

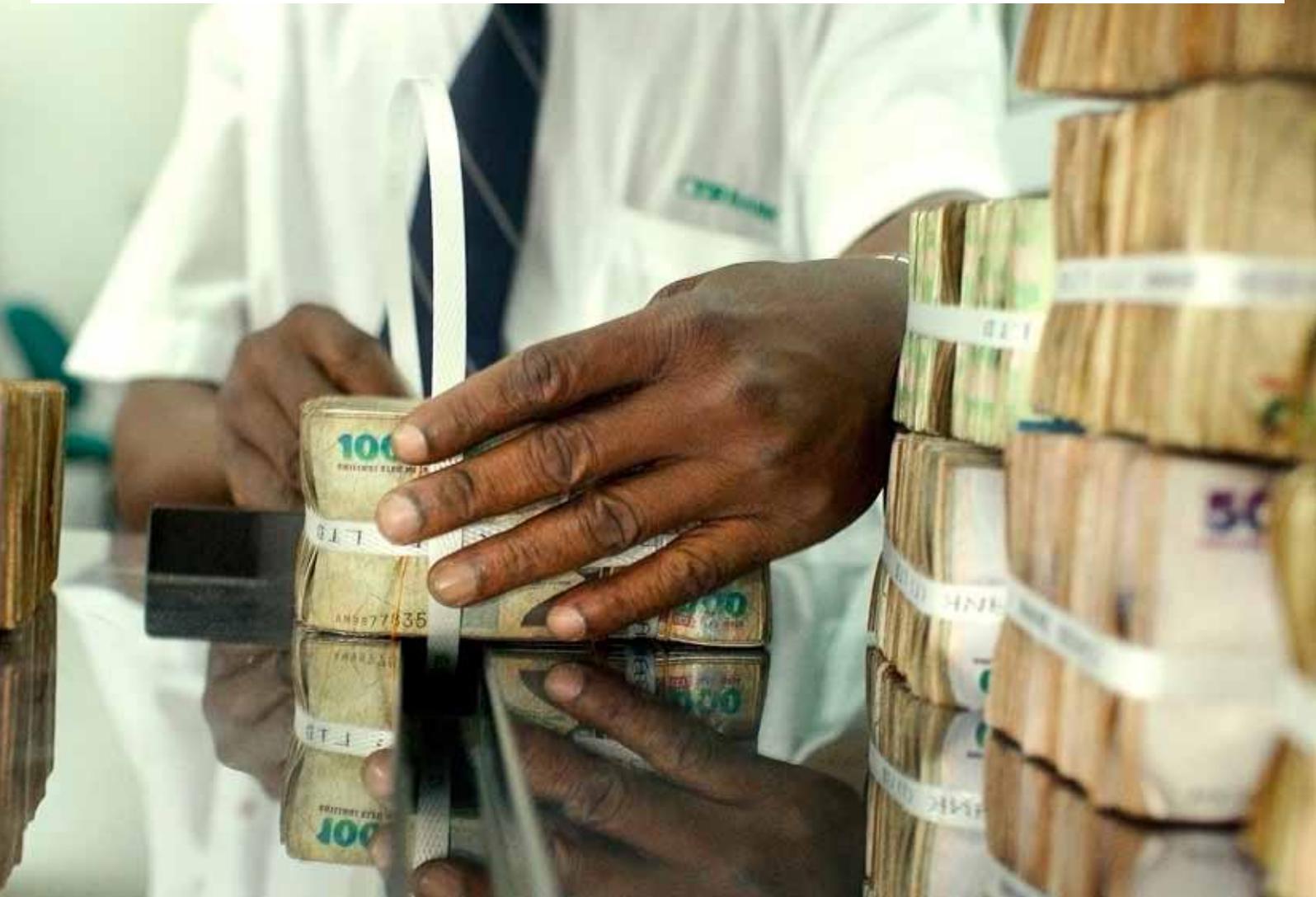
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Understanding Climate Finance Readiness Needs in Tanzania

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Executive Summary

The need to support national processes that enhance access, allocation and spending of climate finance in developing countries is increasingly being appreciated by the international community. The Green Climate Fund's (GCF) Governing Instrument envisages support for such climate finance readiness activities, and a number of bilateral and multilateral initiatives are being developed to provide resources to this end. The exploration of climate finance readiness needs in Tanzania is therefore timely.

Overview of findings: Tanzania

Tanzania has experienced strong economic growth over the last decade, partly due to increased government spending, and also through investments that aim to achieve the national vision of Tanzania becoming a middle-income country by 2025. However, despite this growth, Tanzania remains one of the largest aid recipients in Sub-Saharan Africa and poverty levels have stayed around 40% since the early 2000s. Limited growth has occurred in the agriculture sector, which remains a primary livelihood for the poor. This sector, and the livelihoods of many smallholding farmers, is vulnerable to changing climate conditions.

Significant climate change impacts are also expected on water supply, power generation, industry and infrastructure, which collectively may threaten Tanzania's future economic growth and development.

The government of Tanzania has increasingly invested efforts to understand how climate change may affect its economy, with this body of work led by the Vice President's Office. Various institutions for coordinating climate finance have also emerged, and the country is exploring new modalities for accessing climate finance.

A number of areas where further efforts could serve to strengthen Tanzania's climate change response have been identified through this study, informed by an in depth analysis of climate finance needs in the water sector. The following table summarises the report's findings under each of the core components of the analytical framework employed by the study (see section 2), namely Planning, Aptitude and Access. The first column sets out key messages, and the second potential climate finance readiness activities.

UNDERSTANDING CLIMATE FINANCE READINESS NEEDS IN TANZANIA

Overview of findings

	KEY MESSAGES	POTENTIAL CLIMATE FINANCE READINESS ACTIVITIES
PLANNING: strategies and institutions to support a response to climate change	<ul style="list-style-type: none"> Evidence of growing national level interest and initiatives responding to climate change include: the 2007 National Adaptation Programme of Action, the 2012 National Climate Change Strategy, and the 2013 National REDD+ Strategy and Action Plan. Despite being identified as a key risk for the levels of economic growth and development that Tanzania is aiming for, national planning processes, and the national Planning Commission, have yet to explore the financing of climate change actions in any detailed way. In the water sector, the national response to climate change faces coordination challenges as the organisational structure is based on river basins rather than the administrative divisions of local government. 	<ol style="list-style-type: none"> Analyse the climate change implications of national investment choices: Assessing the extent to which sector investment plans incorporate low-carbon, climate-resilient features would support efforts to coordinate a climate change response across key government ministries. Undertake a series of workshops and trainings for key staff in the Planning Commission, to reflect on the implications of climate change for proposed development strategies. This would help better integrate climate change into national planning, allowing the adoption of tools to consider climate change related risks and opportunities. Develop a climate change investment strategy for the water sector, given its centrality to efforts to enhance resilience in Tanzania: This could include a series of workshops for water sector actors to reflect on options and forthcoming investment choices in the water sector. Such an exercise would usefully guide future water regulatory and investment strategies, consistent with the overarching goals of the National Climate Change Strategy.
APTITUDE: for spending and implementation	<ul style="list-style-type: none"> While Tanzania has been effective in identifying many potential climate change activities through plans and strategies, these have not been prioritised and there are no clear mechanisms to fund activities. Limited capacity to enable the mainstreaming of climate change is reported across all stakeholders in Tanzania, both government and non-government. The National Climate Change Strategy emphasises the need to build capacities in research and in the public sector. The private sector has been nominally engaged in climate change activities in Tanzania through independent activities (such as in renewable energy and forestry activities), as well as through PPPs. Broad support for PPPs exists and has the potential to stimulate greater engagement in adaptation, such as in the water sector where private sector engagement is currently low. 	<ol style="list-style-type: none"> Develop detailed plans and costings for priority interventions drawn from the National Climate Change Strategy. There may be a case for exploring initiatives that could support a greater diversity of private, civil society and public sector collaboration in climate finance programming and project implementation. Strengthen capacity in climate change related project screening, appraisal and selection beyond the Planning Commission. This could provide a basis for prioritising the allocation of climate finance from various sources – both national and international (particularly the Green Climate Fund) – to a range of national climate change projects within different sectors. Support pilot projects implemented by different levels of government in conjunction with capable private sector actors to help demonstrate the benefits of – and the business case for – climate change action. This might include establishing an ‘incubation facility’ that would provide finance at various stages along the project development cycle from inception to implementation with separate windows for large and small scale projects to ensure that a diversity of levels and scales of intervention are supported.

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	KEY MESSAGES	POTENTIAL CLIMATE FINANCE READINESS ACTIVITIES
ACCESS: arrangements for sourcing and receiving finance	<ul style="list-style-type: none"> • Tanzania has accessed limited amount of climate finance from a number of bilateral and multilateral climate funds. Greater awareness about available funds and access modalities might unlock further climate finance. • Climate finance in Tanzania has been largely intermediated by UN Agencies. Plans are underway, however, to develop a national financial mechanism to cope with the increasing demand for climate finance. Options assessments are at their early stages and the operational procedures, governance, and allocation for such a fund has yet to be decided. • Reporting, monitoring and evaluation for climate finance has, thus far, relied on existing systems. These are largely ad-hoc and information has not reached the public domain. 	<ol style="list-style-type: none"> 7. Support the processes that have been put in place to explore options to operationalize a National Climate Fund in Tanzania. Other development partners have invested time and effort in supporting Tanzanian stakeholders to analyse different design options and their relevance in the Tanzanian context. 8. Develop a reporting, monitoring and evaluation protocol for assessing how investments in climate change related sectors by national actors are having an impact on climate change adaptation. This is particularly important in the water sector, where much of the impact of climate finance delivery would be felt at the sub-national level.

1. Introduction

The need to support processes that can enhance the capacity of developing countries to access, allocate and spend climate finance, and also to monitor and report on the impact of such action, has gained increasing currency in international efforts to deliver climate finance. The understanding of the diverse and context specific dimensions of such ‘readiness’ activities, however, is still evolving. At the international level, there is growing interest in supporting countries to help meet their needs and acquire capacities that will allow them to make effective use of climate finance. The Green Climate Fund (GCF), for example, is making provisions for financing readiness activities. In parallel, a number of bilateral and multilateral initiatives to help countries invest in meeting readiness needs so that they can make more effective use of a diversity of sources of finance to address climate change are emerging. In this context, it is timely and strategic to make early investments in the analysis of Tanzania’s circumstances and needs.

The Overseas Development Institute (ODI), the African Climate Finance Hub (ACFH) and the Centre for Climate Change Studies (CCCS) at the University of Dar es Salaam have therefore worked with Tanzanian stakeholders to develop an early analysis to this end. This initial study has been completed in collaboration with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH with the support of the German Federal Ministry for Economic Cooperation and Development (BMZ). The approach taken recognises that planning for climate change is no easy task, and programming and using climate finance well is a complex undertaking. We have taken a diagnos-

tic approach to understanding climate finance readiness needs, considering the systems and processes in place to plan for climate change, the aptitudes and capacities across key institutions, and the provisions to access and spend finance. We seek to understand the actions and supporting policies that would assist Tanzania in adapting to and mitigating climate change, and the role that finance can play in supporting such efforts. Studies using a similar approach have been conducted in Namibia and Zambia. Finally, a synthesis report for all countries has been conducted, with overall findings on readiness for climate finance.

Following this introduction, Section 2 outlines the framework under which Tanzania’s climate finance readiness is analysed. Section 3 then presents briefly Tanzania’s socio-economic and climate change context. Our findings are grounded in a detailed analysis of the water sector, summarised in box 1. In Section 4, the key considerations for climate finance readiness are explored starting with the planning processes that support climate and development-related policies; the existing governance, institutions and coordination of climate change activities; as well as the use of evidence and information for decision and policy making. A following sub-section looks into the aptitudes and know-how of diverse stakeholders, and explores the project pipeline for climate change activities. A final sub-section presents Tanzania’s access to, and spending of, international climate finance, as well as the monitoring and reporting process. Section 5 outlines a number of possible climate finance readiness needs and presents recommendations for supporting activities.

This report adopts the following structure:



2. A framework for climate finance readiness

This section outlines the general approach that this study has adopted as its methodological model, building on the earlier work in Zambia and Namibia. The present country case study differs slightly from the two previous country studies, in that it builds on the work that ODI and CCCS have begun to understand the policies, institutions, and expenditures that are relevant for making effective use of climate finance in Tanzania¹ (Yanda et al., 2013).

A number of officials in the Ministry of Water were interviewed during this study. Also, 26 individuals participated in a stakeholders' validation workshop held at the Vice President's Office in July 2013. These included members from across the Tanzanian government, particularly the Ministry of Finance, Planning Commission, Vice President's Office, Prime Minister's Office and representatives from the academic institutions (Appendix 2). A special session was also organized for Basin Water Officers on 20th August 2013, where the draft report was presented and comments received (Appendix 3).

This readiness study builds on the insights from this process, and complements it with a short study of the potential role of climate finance in the water sector. The team engaged with representatives of the Water Resources Division in the Ministry of Water through this process. Desk research and national data collection have been conducted by CCCS researchers, with support from ODI.

The readiness framework

A framework for the diagnosis of climate finance readiness was developed as a result of a technical expert meeting that explored the dimensions of 'readiness needs' for climate finance and the opportunities and limits of readiness initiatives from a conceptual perspective. This meeting was held in Cape Town, on the margins of the second United Nations Framework Convention on Climate Change (UNFCCC) workshop on Long-term Finance. Building on existing thinking on climate finance readiness, the discussions focussed on readiness as an on-going process of identifying needs and developing effective strategies to meet those needs, rather than necessarily executing all of the activities

that flow from that strategy. The outcome of the meeting was a basic framework to understand readiness that is¹:

- **Relative** – taking a country's socioeconomic and geopolitical characteristics into account;
- **Responsive** – to its particular needs, priorities, and challenges; and,
- **Reasonable** – in terms of having identified the key issues and challenges at hand, and proposing some practical steps that can be taken to address these considerations.

The core components of the climate finance readiness framework that were considered within the country case studies are represented in Figure 1, and were inclusive of:

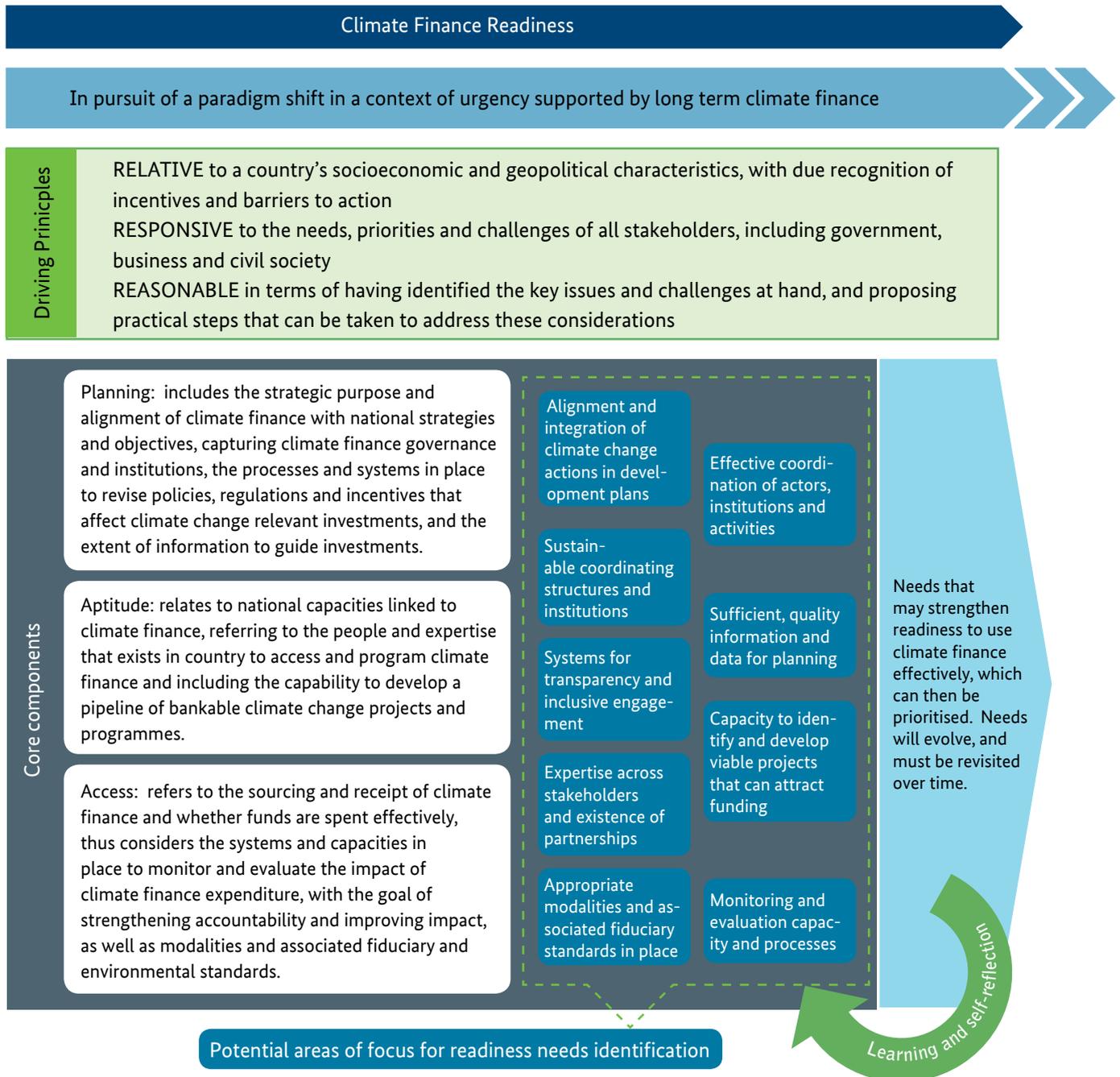
- i. **Planning:** strategic purpose, information and process (including to revise policies, regulations, and incentives that affect climate change relevant investment);
- ii. **Aptitude:** the expertise available and the capabilities of institutions; and,
- iii. **Access and spending:** sourcing, receiving, and spending funds wisely.

Planning for climate finance includes consideration of the strategic purpose of climate finance, which reflects a critical need to align climate finance with national strategies and objectives. It also captures climate finance governance and the appropriate institutions put in place within a country for a climate change response. In this context, we consider the processes and systems in place to revise policies, regulations and incentives that affect climate change relevant investments. Finally, we consider the extent to which key stakeholders have access to the necessary information to guide relevant investments to climate change, and integrate climate change into mainstream investment choices.

Aptitude relates to maximising existing national capacities concerning climate finance, and seeking to improve the quality of this capacity. It refers to the people and expertise, or the 'know-how' that exists in-country to access and program climate finance. It includes the capability to develop a pipeline of 'bankable' climate change projects and programmes.

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Figure 1. Overseas Development Institute – African Climate Finance Hub framework for diagnosing climate finance readiness



Access and spending refers to the sourcing of climate finance, as well as how a country receives and spends climate finance. To this end, it captures the systems and capacities in place to monitor and evaluate the impact of climate finance expenditure, with the goal of strengthening accountability and improving impact. The concept of access also considers the appropriate modalities and associated fiduciary and environmental standards, given the pursuit of direct access modalities for climate finance.

As indicated in Figure 1, climate finance readiness needs are likely to span across these stylised core components of readiness; also, progress in one area can be expected to contribute to another.

The climate finance readiness framework also acknowledges that any diagnostic must fully take into account political economy dimensions, must allow for learning and self-reflection, and must be inclusive of key stakeholders.

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Therefore, time was invested in including as wide a group of stakeholders as possible and in exploring the often complex political economy of the country in question.

The approach applied in Tanzania

The climate finance readiness approach was conducted in three phases (Figure 2). In the spirit of coordination and with the objective of avoiding redundancy, the first phase for the readiness analysis had as its starting point the preliminary results of the national level effectiveness research mentioned above, namely the National Climate Change Finance Analysis (NCCFA) of ODI and CCCS. The NCCFA was conducted to meet the following objectives (Yanda et al., 2013):

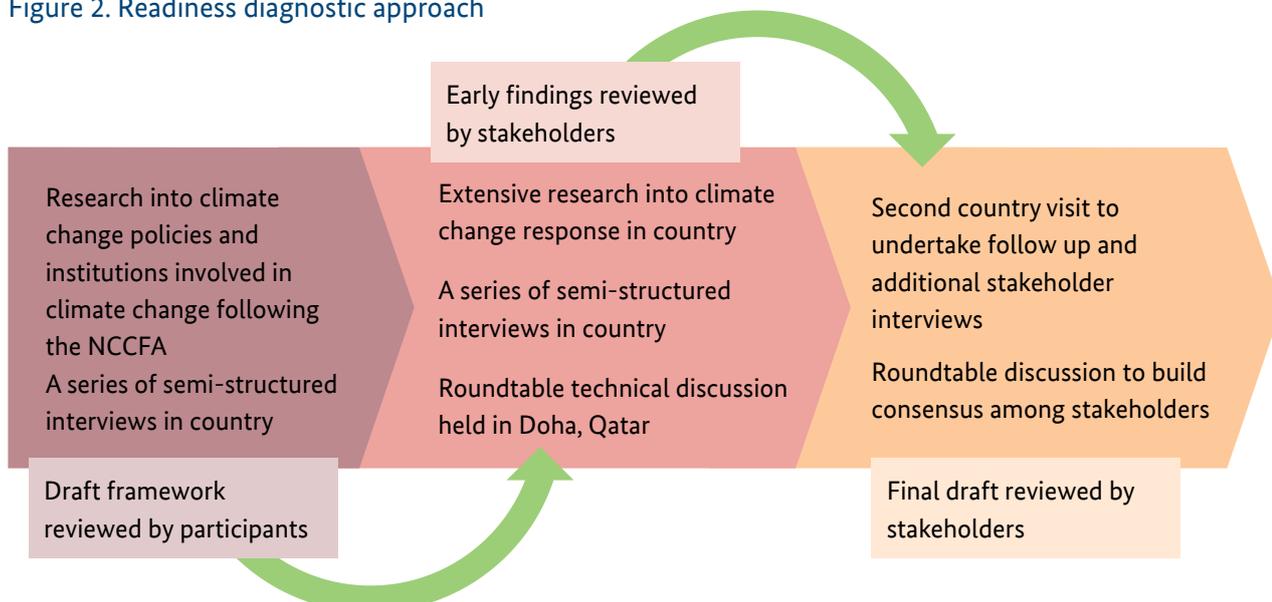
- to review public spending on activities related to climate change, and to assess the extent to which this expenditure responds to existing policy and institutional demands;
- to show how climate change-related expenditure passes through the country's budgetary systems in response to national policy setting;
- to map out a strategic financing framework for climate change that promotes a whole-of-government approach to climate change actions through the use of country systems; and
- to act as a key building block in developing a framework that identifies climate change actions, assesses the demand for climate funds as well as the availability of finance from domestic and international sources.

The second phase consisted of reviewing the NCCFA results under the ODI-ACFH Framework for diagnosing climate finance readiness. This review was complemented by a sector case study in order to ground our analysis in a more detailed appreciation of practical readiness needs. The water sector was taken as the illustrative case study, and the study team completed more in-depth research to map the relevant sector institutions; the sector policies, strategies and associated targets; existing and proposed projects; challenges and barriers to progress towards low-carbon and/or climate resilient development; and potential opportunities in the water sector and their synergies with climate change, and in particular the role of climate finance in supporting the water sector under a climate compatible development perspective. The outcome of this phase was a preliminary set of findings on readiness for climate finance in Tanzania.

The third phase consisted of a review of the results of the application of the ODI-ACFH readiness framework by local stakeholders in order to validate the preliminary findings. Throughout the process, iterative engagement with key national stakeholders was sought.

This report now synthesises the findings from work completed to-date in Tanzania.

Figure 2. Readiness diagnostic approach



3. Climate change in the Tanzanian context

The framework for understanding climate finance readiness underscores a tailored approach to understanding the readiness process in each country, therefore it is important to understand the macro-economic context together with the expected impacts of climate change.

Tanzania's national vision is to become a middle income country by 2025, improving from its current status as a Least Developed Country. Tanzania has experienced accelerated GDP growth from an average of 3.5% in the nineties, to 7% between 2000 and 2010 (World Bank, 2012). This growth has been dependent on increased government spending, with a public sector growing from 15% of GDP to 27% in the last 15 years (World Bank, 2012). Growth has also been driven by five rapidly expanding sectors: communications, financial services, construction, manufacturing and retail; and by the increase in domestic demand in these sectors due to population growth (World Bank, 2013). Agriculture, energy, mining and infrastructure still play a prominent role in the Tanzanian economy, however. Agriculture contributed about 24% of GDP in 2011, representing 31% of export earnings and employing about 75% of the total labour force (URT 2012). The critical role of the energy sector in powering the economy was demonstrated when power shortages, due to severe droughts, resulted in an economic slowdown in 2011 (World Bank, 2012). Investments in gold mining and infrastructure, particularly transport, are expected to grow.

In spite of recent growth, Tanzania remains one of the largest aid recipients in Sub-Saharan Africa, with around a third of government spending financed by foreign aid in the fiscal year 2010-2011. Furthermore, poverty levels in rural areas have remained at around 40% since 2001, affecting approximately 18.5 million people (World Bank, 2012). This mismatch is explained by a number of factors, but mainly because economic growth is taking place outside the agriculture sector which is a primary livelihood for the poor (Mashindano and Maro 2011). Inclusive and pro-poor growth in Tanzania will need to address agriculture, and increase its productivity. Agriculture in Tanzania is rain-fed and dominated by smallholder farmers, so the relationship

with water is important, particularly in the context of poverty reduction and climate change.

According to the 2012 National Climate Change Strategy, 70% of disasters in Tanzania are climate related, affecting mainly the agriculture, energy and business sectors, particularly through droughts and floods. Impacts in agriculture have resulted in losses in food production, livestock and wildlife; impacts in energy have affected energy supplies, as the energy mix includes significant hydropower, impacting all other productive sectors; and floods have resulted in the loss of human life, property and infrastructure. There are also changes in the distribution of ecosystems due to increasing temperatures.

Climate change projections show a wide variation of possible outcomes. Current projections indicate reductions in rainfall, river flows and groundwater systems that will have potentially large impacts and high economic costs for household water supply, irrigation, power generation, industry, and the functioning of existing water infrastructure and ecosystems services. Other potential changes include the intensity and severity of extreme events. For example, the costs from droughts are expected to be as high as 2% of GDP by 2030 and owing to rising sea level, a loss of 274 km² of land is forecast. These impacts will likely have the most adverse effects on the poor who are least capable to mitigate the risks. Ancillary stresses of pollution, salinization, sedimentation and over-extraction of groundwater will also exacerbate vulnerability to current and future climate risks.

Projected rapid population growth and climate change impacts, both spatially and temporally are likely to induce scarcity of water resources by 2015 (Noel, 2011). It is projected that a rise in the population to over 50 million by 2015 would tip the country's per capita water resources from 2,291m³ per capita to below 1,700 m³ (Noel, 2011; GIZ, 2012). By 2030 the population is expected to be around 75 million and by 2050 it is projected to reach over 100 million, further lowering per capita water resources (Watkiss, et al., 2011; GIZ, 2012). Projected figures on minimum and maximum tem-

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peratures, evapotranspiration and rainfall patterns during the next half century based on global scenarios show that, if not well planned, Tanzania risks declining water resources which will threaten its productive potential, the fight against poverty and the improvement of the socio-economic well-being of its people (Tadross & Wolski, 2010; GIZ, 2012).

Highly populated coastal zones face the risk of sea level rise, which could affect between 0.3 and 1.6 million people per year by 2030. The estimated impacts on health indicate a potential increase in malaria and other vector diseases with estimated increased costs of US\$ 20 - 100 million per year by 2030, affecting labour productivity. Watkiss et al. (2011), estimate that the cost of building adaptive capacity and enhancing resilience against future climate change in Tanzania is in the order of US\$ 100 to 150 million per year. In addition, a minimum of US\$ 500 million per year is estimated to be needed to address current climate risks. The authors further state that while uncertain, aggregate models indicate that the net economic costs of climate change could be equivalent to a further 1 to 2 % of GDP per year by 2030.

Agriculture and other climate-related sectors are crucial to promoting more equitable growth and therefore the impacts of climate change in such sectors will need to be addressed to secure sustainability. Climate change in Tanzania is therefore a development issue that needs to be taken into account in the country's development processes, particularly in the transition from a more rural and agricultural-dependent economy to a more urban and service-related one.

4. Key considerations for climate finance readiness in Tanzania

This section outlines the core components of the climate finance readiness framework presented in Section 2, as they relate to the context of climate change in Tanzania, outlined in Section 3. This section not only maps out Tanzania's progress towards planning, aptitude and access for climate finance, but also highlights where gaps may exist.

4.1. Planning

Planning for climate finance includes consideration of strategic purpose, governance and institutions, inclusive of the procedural issues to revise policies, regulations and incentives that affect climate change relevant investment, and acquisition of sufficient and relevant information. The core component of planning in the climate finance readiness framework reflects a critical need to align climate finance with national strategies and objectives. This requires coordination and inclusiveness across a wide range of actors and institutions. The extent to which a country can respond to a challenge like climate change can, therefore, be interpreted through an understanding of national planning processes. This section presents the policy commitments in place as well as the coordination and organisational structures in order to be able to implement such policies in Tanzania.

4.1.1 Strategic Purpose

Policies are guided both by domestic development priorities as well as by Tanzania's obligations to international and regional agreements. The policy formulation process in Tanzania is identical across all sectors of the economy. Policies are developed through participatory processes involving consultation with stakeholders at different levels. All draft policies are submitted to the Inter-Ministerial Technical Committee (IMTC), which is made up of all the Permanent Secretaries from Government Ministries. Once endorsed by the IMTC, draft policies are then presented to the Cabinet for approval and implementation.

International climate change commitments

Tanzania is a signatory to the United Nations Framework Convention on Climate Change (UNFCCC) and has participated in the annual Conferences of the Parties

(CoP). The outcomes of CoP meetings for Tanzania have been decisions to put in place national policies, strategies and programmes to reduce greenhouse gas emissions and respond to the impacts of climate change. The Government of Tanzania, led by the Vice President's Office (VPO), has produced an Initial National Communication in 2003; the National Adaptation Programme of Action (NAPA) in 2007; and the 2012 National Climate Change Strategy. The 2013 National REDD+ Strategy and Action Plan and other sector plans have also been prepared and the government has implemented various climate change-related programmes drawn from these strategies, using both national and international resources.

Tanzania has also ratified international conventions that have synergies with efforts to address climate change, such as the Convention on Biodiversity, the Convention to Combat Desertification; and has endorsed the Hyogo Framework for Action for reducing vulnerability to disasters. Tanzania is a country member of the Southern African Development Community (SADC), and has joined the African Union Regional Disaster Reduction Strategy. Participation in these regional institutions includes commitments to the sustainable utilisation of natural resources and protection of the environment and disasters.

National policy priorities and climate change

Tanzania's long-term development goal is set out in its National Vision 2025, launched in 1999 (URT, 1999). The Vision's main aim is to move Tanzania from a least developed to a middle income country by 2025 through sustainable development. At the time of its publication, climate change had not been identified as a major policy concern in Tanzania and so Vision 2025 does not articulate climate change as an overriding issue (Yanda et al., 2013). This emphasises the relatively short time during which climate change has attracted national policy attention. The overall policy environment on climate change is therefore relatively new and evolving. The main planning instrument is the recently approved National Strategy on Climate Change (published in late 2012), however, there is no overarching national policy

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or related legislation for climate change as yet, though it is understood that there are plans for its development (Yanda et al., 2013)².

The emphasis put on sustainable development in Tanzania in the late 1990s and early 2000s provided a platform that led to the first official policy statements on climate change in certain key sectors in 2003/4. The evolution of the inclusion of climate change in Tanzania's national policy and strategic planning can be seen in Table 1.

Climate change is now recognised as a challenge to national development in Tanzania in its five year development plan. The National Five Year Development Plan, 2011/12-2015/16 (FYDP I) is the first of three 5-year plans that will chart a growth path consistent with the realisation of the status of a semi-industrialised country. The inclusion of climate change as one of the underlying pre-requisites for an enabling environment to sustain macro-stability and growth is important for the financing of specific programmes. It reinforces the need for action and 'the formulation of necessary financing frameworks will be accorded top priority' (URT, 2011, p. 53). The FYDP I highlighted the need for specific measures, such as the development of a national climate change strategy as well as a financial framework to support strategic actions for both adaptation and mitigation through a mechanism to mobilise global climate finance (exploring the possibility of establishing a National Climate Fund). It also incorporated the costing of some of the core priorities, particularly around infrastructure for irrigation and water and sanitation, although such costing was not comprehensive across sectors.

Climate change policies and strategies

In 2007, Tanzania produced a National Adaptation Programme of Action (NAPA). Designed in recognition that climate change can undermine national efforts for improving livelihoods and the attainment of sustainable development, the NAPA identified immediate and urgent climate change adaptation actions that would lead to long-term sustainable adaptation to climate impacts (URT, 2007). The NAPA also contained an assessment of climate change vulnerabilities for different sectors, including forestry, health, human settlements, marine, agriculture, and fresh water resources, and ranked sectors in order of their priority for adaptation activities, resulting in agriculture and food security being given as the highest priority, followed by water and

energy. Furthermore, Tanzania's NAPA aimed to increase public awareness of climate change impacts and adaptation activities, addressing rural communities, civil society and government officials, as well as mainstreaming adaptation activities into national and sector development policies and strategies and development of goals, visions and objectives.

In 2012, Tanzania published its National Climate Change Strategy, developed in response to the growing concern over the negative impacts of climate change and climate variability on the country's social, economic and physical environment (URT, 2012). The overarching aim of the strategy is to identify measures that will address climate change that will provide a platform for sector strategies on climate change. A number of specific objectives are set to achieve the overall goal of the strategy, including the mobilisation of resources, particularly financial, to address climate change. How this objective will be met is not spelled out, however, although many national stakeholders assume that international funding will be a significant component. The strategy also recognises that special arrangements may be required to cope with the emerging complexity in accessing additional international financial support for addressing climate change. The nature of these special arrangements includes the proposal to establish a national climate change fund (see Section 4.3). Other measures suggested include the promotion of public and private partnerships (PPPs), the inclusion of climate change in Tanzania's Medium Term Expenditure Frameworks (MTEF), and the establishment of a special tax for mitigation activities (URT, 2012).

According to the greenhouse gas (GHG) inventory of 1990, land use and forestry is the major GHG emitting sector in Tanzania, representing 87% of the country's total emissions³ (URT, 2003). There is potential, therefore, for Tanzania to participate in international climate change mitigation efforts through forests, and in 2013 a National REDD+ Strategy and Action Plan was completed (URT, 2013). The National REDD+ Strategy presents a comprehensive strategy for climate change mitigation in the forest sector and proposes the establishment of robust baseline scenarios and MRV systems, along with governance and coordination systems embedded in the existing climate change structure, and suggests capacity building and social awareness in relation to forests (URT, 2013). Tanzania has attempted to address some of the drivers of deforestation, mainly due to agricultural expansion, overgrazing and charcoal produc-

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Table 1: Evolution of the inclusion of climate change as an issue in Tanzania’s national policy and strategic planning

Policy or Strategy	Year of publication	Inclusion of climate change?	Comments
National Land Policy	1997	No	Developed to secure a national land tenure system. Related to land and forest resources.
National Environmental Policy	1997	No	Provides a framework to bring environmental considerations into the mainstream of decision making across different sectors.
National Forestry Policy	1998	No	Developed to secure sustainable forest management, including joint forestry management (JFM) as a key strategy for forest conservation.
Rural Development Strategy	2002	No	Provides guidance for rural development and promotes the undertaking of Environmental Impact Assessment (EIA), as well as social and agro forestry.
National Water Policy	2002	No	Promotes the adoption of Integrated Water Resource Management in Tanzania
National Energy Policy	2003	Yes	Promotes a more efficient use of biomass resources for energy purposes, reducing CO2 emissions, through the reduction of deforestation and land degradation
Environmental Management Act	2004	Yes	Enabling instrument that provides a legal framework through which issues related to environmental management can be addressed in Tanzania. Requires coordination from diverse Ministries to deal with climate change issues.
National Water Sector Development Strategy	2006	Yes	Includes climate change as a risk to be included in disaster management, highlighting the need to have a better understanding of the impacts of climate change in water resources and management. However, water use permits were indexed to fixed water levels.
Water Sector Development Programme	2006	Yes	Adopted partly due to the recognition that long-term sustainability of water resources and water and sanitation services require comprehensive legal, regulatory and institutional frameworks.

Source: Adapted from Yanda et al., 2013

tion, and forest degradation, through the adoption of legal frameworks, including the promotion of Participatory Forest Management approaches. However, with only 12.8% (4.1 million ha) of Tanzania’s forests under participatory management, the National REDD+ Strategy recognises the need for innovative financing mechanisms⁴ such as REDD+ payments to support and accelerate processes to reverse degradation and deforestation. It also proposes the establishment of a national REDD+ fund (URT, 2013; p. 43).

Climate change data and availability

The National Hydro-meteorological System (NHMS) takes charge for collecting and interpreting climate change data. There is a lack of meteorological monitoring stations in the country, and where they exist they are often manually operated, with common equipment failure ‘resulting in poor quality and unreliable data for making management decisions related to climate change induced disaster risks’ (GEF, 2012: 8). Climate scenarios for Tanzania are therefore

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often a result of downscaling regional models, but given the limitations in the geographical and historic coverage of the observations, their results have ‘embedded uncertainties’ (Hepworth, 2010:22). Climate data analysis has been conducted mainly by international teams in Europe and North America (Hepworth, 2010), resulting in a shortage of capacity within the country. Tanzania is currently developing a project for the strengthening of the NHMS funded by the Least Developed Country Fund (LDCF), which will develop climate data analysis capacity in-country and will install new stations and give maintenance to the existing meteorological stations network in order to provide information that will enable decision makers respond to climate hazards and shocks. This will also provide the inputs needed to plan and implement some of the NAPA priorities related to managing climate change impacts in agriculture and food security, water management, health and the energy sectors (GEF, 2012).

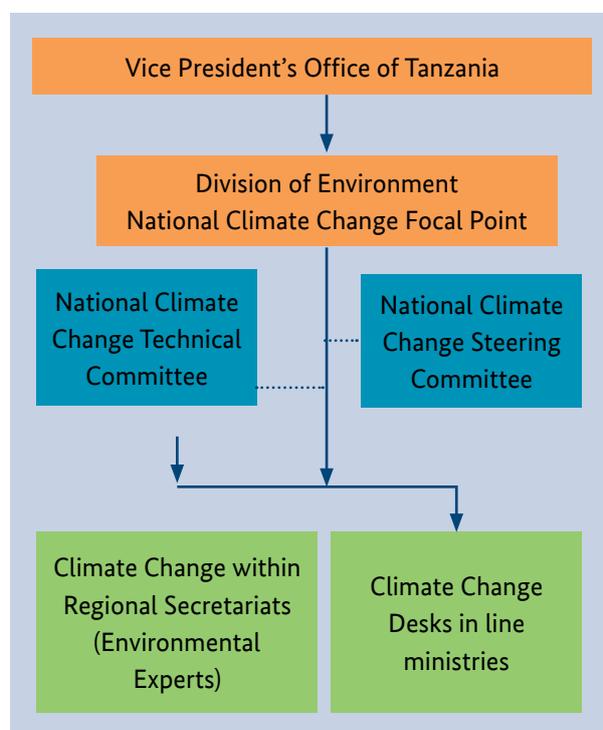
4.1.2 Governance, institutions and coordination of climate change activities

Key institutions

The Vice President’s Office (VPO), is the lead government agency for coordinating climate change related activities in Tanzania, as part as its overall environmental coordination duties (URT, 2004). In 2007, the functions of the Division of Environment (DoE) within the VPO⁵ were approved by the President, assigning the DoE as the National Climate Change Focal Point (NCCFP) and Designated National Authority (DNA) for the Clean Development Mechanism under the Kyoto Protocol. It is responsible for preparing national guidelines and other relevant documents on climate change, including the National Adaptation Plan (NAP) (Tikwa, 2013)⁶, which is being designed for medium and long-term needs and is expected to be completed in 2014 (with subsequent revisions every five years). The DoE will also be responsible for designing Nationally Appropriate Mitigation Actions (NAMAs)⁷ (van Tilburg, Roser, Hansel, Cameron, & Escalante, 2012) as well as leading the monitoring and evaluation of the National Climate Change Strategy, including ex-ante, mid-term and ex-post evaluations (URT, 2012). For a small unit of approximately five persons within the VPO this represents a substantial workload for the DoE.

The institutional arrangements of Tanzania’s Environmental Management Act (EMA) underpin the implementation of all public climate change initiatives. The Act designates the

Figure 3. Institutional arrangement for climate change management



Ministry responsible for the Environment, which is the VPO, and in particular the Division of Environment (DoE) as the institution responsible to lead on climate change measures (URT, 2012b). A diagrammatic representation of the institutional arrangements is illustrated in Figure 3. However, and in spite of the growing political interest on climate change issues in the country, the DoE’s recurrent budget allocation has remained low, resulting in a high dependency on its development budget, mainly supported by development partners, and focused on specific projects with relatively little funding for monitoring, data collection or Local Government Authority (LGA) support (Yanda et al., 2013).

The absence of the Planning Commission is notable in Tanzania’s institutional climate change architecture (Yanda et al., 2013). Established in 2008 as an agency for strategic thinking on the national economy and to provide advice to government on medium and long-term strategies for socio-economic development, the Planning Commission is mandated to monitor, analyse and provide advice on sector policies and socio-economic developmental issues. Given the cross-sectoral and developmental nature of climate change, one would expect to find it embedded in the insti-

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Box 1. The institutional challenges for integrating and financing climate change activities in the water sector

The Ministry of Water is in charge of the coordination of the water sector. It receives technical advice from the National Water Board on integrated planning, conflict management, investment priorities and financing patterns. Below the national level, water sector planning is based on water basins rather than administrative units, with the following four main levels of planning: water basin, catchment, sub-catchment and community or water user association. This results in diverse aspects of water management being held within different government departments and organisations. The multiple management levels for water resources entail high investment, operational and maintenance costs that cannot be totally recovered from water use charges revenues⁸ and therefore there is a high level of dependency on central government budgets (URT, 2011). The projected impacts of climate change are likely to increase these operational and maintenance costs and thus dependence on the central budget and/or lead to increases in water supply fees. Water resource degradation, increasing water demands and

competition over water use will likely create enormous challenges for the water sector in terms of water resources management and development.

After five years of implementation of the implementation of the Water Sector Development Programme (WSDP), many lessons have been learnt. In particular for planning purposes, it has been found that a move from project-based planning to outcome and results-based planning can provide an increased focus on performance. There are further needs to strengthen human resources and the monitoring capacity of the institutions involved in water resources management: adequate numbers of qualified personnel and requisite monitoring equipment are necessary. The present financing level of the water sector by the Government and Development Partners, however, is unlikely to meet future requirements under a changing climate. There is therefore an urgent need to identify innovative approaches to financing climate change activities in the water sector (URT, 2009).

tutional structure for addressing climate change; the lack of involvement of the Planning Commission may therefore impede the mainstreaming of climate change into national strategic plans.

Examining the structure of the Planning Commission itself, issues of climate change do not feature in its component clusters and their related sectors. It is responsible for addressing environmental issues more broadly, which might be assumed to include climate change specifically. However, the consideration of issues related to climate change as environmental concerns is an oversimplification, as it is now recognised that the challenges brought about by climate change are much larger than environmental concerns.

Hence, the reliance on an institutional architecture that was developed to address environmental issues may not be sufficient to integrate climate change issues in the plans, programs, projects and activities of all the relevant sectors of the economy.

At the sub-national level, the Prime Minister's Office-Regional Administration and Local Government (PMO-RALG) works in collaboration with sector ministries to implement

strategic interventions. At the sector level, the implementation of climate change action is the responsibility of the relevant Government Ministry, Department or Agency (MDA). MDAs and Local Government Authorities (LGAs) undertake actions according to their roles and responsibilities under the EMA and their related mandates. The MDAs are required to prepare sector specific action plans indicating targets to be achieved according to the National Climate Change Strategy. These plans include the time frame for implementing the interventions in the short, medium and long term as well as outcome indicators. Resource mobilisation, financial management and reporting is then undertaken following the government's financial management guidelines and systems established under the Ministry of Finance; they are supposed to be integrated in the Government budget through the Medium Term Expenditure Framework. To assist this process, each MDA has established a 'desk' to mainstream and address issues of climate change in their respective sectors. However, there is a question over the current capacity of the individuals manning the climate change desks in many MDAs. In some cases, their limited knowledge on climate change issues, compounded by the limited financial resources allocated to the desks, pose a major challenge to implementation (Yanda et al., 2013).

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Box 1 indicates some of the institutional challenges facing the water sector in integrating and financing climate change activities.

Coordination of climate change activities through the National Climate Change Steering Committee and the National Climate Change Technical Committee

Whilst the overall coordination, including endorsement and approval roles, of climate change actions is the responsibility of the NCCFP in the VPO, two national committees have been established to ensure coordination of the national response to climate change: the National Climate Change Steering Committee (NCCSC) and the National Climate Change Technical Committee (NCCTC). In the case of both Committees, coordination refers to making their respective members work efficiently together on policy and technical issues. The NCCSC is chaired by the Permanent Secretary in the VPO and is made up of the Permanent Secretaries from relevant sector ministries. This model evolved from the National Climate Change Committee that oversaw Tanzania's 2003 Initial National Communication under the UNFCCC. The NCCSC has the role of providing policy guidance to the NCCFP to ensure coordinated actions and participation within various sectors and institutions. The NCCTC, in contrast, is designed to provide technical advice to the NCCFP. It is chaired by the Director of Environment in the VPO and comprises Directors of the various Ministries of the NCCSC together with civil society representatives.

The NCCSC and the NCCTC are intended to be important forums to facilitate the implementation of cross-sector climate change interventions. Both committees have been established and are functioning. However, they do not meet on a regular basis, and suffer from a lack of a functioning secretariat beyond the NCCFP (Yanda et al., 2013). Both committees are active on an ad-hoc basis; meeting for the endorsement (Technical Committee) and approval (Steering Committee) of specific climate change plans such as the 2012 National Climate Change Strategy, 2013 National REDD+ Strategy or national Position Papers for submission to the UNFCCC, for example. There is a lack of transparency around the mandates of these committees as they are not in the public domain. Overall, their success in coordinating Tanzania's response to climate change remains unclear.

A lack of funding may have resulted in the low-profile of these committees to-date and more effective coordination

might be achieved with greater resources. However, the lack of knowledge of climate change impacts and financing options of those on the committees can hinder their effective operation. The NCCTC that is supposed to provide technical guidance on climate change related issues at the national level, for example, is composed of members who do not necessarily have the required expertise in climate change related matters. In addition, representatives on the technical committee from sector ministries all come from one directorate, which in most cases is not representative of the entire sector or in some cases has little relevance to climate change. As a result, environmental management units in various ministries are responsible for climate change by default even when climate change is not their area of expertise. The process of coordinating climate change actions across sectors and levels of government in Tanzania, therefore, remains a formidable challenge.

4.1.3 Information provision

The VPO is the designated office for environmental information management and communication in Tanzania and climate change information is collected from various sources. Tanzania's climate change plans and strategies have been underpinned by a number of studies. These include those related to the identification of options for mitigation and adaptation, vulnerability assessments for adaptation, technology need assessments, and preliminary studies for the National Communications for the UNFCCC. There have also been more recent studies, including on the economics of climate change (which included the cost of impacts in the coastal zone, agriculture, health, energy, water and forest, biodiversity and ecosystems). Furthermore, as part of the policy formulation process of Tanzania's climate change and REDD+ strategies, significant background analytical work was undertaken to generate evidence for policy development. However, the linkages between research and climate change national planning and decision making are unclear (Naess, Ikiara, Chinsinga, & Kulindwa, 2011). This may well link back to the limited engagement of the Planning Commission in Tanzania's climate change response, as noted above.

The 2012 National Climate Change Strategy considered research as one of the key cross-cutting issues for addressing climate change in Tanzania. It called for more coordinated research on impacts, sustainable measures and responses and technology development (URT, 2012). While coordina-

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tion is expected to be led by the NCCFP in the Division of Environment (DoE) under the VPO, it is not clear which institutions should lead the research effort. Such capacity may exist in local research institutions, such as the Centre for Energy, Environment, Science and Technology (CEEST) that coordinated Tanzania's Initial National Communication to the UNFCCC with the VPO and the Tanzania Meteorological Agency, as well as the recently created Centre for Climate Change Studies at the University of Dar es Salaam. To-date, many studies have been donor supported, including: 'Technological and other options for GHG mitigation', funded by GIZ; 'Assessment of vulnerability and adaptation to Climate Change' and 'Development of climate change national action plan', by the United States Country Studies Programme; 'Preparation of national REDD framework' and 'Climate Change, impacts, adaptation and mitigation in Tanzania', by NORAD (URT, 2012). A source of sustainable finance for climate change research is required in Tanzania.

In addition to gathering and consolidating information, the VPO is responsible for communicating information to the public. This includes through publication of reports, leaflets and brochures. Other mechanisms include television and radio programmes, newspaper articles and cultural performances. To facilitate information communication, the VPO collaborates with key stakeholders dealing with climate change. Such stakeholders include MDAs, LGAs, research and academic institutions. Although all these avenues exist for communicating climate change information, the effectiveness of this information has not been evaluated and will depend, in part, on how much of the information has been distilled and tailored to suit the needs of the targeted audience. Information and communication on climate change has been championed mainly by NGOs, both local and international, in support of their specific agendas, particularly directed to their own forums. For example, NGOs had exercised a crucial role in communication for the REDD+ National Strategy with support of the Norwegian government.

The development of Tanzania's climate change relevant strategies and policies have included processes of stakeholder consultation. FYDP I, for example, utilised a broad-based consultative approach with key stakeholders to identify the national and sector challenges, and to decide on priority interventions that would address the critical constraints on development. The National Climate Change Strategy

involved an extensive literature review and analysis, which was undertaken to identify the linkages between climate change, natural resource management and socio-economic systems, and was augmented by national consultations in zonal workshops. Five consultation workshops were conducted in early 2011 in the southern, northern and western zones, and a general consultation of the draft was carried out in 2012, with the participation of the private, public sector, NGOs or Community Based Organisations (CBO) as well as development partners and academia (URT, 2012).

Planning: Key takeaways

- Climate change related policies in Tanzania have their foundations in environmental policies that focussed on sustainable development. Over the last ten years strategic planning has begun to adopt a more explicit focus on climate change. One of the main outcomes of this process is the National Climate Change Strategy, approved in late 2012. This reflects the growing interest in integrating climate change within development policy and planning in Tanzania.
- Despite being identified as a key risk for the economic growth and development that Tanzania is aiming for, national planning processes and the national Planning Commission have yet to explore the financing of climate change actions in a detailed way. The National Climate Change Strategy suggests the development of a National Climate Change Fund to centralise the coordination of financial sources, particularly from international funds, including the Green Climate Fund.
- The forestry sector is the most advanced in terms of developing a specific strategy around climate change, with the REDD+ National Strategy and Action Plan approved in 2013. In the water sector, the national response to climate change faces a challenge as the organisational structure is based on river basins rather than the administrative divisions of local government, thus creating an additional challenge for coordination.

4.2 Aptitude

Aptitude relates to maximising existing national capacities to understand the implications of climate change investment choices and the suite of capacities to deal with climate finance. It encompasses the capability to develop a pipeline of 'bankable' climate change projects and programmes and relates to the peoples, systems, expertise and know-how that exists to access and program climate finance. There needs to be sufficient capacity to consider Tanzania's options for raising the climate finance necessary for realising proposed actions to respond to climate change and to turn ideas into actions on the ground. This relates to the public sector as well as the private sector (as a key actor as well as a source of finance), in addition to civil society and NGOs (as key implementers as well as watchdogs of accountability).

4.2.1 Know-how and capacity

Tanzania's National Climate Change Strategy identifies the responsibilities of various actors and institutions in key sectors of the action plan. It includes roles for government, as well as for civil society and the private sector. The National Climate Change Strategy also recognises, however, that the limited institutional capacity in Tanzania is a hindrance to addressing the impacts of climate change; institutional capacity enhancement at all levels is emphasised strongly in the strategy. Among the activities or programmes that the national strategy states as requiring support and need to be implemented include:

- the establishment and implementation of awareness programmes to sensitise the public on climate change impacts as well as adaptation and mitigation options;
- the establishment of adequate research capacity for various research, development and training institutions to address issues related to climate change;
- building sufficient capacities of marginalised groups, including women, to address climate change related disaster risks;
- supporting the acquisition of appropriate technologies, for example, for enhancing early warning systems and weather forecasting; and
- documenting and promoting indigenous knowledge on climate change adaptation in various socio-economic sectors.

The role of civil society, the private sector and development partners

Civil society organisations (CSOs), the private sector, religious organisations, the media and educational institutions are all key stakeholders in the implementation of the national response to climate change in Tanzania, supported by international partners.

CSOs have been encouraged to cooperate with government to implement the National Climate Change Strategy through various projects and/or programmes. Some CSOs, including the Tanzania Natural Resource Forum, together with international NGOs such as OXFAM and local consultancy firms and development NGOs, established the Tanzania Climate Change Forum in 2009⁹ an initiative that was supported by DFID. However, after external financial support ran out after a year of operation, there is no evidence that activities around advocacy have continued to be coordinated through this organisation. Other on-going efforts have emerged to support CSO engagement in climate change issues, but it will be critical to ensure that there is institutional memory beyond donor funding.

The private sector, either individually or in collaboration with the Government under Public-Private Partnership (PPP) arrangements¹⁰, are also encouraged to implement innovative projects to address climate change-related issues in Tanzania's National Climate Change Strategy. Such arrangements will require coordination with the PPP national coordination unit at the Tanzania Investment Centre and the Ministry of Finance's PPP Finance Unit, as well with the Prime Ministers' Office and its Directorate for Private Sector Development.

While there are no PPPs in the water sector as far as this study is aware, precedents have been established for renewable energy and energy efficiency. For example, the Tanzania government is currently developing its capacity to promote PPP in order to develop the natural gas market and PPP for the power generation sector by 2018 with financial support from the World Bank/IDA unit (US\$ 21.5 million in credit) and the CIDA Trust Fund (US\$ 13.5 million in grants) (World Bank, 2013b). Tanzania is also part of the recently launched US government led 'Power Africa' partnership¹¹, and together with Ethiopia, Ghana, Kenya, Liberia and Nigeria will receive support to increase its electrical power generation with financial support from the US

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government, but also with private actors such as General Electric, Aldwych International, and Husk Power Systems; contributing with the provision of affordable energy technologies, the development of large-scale wind projects, and the installation of decentralized biomass-based mini power stations, respectively.

The role of development partners (DPs) in Tanzania's response to climate change remains important. Either bilaterally or through multilateral arrangements, providing technical and financial support, DPs have supported the

government in implementing climate change initiatives as well as facilitating resource mobilisation. International climate finance in Tanzania has largely been managed and implemented by United Nations agencies. The UNDP hosts many of Tanzania's projects, particularly those supporting adaptation. UNEP is also involved in several projects, especially those related to REDD+ activities, where it shares activities with UNDP and FAO. The Initial National Communication to the UNFCCC, supported by the GEF Trust Fund, was also intermediated by UNEP.

Box 2: Investments needs for climate change in the water sector

Further regulation of water use, research on groundwater availability, as well as investing in infrastructure for water supply and in preparedness for extreme weather events are considered as the main investments required to mainstream climate change into the water sector. All the proposed investments will require coordination between the institutions throughout the sector, from the Ministry of Water to the Water User Associations (GIZ, 2012). Current practice is that much of the funding is allocated to support water supply rather than on water management.

Regulation for water use: Regulation should include incentives into land use management to maintain ecosystem services in watersheds, particularly around the hydrological cycle, pollution protection for water resources and incentive structures to reduce the amount of non-revenue water (lost through technical or managerial inefficiencies). More basin water user associations should be established. Presently, there are only a few associations operating, and even these are not fully operational.

Research on groundwater resources potential: Groundwater extraction is becoming a common practice in the country especially for rural and urban water supply. There is need to support intensive research on groundwater to determine its future potential under climate change and any impacts abstraction may cause. In Zanzibar, where salt water

intrusion is already threatening the availability of water supply for domestic and industrial use, more research should be conducted, the outcomes of which would help the government to plan for the use of groundwater resources.

Infrastructure: Investment in infrastructure, from ground water wells and rainwater harvesting structures (Watkiss et al., 2011) to large scale surface water capture projects, such as dams, will be required to meet projected demand, especially as precipitation patterns change. Sewerage systems that allow water recycling are also suggested (Mwandosya, 2008). Particular emphasis needs to be put on the construction of multi-purpose infrastructure such as reservoirs that can store water for times of scarcity (e.g. for irrigation purposes) but also retain water during floods. If possible, such infrastructure should also be integrated into existing schemes of hydropower production. Environmental and social impact assessment should be conducted in order not to jeopardise the positive effects of such investments (GIZ, 2012).

Preparation for Extreme Weather Conditions: There is a need to establish, make operational and strengthen emergency response units with clear roles and responsibilities so that disaster management policies can be formulated and emergency plans implemented in case of droughts and floods.

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4.2.2 Project pipeline development

Tanzania's NAPA, finalised in 2007, prioritised a total of six projects to address the country's most pressing adaptation needs. To-date, none of these projects have been implemented as originally designed. It is reported that most have yielded little results due to a lack of financing, technological problems and poor governance-related constraints¹². However, its main critique is that it did not include a clear implementation strategy and it did not promote the establishment of governance mechanisms that would offer more structural support for adaptation in the medium and long-term. The NAPA was therefore largely perceived as a 'one time intervention' (UNEP, n.d. p.3) and a 'wish list' (Hepworth, 2010).

Tanzania's National Climate Change Strategy now identifies over 200 'strategic interventions'. The costs of imple-

Aptitude: Key Takeaways

- There is limited human capacity to enable the mainstreaming of climate change, both in government and the non-governmental sector. The National Climate Change Strategy emphasises the need to build capacity in research and in the public service, highlighting in particular the need to develop research in alliance with local institutions to strengthen in-country capacity.
- The private sector has been nominally engaged in climate change activities in Tanzania through independent activities (such as investments in renewable energy and forestry activities), as well as through PPPs. Broad support for PPPs exists and these have the potential to stimulate greater engagement in adaptation, such as in the water sector where private sector engagement is currently low.
- While Tanzania has been effective in identifying many potential climate change activities through plans and strategies, it is not clear how these should be prioritised or funded. To this end, greater prioritisation and the costing of interventions could provide a stronger basis from which to facilitate implementation of climate change activities.

mentation for these have not yet been established. Further elaboration is required to turn this list of interventions into 'bankable' climate change projects. Without any prioritisation of the stated interventions, or an estimation of costs (at least over the near term), it is difficult to gauge how many of the suggested programme actions will be undertaken and there is a risk of repeating the shortcomings of the earlier NAPA. The costing of at least the immediate priority actions could, at the least, provide a platform to facilitate the implementation of the strategy (Yanda, et al., 2013).

Examples of the type of investment projects required for one sector is given in Box 2, which describes some of the strategic investment needs in the water sector.

Within the climate finance readiness framework, access refers to the sourcing, receiving and spending of funds. It also considers the monitoring and evaluation of climate finance expenditure to gather best practice, as well as for ensuring accountability of scarce public resources. Appropriate modalities and associated fiduciary and environmental standards are additional considerations, given the pursuit of direct access modalities.

4.3 Accessing and spending climate finance

4.3.1 Climate finance flows

Current access to international climate finance

Being a non-Annex I Party to the UNFCCC, as well as a Kyoto Protocol Party and a Least Developed Country, Tanzania meets the eligibility requirements of a number of global environmental and climate change-related funds. These include the Special Climate Change Fund, the Least Developed Countries Fund, the Adaptation Fund, and the Global Environmental Facility. Tanzania is also eligible for support from a diverse number of multilateral and bilateral funding sources, such as the European Union's Global Climate Change Alliance, Norway's International Climate and Forest Initiative, Germany's International Climate Initiative, the UK's International Climate Fund, and Japan's Fast Start Finance (Bird and Canales Trujillo, 2012).

To-date, Tanzania is the third biggest recipient of climate finance in the Sub-Saharan Africa region, after South Africa and Kenya. Many of the projects and programmes addressing issues of climate change in Tanzania are carried out with domestically-sourced funding from central government, supported by development assistance. Cur-

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rently, Tanzania's access to international climate finance is curtailed by a lack of adequate knowledge and capacity on how to access the opportunities that exist. Tanzania's National Climate Change Strategy outlines that a critical mass of climate change expertise need to be built in order to access available international financial and technical resources to address climate change.

As of May 2013, an estimated total of US\$180 million has been allocated to Tanzania from international dedicated multilateral and bilateral climate funds and initiatives (Table 2). Support began with a preparation grant for the Initial National Communication to the UNFCCC in 1997, followed by capacity building and the development of the NAPA in 2003. General mitigation funding began in 2004 with support to a small rural photovoltaic project supported by the GEF Trust Fund, and has since been the main focus of international climate finance, representing 64% of the total received (US\$115 million). The biggest mitigation related project is the Iringa-Shinyanga Backbone Transmission Investment project (US\$ 52 million) funded by Japan through its Fast Start Finance initiative; this initiative will reduce losses in the transmission of energy thus improving the efficiency of the national energy system. Other energy-related projects include small hydropower stations for rural electrification. Tanzania is also a recipient of the Climate Investment Funds' Scaling Up Renewable Energy Program in Low Income Countries (SREP), with a potential national programme of \$50 million. However, Tanzania's investment plan for the SREP is still under approval. Tanzania REDD+ activities began in 2008 with a forest conservation project financed by Germany's International Climate Initiative. In 2010, Tanzania joined the UN-REDD programme with the support of Norway's International Climate and Forest Initiative. Currently, REDD+ finance represents approximately 24% of the total international funding received for climate change purposes through dedicated funds and initiatives.

Adaptation national planning, through the NAPA, was one of the first internationally supported activities. However, the first prioritised project was only approved in 2012, by the Least Developed Countries Fund to support the strengthening of climate information and early warning systems. The country is also now receiving support from the Adaptation Fund, with UNEP as a multilateral implementing entity, in coordination with the VPO, for community-based adaptation on the Tanzanian Coast (Climate

Funds Update, 2013; Adaptation Fund, 2013). This project represents around half of the country allocation within the Adaptation Fund. In order to access the remaining funds, Tanzania may need to designate and submit for approval a National Implementing Entity, as the funding for multilateral access (50% of the Fund's overall budget) has now been exhausted. Current discussions within the government are towards the development of a National Climate Change Fund, whose design will include different windows for the different climate related topics, such as adaptation, mitigation or REDD+. It is expected that this national fund would act as the national implementing entity for all the international funding on climate change, including the Adaptation Fund and the Green Climate Fund.

Other activities that do not directly support either mitigation or adaptation in Tanzania include the establishment of the Climate Change Forum, a civil society network, and institutional strengthening of national institutions. The UK's International Climate Fund has supporting the four year 'Tanzania Climate Change Institutional Strengthening Programme (CCISP)' since 2011. This funds a climate change programme advisor as well as having a flexible technical assistance fund with the objective of scaling-up investment in climate change. The technical assistance fund has supported the establishment of a secretariat for the Development Partners Group on the Environment, the Civil Society Platform and the development of the Tanzania Study on the Economics of Climate Change (DFID, n.d.).

Outside of the dedicated climate funds and initiatives, international philanthropic foundations also support climate change actions in Tanzania. These include the Clinton Foundation, with its Clinton Climate Initiative Forestry Program and the Climate, Community and Biodiversity Alliance that is developing REDD+ Social and Environmental Standards (Clinton Foundation, 2012); the Rockefeller Foundation, which is supporting smallholding farmer systems' adaptation strategies (Ngigi, 2009) and the Ford Foundation, supporting the Pastoralist Indigenous NGOs Forum (Ford Foundation, 2013).

With regards to the private sector, CDM mitigation opportunities have resulted in only two registered projects in Tanzania, one for landfill gas recovery for electricity generation (Mtoni Dumpsite) and one on renewable energy produced by a bottling company (Nyanza). Four projects have been re-

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Table 2. Dedicated International climate finance portfolio in Tanzania

Projects	Funder	Year Approved	Amount Approved (US\$)
Adaptation Projects (7% of total approved funding)			13.38
National Adaptation Plan (NAPA) for United Republic of Tanzania	Least Developed Countries Fund (LDCF)	2003	0.2
Mainstreaming Climate Change in Integrated Water Resources Management in Pangani River Basin	Special Climate Change Fund (SCCF)	2006	1
Developing Core Capacity to Address Adaptation to Climate Change in Productive Coastal Zones	Least Developed Countries Fund (LDCF)	2010	3.1
The project for construction of wells at Mangaka town in Nanyumbu district, Mtwara region	Japan's Fast Start Finance	2011	0.07
Implementation of Concrete Adaptation Measures to Reduce Vulnerability of Livelihood and Economy of Coastal Communities in Tanzania	Adaptation Fund (AF)	2012	5.01
Strengthening Climate Information and Early Warning Systems in Tanzania to Support Climate Resilient Development	Least Developed Countries Fund (LDCF)	2012	4
Mitigation Projects (64% of total approved funding)			115.52
Iringa-Shinyanga Backbone Transmission Investment Project	Japan's Fast Start Finance	2010	52.59
Mini-Grids Based on Small Hydropower Sources to Augment Rural Electrification	GEF Trust Fund (GEF 4)	2010	3.35
Tanzania Energy Development and Access Project (TEDAP)	GEF Trust Fund (GEF 4)	2010	6.5
Project for reinforcement of power distribution in Zanzibar Island	Japan's Fast Start Finance	2011	26.1
The Project for Rehabilitation of Substation and Transmission Line in Kilimanjaro Region	Japan's Fast Start Finance	2011	21.7
Promotion of Waste-to-Energy Applications in Agro-Industries	GEF Trust Fund (GEF 5)	2012	5.28
REDD Projects (24% of total approved funding)			44.027
Conserving Mountain Forests	Germany's International Climate Initiative	2008	3.257
Tanzania	Norway's International Climate and Forest Initiative	2010	36.49

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Projects	Funder	Year Approved	Amount Approved
UN-REDD national programme - Tanzania	UN-REDD		4.28
Multiple foci (4% of total approved funding)			7.69
The Global Climate Change Alliance for Tanzania: Increasing capacities of the most vulnerable Tanzanian's communities to engage in sustainable use of their natural resources	Global Climate Change Alliance (GCCA)	2008	3.04
AECF Renewable Energy and Adapting to Climate Technologies (REACT) Private Sector Challenge Fund Tanzania Window (a)	UK's International Climate Fund (ICF)	2011	0.9
Climate Change Institutional Strengthening Programme (a)	UK's ICF	2011	0.75
Support for Climate Change Forum - CS Network	UK's ICF	2011	0.12
AECF Renewable Energy and Adapting to Climate Technologies (REACT) Private Sector Challenge Fund Tanzania Window (b)	UK's ICF	2012	1.55
Civil Society Climate Change and Environment Fund (with DANIDA and USAID)	UK's ICF	2012	0.54
Climate Change Institutional Strengthening Programme (b)	UK's ICF	2012	0.79
TOTAL APPROVED FUNDING			180.617
Source: Climate Funds Update, www.climatefundsupdate.org, May 2013. Note: this table does not capture contributions outside of dedicated climate funds and initiatives.			

jected during the validation process, and there are a further four projects on biomass, hydropower, combined heat and power, and reforestation in the CDM pipeline (UNEP Risoe, 2013). Tanzania's low rate of approved projects is despite it being part of the CDM capacity building programme of UNDP and the UNEP Risoe Centre, which supports institutional and human capacity building as well as technical support for project document design, development, and the overall CDM project cycle process (UNDP, 2013).

Future modalities for sourcing and spending climate finance

Domestic funding from the government budget complements the resources made available from international climate funds. Such spending is likely to continue in the future as the National Climate Change Strategy suggests the recurrent and development budget will support new climate change investments, particularly for mitigation purposes and payment for ecosystem services; as well as funds allocated to the National Environmental Trust Fund

and the REDD Fund, although such funds are not yet operational (URT, 2012, p.84). Furthermore, Tanzania's 5-year plan, FYDP I, considers the possibility of new financial institutions to help manage international flows of climate finance: "Tanzania will explore the possibility of creating a National Climate Fund to better access and manage the global climate change finance. This will follow the successful implementation of similar funds in countries such as Brazil, China, and Indonesia." (URT, 2011; pg.89).

The idea of a National Climate Fund has arisen in response to the increasing demand for financial support to address climate change in Tanzania. Such a fund, were it to go ahead, is expected to engage with the MoF, although it would not necessarily sit within the MoF. The VPO is currently commissioning a study to assess the optimal national financial mechanism in Tanzania. It is expected that this will set out a range of options for accessing climate finance later this year. However, there is no specific guid-

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ance or designation of responsibilities drafted to-date that illustrates how such a national fund will be capitalised.

4.3.2 Monitoring and reporting

The reporting mechanism for the implementation of climate change related issues in Tanzania follows the government reporting system, as well as the reporting system specified in the Environmental Management Act (EMA). Under the government reporting system, MDAs and LGAs are expected to report implementation of their initiatives annually. The EMA also requires Sector Environmental Coordinators and District/Council/Town Environmental Management Officers to report on the implementation of Environmental Action Plans that include climate change issues. Sector ministries and local government agencies report on their implementation status to the NCCFP on an annual basis, with the NCCFP mandated to ensure the availability of such information to the public.

The government reporting system largely captures the allocation of financial resources for the implementation of climate change actions in a given financial year. These financial reports are subject to audit, following government regulations. Thus, reporting focusses less on the outputs and impacts of climate change activities. Furthermore, the existing reporting mechanisms face implementation challenges as environment units are generally understaffed. At the sub-national level, human and financial resources constrain reporting from the departments within the LGAs that deal with environmental matters.

Thus, while monitoring and evaluation of climate change activities follows Government standard processes and procedures, they tend to be organised on an ad-hoc basis. In theory, the VPO monitors the implementation of climate change initiatives through reports from Sector Environmental Sections, the Regional Environmental Experts, and the District/Council/Town Environmental Management Officers. Furthermore, Environmental Management Officers from the LGAs send their implementation reports to VPO-DoE. The VPO could, therefore, develop indicators and a general monitoring and evaluation framework which, along with the key deliverables and benchmarks, could be the main tools for assessing the implementation progress of various initiatives, which could be put in the public domain. In practice, however, ex-ante, mid-term, and ex-post evaluations, as well as any other evaluation

activity that the VPO considers useful for improving the intervention and programme management are not currently released to the public, thus excluding any independent assessment of such investments. A better understanding of how climate finance priorities and the implementation of actions plays out between national and sub-national levels could aid the understanding of the effectiveness of Tanzania's climate change interventions.

Access: Key Takeaways

- Tanzania has accessed international climate finance from a number of bilateral and multilateral climate funds, particularly for forest and land-use related mitigation activities, and through the GEF, but greater awareness about available funds and access modalities might unlock further climate finance.
- Climate finance in Tanzania has been intermediated largely by UN Agencies. However, plans are underway to develop a national climate change fund to manage the increasing demand for climate finance in Tanzania. Options assessments are at their early stages and the operational procedures, governance, and allocation modalities from such a fund have yet to be decided upon. Strong linkages between any national climate change fund and the Ministry of Finance is one of the expectations of the design process.
- Reporting, monitoring and evaluation for climate finance has, thus far, relied on existing systems under the EMA structure. However, these are largely ad-hoc and information has not reached the public domain for independent assessment.

5. Readiness needs and recommended supporting activities

Interest in climate finance is evident in Tanzania. The government has increasingly invested in efforts to understand how climate change is likely to affect the economy and the options it can take to respond to these changes. Initiatives to address climate change have largely been led by the Office of the Vice President, which illustrates the elevation of the political profile of the issues in play. A growing number of studies that indicate the significant and substantial risks at hand as a result of climate change in Tanzania have only served to invigorate the government's efforts to develop strategies and plans, including potential activities that can be undertaken as well as implementation and monitoring frameworks. While substantial progress towards the various components of climate finance readiness has been made, there are areas in which improvements have been identified by country stakeholders. These needs are elaborated and explored further in this section.

The needs and associated potential climate finance activities identified here are intended to inform on-going deliberations on Tanzania's response to climate change and to support processes already underway. This includes cross-cutting donor funded projects, as well as the implementation of Tanzania's National Climate Change Strategy. Progress towards one goal may well support progress in another area, thus the needs are mutually reinforcing.

5.1 Planning: fully incorporating climate change in national planning processes

There is a need to more fully incorporate climate change considerations into national economic development strategy and planning, as currently the two elements of government policy-making and implementation are insufficiently integrated. Hence, the primary focus of any readiness support should be strengthening understanding of the relationship between the threat posed by climate change and Tanzania's national economic development planning. Specifically, it is essential that the Planning Commission be fully appraised of the relationship, so that it can address

its collective mind to the issue and ensure that its development planning and decision-making is 'climate proofed'.

Possible readiness activities to strengthen planning might include:

1. **Analyse the climate change implications of national investment choices:** There seems a need to enhance understanding of the climate change implications of national investment choices. Such a work stream might build on a growing body of work on the likely implications of climate change for Tanzanian economic development, including the economics of climate change study completed in 2011. Assessing the extent to which sector investment plans incorporate low-carbon, climate-resilient features would support efforts to coordinate a climate change response across key government ministries. Such an investment as part of readiness support could help realise a process of collective reflection on the implications of various options and choices outlined in the national development strategy.
2. **Undertake a series of workshops and trainings for key staff in the Planning Commission to reflect on the implications of climate change for proposed development strategies.** This would help better integrate climate change into national planning, allowing the adoption of tools to consider climate change related risks and opportunities. It would be essential to understand the interest and commitment of senior members of the Planning Commission to engaging in such an exercise before embarking on any such program of work. It would also be important to seek requisite inputs from other key actors within government that have been involved in climate change related activities including the development of the climate change strategy.
3. **Develop a climate change investment strategy for the water sector, given its centrality to efforts to enhance resilience in Tanzania.** This could include a series of

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workshops for water sector actors to reflect on options to maximise the links between water and climate change through forthcoming investment choices in the water sector. Such an exercise would usefully guide future water regulatory and investment strategies, consistent with the overarching goals of the national climate change strategy. It would also need to be integrated with on-going efforts to strengthen financial management arrangements for the water sector in Tanzania.

5.2. Aptitudes: supporting capacity and execution of the mandate of government institutions

There is a need to strengthen co-ordination of climate change activities in Tanzania. The capacity of the NCCFP, the NCCTS and NCCTC to prioritise, co-ordinate and support integration with key national development strategies should be enhanced. A program could be designed to support the capacity as well as the execution of the mandate of the NCCTC and the NCCSC.

Possible readiness activities to strengthen aptitude might include:

4. **Develop detailed plans and costings for priority interventions drawn from the National Climate Change Strategy.** This would entail a process of learning-by-doing, but it is critical that any such exercise makes optimal use of existing domestic capacities across state and non-state sectors. There may therefore be a case for exploring initiatives which could support a greater diversity of private, civil society and public sector collaboration in climate finance programming and project implementation.
5. **Strengthen capacity in climate change related project screening, appraisal and selection beyond the Planning Commission.** This could provide a basis for prioritising the allocation of climate finance from various sources – both national and international (particularly the GCF) – to a range of national climate change projects. This might have two core components:
 - a) To enhance selection and prioritisation of climate projects and activities (such as those identified in the NAPA and in the National Climate Change Strategy), which correspond to the criteria of international funds, including the GCF, for which external funding should be sought.

- b) To enhance selection and prioritisation of climate relevant projects in sector budget submissions by identifying those that may result in maladaptation and those through which domestic climate funding would have the greatest impact.
6. **Support pilot projects implemented by different levels of government in conjunction with capable private sector actors to help demonstrate the benefits of – and the business case for – climate change action.** This might include establishing an ‘incubation facility’ that would provide finance at various stages along the project development cycle from inception to implementation with separate windows for large and small scale projects to ensure that a diversity of levels and scales of intervention are supported. It might also include investing in better processes for sharing information on climate change with other key institutions within government.

5.3. Access: building on nationally led access modalities and improving the monitoring and evaluation of climate change activities down to local levels

With growing demand for climate finance, Tanzania is in the process of exploring new modalities for accessing such finance. This includes a National Climate Fund, for which work is underway to explore options and potential forms of governance. There is a need to complement and build on such work. Furthermore, there is a need to learn from experiences from the climate finance spent to-date. While monitoring and evaluation has focussed on spending through established national structures, there is a need to develop more impact oriented monitoring so that the benefits of climate change activities at local levels can be better assessed, and fed back into planning processes.

Possible readiness activities to strengthen access to climate finance might include:

7. **Support the processes that have been put in place to explore options to operationalize a National Climate Fund in Tanzania.** Other development partners, including the World Bank and the UK DFID, have invested time and effort in supporting Tanzanian stakeholders to analyse different design options and their relevance in the Tanzanian context. Work is now getting underway to look at options for the operationalization of

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a national climate fund, building on experience with similar mechanisms in other sectors in Tanzania. There may be a role for readiness activities to support these operationalization activities.

8. **Develop a reporting, monitoring and evaluation protocol for assessing how investments in climate change related sectors by national actors are having an impact on climate change adaptation.** This is particularly important in the water sector, where much of the impact of climate finance delivery would be felt at sub-national level. Efforts to support monitoring and evaluation of the impact of climate finance at both national and local level could include:
 - Adopting systems to track and investigate impacts on water resources as a result of interventions, so as to be able to better understand how national level programs, policies and investments are having local level impacts. Such systems might help illuminate the synergies between core investments in water systems and adaptation. It would need to build on emergent systems to monitor and evaluate water service delivery at sub-national level.

6. Conclusions

Tanzania's growing interest in climate change has materialised in the development of a national strategy of climate change that provides some of the basic structure required for the integration of climate change within the national development planning process. This includes an institutional architecture focused on providing technical advice and promoting cross-sector learning. But the institutional structure is not enough, and capacity in staffing, technical skills and financial support is required throughout the structure, at national, sectoral and sub-national levels.

Being one of the most important recipients of international climate finance in the Sub-Saharan region, Tanzania has experience in managing and implementing different climate change projects, including those related to policy development and implementation on the ground. However, the project by project management have been mainly led by UN institutions without an institutionalisation of a learning process. This is expected to change with the new structure and the national climate fund proposed by the Strategy.

Endnotes

- 1 This work is supported by UK DFID and has been underway since mid-2012.
- 2 The SADC Treaty includes sustainable utilisation of natural resources and protection of the environment.
- 3 Energy is 6%, agriculture 5.7%.
- 4 'Current financial mechanisms include charges levied on the major forest products and services, state budget allocation to the forestry administration and development partner's grants for forestry projects' (URT, 2013, p.29)
- 5 The Environment Management Act of 2004 repealed the National Environment Management Council Act of 1983, moving the DoE from the Ministry of Tourism, Natural Resources and Environment to the VPO.
- 6 The NAP process in Tanzania has begun in June 2013 and is expected to have its first outcome available in May 2014 (Teikwa Adam, 2013).
- 7 Along with, Ghana, Bhutan, Thailand and Vietnam, Tanzania is within the Group 2 of the EU/UNDP Low Emission Capacity Building Programme that will identify NAMA options (van Tilburg et al., 2012).
- 8 Particularly due to the high ratio of unaccounted-for water and non-revenue water in urban areas: 26% in Lindi, 48% in Dar-es-Salaam and 100% in Arusha, Dodoma, Moshi and Tanga in 2008.
- 9 The Forum was composed by the Tanzania Natural Resource Forum (TNRFF); international NGOs as OXFAM; local consultancy firms and development NGOs as MUYEK (also representing Intercooperation), Environmental Protection and Management Services (EPMS), Lawyers Environmental Action Team (LEAT), Society for Natural Resources Conservation and Development (SONARECOD); grassroots associations as the Tanzania Pastoralist, hunter-gatherers organization (TAPHGO); and some international representations such as the United Nations Association (UNA) and the Citizens Global Platform (CGP).
- 10 Tanzania approved its Public Private Partnership Act No. 18 in 2010 and its regulations in 2011. New regulations are expected during 2013.
- 11 The programme has a total of US\$ 300 million budget for investment in the energy sector in the region by 2030.
- 12 We found evidence of the partial implementation of the 'Shifting of Shallow Water Wells Affected by Inundation on the Coastal Regions of Tanzania Mainland and Zanzibar' project, with funding from the Adaptation Fund for a project in the coastal regions (USD 5.1 million) and the LDCF, supporting the development of capacity for coastal adaptation (USD 3.1 million).

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Theresia W. Massoi	Ministry of Agriculture
Stanley Matowo	Ministry of Water
Jhon S. Mauura	Ministry of Finance
Bertha Mlonda	Ministry of Land, Housing (MLHSD)
Eric K. Mugurusi	Independent Consultant
Deograsias P. Mushi	UDSM & Ecom Research
Inger G. Naess	Norwegian Embassy
Evarist Naohanda	Ministry of Natural Resources
Conrad Ndomba	Livestock Development
Falk Negrazus	GIZ Tanzania
Elizabeth Nkini	Ministry of Water
Julius Ningu	VPO-DOE
Melania M. Sangeu	National Environmental Management Council
Joseph Semboja	Uongozi Institute
Kissina Simlizi	Ministry of Water
Priscus A. Tairo	Planning Commission
Pius Yanda	Centre for Climate Change Studies, University of Dar es Salaam

Appendix 3:

List of participants (Basin Water Officers) in a workshop to discuss draft report on *Understanding Climate Finance Readiness Needs in Tanzania* held on 20th August 2013

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Acronyms

ACFH	African Climate Finance Hub	MKUKUTA	National Poverty Reduction Strategy of Tanzania
BMZ	German Federal Ministry for Economic Cooperation and Development	NAMA	Nationally Appropriate Mitigation Action
CBO	Community Based Organisation	NAP	National Adaptation Plan
CCCS	Centre for Climate Change Studies of the University of Dar es Salaam	NAPA	National Adaptation Programme of Action
CDM	Clean Development Mechanism of the Kyoto Protocol	NCCFA	National Climate Change Finance Analysis
CFU	Climate Funds Update	NCCFP	National Climate Change Focal Point of Tanzania
COP	Conference of the Parties	NCCSC	National Climate Change Steering Committee of Tanzania
CSO	Civil Society Organisations	NCCTC	National Climate Change Technical Committee of Tanzania
DAC	Development Assistance Committee of the OECD	NEP	National Environmental Policy of Tanzania
DFID	Department for International Development of the United Kingdom	NGO	Non-Governmental Organisation
DNA	Designated National Authority	NLP	National Land Policy of Tanzania
DoE	Division of Environment of Tanzania	NWSDS	National Water Sector Development Strategy of Tanzania
DP	Development Partner	ODI	Overseas Development Institute
DPG	Development Partners Group of Tanzania	OECD	Organisation for Economic Co-operation and Development
EMA	Environmental Management Act of Tanzania	PFM	Participatory Forest Management
EWURA	Energy and Water Utilities Regulatory Authority of Tanzania	PPP	Public-Private Partnership
FAO	Food and Agriculture Organization of the United Nations	REDD+	Reducing Emissions from Deforestation and Forest Degradation, sustainable forest management, forest conservation and enhancement of forest carbon stocks
FYDP	Five Year Development Plan	SADC	South African Development Community
GCF	Green Climate Fund	SEI	Stockholm Environment Institute
GDP	Gross Domestic Product	TANESCO	Tanzania Electric Supply Company
GHG	Green House Gases	UNDP	United Nations Development Programme
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit	UNEP	United Nations Environment Programme
IMTC	Inter-Ministerial Technical Committee of Tanzania	UNFCCC	United Nations Framework Convention on Climate Change
JFM	Joint Forestry Management	URT	United Republic of Tanzania
LGA	Local Government Authority	VPO	Vice President's Office of Tanzania
MDA	Ministry, Department or Agency	WSDP	Water Sector Development Programme of Tanzania
MDG	Millennium Development Goals		

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