account. A notable exception is REDD+, where significant effort has been made to demonstrate "readiness."[11]

## CURRENT CLIMATE CHANGE FINANCING

**On a global scale, developed countries have pledged new and additional resources with the goal of mobilizing US$100 billion per year by 2020 to support climate action in developing countries.** Around half of this is nominally allocated toward mitigation, with the rest to fund adaptation in developing countries (likely the least developed countries [LDCs], including Tanzania). A significant proportion of the public component of this funding is anticipated to flow through the UNFCCC's (see box 3.3) Green Climate Fund (GCF). As of the 2013 Conference of the Parties (COP) of the UNFCCC in Warsaw, capitalization, timing, disbursement methods, and processes of the GCF were highly uncertain. Progress was made on capitalization at COP 20 in Lima, Peru, however, with pledges exceeding US$10 billion from 27 countries.

**Although there is no systematic way to track climate finance in Tanzania, several recent initiatives have been undertaken to quantify climate finance on an ad hoc basis.** This section summarizes various estimates of the scale of current climate finance in Tanzania, which includes aggregated estimates for on- and off-budget finance, an analysis of on-budget expenditures, and current access to international sources of climate finance. Tanzania has had some success in securing funds from the UNFCCC and Global Environment Facility (GEF) mechanisms under the VPO-DoE's leadership. Bilateral and multilateral development partners have made significant contributions to funding climate adaptation and mitigation, with current estimates indicating commitments in excess of US$200 million to explicitly climate-related projects (Johannessen et al. 2014), with annual disbursement

[11] "Readiness" here means the ability of a country to have sufficient forest governance to execute REDD+ activities and handle REDD+ financing effectively and equitably.

## **BOX 3.3.** UNITED NATIONS—FRAMEWORK CONVENTION ON CLIMATE CHANGE

With 196 parties, the UNFCCC has near universal membership and is the parent treaty of the 1997 Kyoto Protocol. The Kyoto Protocol has been ratified by 192 of the UNFCCC parties. The ultimate objective of both treaties is to stabilize greenhouse gas (GHG) concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system.

The convention divides countries into three main groups according to differing commitments:

- Annex I parties include the industrialized countries that were members of the Organisation for Economic Co-operation and Development (OECD) in 1992 plus countries with economies in transition, including the Russian Federation, the Baltic States, and several Central and Eastern European States.
- Annex II parties consist of the OECD members of Annex I but not the economies in transition (EIT) parties. They are required to provide financial resources to enable developing countries to undertake emissions reduction activities under the convention and to help them adapt to adverse effects of climate change. In addition, they must "take all practicable steps" to promote the development and transfer of environmentally friendly technologies to EIT parties and developing countries. Funding provided by Annex II parties is channeled mostly through the convention's financial mechanism.
- Non-Annex I parties are mostly developing countries. Certain groups of developing countries are recognized by the convention as being especially vulnerable to the adverse impacts of climate change, including countries with low-lying coastal areas and those prone to desertification and drought. Others (such as countries that rely heavily on income from fossil fuel production and commerce) feel more vulnerable to the potential economic impacts of climate change response measures. The convention emphasizes activities that promise to answer the special needs and concerns of these vulnerable countries, such as investment, insurance, and technology transfer. The 49 parties classified as LDCs by the United Nations are given special consideration under the convention because of their limited capacity to respond to climate change and adapt to its adverse effects. Parties are urged to take full consideration of the special situation of LDCs when considering funding and technology-transfer activities.

Tanzania is included in the group of Non-Annex I parties and is also classified as an LDC. This opens up additional opportunities for international climate finance through sources such as the Least Developed Countries Fund (LDCF), which Tanzania has accessed in the past.

*Source:* http://unfccc.int.

in the region of US$15–20 million (GCAP 2013). Another US$400 million is in the pipeline (Johannessen et al. 2014). Some of this flows through government budget mechanisms, but a significant proportion flows directly to project intermediaries, bypassing the MoF. As is the case with various off-budget funds, currently there is no mechanism whereby Tanzania can track these resources. As a consequence, the government has little information on the scale of climate finance and how both off-budget and on-budget flows might be better coordinated within a finance mechanism to play a role in delivering the NCCS.

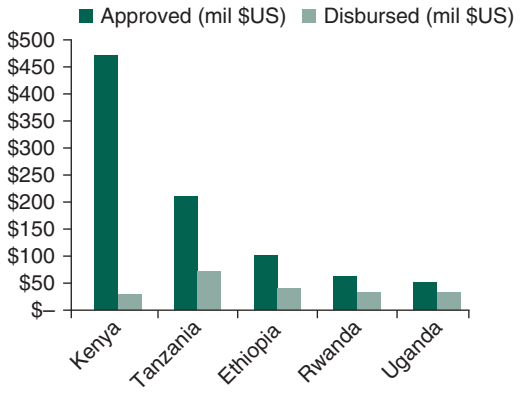
## AGGREGATED ESTIMATES OF EXISTING OFF-BUDGET CLIMATE FINANCE

**Several efforts have been made to estimate on- and off-budget commitments for climate change activities as well as actual disbursement.** It should be noted that there tends to be discrepancies among sources of climate finance data and that there is no up-to-date database of committed or disbursed climate finance in Tanzania:

- A 2013 mapping exercise undertaken by the Tanzania Development Partners Group on Environment (DPG-E) indicated that *climate change commitments from local development partners in Tanzania were approximately US$135 million.* Some of these funds are channeled through government projects and programs, while others directly benefit non-state actors (NSAs).[12]
- An updated mapping exercise in 2014 found that current external international *climate change commitments to Tanzania total US$202 million, most of which is supported by bilateral partners, with another US$400 million in the pipeline* (Johannessen et al. 2014). The

[12] This mapping was a collaborative effort by DPG-E members, who contributed inputs on current projects related to climate change, total budget, annual budget, and pipeline activities.

**FIGURE 3.1.** CLIMATE FINANCE IN EASTERN AFRICA (2003–13)




*Source:* www.climatefundsupdate.org, accessed February 4, 2014.

discrepancy between 2013 and 2014 was largely a result of the omission of Japan's Fast Start Finance from the 2013 DPG-E mapping.

» Between 2003 and 2013, a publicly accessible database of public climate finance shows 23 climate change projects and programs have been approved in Tanzania or can be identified, with resources totaling *US$191 million, of which US$53 million have been disbursed* to date.[13]

**These figures suggest Tanzania is doing relatively well compared to other countries in the region with respect to climate finance.** As seen in Figure 3.1, Tanzania is second only to Kenya[14] among other East African countries, both for approved climate finance and disbursements. Although these data may not be comprehensive, they reflect trends among countries and also demonstrate the utility of a systematic approach to tracking climate finance at a country level.

## CLIMATE FINANCE BY SOURCE

**Tanzania receives support from several bilateral and international climate finance sources, primarily for energy infrastructure and forestry.** Further examination of Tanzania's access to international and bilateral resources shows some general trends regarding the sources as well as the type of activities financed. Table 3.2 indicates that more than half of approved international funds have come from Japan's Fast Start Finance for energy transmission infrastructure in mainland Tanzania and Zanzibar, which would expand the grid for all power sources. Norway is the second-largest contributor, largely dedicated to REDD+. Other funding sources are a mix of bilateral and international funds, including activities related to building coastal resilience, institutional strengthening, and natural resource management.

**The figures in the table demonstrate that the major sources of climate finance to date have been from local bilateral development partners while UNFCCC funds have been modest.** These funds—together with similar levels of finance from local development partners over the next few years—could form the basis for an initial climate finance structure to be complemented in the future (post-2015) by emerging international finance for both adaptation and mitigation. It is highly likely that local development partners will remain the dominant source of major funding in the short to medium term (GCAP 2013). In fact, recent studies show that over 80 percent of current and pipeline funding are provided by local bilaterals alone (Johannessen et al. 2014). These trends should be noted when designing a framework for climate finance, as each donor has specific requirements governing their own funds.

**Although climate adaptation is Tanzania's stated climate change priority, most climate finance has been for mitigation activities.** Over half of approved international finance in Tanzania is currently funding energy transmission infrastructure, and REDD+ mitigation activities contribute over 20 percent (mitigation but with strong adaptation co-benefits). Finance for adaptation activities is limited in scope and tends to be supported by small-scale grants that are not clearly aligned with NCCS priorities—out of climate finance commitments as of 2014, only 35 percent of funds address adaptation priorities. Moreover, the process of securing adaptation funds has proven challenging. For example the NAPA, which had an LDCF grant for its preparation in 2003, did not receive any UNFCCC funding for implementation until 2012, with the approval of LDCF and AF grants. On a global scale, international finance for adaptation has in general been sluggish, which could pose issues for

[13] See www.climatefundsupdate.org; data accessed February 4, 2014.

[14] Kenya has received substantial resources through Japan's Fast Start Finance commitments.

**TABLE 3.2.** INTERNATIONAL CLIMATE FINANCE IN TANZANIA BY SOURCE (2003–13)

| Funding Source | Approved (US$, millions) | Percent% | Purpose |
|---|---|---|---|
| Japan's Fast Start Finance | 100.0 | 41 | Energy transmission infrastructure |
| Scaling Up Renewable Energy Program (SREP) | 50.0 | 20 | Renewable energy |
| Norway's International Climate and Forest Initiative | 36.5 | 15 | REDD+ |
| GEF Trust Fund | 17.7 | 7 | Energy development, hydropower mini-grids, waste-to-energy |
| European Union's (EU) Global Climate Change Alliance (GCCA) | 13.8 | 6 | General climate adaptation |
| LDCF | 7.3 | 3 | Coastal zone vulnerability; NAPA |
| Adaptation Fund (AF) | 6.9 | 3 | Reducing coastal vulnerability |
| U.K. International Climate Fund | 4.7 | 2 | Institutional strengthening, civil society, renewables, private sector |
| UN-REDD | 4.3 | 2 | REDD+ |
| Germany's International Climate Initiative | 3.3 | 1 | Conserving mountain forests |
| Special Climate Change Fund (SCCF) | 1.0 | 0.4 | Water resource management |
| **Total** | **245.5** | | |

*Source:* http://www.climatefundsupdate.org, accessed 04 February 2014; Development Partners Group mapping (2013).

implementation of the NCCS if Tanzania plans to rely upon UNFCCC funds for substantial support.

## ON-BUDGET CLIMATE CHANGE EXPENDITURES

**Tanzania has increasingly programmed resources toward climate-related activities.** Recognizing that activities to build climate resilience are not only supported by dedicated climate funds, new methodologies have attempted to identify existing domestic climate change spending. The Overseas Development Institute (ODI) has recently developed a Climate Change Public Expenditure Review framework to assess climate-related expenditures in national budgets and included mainland Tanzania[15] as one of the first countries to pilot the methodology (ODI 2013).

**Tanzania's own budgeted amount for climate change-relevant activities grew from US$293 million in 2009/10 to US$896 million in 2012/13** (table 3.3).[16] When adjusted for inflation, this represents a real growth of 57 percent in three years (ODI 2013). At the same time, climate change-related expenditure has increased steadily as a proportion of the total budget, from 4.2 percent in 2009/10 to 6.5 percent in 2012/13. This growth in budget for climate-change-relevant activities can be explained primarily by an increase in on-budget donor funding. The composition of climate change-relevant expenditure appears to have shifted over the four-year period, from projects with a primary focus on either adaptation or mitigation to projects that appear to combine both objectives (ODI 2013).

**Although these amounts appear to be substantial, funds are largely concentrated in projects that are indirectly related to building climate resilience or promoting low-carbon growth,** meaning that climate change is not an explicit goal of the given project or program. However, finance for projects with higher relevance for climate change is increasing (see table 3.3 and table 3.4).

**Although Tanzania has benefited from climate change financing, the absence of effective tracking**

[15] Zanzibar's budget was not included in the review.

[16] Amounts are in real terms.

**TABLE 3.3.** CLIMATE-RELATED EXPENDITURE IN RECENT YEARS

| | 2009/10 | 2010/11 | 2011/12 |
|---|---|---|---|
| Total GDP (US$ million) | 17.6 | 20.2 | 23.5 |
| Total public expenditure as a share of GDP | 29.0% | 29.2% | 28.7% |
| Climate-change-related expenditure as a share of GDP | 1.3% | 1.3% | 1.7% |
| Climate-change-relevant budget as a share of GDP | 1.4% | 1.6% | 2.2% |

*Source:* Adapted from the ODI, data from the MoF, and the URT 2012 Economic Survey.

**TABLE 3.4.** RELEVANCE OF CLIMATE-RELEVANT EXPENDITURES[1]

| | 2009/10 | | 2011/12 | |
|---|---|---|---|---|
| **Climate Change Relevance** | **Number of Projects** | **Share of Total Budget (%)** | **Number of Projects** | **Share of Total Budget (%)** |
| High relevance | 3 | 5 | 9 | 13 |
| Medium relevance | 4 | 7 | 2 | 3 |
| Low relevance | 51 | 88 | 57 | 84 |
| Total | 58 | 100 | 68 | 100 |

*Source:* ODI (2013).

[1] This study conducted by ODI developed categories of expenditures based on the degree of relevance to addressing climate change adaptation and mitigation.

**systems makes it difficult to gauge exactly how much climate finance has been accessed, how much has been spent, and what the impacts have been for building resilience or promoting low-carbon growth.** A main challenge to this analysis is the quality of budget data: neither on-budget climate expenditures nor finance from dedicated climate funds are coded within the national budget, which makes tracking financial flows difficult and discretionary. Off-budget climate finance may flow to multiple beneficiaries, and there is no central responsibility for monitoring these funds or their implementation. Climate change is not explicitly addressed as a theme in the national budget process and there is no coding of climate expenditures within the budget, so any analysis must be done manually.

**There are key gaps in understanding how climate finance can best link with strategic plans**. Although much analysis has been done to investigate current access to climate change finance and expenditures, there has been no analysis of, nor targets for, climate resilience or low-carbon growth; neither has there been an analysis of how related outcomes could be measured to meet targets. This is already a challenge given the lack of climate finance tracking and the ad hoc nature of projects and programs, which the NCCS and ZCCS hope to overcome. Additionally, there has been no comprehensive analysis linking the strategic priorities in the NCCS and ZCCS to current finance for climate change activities, to identify where activities are currently resourced and where financing gaps may exist.

# CHAPTER FOUR
# REDUCING TOMORROW'S RISKS THROUGH TODAY'S DECISIONS

**A pathway to climate-resilient economic growth will take more than having plans in place.** Past experience has shown that implementation and financing of strategic plans is a long-term and resource-intensive process. Adopting plans is merely a first step, with many decisions to come. Tanzania has signaled what is needed to scale up and better manage climate finance and work toward transforming strategic plans into concrete actions. The following section outlines key considerations for implementing and financing climate action in Tanzania, taking into account the current context for Tanzania's institutional and policy framework for climate change as well as the climate finance landscape.[17] This section provides recommendations for decision making for four key areas that can help enhance what Tanzania has achieved on climate change and address the identified challenges, drawing from international case studies and Tanzania's experience so far (figure 4.1).

## LEADERSHIP

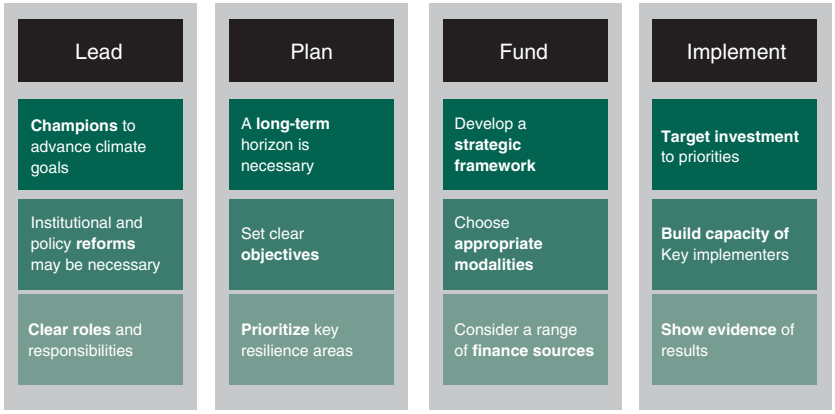
### CHAMPIONS TO ADVANCE CLIMATE GOALS

Countries with advanced institutional arrangements on climate change and which have made most progress on financing climate change activities are those with a high-level champion for climate change action. Local stakeholders indicate that there has not been such a senior political champion in Tanzania, promoting climate action at the highest levels. The statements made by President Kikwete at the 2013 COP are a promising indication of leadership, but strong follow-up will be key to sustainability.

Case studies show that high-level support is also critical to overcoming potential barriers and delivering institutional and finance structures in an effective and timely manner. Successful regional examples include Rwanda, where presidential support was key,

[17] Lessons from international experience and stakeholder interviews undertaken as part of this study are described in more detail in appendix A.

**FIGURE 4.1.** KEY CONSIDERATIONS FOR IMPLEMENTING AND FINANCING CLIMATE ACTION




and Ethiopia, where the (former) prime minister was a strong and effective champion. Both countries have developed high-level vision statements to mainstream climate change into economic growth and development policies, through efforts to develop a climate-resilient, low-carbon/green economy.

In the Philippines, the Climate Change Commission is attached to the Office of the President, and the Board of the dedicated fund (the Philippines People's Survival Fund [PSF]) has high-level support that helps ensure implementation is a top national priority. Leadership is also critical to ensuring climate finance is used effectively: in the case of Bangladesh, climate finance is embedded in the legal framework, and the Philippines case shows the importance of ensuring buy-in and participation across government, including ministries of finance and economic planning—endorsements which were key to the record timing of passing the Peoples Survival Fund Act along the actual uptake of the PSF into policy and planning.

## REFORMS MAY BE NECESSARY

With a strategy that is complex and devolves significant implementation responsibility to sectors and subnational entities, it may be opportune to revisit the climate change policy framework. Doing so will take initiative from climate champions. Although Tanzania has a climate change strategy which is in principle backed by legislation (EMA) and development plans (FYDP), there is no standalone climate change policy nor regulatory structure. Institutional arrangements for climate change therefore mirror those for other environmental issues, designating the VPO-DoE as the institutional lead for each. Both budget and human resources, which have been inadequate for the VPO-DoE to fulfill its coordination role, are increasingly stretched by the scale of coordination needed for comprehensive, economy-wide climate change planning and investment.

The EMA, a comprehensive piece of legislation that does include climate change, does not address climate change financing nor provide an adequate institutional framework. For finance, the EMA mandates the establishment of a national Environmental Trust Fund (ETF) and outlines the operation of such a fund. However, climate change is not included in the ETF objectives; given the scale of finance needed and specific objectives that go beyond the ETF provisions in the EMA, this could be a complementary but insufficient funding source. Current institutional arrangements for EMA implementation may also require revision to promote comprehensive, sustainable action on climate change.

There is a need for broadening institutional responsibilites for climate change. Institutions such as the MoF and the Planning Commission have had a peripheral role when they should be key players for their convening power and influence over planning and budgeting, and the importance of sectoral agencies in mainstreaming climate aspects is not highlighted. Given the increasing attention to climate change issues in national development plans

and the national budget, it may be opportune to consider clearly defined roles and responsibilties in the institutional framework to strengthen not only mainstreaming climate issues across the economy (which is improving) but also increase the likelihood that interventions are provided with resources (which has been a challenge).

Drawing from the lessons of other countries that have been successful in securing major climate finance for implementation of strategic plans, there is a need to develop a clear legal and institutional roadmap for climate change in Tanzania, which should build on the existing government landscape and assign responsibilities across relevant agencies based on existing mandates, capacity, and strengths.

### CLEAR ROLES AND RESPONSIBILITIES

There are several key actors involved in the institutional framework for climate change planning in Tanzania: the VPO-DoE sets overall climate change policy and undertakes strategic planning; the MoF is responsible for public financial management and budgeting; and the MDAs and local governments are responsible for developing, costing, and implementing climate change action plans and investment plans. At the national level, there is a steering committee and a technical committee for climate change. These entities meet infrequently on an ad hoc basis at the request of the VPO-DoE but have not provided adequate leadership to implement climate action to date nor played a substantive role in carrying forward the NCCS.[18] Institutional responsibilities for accessing and managing climate finance are unclear, and the NCCS does not provide more detailed institutional responsibilities for climate finance. These will need to be outlined and agreed between key actors; high-level leadership is critical to drive this process and come to an agreement on institutional arrangements.

Several institutional structures for international climate finance already exist in Tanzania or are under preparation, including the Designated National Authority for the Clean Development Mechanism (CDM) (which sits in the VPO-DoE), the National Implementing Entity (NIE) for the AF (National Environmental Mangement Council is currently in the accreditation process for this role), the REDD+ task force, and the SREP (which includes the Ministry of Energy and Minerals renewable energy task force and implementation partners such as the Rural Energy Agency and private sector actors). These entities, and how they function, have not yet been fully considered in options discussed to date for a dedicated fund or broader financing framework. Other complexities will need to be considered in the institutional structure, such as defining arrangements between Zanzibar and the mainland and the role of other actors that are important for climate change adaptation and mitigation such as civil society, private sector, and research institutions.

## STRATEGIC PLANNING

### A LONG-TERM HORIZON IS NECESSARY

The NCCS takes a comparatively short five-year implementation time frame. However, effective climate action ideally needs to be cast with a long-term vision in mind—for example, Tanzania's Vision 2025 (which aims to achieve middle income status by 2025) is complemented by successive five-year development plans. The vision of the NCCS, to enhance climate resilience in Tanzania and reduce the vulnerability of natural and social systems to climate change, is not time-bound nor related to achieving a specific target. Although the NCCS complements the Vision 2025 and FYDP, the government may consider how it could better align with longer-term policy and planning frameworks. Given that line ministries and local governments prepare their own sector-specific climate change action plans, a longer-term vision (20–30 horizon) could help to set some boundaries to ensure that the potentially large number of bottom-up plans add up to a "whole" that is consistent with the longer-term vision. There is a timing disconnect between the NCCS and development of the sector action plans, many of which may not be prepared until after the first phase of the NCCS is completed.

### SET CLEAR OBJECTIVES

Especially in terms of strategically targeting climate finance, experience shows that an overriding principle in implementing climate action is that clear objectives are necessary. Climate finance mechanisms should be designed carefully to be tailored to Tanzania's climate priorities and accommodate likely funding sources. Importantly, a funding mechanism should recognize the opportunities and

[18] See, for example, ODI 2013.

constraints of capitalization sources and accommodate these in the design. For example, a fund for managing the UNFCCC resources for projects would likely have a quite different design than a fund more focused on sector mainstreaming using bilateral support.

### PRIORITIZE KEY RESILIENCE AREAS

Although climate adaptation is listed as the "highest priority" for Tanzania, the interventions in the NCCS are not prioritized by climate risk, vulnerability, or urgency. This will presumably be left to sectors in their action plans and local governments, but in the current state, developing a pipeline of projects proposed for funding would be a challenge. This risks a business-as-usual scenario, where the large part of climate change funding continues to be channeled to donor priorities rather than areas that are the biggest wins for adaptation, which are currently small-scale and fragmented investments. Several past efforts have been made to prioritize key areas to invest: for example, the NAPA points to agriculture as an adaptation priority, given the climate sensitivity of the sector and importance to the economy and food security. However the NCCS stops short of weighting key sectors for support or indicating where the largest vulnerabilities lie to identify urgent priorities to address in the near and longer term.

This prioritization could be done through sector action plans: the Ministry of Agriculture, Food Security, and Cooperatives (MAFC) has developed and adopted an action plan for climate resilience in the crop subsector, and other sectors are anticipated to follow. The ACRP sets out key resilience areas for investments (such as water security, land management, and climate-smart agriculture) and was supported through technical assistance provided by the DFID, the World Bank, and the Sokoine University of Agriculture.

Development of action plans, although positive, would benefit from a common methodology and funding to assess risks and priorities and cost estimates to develop a solid investment framework that can be aligned with financing mechanisms. A major constraint to prioritizing resilience actions is that there is not yet a system in place nor financial resources or technical assistance available for the MDAs and Local Government Authorities (LGAs) to develop action plans. There is a significant risk that implementation of the NCCS will be compromised if this vital step of sector planning is not supported in the short term—though the success of the NCCS hinges on sector and local-level planning, as it stands, preparing those plans is an unfunded mandate and capacity is quite low (ODI 2013).

## FUNDING

### DEVELOP A STRATEGIC FINANCING FRAMEWORK

As outlined in section 2, Tanzania already accesses considerable resources for climate change, but there are several issues that impede the efficiency and effectiveness of these funds. For example, existing finance is

- » insufficient for the estimated adaptation needs (US$70 vs. US$600 million per year);[19]
- » concentrated in mitigation, which is important for a low-carbon growth path but unaligned with Tanzania's priority on adaptation; and
- » largely project-based and, as a result, often small-scale, short-term, and not systematically targeted to vulnerability.

The NCCS and ZCCS only recognize that additional resources are needed for their implementation and provide some indication of the sources, but an overall framework would help to set a foundation for *how* this would be done. The process to develop a financing framework would ask key questions:

- » How would additional funds be mobilized?
- » What are the key sources (both public and private)?
- » How should the needs of different actors be considered? (box 4.1)
- » How can these sources be catalyzed and blended?
- » How can finance be best delivered in a way that targets key vulnerabilities?
- » How will required capacity to manage and monitor finance be built?

Box 4.1 includes considerations that should be taken into account in the overall financing framework.

[19] US$70 million is 35 percent (adaptation activities) of the DPG-E US$202 million committed as of 2014. The US$600 million figure is from GCAP (2011) and includes at least US$100 million per year to build adaptive capacity against future climate change in addition to US$500 million annually to address current climate risk.

## **BOX 4.1.** OPTIONS: WHO SHOULD BE CONSIDERED IN A FINANCING FRAMEWORK?

**Line Sectors**

Within national government, sectoral engagement and major finance to date has been primarily limited to the forestry and energy sectors (in line with REDD+). However, this type of engagement will have to be replicated across a number of sector line ministries (such as water, transport, and agriculture) as the NCCS is implemented. Unlike REDD+, there is no specific funding source available for sectors to develop actions plans, consult stakeholders, and perform other necessary related activities, though planning will be a time- and resource-intensive undertaking, and require significant coordination and technical expertise. A financing framework needs to consider this reality, and institutional mechanisms need to be put in place to coordinate among sectors as well as for realistic resource allocations.

**Local Authorities**

LGAs are also critical for implementation of the NCCS. From a local authority perspective, the Prime Minister's Office-Regional and Local Government (PMO-RALG) is keen to see climate finance made accessible to local authorities at district level. However, there is some concern over the level of capacity to manage and monitor climate change funds through existing structures.

**Zanzibar**

There is a political imperative—especially in the context of the ongoing constitutional discussion—to forge consensus on the modality through which Zanzibar can access climate funds. For general budget flows, allocations to Zanzibar follow an agreed formula (negotiated with the IMF in the 1990s), in which approximately 4.5 percent of national revenues go to the islands.[1] Zanzibar's climate vulnerability profile differs somewhat from the mainland and is more similar to that of the Small Islands Developing States. Zanzibar is particularly vulnerable to climate change and thus may require relatively higher resource allocations for adaptation. A combination of strategies to help ensure equitable access, reflective of potential climate risk, might include the following:

- » More active engagement between mainland and Zanzibar on steering and technical committees tasked with assessment and approval of funding allocations
- » Discussion around possible funding modality with Zanzibar, including options of either a dedicated thematic window for the islands or allocations under thematic windows that reflect issues of specific relevance to Zanzibar (for example, coastal zones and vulnerable areas) or a separate fund or mechanism
- » Increased capacity support for Zanzibar—in line with the large-capacity increases needed on the mainland to gear up for future flows, implementation, and evaluation—through the United Nations Development Assistance Programme (UNDAP) process and other possible support to the government on climate strategy and project formulation

**Non-state Actors**

A UNDP-convened stakeholder meeting on climate finance confirmed the interest among NSAs to play an active role in the design and oversight of climate finance, as well as to access climate funds as beneficiaries and implementing agencies. The National Climate Change Forum (an umbrella NGO on climate change), the Tanzania Chamber of Commerce, and several industry associations all indicated their desire to engage actively with the process. Tanzania will need to give consideration as to how non-state groups can both contribute to and have equitable access to climate finance, particularly where they provide services and capacity that fill government gaps in public service delivery.

[1] Revenues allocated to Zanzibar vary on a sector basis, for example, with higher proportional allocations in specific areas such as marine and coastal sectors.

## DESIGN-APPROPRIATE FINANCE MODALITIES

There are many options that Tanzania might choose to structure its finance for delivering the NCCS and ZCCS. As discussed earlier, most attention has been focused on setting up a single dedicated fund as the country's vehicle for climate finance. However, the time and resources to set up new funds are high and management costs during operation can be substantial. Most development partners, the largest source of climate finance in Tanzania, may continue to be more interested in funding specific programs than general climate funds. Thus, it is highly unlikely that sufficient resources for adaptation could be mobilized through a single funding mechanism. Many of the current institutional and financial constraints to financing climate adaptation would likely persist under a general climate fund, for example, the proliferation of fragmented and small-scale projects since the scale is generally too modest for long-term transformational actions. Since sectors and local governments are implementers, mechanisms to ensure international climate finance reaches these institutions to support their action plans will be critical.

Other instruments are possible, each having their own objectives and design considerations—these include basket funds, policy-based instruments, and budget tracking tools. Options for fund management are not mutually exclusive and a flexible approach would benefit Tanzania's planning framework. In fact, depending on Tanzania's objectives for climate finance, more than one instrument will likely be necessary.

By taking a more comprehensive view of the options, Tanzania has an opportunity to design, at an early stage, a strategic framework that has the flexibility to increase the level of finance from diverse sources and to enhance coordination mechanisms between financing structures that would help track and monitor funds. Appendix B describes examples of different funding modalities that could be relevant for consideration in Tanzania and the opportunities and constraints of each. For example, Tanzania may wish to start with a modest fund to support sector and local government action plan development as well as build systems and institutional capacity centrally. This could then be scaled up to support implementation of action plans, country-wide technical assistance and planning tools, and a robust monitoring and evaluation (M&E) framework.

Regardless of the funding modalities, Tanzania's ability to access funds from development partners and international sources will benefit from strengthened financial management and monitoring to account for climate finance. Monitoring climate expenditures is currently a major challenge in Tanzania (ODI 2013). As funding needs grow, so will competition for scarce resources, and funders will need confidence that climate finance will deliver results.

This can be considered from two angles. First, specific to a dedicated climate fund, capitalization will require safeguards for transparency in fund management and spending on the ground to reduce fiduciary risk and increase the likelihood of capitalization by development partners, international funds, foundations and other potential contributors. Contributors require confidence that strong systems are in place to manage funds transparently and that results can be monitored and verified. Second, even if Tanzania develops a dedicated fund, there could be additional mechanisms for financing climate change, for example, the NCCS recommendation of a climate change window in a basket fund. The flexibility of different financing mechanisms is appealing and expands funding possibilities; yet, it will still be important to have an overarching coordination mechanism that can be used to track finances and monitor results across funding sources.

## CONSIDER A RANGE OF FINANCE SOURCES

In the NCCS, ZCCS, and FYDP, Tanzania is committed to raising finance from both international and domestic sources to support action on climate change, however there is little analysis of how much is needed and what sources are most appropriate. The process to develop a more strategic framework for financing action on climate change will require alignment of financing needs with fund-raising as well as greater capacity to better understand the funding landscape. This is especially relevant for sectors that will be implementing action plans.

A range of financing sources are possible—and necessary—to fund climate change priorities. Although most climate finance to date in Tanzania has been bilateral assistance, with some support from international and multilateral sources, the country has the potential to access many other sources of finance to implement strategic climate change plans and capitalize a climate fund if one is established. The NCCS and other planning documents tend to list sources of climate finance but do less to assess which are relevant for Tanzania's priorities and examine the opportunities and constraints of these funds. Several of the more relevant sources for Tanzania are outlined in appendix B, with some initial analysis—a more detailed examination of various funding sources and how they could practically contribute to climate resilience in Tanzania may be a useful undertaking to feed into the decision-making process.

Additionally, given the significant resources that are needed, it is highly unlikely that public revenue sources—even with domestic, international, and bilateral assistance—will be sufficient. Private resources are critical, and Tanzania will need to consider how best to engage the private sector in financing investments that build resilience and also effectively use public money to mobilize

private finance. Tanzania already has an example of this through the CIF's SREP mentioned earlier, which not only has mobilized US$50 million for renewable energy but aims to catalyze renewable energy development and reduce reliance on fossil fuel energy, in part through private sector development.

# IMPLEMENTATION

## TARGET INVESTMENT TO PRIORITIES

Large-scale investments in climate adaptation and mitigation are needed across a range of sectors and actors, which will in theory be guided by action plans. As described earlier, this will be a complex undertaking: Tanzania would benefit from a systematic, structured approach to investments that guides programming, mobilizing funds, prioritizing and budgeting, implementing and spending at the intervention level, as well as tracking and monitoring. Many of these aspects are mentioned in the NCCS but have not yet been put into practice. A more systematic approach to implementation could yield a number of direct and indirect benefits in terms of more cost-effective planning, less fragmentation, better coordination, greater predictability and lower risk of diversion from strategic plans. This could also help to mend the disconnect between the need for support on adaptation and substantially higher volume of funding for mitigation, by more clearly targeting and monitoring investments and tracking financial flows.

## BUILD CAPACITY OF KEY IMPLEMENTERS

Although Tanzania lacks a legal or policy framework for climate planning and finance, in the immediate term, the country could benefit from high-level support (for example, from the VPO-DoE and development partners) for greater capacity in the areas discussed above. Capacity building to date has been on an ad hoc basis but a large-scale, consistent approach is needed. This includes sector planning, accessing and tracking climate finance, and project planning and implementation. Climate change planning (including mainstreaming) and implementation of those plans are new and additional processes for sectors and local governments, the main implementers, and it will take time and resources to build the capacity for implementation. Development of programs and tools for capacity building could, for example, establish a methodology so that sector action plans take a consistent approach to developing, prioritizing, and costing actions. Tools can also be developed for the various types of funding modalities such as mainstreaming in sector plans.

The Rwanda Environmental Management Authority has produced several tools that contribute to implementation of the Green Growth and Climate Resilience Strategy, including a climate finance toolkit and guidelines to mainstream climate adaptation and mitigation in energy and infrastructure projects (Rwanda Environmental Management Authority 2011). This includes clear methods on how to assess vulnerability, identify entry points for mainstreaming climate change, and integrate options for climate adaptation and mitigation into policy processes, finance, and evaluation at the national, local, and community levels. A pilot project financed by the DFID in Tanzania is supporting planning processes and setting up finance mechanisms in three dryland districts. A multi-year effort has been necessary to work with local officials, communities, and pastoralists to identify vulnerabilities, plan, prioritize investments, set up funding structures and seek financing, a process which is promising to generate resources to support some of Tanzania's most climate-vulnerable areas.[20]

## SHOW EVIDENCE OF RESULTS

Developing a management information system for climate finance could drive improvements in coordination and decision making. It is highly unlikely that the current arrangements for financing climate action will change in the near future. Donors and other funding sources will continue to finance projects and sectors in line with their priorities and preferred types of funding modality. The near-term landscape of international climate finance is also unlikely to change significantly. As described in section 2, because of the fragmented nature of climate action in Tanzania, it is difficult to gain a comprehensive picture of what is financed and the level of climate expenditure, although the scale of finance is significant, in hundreds of millions of dollars.

[20] See "Mainstreaming Climate Change Adaptation in Drylands Development Planning in Tanzania," http://www.tnrf.org/en/ccadapt/q2highlights.

The wide range of financing sources, projects, and stakeholders involved with implementing climate strategies, plans, and interventions does not have to result in a fragmented approach to climate change planning. A system designed to identify and track climate finance could be a powerful tool to identify the climate change investments that are financed and target resources toward priorities and gaps. Decision making on what activities to finance has been a challenge, in large part because of a lack of information, which cannot be solved through a climate fund alone. An economy-wide management system for climate information would have added benefits for transparency and be useful to a wide range of stakeholders from civil society groups to potential donors.

# CHAPTER FIVE
# WORKING WITH TANZANIA TO SUPPORT RESILIENT GROWTH

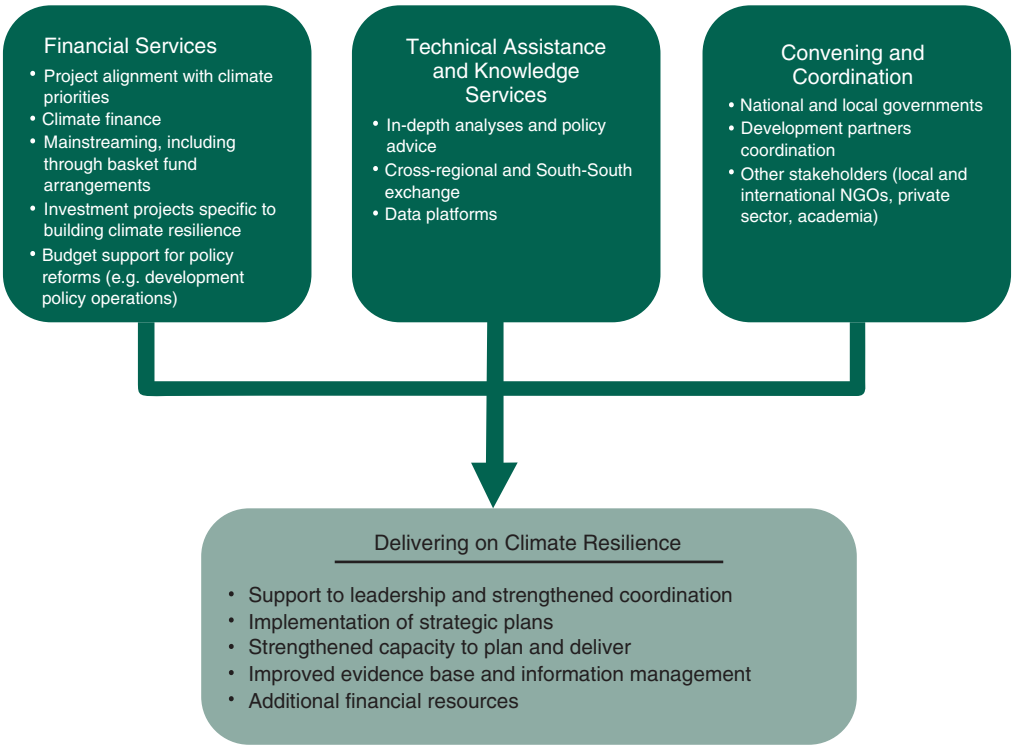
The Bank, DFID, and other development partners are committed to supporting the implementation of Tanzania's development and climate change plans as well as its financing strategies. As discussed in section 2, local development partners are the largest source of finance for climate change activities in Tanzania, with significant resources in the pipeline. With strategies in place in Mainland Tanzania and Zanzibar, Tanzania is well placed to leverage donor and other outside support to implement strategies and promote a growth path that is resilient to climate change and encourages low-carbon development and also use domestic revenues more strategically to ensure that economic growth mitigates rather than exacerbates the risks of a changing climate.

To do so, Tanzania can work with development partners to signal what support would be most appropriate to meet strategic objectives. Development partners, including the Bank and DFID, have a range of instruments that are already accessible in Tanzania or used elsewhere in the Africa region to support climate change activities (figure 5.1):

- *Financial services to support investments and policy reform* that mainstream climate change, target specific climate risks and vulnerabilities, and support policy and institutional reforms, through various forms of investment and policy operations, mobilizing a variety of resources, including climate finance
- *Technical assistance and knowledge services* to provide policy advice and analyses on specific knowledge gaps, support knowledge exchange globally and across sectors, and provide quality training and capacity building
- *Convening and coordination to build partnerships* between stakeholders, including cross-government, joint programming with development partners to align support, and building relationships with international and local practitioners

Recognizing the scale and complexity of addressing climate change in a country with a rich climatic and geographic diversity such as Tanzania, these instruments can be tailored to suit different contexts and a variety of actors, including central coordination ministries (for example, the MoF, Vice President's Office, and PMO-RALG); line sectors (for example, agriculture, transport, water, and energy); and subnational

**FIGURE 5.1.** TOOLS FOR BUILDING RESILIENCE




governments (for example, Zanzibar, districts, and urban local governments). Different instruments can also be applied to specific thematic challenges such as water security, urban resilience, and incentivizing development of renewable energy.

## FINANCIAL SERVICES TO SUPPORT INVESTMENT AND POLICY REFORM

The Bank already invests significantly in key Tanzanian sectors that are both key to growth and aligned with NCCS and ZCCS interventions, including current portfolios in energy (US$685 million), agriculture (US$262 million), water (US$245 million with approximately US$220 million in the pipeline), natural resource management (US$41 million), and urban development (US$581 million).[21] Yet, although these sectors are strongly climate linked, most operations in the Tanzania World Bank portfolio are only loosely linked to climate adaptation objectives and none thus far support Mainland Tanzania or Zanzibar's climate change plans. Renewable energy is a notable exception, which provides mitigation benefits through GHG reductions as well as adaptation through increased access to electricity services.

Yet, the Bank and other donors could improve the targeting of climate action. There are potential entry points in most sector programs, new projects could focus on key climate vulnerabilities, and support could be provided for strengthening institutional and policy frameworks—at the sector or national level—to establish a foundation for implementing comprehensive climate action through breaking down barriers within governance, as described in sections 2 and 3.

Development partners and other stakeholders can support resilience through standalone operations or mainstreaming into broader sector programs:

» *New investment projects aligned with climate change priorities.* Investments could be designed specifically to support implementation of strategic climate change plans such as the NCCS or ZCCS. For example, Mozambique's Strategic Program for Climate Resilience (2011) is supported by multiple funding sources, including the CIF's Pilot Program on Climate Resilience as well as the African

[21] Figures include both active and pipeline investments as of May 2014.

Development Bank, the International Finance Corporation (IFC), and the Bank, each of which are supporting projects in key sectors, including agriculture, coastal cities, transport, water management, forestry, and education.

Although there are currently no projects in Tanzania that are intended to directly support the NCCS and ZCCS interventions beyond the planning and capacity building stage, direct support for projects that align with the objectives and interventions are ongoing and in the pipeline. For example, Tanzania's recent pilot project financed through the SREP through the CIF demonstrates the economic, social, and environmental viability of low-carbon development paths in the energy sector. This complements the NCCS' strategic interventions on renewable energy, support for geothermal, and diversification of energy sources. Although the SREP's design is formally aligned with Tanzania's Renewable Energy Investment Plan, it is not linked to the NCCS. Tanzania could consider (a) how these types of operations would best link to implementation of the NCCS and ZCCS and (b) how to mobilize additional investment for the NCCS and ZCCS priorities.

» *Climate finance.* As discussed in section 2, Tanzania already accesses climate finance resources from a range of sources, but there is a disconnect between the need for action on adaptation versus the targeting of most finance for mitigation (focused on a few energy infrastructure and forestry projects). Although ongoing efforts are certainly important, there is a clear need for more resources to strengthen climate resilience in Tanzania's major investment programs and the most climate-sensitive sectors and regions. Climate finance could provide an important source of additional funding. The NCCS points to a major role for development partners to support the strategy through finance: development partners can assist Tanzania both in identifying and accessing international resources, and Tanzania can guide development partners toward priorities that better support strategic priorities.

Several countries have opted for a dedicated climate finance mechanism to streamline climate action and funding. In all cases, development partners such as the Bank and DFID have played a key role in providing assistance to design and capitalize dedicated climate finance mechanisms, generally directly linked to support strategic climate change plans. For example, the DFID supported the planning, design, and capitalization of Rwanda's Environment and Climate Change Fund through nearly US$40 million in resources from the U.K. International Climate Facility, and a consortium of development partners and national entities pooled funds of over US$300 million in Bangladesh.

» *Ensuring climate change is mainstreamed in sector programs.* Climate aspects could be incorporated as part of ongoing sector-wide programs to promote adaptation or low-carbon growth. In Tanzania, basket fund arrangements exist for two of the key sectors of importance for adaptation—water and agriculture—with investments in policy, planning, research, capacity building, and infrastructure. Together, these two baskets total US$1.5 billion in investments[22] that are shaping the future development of these key climate-sensitive sectors that are top adaptation priorities in Tanzania. One possibility would be to build a climate window into these operations to fund resilience-related activities aligned with the sector priorities. Such arrangements are included within the NCCS as a potential financing mechanism, noting these could be an entry point for mainstreaming strategic climate change interventions, sector action plans, and activities with local governments, thereby improving resilience in a significant sector portfolio.

» *Budget support for policy and institutional reforms.* Establishing the institutional and policy foundation for comprehensive climate action is critical but can be time consuming and costly. Several countries have mobilized development policy lending (DPL) to support ongoing efforts to strengthen the legal and institutional framework for climate action. Mexico, with approximately US$3 billion of Bank support, implemented a series of policy lending programs

[22] US$200 million through the WSDP and US$225 in the pipeline through the Agriculture Sector Development Program.

**TABLE 5.1.** STAGES OF WORLD BANK CLIMATE CHANGE ENGAGEMENT IN MEXICO

| | Early Support (1999–2007) | Strengthening (2007–2009) | Consolidation (2010–forward) |
|---|---|---|---|
| **Financial Services** | • Renewable Energy for Agriculture Project<br>• Introduction to Climate-Friendly Measures in Transport<br>• Programmatic Environment DPLs I and II | • Mexico: Waste Management and Carbon Offset Project<br>• Climate Change DPL<br>• Environmental Sustainability DPL<br>• Sustainable Rural Development | • Adaptation to Climate Change Impacts in the Coastal Wetlands in the Gulf of Mexico<br>• Urban Transport Transformation Program<br>• Green Growth DPL<br>• Adaptation to Climate Change in the Water Sector Development Policy Loan<br>• Low-Carbon DPL<br>• Strengthening Social Resilience to Climate Change DPL<br>• Forest and Climate Change Investment Loan and Forest Investment Program<br>• Modernization of National Meteorological Service |
| **Knowledge Services** | • LAC Regional Landfill Gas Initiative<br>• Evaluation of Energy Efficiency Initiatives<br>• Economic Assessment of Policy Interventions in the Water Sector | • Carbon Finance Assistance Program for Mexico<br>• Low carbon study (MEDEC)<br>• Mass Urban Transport-Federal Program | • Social Impacts of Climate Change<br>• MoU Subnational Climate Change<br>• Othon P. Planco Sustainable Development Strategy<br>• Adaptation of the Water Sector to Climate Change<br>• Climate Change Public Expenditure Review<br>• Forest Carbon Partnership Facility |
| **Convening and Coordination** | • Consolidation and Strengthening of the Mexican Office for GHG Mitigation | • Preparation of the Clean Technology Fund Investment Plan | • Water sector events in the lead-up to COP16<br>• Energy efficiency conference<br>• High-level facilitation activities related to COP16<br>• Agriculture and forestry sector events during COP16 |

that built the foundation for climate action across key economic sectors and levels of government (see table 5.1).

Similarly, the first climate change development policy operation (DPO) in Sub-Saharan Africa supported Mozambique in the implementation of its climate change resilience program, with US$50 million. The DPO aimed to develop a firm foundation for long-term climate-resilient growth through supporting policy reforms to make long-term growth and development plans more resilient to climate change. The funds provide direct support to help the Mozambican government implement its NCCS across national, provincial, and local levels and encourage climate-resilient planning and development within the country's key economic sectors such as agriculture, energy, health, nutrition, and transport.

## TECHNICAL ASSISTANCE AND KNOWLEDGE SERVICES

As discussed earlier, effective climate change planning and targeted finance is grounded in understanding risk and vulnerability, the trade-offs of different development paths, and the costs and benefits of climate change interventions. Tanzania is making important decisions to direct its development trajectory through plans, initiatives,

and investments (for example, FYDP, Big Results Now!, and sector programs). Fully integrating climate change into these plans is a challenge, partly because the evidence base of the costs and benefits is limited. Technical assistance from the Bank, DFID, and other development partners active in climate change can support both the evidence base and build capacity to better mainstream climate change and deliver on strategic plans and programs through the following provisions:

- *In-depth analyses and policy advice.* Robust technical analyses and assessments are needed to inform key policy decisions, prioritize investments, and better understand tradeoffs for climate resilience and low-carbon growth. For example, the Bank and the Ministry of Energy and Minerals are currently undertaking a study on how climate change is likely to affect hydropower generation for all planned and existing dams in Tanzania. The study is expected to provide guidance on whether continued investment in hydropower is wise, given the impacts of climate change, but also to assess the relative importance and costs of climate change versus sound land and water management on hydropower generation.

  For the Tanzania Southern Agricultural Growth Corridor (SAGCOT) initiative, which aims to generate US$2.1 billion in private investment in agriculture, there is a promise of widespread adoption of climate-smart agriculture as a means to enhance productivity and sustainability. With the DFID and Norwegian support, a "Green Growth Investment Framework" was designed to set forth specific investments that could result in the planned SAGCOT sustainability vision. Additionally, with Bank and DFID support, the MAFC is developing a climate action plan for crop agriculture that outlines a detailed investment plan for achieving the agricultural objectives of the NCCS.
- *Cross-regional and South-South exchange.* There are significant learning opportunities from the experience of other countries that have adopted strategic climate change plans and financing mechanisms, including in East Africa (Kenya, Ethiopia, and Rwanda). In November 2011, an event supported by the Bank and DFID in Windhoek, Namibia, brought together climate change planning experts from Mexico, South Africa, Namibia, and Zambia to present their strategic plans and share experiences with Tanzania during the early stages of preparation of the NCCS and ZCCS.
- *Data platforms.* Technical assistance can also be provided to build and use tools for data management for use in climate change planning (see box 5.1). For example, these types of tools can target specific vulnerable areas or sectors. The Shire Basin in Malawi is particularly vulnerable to flooding and obtained support for an Integrated Flood Risk Management Plan. This initiative includes a modeling framework, flood forecasting and early warning systems, an action plan, and capacity development.

## **BOX 5.1.** POTENTIAL AREAS FOR CLIMATE CHANGE TECHNICAL ASSISTANCE

Based on global experience, Tanzania will benefit from considerable strengthening of current institutional arrangements and capacity to implement climate change plans, both of which are likely to require considerable additional resources and outside expertise. Although climate capacity and resources are increasing in Tanzania, notably through the UNDAP's "Mainstreaming Environment and Climate Change Adaptation in the Implementation of National Policies and Development Plans" project, these are significantly under-resourced compared to other countries with existing climate finance mechanisms. Importantly, in other countries, the financial resources to build this capacity have been largely provided by bilateral or multilateral agencies. For Tanzania to access similar levels of support would require stronger engagement by the government with local development partners. As current in-country capacity for mobilizing and managing climate finance is limited, scaling up action on climate resilience would likely require capacity building or technical assistance in the following areas:

- Strategy formulation
- Investment planning, programming, and mainstreaming
- Fund raising and investor/development partner relations
- Financial management
- Training and capacity building
- Marketing
- Monitoring and reporting
- Evaluation and appraisal

# CONVENING AND COORDINATION

As a cross-cutting issue that has an impact on nearly all aspects of society and development, climate change cannot be handled in isolation: it requires coordination across sectors, levels of government, and stakeholders, and strong partnerships are fundamental to implementing sustainable interventions. In many countries, the Bank works with a range of government institutions, development partners, and national and international stakeholders to leverage its convening power to build synergies and consensus that are critical to elevate climate change as a cross-cutting development issue.

- *Intergovernmental dialogue.* The impacts of climate change—and effective responses to it—transcend national, regional, and local boundaries, and there are benefits of international- and national-level dialogue. Multilateral institutions such as the Bank are particularly well placed to mobilize government coalitions, as has been done in the Sahel region to build resilient agriculture through boosting pastoralism and irrigation and climate-smart agriculture. Major summits with Sahelian countries have been held to discuss regional threats and opportunities for resilient agriculture to fight drought and build resilience. The Commonwealth Expert Group on Climate Finance is another example of LDCs and Small Island Developing States uniting and proposing specific measures for climate finance that are more effective for their needs (The Commonwealth 2013). An East African response to climate challenges could be powerful in setting priorities and mobilizing resources. In Tanzania, assistance could be requested to facilitate, for example, solutions to complex cross-sectoral issues such as water security.
- *Coordination among development partners.* The NCCS and ZCCS point to the key role of coordination with development partners for technical assistance and finance, and coordination between development partners is also key to effective support and to leverage resources. Development partners promote interagency coordination on climate change issues in Tanzania, and could do more, for example, with joint financing arrangements specifically on climate change.

  The DFID's Climate Change Institutional Strengthening Programme has provided joint technical assistance to Tanzania on climate change planning with the Bank and UNDP to support technical assistance for implementation of the NCCS and ZCCS specifically on climate finance, developing of inputs to the sector action plan for agriculture, and urban resilience. The SREP (US$50 million) is a coordinated investment project with involvement of the African Development Bank, the Bank, DFID, and IFC. The estimated US$400 million (Johannessen et al. 2014) in pipeline funding from development partners indicates the interest in financing resilience and a willingness to take coordinated efforts to support Tanzania's priorities.
- *Coordination with other stakeholders.* The NCCS and ZCCS recognize the key role of a wide range of stakeholders in implementing climate action, including the private sector, academia, local and international NGOs, CSOs, and academic institutions. Development partners can help to facilitate knowledge exchange between key stakeholders, coordination mechanisms, and capacity-building programs.

# CHAPTER SIX
# KEY MESSAGES FOR FINANCING RESILIENT GROWTH

Tanzania is recognizing the threat of climate change and taking important initial steps toward building resiliency into economic growth plans and investments. These include actions on strategic planning through development of climate change strategies as well as on the ground, with investment projects targeting adaptation and mitigation. However, these two elements have not yet been aligned, and important gaps exist in directing finance toward priority investments that address risks, having a strong evidence base for investments, and coordination across stakeholders who are instrumental for implementation.

Local development partners have been the source of the majority of climate funds resourced by Tanzania and can play an even greater role in supporting the development of a comprehensive climate policy, planning, and investment framework that can take the NCCS and ZCCS forward. These represent an opportunity to strategically mobilize investment financing and knowledge services and build strong partnerships so that climate resiliency is more effectively promoted to reach Tanzania's development objectives.

**Building upon the NCCS and ZCCS, which set forth general priority themes for climate action, Tanzania must put in place processes and financing structures that meet the considerable challenges of financing and implementation.** Strategic decisions must be taken to leverage and use scarce resources to convert plans into transformational action, learning from past challenges to deliver large-scale resilience results that will safeguard livelihoods, the economy, and the environment. This note recommends the following as Tanzania moves forward:

1. *Approach an NCF with realistic expectations.* Although Mainland Tanzania and Zanzibar are in the process of establishing dedicated climate change funds, expectations should be realistic, taking into account the costs of establishing and managing such funds, as well as the scope of expected funding sources. Experience shows that the time and resources needed to create new funds are high, and operational management costs can be substantial. If Tanzania does choose

to set up a dedicated climate fund (or funds), the objectives and expectations should be carefully and clearly defined. Attracting climate financing more broadly, however, will depend on the quality of programs developed to support climate action.

2. *Build resilience into sector programs for transformational impacts.* Rather than relying upon a single funding mechanism, mainstreaming climate change into existing sector programs is considered to be more likely to achieve large-scale, sustainable results. Most key vulnerable sectors and landscapes (see box ES.2) are already targeted for significant investment. Taking advantage of such opportunities, through mainstreaming climate change in, for example, basket funds for water and agriculture as well as select urban infrastructure operations could improve the climate resilience outcomes of US$2 billion in investments through the Bank's portfolio alone. Climate finance could be used strategically to incorporate resilience elements into planned infrastructure investments (for example, to promote green infrastructure that builds urban resilience) or to design new programs targeting specific gaps for vulnerable sectors or geographical areas.
3. *Empower action at the local level.* Tanzania can better ensure that technical assistance and finance reaches local governments. These governments lack discretionary spending for weather-related risks and need better capacity to plan and respond. Innovative instruments, such as district-level adaptation funds, show promising results from giving local governments the flexibility to quickly respond to climatic variability but also to finance resilience priorities that may differ from central government plans. Although to date this work has been limited to rural districts, there may be similar opportunities for urban areas.
4. *Diversify funding sources and verify results.* Although climate resilience financers are likely to continue to support their own priorities, Tanzania can and should realize that funds will not be sufficient to fully adapt to climate change and will need to be complemented by additional sources, including from NGOs and the private sector. Corporate social responsibility funding, for example, could support climate objectives, including perhaps leveraging significant ongoing natural gas investments to contribute to national, sector, or local climate priorities. Clearly, Tanzania's ability to attract climate finance at scale will be contingent upon demonstration of results. Toward that aim, a robust tracking system would be important to verify that climate finance and mainstreaming achieves results. Such a tracking system would enable measurement of the outcomes of strategic plans and finance levels and (if successful) could unlock additional finance, given the higher confidence that Tanzania can deliver on its priorities.

# REFERENCES


Agrawala, S., A. Moehner, A. Hemp, M. van Aalst, S. Hitz, J. Smith, H. Meena, S. M. Mwakifwamba, T. Hyera, and O.U. Mwaipopo. 2003. *Development and Climate Change in Tanzania: Focus on Kilimanjaro*. Organisation for Economic Co-operation and Development (OECD), Paris.

The Commonwealth. 2013. *Improving Access to Climate Finance for Small and Vulnerable States: A Report of the Commonwealth Expert Group on Climate Finance to the Commonwealth Heads of Government.* London, U.K.: Commonwealth Secretariat.

DFID. 2011. "Climate Change Screening of Government Budget Support." Policy brief, 2011.

Enfors, E. I., and L. J. Gordon. 2007. "Analyzing Resilience in Dryland Agro-Ecosystems: A Case Study of the Makanya Catchment in Tanzania Over the Past 50 Years." *Land Degradation and Development* 18: 681–688.

GCAP (Global Climate Adaptation Partnership). 2011. "The Economics of Climate Change in the United Republic of Tanzania."

———. 2013. "Options for a Climate Finance Mechanism/Climate Fund in Tanzania."

GIZ and ODI. 2013. *Understanding Climate Finance Readiness Needs in Tanzania*. Bonn and Eschborn, Germany: Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

Global Commission on Climate and the Economy. 2014. "Better Growth, Better Climate: The New Climate Economy Report."

International Federation of Red Cross and Red Crescent Societies. 2012. *DREF Final Report: Tanzanian Floods.* http://reliefweb.int/report/united-republic-tanzania/tanzania-floods-dref-operation-n%C2%B0-mdrtz013-final-report.

International Union of Conservation Networks (IUCN), Water and Nature Initiative. 2011. "Pangani River Basin, Tanzania: Building Consensus on Water Allocation and Climate Change Adaptation."

IPCC. 2014. *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, United Kingdom, and New York, NY: Cambridge University Press.

Johannessen, L. M., J. Ligot, and K. Lukumbuzya. 2014. "Roadmap to Support the Implementation of the Tanzania National Climate Change Strategy and Zanzibar National Climate Change Strategy," March 2014 (draft).

Kebede, A. S., S. Brown, and R. J. Nicholls. "The Implications of Climate Change and Sea-Level Rise in Tanzania: The Coastal Zones." Report submitted to Global Climate Adaptation Partnership (GCAP), November 5, 2010.

Liwenga, E., L. Kwezi, and T. Afifi. 2012. "Rainfall, Food Security and Human Mobility: Case Study: Tanzania." CARE, United Nations University.

Manneh, B., P. Kiepe, M. Sie, M. Ndjiondjop, N. K. Drame, K. Traore, J. Rodenburg, E. A. Somado, L. Narteh, O. Youm, A. Diagne, and K. Futakuchi. 2007. "Exploiting Partnerships in Research and Development to Help African Rice Farmers Cope with Climate Variability." ICRISAT.

Matari, E. R., L. B. Chang'a, G. E. Chikojo, and T. Hyera. 2008. "Climate Change Scenario Development for Second National Communication—Tanzania." TMA Research Journal, Vol. 1, 40–54.

McSweeney, C., M. New, and G. Lizcano. 2010. *Tanzania—UNDP Climate Change Profiles*. Oxford: School of Geography and Environment, University of Oxford.

Melewas, J., and R. Allport. 2010. "Assessment of the Impact of the 2009 Drought on Pastoralist Livelihoods in Northern Tanzania, FAO."

Mugurusi, E., and R. Shemdoe. 2013. "Existing and On-Going Processes for Setting Up New Funds of Climate Finance Mechanism in Tanzania" (draft).

Munishi, P. K. T. 2009. "Analysis of Climate Change and Its Impacts on Productive Sectors, Particularly Agriculture in Tanzania." Report submitted to Ministry of Finance and Economic Affairs, December 2009.

Ndaki, P. M. 2014. "Climate Change Adaptation for Smallholder Farmers in Rural Communities: The Case of Mkomazi Sub Catchment, Tanzania." PhD Dissertation, University of Oldenburg, Germany.

ODI (Overseas Development Institute). 2013. "Tanzania National Climate Change Finance Analysis."

Revolutionary Government of Zanzibar. 2013. "Zanzibar Climate Change Strategy."

Rwanda Environmental Management Authority. 2011. "Guidelines to Mainstream Climate Change Adaptation and Mitigation in the Energy and Infrastructure Sector."

Seitz, J., and W. Nyangena. 2009. "Economic Impact of Climate Change in the East African Community (EAC)." Available at http://global21.eu/download/Economic_Impact_Climate_Change_EAC.pdf.

Sokoine University of Agriculture, Soil Water Management Research Group. 2010. "Economics of Climate Change for the Agriculture Sector in Tanzania."

UNDP (United Nations Development Programme). 2011. "Mainstreaming Environment and Climate Change Adaptation in the Implementation of National Policies and Development Plans." Project Document.

Universalia and DANIDA. 2009. "Institutional Assessment of the Division of Environment, 2009."

URT. 2007. *National Adaptation Programme of Action*.

URT Ministry of Finance. "MKUKUTA Annual Implementation Report, 2011/2012."

URT President's Office Planning Commission. 2011. "The Tanzania Five Year Development Plan 2011/2012–2015/16."

URT Vice President's Office: Division of Environment. 2012. *National Climate Change Strategy*.

Wade, S. 2011. "Comprehensive Climate Change Planning: Learning Week in Global Best Practice." Workshop proceedings.

Wambura, F., S. Tumbo, H. Ngongolo, P. Mlonganile, and C. Sangalugembe. 2014. "Tanzania CMIP5 Climate Change Projections," (draft.)

World Bank. 2008. *The Urban Transition in Tanzania: Building the Empirical Base for Policy Dialogue*. Washington, DC: The International Bank for Reconstruction and Development/The World Bank.

———. 2013. *Tanzania Agricultural Sector Risk Assessment*.

United Nations, Department of Economic and Social Affairs Population Division. 2012. "World Urbanization Prospects: The 2011 Revision." Presentation at the Center for Strategic and International Studies (CSIS).

Yanda, P. 2013. *Climate Change Policy and Institutional Review on Tanzania's Agricultural Sector.*

# APPENDIX A
# LESSONS LEARNED FROM GLOBAL CASE STUDIES

**This report has drawn from global case studies, including several countries that have set up dedicated climate change funds.** Countries that have already established arrangements for climate change finance, or are in the process of doing so, can provide useful lessons for the development of a similar framework in Tanzania (see table A.1). To investigate these issues, case study reviews were undertaken of climate finance arrangements in Rwanda, Ethiopia, Bangladesh, Indonesia, and the Philippines. Although this summary largely draws from these cases, it also considers lessons from additional case study work on international examples commissioned by the MoF in 2013, which to date is in draft form (Mugurusi et al. 2013), and comparative studies of climate finance readiness (GIZ and ODI 2013). It also benefits from a South-South learning exchange in climate change planning, held with Tanzanian decision makers and representatives in climate change planning from Mexico, Namibia, Zambia, and South Africa (Wade 2011).

**The international case studies draw from a diverse set of funding and institutional mechanisms, recognizing that country context (including strategic plans, governance, climate risk, and financing gaps) is central to designing mechanisms to deliver action on climate change.** The selected cases range from highly ambitious—as in the case of Bangladesh, which has two large-scale trust funds (US$264 million and US$125 million) with funds accessible by government and civil society—to more limited, including setting up a smaller sector-focused climate trust fund as a component of a larger subset of climate finance modalities as in the case of the ICCTF (US$8.5 million for land, energy, and adaptation). This section first summarizes key lessons on the enabling environment for planning and financing climate change priorities and then discusses experiences in financial arrangements for climate change in the case study countries. Lessons from case studies are then applied to the Tanzanian context in the chapter that follows, to develop key considerations in the design of a financing framework for climate change.

## LESSONS ON THE ENABLING ENVIRONMENT FOR IMPLEMENTING CLIMATE ACTION

**Countries with advanced institutional arrangements on climate change and which have made most progress on financing climate change activities are those with a high-level champion.** Examples include presidential support in Rwanda and prime ministerial support in Ethiopia. Both countries have developed high-level vision statements to mainstream climate change into economic growth and development policies, that is, for developing a climate-resilient, low-carbon/green economy. In the Philippines, the Climate Change Commission is attached to the Office of the President, and the Board of the dedicated fund (the PSF) has high-level support that helps ensure implementation is top national priority.

**Case studies show that high-level support is also critical to overcome potential barriers and deliver a climate finance structure in an effective and timely manner.** In the case of Bangladesh, climate finance is embedded in the legal framework, with a Climate Change Trust Fund Act (2009) mandating that US$100 million per year for three years be allocated from the national budget to a climate trust fund. The Philippines case shows the importance of ensuring buy-in and participation across government, including ministries of finance and economic planning, endorsements which were key to the record timing of passage of the Peoples Survival Fund Act along the actual uptake of the PSF into policy and planning. It should be noted that countries such as Bangladesh, the Philippines, Kenya, and Ethiopia with high risk of natural disasters and food security issues

## TABLE A.1. DEDICATED CLIMATE FUNDS CASE STUDIES

| | Rwanda* | Indonesia* | Bangladesh* | Philippines* | Maldives | Brazil | Ethiopia |
|---|---|---|---|---|---|---|---|
| Name | Rwanda Environment and Climate Change Fund (FONERWA) | Indonesia Climate Change Trust Fund (ICCTF) | - Bangladesh Climate Change Trust Fund (BCCTF)<br>- Bangladesh Climate Change Resilience Fund (BCCRF) | PSF | Maldives Climate Change Trust Fund | Brazil National Fund on Climate Change | Climate Resilient Green Economy Facility (CRGE-F) |
| Capitalization | GBP 22.5 million received in June 2013<br>Bilateral and multilateral grant finance, government budget, private grants | US$8.5 million<br>Bilateral and multilateral grant finance (development partners include the DFID, AusAid, and Swedish International Development Authority - forthcoming) | BCCTF: US$264 million<br>BCCRF: US$125 million<br>Bilateral and multilateral grant finance, government budget (development partners include United Kingdom, Denmark, EU, Sweden) | US$24.6 million (forthcoming)<br>Bilateral and multilateral grant contributions, endowments, bequests; government budget | US$17.3 million<br>Bilateral and Multilateral grant (development partners include the EU and AusAid) | US$177 million (available loans); US$15 million (available grants)<br>Special tax on profit made in the oil production chain + public, private, and international development partners | Not yet capitalized<br>Likely to be bilateral and multilateral grant finance, government budget |
| Financial Instruments | Grants (near to medium term), Loans/ guarantees (future considerations) to public (90%) and private (10%) sector | Grants, loans, and investments to public agencies | Grants to public agencies and civil society | Grants to local communities/ organizations | Grants to public agencies | Grants and loans | Under discussion, but mixture including results based |

**TABLE A.1.** DEDICATED CLIMATE FUNDS CASE STUDIES *(Continued)*

| | Rwanda* | Indonesia* | Bangladesh* | Philippines* | Maldives | Brazil | Ethiopia |
|---|---|---|---|---|---|---|---|
| Governance | Steering Committee, Technical Committee, Secretariat | Steering Committee, Technical Committee, Secretariat | Governing Council, Management Committee, Secretariat | PSF Board Climate Change Commission (Secretariat and Technical advisory role) | World Bank administered | Steering Committee | Ministerial Steering Committee, Technical Committee |
| Lead Ministry | Ministry of Environment and Natural Resources (MINIRENA) | Ministry of National Development Planning | Ministry of Environment and Forests | PSF Board is under the Climate Change Commission under the Office of the President | . | Ministry of Environment | Environmental Protection Agency with support from prime minister's office |
| Focus Areas | Adaptation, mitigation, and environment related projects and policy mainstreaming | Energy and efficiency windows, sustainable forestry and peat land management, resilience | Supporting vulnerable communities in adapting to greater climate uncertainty - detailed in project activities of national climate strategy | Windows being formulated; emphasis on supporting community resilience across sectors | Adaptation and low-carbon development | Mitigation and adaptation projects and to support studies (energy, agriculture, desertification, education, REDD++ projects) | Green growth and adaptation; Strategic (sector reduction mechanism) and reactive windows. |
| Interim Trustee | 2-Year Fund Management Team supported by the DFID | UNDP | World Bank | | World Bank | Brazil National Bank for Social and Economic Development | Under discussion |

*Indicates countries that underwent a more in-depth case study.

have tended to focus climate funds on these issues to offset costly relief for extreme events.

**Institutional frameworks for implementing and financing climate strategies include a broad range of responsibilities across government, aligned with existing responsibilities and capacity.** In nearly all cases, there is a specific climate change unit or committee tasked with implementation that involves a wide range of stakeholders and maintains a coordination role. Ethiopia and Rwanda have put in place new or enhanced institutional structures to help deliver their climate change strategy and to provide the governance architecture around financial management, delivery, and evaluation. This usually involves extensive capacity building and increases in resources, with external teams (Rwanda) or a new facility (Ethiopia). For example, in Rwanda, the FONERWA Secretariat is housed in the Rwanda Environment and Management Authority (REMA) and overseen by the MINIRENA. The governance arrangements comprise a Fund Managing Committee, Technical Committee, and Secretariat. The governance structure allows the government of Rwanda (GoR), contributing development partners, the private sector, and civil society oversight of projects/programs to ensure maximum transparency and accountability. Planning, coordination, and budgetary oversight of the fund is ensured by the Ministry of Finance and Economic Planning (MINECOFIN) along with other relevant ministries that are part of the governance structure.

Ethiopia has established a CRGE-F. The facility is governed by the CRGE Ministerial Steering Committee, chaired by the prime minister's office, which determines the CRGE-F priorities. The Ministry of Finance and Economic Development (MoFED) is the supreme body of the facility and responsible for overall administration and operations, providing financial integrity and management, procurement, appraisal of financial viability, and M&E. The Facility Secretariat is a unit seated within the MoFED, supporting the Management Committee in close coordination with the Environmental Protection Authority (EPA) and the CRGE Technical Committee. The EPA chairs the technical committee, appraises project proposals and investment plans, will establish a registry and undertake Monitoring, Reporting and Verification, and leads the CRGE unit.

It is highlighted that in both cases, the process of building up the necessary capacity and processes to become "finance ready" took several years. Furthermore, in both cases, significant external financial support and technical assistance (staff or management teams) were provided from local development partners to help build these enhanced institutional structures.

**Close involvement and inclusion of stakeholders is key to the design of a funding mechanism but also an asset in establishing credibility with potential funding sources.** During the design process of financing frameworks, close stakeholder engagement was shown to be key, including among line sector ministries, planning agencies, local government, and NSAs. The review of those countries that had successfully set up finance mechanisms also showed that the most common source of capitalization in the short to medium term were contributions from development partners (bilateral or multilateral), and this was facilitated through involving those partners in the fund design process to increase the likelihood of eventual capitalization.

Rwanda provides a strong example of stakeholder involvement during the design of the FONERWA. The majority of the core fund design team was based in Kigali, Rwanda, full time or for extended periods to maximize interaction with stakeholders. This continuous, on-the-ground team presence enabled an efficient and effective design process and helped improve awareness and ongoing participation. Stakeholder engagement required frequent interaction of a core cadre, including the Director General of the REMA, the Director General of Budgeting of the MINECOFIN, and the Climate Change focal point of the DFID-Rwanda office.

In addition, numerous individual meetings were held with relevant stakeholders ranging from development partners, government authorities, and ministries to the Rwanda Revenue Authority, Rwanda Development Bank, and Rwanda Development Board, among others. The buy-in and participation of the MINECOFIN and other banking and finance stakeholders was important for informing proposed financing scenarios that included GoR contributions, as well as financing instruments targeting private sector beneficiaries over the short, medium, and long

term. Stakeholder workshops were also a key opportunity for engagement, including three primary workshops: Inception, Validation, and Final Design. To help maximize participation, the design team worked with the GoR to schedule events as part of existing sector meetings, which are well-attended. This included meetings of the Environment and Climate Change Subsector, co-chaired by the REMA and DFID.

**Capacity requirements are large, and institutional capacity can take several years to develop** in going from early design of a financing framework through to operation. Capacity building also requires considerable resources, usually provided through external assistance. The financial resources to build this capacity have largely been provided by bilateral or multilateral agencies in other countries, demonstrating the importance of dialogue with local development partners. A phased approach can be a sensible way to implement financing instruments and building capacity takes time, normally over a three to five year time horizon (from initial design through to operation).

In 2009, the government of Bangladesh (GoB) launched the Bangladesh Climate Change Strategy and Action Plan (BCCSAP), a 10-year program (2009–2018). To operationalize this strategy and in light of the uncertain nature of international adaptation finance from multilateral and bilateral sources, the GoB established the BCCTF under the Climate Change Trust Fund Act. The BCCSAP recognizes capacity building as one of the six key pillars of the strategy, which in turn form the BCCTF's thematic areas, to strengthen government ministries to meet climate challenges. In Rwanda, operationalization of the FONERWA is being led by an external management contract with the Centre for International Development and Training. The fund management project is taking place over two years, between 2012 and 2014, and involves an externally contracted (and financed) local Fund Management Team, based in the environment agency and supported by a team of local and international experts. Capacity building of future Rwandan fund managers is a critical part of the Fund Management Team's role. The transfer of fund management stage, constituting the last six months of the project, will be preceded by significant training and job shadowing.

## HOW COUNTRIES HAVE FINANCED CLIMATE ACTION

**Clear design principles and objectives are required, setting out the purpose and objectives of finance mechanisms in relation to climate and other growth strategies.** The objectives of a financing framework underpin the design of finance mechanisms and can link directly to national climate strategies or national growth strategies. In Indonesia, for example, the objectives of the ICCTF are to operationalize national emission reductions and adaptation commitments including mainstreaming climate issues into national, provincial, and local development planning. The mandate is to support the development and implementation of Indonesia's National Local Action Plan for GHG Emissions Reductions and the upcoming National Action Plan for Climate Change Adaptation.

Rwanda's FONERWA was created by law in 2005 and yet did not gain momentum until development of the Green Growth and Climate Resilience Strategy later in 2010/11. Operationalization of the FONERWA was recommended as an immediate step to help finance the implementation of the strategy's projects and programs. This recommendation was subsequently taken up by the government and development partners, as the FONERWA Law was resubmitted for parliamentary approval, and the DFID sponsored the 2012 Fund design phase. The initial design was subsequently operationalized through a management phase, again funded by the DFID.

The PSF is more specifically geared to support efforts at the local level to help incentivize local communities to actively engage in project formulation in partnership with CSOs. One benefit of the local-level orientation of project development is increased accountability of planning and development officers in local government units to adopt development plans that account for climate change.

**Designing a flexible strategy and funding model will increase the likelihood of sustainable financing.** Project-based financing offers guaranteed funds but little flexibility for financial support to evolving development issues, whereas the most flexibility is provided through budget support, with the trade-off of difficulties in ensuring effectiveness. NCFs can be an improvement

over project-specific support as they can lead to reduced transactions costs, increased government oversight, and the ability to pool funds from several sources and enable easier tracking of funds. Sector support grants can be a suitable mechanism to mainstream climate change into sector operations and policies.

Some countries with dedicated climate funds are seeking to deploy a range of instruments, including grant finance, concessional finance, guarantee instruments, and insurance schemes. The use of non-grant instruments can be used both to maximize the efficacy of available funds (that is, to make a mechanism revolving) as well as to mobilize additional investment into vulnerable sectors and geographies. They may also encourage outcomes and thus enable M&E. The modality is decided by the fund design rather than the capitalizing development partner (GCAP 2013).

**NCFs have limitations that can lead to capitalization issues and parallel structures.** Since 2008, the government of Indonesia has created a number of climate-related institutions and agencies and financing modalities, including the ICCTF; the Climate Change Council (chaired by the President); the REDD+ Agency; and the Indonesian Green Investment Fund (under the Centre for Public Investment at the MoF). There is a clear overlap of the dedicated climate change fund's mandate with those of other institutions and initiatives, which has resulted in confusion among the development partner community and other potential investors, as well as lower levels of support and capitalization from funding sources.

**The use of demand-driven mechanisms, where agencies and stakeholders can bid competitively for funds, can drive programming quality and delivery among state ministries and NSAs.** Rwanda is using this type of structure instead of supply-driven funding and also structured a mechanism strategically around the types of emerging external climate finance as well as the country's climate change priorities on, for example, natural resource management and renewable energy, which have specific thematic windows. The PSF is another example where a demand-driven proposal process allows for the expressed needs of communities to be met based on adaptation and mitigation solutions identified in partnership with vulnerable communities. The PSF Act mandates that project proposals should include local community participation in project conceptualization and implementation, which helps ensure local ownership, awareness and empowerment, in turn promoting greater ownership of climate issues in local government.

**Choice of on- or off-budget funding modalities has implications for access to different funding sources and beneficiaries.** Many finance mechanisms create some form of structural separation between "strategic" on-budget funds and "reactive" off-budget funds. This allows parallel institutional structures as part of a climate finance framework. On-budget funds allow for the effective mainstreaming of climate action within national planning processes, while off-budget funds provide a different access modality for groups that are often excluded by central government—for example, local or NSAs. Off-budget funds also increase the potential finance streams by allowing direct development partner funding, recognizing that some organizations cannot easily fund central government budget directly. It is also possible to have a mix of on- and off-budget arrangements: Rwanda's FONERWA provides access for civil society and the private sector in addition to the government (through a separate funding application), while Ethiopia's proposed CRGE has strategic (on-budget) and reactive (off-budget) windows, with the latter introduced following discussion with local multilateral and bilateral development partners on funding modalities and constraints. This then allows funding from key organizations such as the Bank, which would find it difficult to fund a direct on-budget process without additional controls.

**Domestic funding contributions can be secured through legal mandates.** Most funding mechanisms include some contribution from the country's own budget. Guarantees from the national government, of either a flat amount such as a US$100 million per year (over three years) as in Bangladesh, or a stream of revenues from other activities such as Environmental Impact Assessment in Rwanda, provide a strong level of national commitment and ownership. For the PSF, contributions of domestic public revenues from the government are a central feature of fund capitalization mandated by the People's Survival Fund Act.

Accordingly, 1 billion pesos (about US$24.6 million) will be appropriated under the General Appropriations Act as an opening balance of the PSF. There is also a guaranteed 15 percent match of contributions to the ICCTF.

**Thematic climate finance can reflect and emphasize national climate change priorities in the allocation of finance, but stakeholders should be involved in determining the themes.** Most dedicated climate change funds include support for climate change priorities through specific funding windows. In Bangladesh, for example, the BCCTF under the Climate Change Trust Fund Act features six thematic areas, which match the six thematic areas of the BCCSAP. Project funding proposals are submitted based on those thematic areas, which include comprehensive disaster management; infrastructure; research and knowledge management; mitigation and low carbon development (renewable energy, forestation, and waste management); and capacity building and institutional strengthening. Indonesia's climate change fund has three priority financing windows: a land-based mitigation window; an energy window (focusing on promoting energy conservation and efficiency, as well as low-carbon energy technologies); and an adaptation and resilience window (focusing on resilience through dissemination of climate information, adaptation strategies, policies, technology, and knowledge).

Rwanda's climate change fund for implementation of their strategy, FONERWA, has a framework where thematic financing windows and entry points directly link to the core attributions and functions of the fund (as stipulated in the FONERWA Law). These were identified during stakeholder consultations. A large number of possible thematic financing windows and associated entry points were possible. The project considered a number of these, which were discussed with stakeholders. These include themes that more strongly align with emerging climate finance, themes that are sectoral in nature, and themes that are broadly crosscutting.

One of the key objectives of having thematic financing windows is to manage the structure and categorize the key government priorities in relation to environment and climate change objectives. As an example, this was particularly important for FONERWA in Rwanda as this is demand-based rather than supply-oriented and based on a pipeline of preselected projects. In addition, as an overarching framework, the windows facilitate capitalization based on actual financing gaps and expenditure (including earmarking of funds) identified from a budget gap analysis carried out by the design team. This was selected over other more mainstream approaches of generic themes such as adaptation, mitigation, and environment, which are highly crosscutting and overlapping in the Rwandan context. These criteria were critical in tackling the challenge of creating an overall fund design that considers a wide range of recommended interventions but also focuses on priority needs.

**Establishing trust through effective reporting and fiduciary management is key to ensuring that a fund is sustainable and will continue to attract finance over time.** One of the objectives of climate funds and other mechanisms is often to improve fiduciary management of climate change finance. This is embedded in most funds, but the mechanisms to ensure sound financial management vary. For example, the BCCRF uses Bank technical assistance to ensure sound fiduciary management. The other main financing source in Bangladesh, the BCCTF, was established specifically to address issues of fiduciary risk as transfers of pledged amounts could previously not be made directly to the government from development partners such as the United Kingdom. As a result, the BCCRF evolved into a multidonor trust fund with the Bank serving as an interim trustee (five years) before handing over management to the GoB. Key roles of the Bank include performance of due diligence such as fiduciary management, transparency, and accountability as well as ensuring principles of economy, efficiency, and effectiveness. A key function of the Board of the PSF, which includes government and representatives from academia, the scientific community, business sector, and NGOs, is promulgating policies that will maintain the fiduciary character of the Board.

# APPENDIX B
# GUIDANCE ON CHOOSING FUNDING MODALITIES

**There are many options that Tanzania might choose to structure its finance for delivering the NCCS and ZCCS.** As discussed earlier, most attention has been placed on setting up a single dedicated fund as the country's vehicle for climate finance, but other instruments are possible, each having its own objectives and design considerations. One starting point is understanding the basic functionality and types of objectives for on- and off-budget climate finance, as outlined in box B.1.

**Options for managing climate finance are not mutually exclusive—in fact, depending on Tanzania's objectives for climate finance, more than one instrument will likely be necessary.** By taking a more comprehensive view of the options, Tanzania has an opportunity to design, at an early stage, a strategic framework that has flexibility to increase the level of finance from diverse sources and to enhance coordination mechanisms between financing modalities that would help track and monitor funds. This section outlines in greater detail examples of different funding modalities that could be relevant for consideration in Tanzania. The following section outlines six potential instruments that Tanzania could utilize and offers considerations for each.

Table B.1 outlines these instruments and basic opportunities and constraints.

## DEDICATED NCF

**The Tanzania NCCS and FYDP propose that an NCF be established.** This follows a similar proposal to other national strategies in several other countries. Dedicated climate funds have the potential to increase climate finance flows, and they create a single institutional framework that helps streamline the processes for approving and managing funds. In Tanzania, an NCF could include windows for existing climate finance (such as REDD+) and could be designed to link to supporting the framework outlined in the NCCS where sectors and local governments are largely responsible for implementing the strategy. The design of an NCF would need to consider the level of ambition (for example, small-scale project-based grants up to large programmatic funding), how the fund would be structured, who could access funds, fund management, M&E systems, and set capitalization targets. A fund would need to develop the necessary institutional capacity based on the level of ambition and carefully phase its implementation as capacity is built. Phasing could, for example, link to the preparation of sector action plans, which could take several years.

**If an NCF is desired, the design should consider the objectives of such a fund.** For example, is it intended solely for fundraising? Is it intended as a tool to pilot new approaches, as a safe space to challenge conventional thinking and practices, which could subsequently be mainstreamed into sector ministries? (See box B.2.) It is simply a coordination device to help track donor and other international climate finance. As one component of an overall climate finance framework, an NCF could further help to better align climate change planning to national development priorities and help to resolve the fragmentation and institutional bottlenecks in the current climate change framework. It could provide a unified focal point where the government, development partners, civil society, and other stakeholders can engage on climate change issues and make decisions and serve as a mechanism for managing partnerships and clearly defining and coordinating the roles of various climate change stakeholders. Further, an NCF could take advantage of initial support for capitalization through UNDP's UNDAP climate change mainstreaming project through the MoF and VPO-DoE.

**Although a dedicated climate change fund could have a significant impact, there are serious limitations that need to be evaluated.** Because Tanzania does not have a climate change policy or climate change act, there is currently no legal basis for a climate fund, so the Environmental Management Act would likely need

## BOX B.1. OPTIONS: ON- AND OFF-BUDGET FINANCE

**On-budget finance**

These are finance flows that would be on-budget and support Tanzania's priorities as set out in the NCCS. Such funds might be used to build capacity within a financing framework but would primarily be used to finance climate investment plans and capacity within the sectors or geographies identified by the NCCS (including sector action plans and local development plans, for example). Finance might be provided as a form of General Climate Budget Support, with government making the allocation decision between sector priorities or as Sector Budget Climate Support, with funds tied to sector strategies such as REDD, water, agriculture, or energy. Programming and delivery would primarily be the responsibility of the government but with robust transparency and reporting mechanisms to meet the accountability requirements of financing organizations.

**Off-budget finance**

These are finance flows that would be deployed on a demand-driven basis. There are two main issues to note. First, such funds might still be accessible by national institutions, but can also focus on nongovernmental stakeholders such as CSOs. Such funds would be more project-focused, and beneficiaries might include local communities, CSOs, the private sector, and subnational government. These approaches are better where governments might have limited capacity to engage with NSAs. The use of competitive bidding and external agents to publicize and manage such funds is common. Such approaches have also tended to use an external trustee when established. Second, these reactive structures allow key bilateral or multilateral agencies to directly fund specific project or program areas. This is a particular issue because some organizations (for example, United States Agency for International Development [USAID] and the Bank) may not be able to contribute to a dedicated climate fund as part of an on-budget strategic program. For climate funds, this has been the case in other existing fund discussions (for example, in Ethiopia) and has led to a reactive or off-budget window that is set up parallel to the on-budget finance.

to be amended, or a new law proposed. This, along with the design period of a fund, will take time. The design is particularly critical as leadership needs to define priorities and ensure strong and transparent mechanisms are in place. A robust analysis and dialogue with capitalization sources, outlined in the previous section, would need to be done throughout the process.

### TANZANIA NATIONAL ETF

**There is currently an ongoing process of establishing a national ETF in Tanzania, led by the VPO-DoE.** The ETF is included under Section 213.41 of Tanzania's EMA (2004), which stipulates that it would be managed under a Board of Trustees. Although the chairman of the Board has been appointed by the president, the minister has yet to appoint members of the Board and the fund is not capitalized or operational. As described in the EMA, the objectives of the trust fund are related to facilitating research on environmental management, capacity building, and environmental grant awards (including publications, scholarships, community environmental programs, and meeting costs for the Board and national environmental committee). Climate change is not an area stipulated for ETF support.

**To date the details of the ETF are not known, and stakeholders such as the MoF and potential funders such as development partners have not been meaningfully involved in the design.** Therefore, linkages between this fund and a potential funding mechanism for climate finance are difficult to assess. Despite the lack of clarity around the scope and management of the ETF, some initial considerations can be drawn.

First, there is a need to clarify the overall framework and mandate between different funds, for example, to decide whether there should be a separate NCF and whether a climate fund and ETF could be linked in some form to simplify arrangements. The presence of several independent trust funds with similar or overlapping mandates could cause confusion both within the Tanzanian government and with potential funders and could actually result in lower overall levels of finance, such as happened in Indonesia. However, it is unlikely that the ETF alone would have the capacity to be an adequate mechanism for climate finance in Tanzania, given the significant resources that are necessary for measurable impacts.

**It is highlighted that the need for climate finance—especially toward 2020—is likely to extend far beyond the mandate of the ETF.** A question must be asked whether a dedicated climate change

## TABLE B.1. OPPORTUNITIES AND CONSTRAINTS OF POTENTIAL FINANCE INSTRUMENTS

| Potential Instrument | Opportunities | Constraints |
|---|---|---|
| **NCF** | • Recommended by the FYDP and NCCS<br>• Possible inclusion of thematic windows for sector priorities<br>• Raise profile of climate change in Tanzania and serve as coordination mechanism<br>• More appropriate for project-based finance | • Not all donors can capitalize<br>• No policy backing<br>• High-level leadership needed |
| **Tanzania National ETF** | • Already established but not yet operational<br>• Legal basis in Environmental Management Act<br>• Could have climate change window<br>• More appropriate for project-based finance | • Not all donors can capitalize<br>• Climate change activities may be compromised at expense of other environmental activities<br>• Existing structure may not be suitable for climate finance<br>• Unclear how funds could flow to sector action plans |
| **Sector programs and basket funds** | • Uses existing country systems and structures to address climate risks<br>• More appropriate for mainstreaming in sectors through direct support<br>• Generates awareness within sectors<br>• Leverages existing funding sources to climate proof investments<br>• Mechanism for sector action plans to influence sector operations<br>• Direct access by sectors to climate finance<br>• Takes advantages of donors programs already supporting sectors | • Institutional capacity for climate change at sector/local level is low; strong capacity building across government necessary<br>• Would require strong coordination to monitor and track results |
| **Thematic funding windows** | • Support sector mainstreaming and potentially sector climate action plans<br>• Could be used to encourage finance for thematic priorities, certain stakeholders, or practices (for example, innovation) | • Reliance could maintain current fragmented nature of climate finance<br>• Challenge to determine overall results of climate finance if spread across many sectors through different funds or windows |
| **Policy-based instruments** | • Could be used to develop policy framework for climate change at national or sector levels<br>• General budget support for mainstreaming climate change<br>• Generally significant resources | • General budget support more difficult to track |
| **Budget tracking mechanism** | • Assists in monitoring, coordinating, and tracking on-budget finance<br>• Could contribute to monitoring if finance targets are reached for both on- and off-budget finance<br>• Aids in transparency and accountability of fund use | • Could take time to establish<br>• No current institutional role for custodian of climate finance information |

fund or the ETF would more effectively channel finance to an extremely broad number of thematic areas (for example, deforestation, agriculture, energy, and water). In the medium term, for example, toward 2020, the financing flows could be substantial, possibly similar to current ODA flows, requiring a high degree of fiduciary management, M&E, and so on, that would need to align with the MoF's capabilities. Harmonizing climate finance across the government will require strong coordination between the VPO-DoE, MoF, development partners, and other

## **BOX B.2.** OPTIONS: HOW AMBITIOUS COULD A FUND BE?

Based on the assessment of existing flows over the next few years, a lower and upper estimation of the potential for capitalization of a dedicated climate change fund over a five-year period has been made based on external finance only (without commitment of domestic resources). At the lower end, a capitalization target of US$10 million is identified, which would be a largely project-driven and institutional development and capacity initiative and would not justify significant institutional reform or expansion. At the upper end, a possible target would be US$50–70 million. This presupposes a similar level of finance to that currently identified and recognizes that up to 50 percent of flows might continue outside the government mechanism, while others are already mainstreamed in official development assistance (ODA) and budget flows. A higher capitalization target would need to be accompanied by significant institutional development and the establishment of a dedicated climate unit.

It is highlighted that the level of ambition (that is, the desired funding level) will need to align with the institutional and financial structure, in that it is very unlikely that high levels of capitalization will be achieved if the institutional framework remains largely business-as-usual.

It might be expected that a finance mechanism would disburse or program 25–30 percent of its capitalization per year. Under a high capitalization scenario, this would equate to between US$15–25 million per year. This would allow the fund to align with longer-term sector planning processes and provide an opportunity to engage in ongoing fund-raising activity to ensure that the fund does not get depleted and that it can operate on a sustainable basis.

Although it may be relatively quick to establish a basket fund under the national climate strategy, the process of fund-raising, sector-led programming and establishing credible governance and reporting mechanisms will take longer (with or without a dedicated climate fund). Drawing upon the experience of other countries, at least 1.5–3 years could be reasonably expected to fully operationalize a climate finance framework and capitalize a dedicated fund if one is established. Establishing, promoting, and managing external windows for subnational government, civil society, and the private sector will also require significant lead times. Depending on the level of ambition adopted by Tanzania, implementation could be done in a phased manner to ensure that the institutional infrastructure reflects the level of operation and capitalization at any given time.

stakeholders. Although a small, project-based portfolio of climate projects could be managed within a thematic window of an environment fund (as some other countries have done), those countries who wish to scale up to access climate finance flows and more sector investment planning arrangements have built dedicated climate funds and architecture firmly based around country systems for public financial management (for example, Ethiopia).

### MAINSTREAMING CLIMATE CHANGE IN EXISTING SECTOR PROGRAMS AND BASKET FUNDS

**The NCCS is committed to mainstreaming climate change within sectors through sector-specific action plans and includes mainstreaming climate change through existing basket funds and a probable mechanism for climate finance.** There is recognition that the sectors will be responsible for programming and delivery, with any climate fund institution (for example, the VPO-DoE) providing a supporting role on coordination, capacity building, and reporting. Discussions with government stakeholders also indicate recognition of the need to improve capacity in the design and delivery of sector action plans.

**There are some concerns among both development partners and sectors that there is insufficient institutional capacity to deliver on scaled-up climate finance.** This particularly relates to fund-raising, programming, monitoring, and reporting. Attracting and retaining high-quality staff is also a key consideration. Discussions with line ministries indicate that the process of coordination of climate change programming and finance could be significantly improved. A fund mechanism needs to ensure that opportunities for "gate-keeping" and monopolizing climate funds by departments and individuals are avoided, especially in the decentralized structure outlined in the NCCS.

**Where possible, the climate finance framework should seek to leverage existing institutional infrastructure and programming capacity rather than replicate parallel project delivery architecture.** Where robust institutional, programmatic, and financing arrangements exist within a sector (for example,

the Water Sector Development Programme [WSDP] water basket fund), ways to partner or cooperate with such mechanisms should be explored. For example, the DFID intends to pilot payment by results for the provision of rural water points by local government and districts through the WSDP (supported by five donors in coordination with Tanzania). Although such activities are not necessarily climate change specific, an NCF could be used to attract funds from international climate finance donors who would then finance climate-relevant water and sanitation activities through the WSDP and alongside the basket fund, making use of its innovative structures and M&E frameworks. The climate finance mechanism would become the overarching coordination mechanism through which these finance flows were coordinated, allocated, managed, and tracked. The delivery architecture would be embedded in existing institutional structures where possible. The Agriculture Sector Development Program could be another potential mechanism.

**Under a business-as-usual scenario and in the absence of a centralized climate finance mechanism, Tanzania could pursue a mainstreaming strategy whereby each of these sector mechanisms would be responsible for its own fund-raising and climate programming.** Each would continue to benefit from existing institutional support by the VPO-DoE. The risk in this scenario is that much of the institutional capacity and architecture required to access and manage climate finance flows would need to be replicated across a range of ministries. This would likely have significant impacts on the scope and effectiveness of the climate action agenda in Tanzania and potentially reduce opportunities to redirect funds to best performers or highest priorities areas.

## THEMATIC FUNDING WINDOWS

**One option common to many funding mechanisms is the use of thematic windows that set rules and boundaries for the use of finance accessed.** Such windows may act as a basis for allocation—or even competitive allocation—within government or among NSAs. The exact thematic windows vary across national funds (including basket funds and dedicated climate change funds), for example based on thematic or sector orientation. Discussions with stakeholders have identified the following potential thematic options within Tanzania, outlined in box B.3.

## POLICY-BASED INSTRUMENTS

**Alongside contributions to existing government funds or coordination mechanisms, consideration might also be given to addressing climate change issues directly through policy-based lending instruments,** such as Bank DPOs. For example, the Bank has approved the second in a series of three power and gas sector DPOs, which are supported by a US$21 million Energy Sector Capacity Building Project. Although this DPO does not include low-carbon development objectives, climate policy could be addressed in future lending operations where appropriate for both energy and other climate-sensitive sectors.

**The work of the existing sector funds and planning mechanisms would also have to be closely integrated.** These include such mechanisms as the WSDP Water Basket Fund, the Rural Energy Fund, and the Tanzania Agriculture and Food Security Investment Plan. In the absence of a centralized climate fund, these sector funds would provide the default entry point for donors seeking to mainstream climate action into government programs and processes or could complement an off-budget climate fund with on-budget finance for mainstreaming. However, under current structures, each sector would be responsible for mobilizing and mainstreaming climate finance and the process of capacity building would have to be replicated for each ministry.

## BUDGET TRACKING MECHANISMS

**Introducing a system to track climate finance could serve as a coordination mechanism and help monitor finance levels and results**. As described in section 2, because of the fragmented nature of climate projects in Tanzania, it is difficult to gain a complete picture of what is financed and the level of climate expenditure. The climate public expenditure review undertaken by the ODI and UDSM found that no tracking exists for climate-related expenditures, climate change is not explicitly addressed as a theme in the national budget process, and

## **BOX B.3.** OPTIONS: WHAT COULD THEMATIC WINDOWS SUPPORT?

**Provide capacity building and mainstreaming support**

A specific allocation could be made for building capacity within the climate finance mechanism itself and across the line ministries. Funds could be used for training, improvement of access to and understanding of climate information, and programmatic development at a sector level. It is clear that a great deal of time and investment will be needed to move from the NCCS toward costed, sector-level investment plans that are actionable from a finance perspective. This process is time-consuming and would require some level of consultancy support to assess and prioritize actions. Currently these plans are an unfunded mandate from the NCCS, and as such, there is a risk that climate-sensitive sectors may not have the capacity for their preparation and implementation.

**Support sector programs (for example, water, agriculture, forestry, and energy)**

A series of windows might be structured for each of the likely priority sectors. These might absorb or align with existing climate-relevant sector funds. Funds would be allocated by the finance mechanism on the basis of programming needs identified under the NCCS (for example, where there was a financing gap not supported by existing funds). Alternatively, each ministry might be invited to submit fully-costed program bids on a competitive basis where it is envisaged that sector resources are likely to prove inadequate. However, there were some comments at one stakeholder workshop[1] that such an approach might preclude effective planning in those areas where ministries actively cooperate, such as the agriculture-industry or agriculture-water sector nexus.

**Support mitigation or adaptation**

Thematic windows could reflect the broad climate change-related financing themes, as identified in the NCCS. The government might then allocate funds across the sectors based on the NCCS (for example, land use, energy, and transport for mitigation) or allow competitive bidding by the relevant ministries for funds based on program concepts. Both areas could be linked to potential national strategies such as Nationally Appropriate Mitigation Actions (NAMAs) and national adaptation plans to decide priorities and allocate funds. Not every sector would be guaranteed funding. REDD+/forestry could access mitigation funds but more likely would be established as a separate window of a dedicated fund given the specific and often ring-fenced nature of the funding.

**Promote innovation**

A window could be developed specifically to support the development, innovation, and transfer of mitigation and adaptation technologies to Tanzania.

**Target certain geographic areas**

A targeted geographic window could be used, which might take the form of an allocation for a specific set of administrative districts or might be defined by vulnerable geographies or agroecological zones (for example, coastal zones, islands, arid lands, and highlands).

**Allocate funds to Zanzibar**

Discussions with the government of Zanzibar suggest that the potential role for Zanzibar in a climate finance mechanism has not yet been discussed. There is an issue whether a dedicated fund would become a United Republic of Tanzania fund (thus including Zanzibar) or whether separate funds would be developed for Mainland and Zanzibar. If the former, there are important issues over the access and allocation of funds and whether access would be through a thematic window on a sector basis (for example, recognizing higher relative vulnerability for Zanzibar on coastal issues) or as part of a wider demand-driven process. The access and allocation is therefore affected by the design of a fund. Regardless of the instruments used (for example, NCF, ETF, or mainstreaming in sector programs), the issue of UNFCCC finance should be considered as these funds would flow through the Mainland government.

**Support CSOs**

A window might be developed explicitly for CSOs, potentially managed by an external manager along the lines of the recent climate change component under the DFID-financed Accountability in Tanzania program. Alternatively, a percentage of funds might be earmarked for CSO purposes, distributed by the government. Currently Tanzania does not actively use civil society as a significant delivery partner for climate change projects. At the same time, development partners are keen to support the role of CSOs in addressing climate change and improving national governance. At a participatory workshop (GCAP 2013), representatives from civil society indicated their interest in supporting the design and governance structure around climate finance mechanisms as well as in being able to access funds for delivery of national climate change priorities. Involvement of CSOs requires careful consideration of absorptive capacity, financial man-

[1] Workshop on climate finance held as part of the UNDAP program; see GCAP (2013).

**BOX B.3.** (*Continued*)

agement capacity, and fiduciary risk, all of which have been challenges in climate-related projects in Tanzania.[2]

**Incentivize investment by the private sector**

The private sector is featured in the NCCS implementation framework in a general sense for potential engagement both in public and private partnerships, and the NCCS encourages the private sector to participate in mitigation activities such as REDD+, CDM, and carbon markets. The NCCS also mentions the private sector as a potential contributor to a fund but does not have details on what this type of engagement would look like or how participation would be incentivized. It is possible that private sector companies might become both contributors (for example, large energy companies through EIA funds) as well as beneficiaries of such a fund though the NCCS does not list private sector actors as potential beneficiaries of a fund to, for example, incentivize innovation or offset the costs of mitigation. A thematic window could be used to support investment in low-carbon and resilience technologies, potentially through a managing agent. The role of the insurance sector in cooperating with the finance mechanism to provide risk products to potentially exposed private sector actors could also be explored.

[2] See, for example, the case of REDD+ pilot projects in Tanzania.

there is no coding of climate expenditures within the budget, so any analysis must be a manual process.

**Large volumes of unlabeled climate-related finance are already mainstreamed into sector budgets but are not currently captured as climate finance in reporting structures.** These may be financed either through national budget revenues or bilateral sector budget support (ODI 2013). In addition, there are development partner activities in climate-sensitive areas (for example, energy, agriculture, and water), which are currently not identified as climate finance but which are climate relevant and have climate co-benefits. With a single fund unlikely given the number of sectors involved in climate change implementation and the likely continuation of project-based support for some time, the ability to track climate spend could be valuable for project planning and defining funding gaps, prioritizing resource allocation, transparency, and evaluating results. For example, sectors such as agriculture and water have built management information systems which can track sector budgets. It could be possible to work within these existing systems to integrate climate change activities, but additional analysis would be needed to examine the feasibility and linkages with a national-level effort to track climate spend.

## MANAGING AND COORDINATING RESOURCES

### Public Financial Management

**Those countries that have robust public financial management systems, a track record of results delivery, and have created a credible climate finance architecture are likely to be the early beneficiaries of international climate finance.** It is clear that there are a range of potential options for financing climate change activities in Tanzania, but there is likely to be significant competition for international climate funds between beneficiary countries, particularly as the volume of development partner finance is likely to fall short of global commitments made to date. Current international public finance assessments, such as the Public Expenditure Finance Assessment undertaken in 2010, indicate that Tanzania will have to strengthen several areas of public financial management if it is to compete successfully for these funds.

**The Public Expenditure and Financial Accountability assessment indicates that Tanzania has a good record of overall budget performance and fiscal discipline and that legal aspects of public financial management have been well addressed in recent years.** However, a number of shortcomings have been identified, which are being addressed. Key concerns are the level of engagement of the legislature in the budget process, the quality of budget classifications, the lack of a realistic resource-supported medium-term sectoral analysis, wider goals without adequate financing possibilities, and the full integration of recurrent and development budgets. There is a need to improve the quality of budgeting and bring back credibility to the budget as a firm government financial and operational plan (ODI 2013).

**In Tanzania, it has been found that predictability and control of budget execution could be**

**improved.** The uncertainty in availability of funds for sectors is an example of the lack of predictability. Because of the persistence of modified cash rationing, sector requests for cash releases cannot always be met, resulting in difficulties in implementing their policies as planned. On the other side, the ineffectiveness of payroll controls and insufficiency of internal controls and audit in non-salary expenditures in the MDAs have also been identified as areas of concern. In general, accounting, recording, and reporting remain weak, undermining the management of services and the intended allocation of resources (GCAP 2013).

**In addition, the level of work required to access and program large climate funds should not be underestimated, with each source of finance mandating that recipients meet its processes and demands.** Each source will also have expectations around the structure of reporting and monitoring outputs and impact assessment and this would need to be incorporated alongside national M&E frameworks. Finally, should Tanzania be successful in mobilizing funds, the institutional frameworks supporting delivery would need to be scaled up to reflect the associated programming and reporting obligations.

## TRACKING CLIMATE SPEND

**A system to track climate finance and measure this against priorities could be a valuable coordination tool.** As mentioned earlier, there are specific coordination issues within Tanzania and between the Tanzanian government and sources of climate change finance. Despite the benefits of dedicated climate funds, the limitations are such that it is highly unlikely that a single fund would be able to coordinate all domestic, international, bilateral, and multilateral climate finance. Tracking funds through mechanisms such as a management information system, budget codes or markers, or similar tools that build on existing systems could allow decision makers and funders to have greater awareness of current resources and where they flow, identify funding gaps with strategic plans, and target resources more appropriately.

**Climate finance will require a high level of accountability and transparency.** Institutional arrangements for any selected financing instruments will need to ensure that both financial transparency and performance management are adequately addressed. The NCCS recognizes the need for effective monitoring and reporting systems to accompany climate finance flows, but these mechanisms do not yet exist.

**The NCCS sets out monitoring as a central part of the strategy to ensure that the NCCS and associated mobilized resources are implemented in an effective way.** Three levels are recognized: input (cost effectiveness); process (mainstreaming effectiveness); and output. If a climate finance mechanism were to use existing institutional and programmatic infrastructure for delivery purposes, care would need to be taken that existing sector reporting frameworks were aligned with development partner and multilateral donor expectations related to M&E. Most development partners and multilateral financing agencies operate at the level of outcome (which is further along the results chain from outputs).

**In addition, development partners indicate that they are moving increasingly toward results-based finance (RBF) models to support effectiveness and efficiency of ODA.** Under RBF models, disbursements are related to independently monitored outcomes. Such models are being trialed in the energy and water sectors, with the DFID supporting such instruments within the Tanzania Water Basket fund. A climate finance framework may consider this trend and seek to align indicators with RBF models where appropriate. In the low-carbon sector, the DFID are pioneering results-based finance in the small-scale energy sector together with the GIZ and Energising Development (EnDev). A number of proposals were solicited from Sub-Saharan Africa, including Tanzania, where it was proposed to pay distribution and service companies providing solar light and home systems to expand into underserved areas in the lake region. The RBF facility would subsidize the expansion of these companies into less profitable and poorer markets on a per-unit-sold basis.

**Having a strong system for coordination and tracking climate finance in place now could have benefits for future funding sources.** For example, there are ongoing discussions on how the GCF can provide enhanced direct access at scale (that is, for enhancing country ownership of projects and programs) and

how this could be achieved (such as through quantity performance payments or other approaches, noting the fund objectives of efficiency and effectiveness). Overall international pledges still fall far short of the 2020 goal of mobilizing US$100 billion in climate finance, of which the GCF is intended to be the centerpiece of long-term climate finance. Given the shortfall of resources yet substantial demand for climate finance, those countries with the most effective, efficient, robust, and transparent national structures and governance and with a good track record in programming, monitoring, and evaluating flows might be more competitive in accessing GCF resources.

# APPENDIX C
# CONSULTATION

This policy note was prepared as part of a multiyear engagement and policy dialogue on climate change planning and finance between the DFID and the Bank as a joint technical assistance program. As an iterative process, the note evolved with the changing landscape of climate change planning and finance in Tanzania in the initial stage of adoption of the NCCS and ZCCS.

The policy note was able to influence as well as draw from related studies and initiatives to plan and manage climate finance in Tanzania. Preparation of the note benefited from inputs, coordination, and collaboration with the following teams:

| |
|---|
| **Options for a Climate Finance Mechanism/Climate Fund in Tanzania** |
| Financed by the DFID (finalized July 2013) and undertaken by the GCAP. The team consisted of Paul Watkiss, Jillian Dyszynski, Gerard Hendriksen, Vikrom Mathur, and Matthew Savage. |
| **Tanzania National Climate Finance Analysis** |
| Financed by the DFID and undertaken by the ODI (finalized September 2013). The team included Pius Yanda, Deograsias Mushi, Abdallah Issa Henku, Faustin Maganga, Honesty Minde, Nico Malik, Adolphine Kateka, Neil Bird, and Helen Tilley. |
| **Roadmap to Support the Implementation of the Tanzania NCCS and ZCCS** |
| Financed by the DFID (finalized March 2014). The team included Lars Mikkel Johannessen, Jacquelin Ligot, and Kahana Lukumbuzya. |
| **The National Climate Finance Mechanism Technical Committee** |
| Established by the MoF after a presentation of the policy note's initial conclusions in February 2014. The multidisciplinary team, which met regularly with the objective of framing a climate financing framework, included Mr. Jimreeves Naftal, Mr. Abbas Kitogo, Ms Amy Faust, Mr. Stephen Mariki, Mr. Razack Lokina, Mr. Ladislaus Kyaruzi, Ms Faraja Ndulesi, Neema Mkwizu, Mr. Kanizio F. K. Manyika, Ms. Lilian Lukambuzi, and Mr. Waryoba Nyakuwa. |
| **Framework for a National Climate Change Financing Mechanism (NCFM) for Tanzania** |
| Financed by the UNDP (finalized December 2014). The team included John Dominic Balarin and Kahana Lukumbuzya and worked closely with the National Climate Finance Mechanism Technical Committee. |

The DFID/Bank team gained inputs, presented findings, and engaged with key decision makers and technical experts throughout the technical assistance period, including the following forums and meetings:

| | |
|---|---|
| **November 21, 2012** | Joint VPO-DPGE meeting on climate change and climate finance, jointly chaired by Inger Næss (DPGE chair) and Dr. Julius Ningu (Director of Environment). |
| **December 12–13 2012** | Initial scoping mission undertaken by GCAP, which included meetings with Mainland and Zanzibar Ministries of Finance, Department/Division of Environment, and development partners. |
| **February 11, 2013** | Coordination meeting for climate change and climate finance activities, including the MoF, VPO, UDSM/ODI, and development partners. Chaired by the DFID on behalf of the DPG-E Climate Change subgroup. |
| **March 11–15, 2013** | Second scoping mission undertaken by the GCAP, which included meetings with Mainland and Zanzibar Ministries of Finance, Department/Division of Environment, development partners, UDSM, Tanzania Meteorological Agency, MAFC, and several NGOs such as Oxfam and the Tanzania Forest Conservation Group.<br>On March 11, initial conclusions from the mission were presented to the DPG- E.<br>On March 14, initial conclusions on the climate finance case studies were presented at a workshop in Bagamoyo, which was attended by the MoF, VPO, and other MDAs. |

| | |
|---|---|
| **October 3, 2013** | Climate finance coordination meeting, chaired by the MoF and including the VPO, and development partners. |
| **February 17, 2014** | Coordination meeting and presentation between the VPO, MoF, and development partners (chaired by the MoF, DPS Pr. Adolph Mkenda and attended by Sazi Salula, Permanent Secretary of the Vice President's Office). |
| **March 2014** | Presentation of climate finance roadmap to the government and development partners |

Individuals who participated in the above meetings included the following:

| | |
|---|---|
| **VPO-DoE** | Sazi Salula, Permanent Secretary |
| | Dr. Julius Ningu, Director of Environment |
| | Richard Muyungi, Assistant Director of Environment |
| | Ladislaus Kyaruzi |
| | Stephen Mariki |
| | Esther Makwaia |
| | Magdalena Mtenga |
| **MoF** | Pr. Adolph Mkenda, Deputy Permanent Secretary |
| | John Mavura |
| | Jimreeves Naftal |
| | Emmanuel Tutuba |
| | Kiraiya J.S. |
| | Neema Mkwizu |
| | Bartholomew Lyamuya |
| | Telesphory Kamugisha |
| | Waryoba N. Nyakuwa |
| **Zanzibar** | *MoF:* PS Khamis Omar, |
| | *Zanzibar Planning Commission:* Amina Shaaban |
| | *First VPO-DoE:* Sheha Mjaja, Aboud Jumbe |
| **Other MDAs** | *MAFC:* Shakwaanande Natai, Caroline Kilembe, Mary Majule |
| | *Tanzania Meteorological Agency:* Augustin Kanemba |
| | *Prime Minister's Office - Disaster Management Department:* Fanuel Kalugendo |
| **UDSM** | Pius Yanda |
| | Abdallah Issa Henku |
| | Razack Lokina |
| **NGOs** | *Tanzania Forest Conservation Group:* Charles Meshack, Nike Doggart |
| | *Oxfam*: Marc Wegerif |
| | *Tanzania Organic Agriculture Movement:* Jordan Gama, Michael Farrely |
| **Development Partners** | *Royal Embassy of Norway*: Inger Naess, Berit Tvete |
| | *Embassy of Finland*: Mikko Leppanen |
| | *Embassy of France*: Philippe Boncour, Violaine Lepousez |
| | *GIZ*: Falk Negrazus |
| | *UNDP*: Abbas Kitogo, Gertrude Lyatuu, Rita Mutani, Mandisa Mashologu, Susanna Pykala, Amani Ngusaru |
| | *Canada Department of Foreign Affairs, Trade and Development*: Victoria Mushi |
| | *EU*: Maria Iarrera, Maria Chiara Femiano |
| | *SIDA*: Samer al Fayadh, Stephen Mwakifwamba |
| | *USAID*: Robert Layng, Mikala Lauridsen |
| | *DPG-E Secretariat:* Anna Caprile, Debbie Arnold |

ENVIRONMENT AND NATURAL RESOURCES GLOBAL PRACTICE POLICY NOTE

WORLD BANK GROUP REPORT NUMBER ACS11581

WORLD BANK GROUP

1818 H Street, NW
Washington, D.C. 20433 USA
Telephone: 202-473-1000
Internet: www.worldbank.org/environment
Twitter: @WBG_Environment