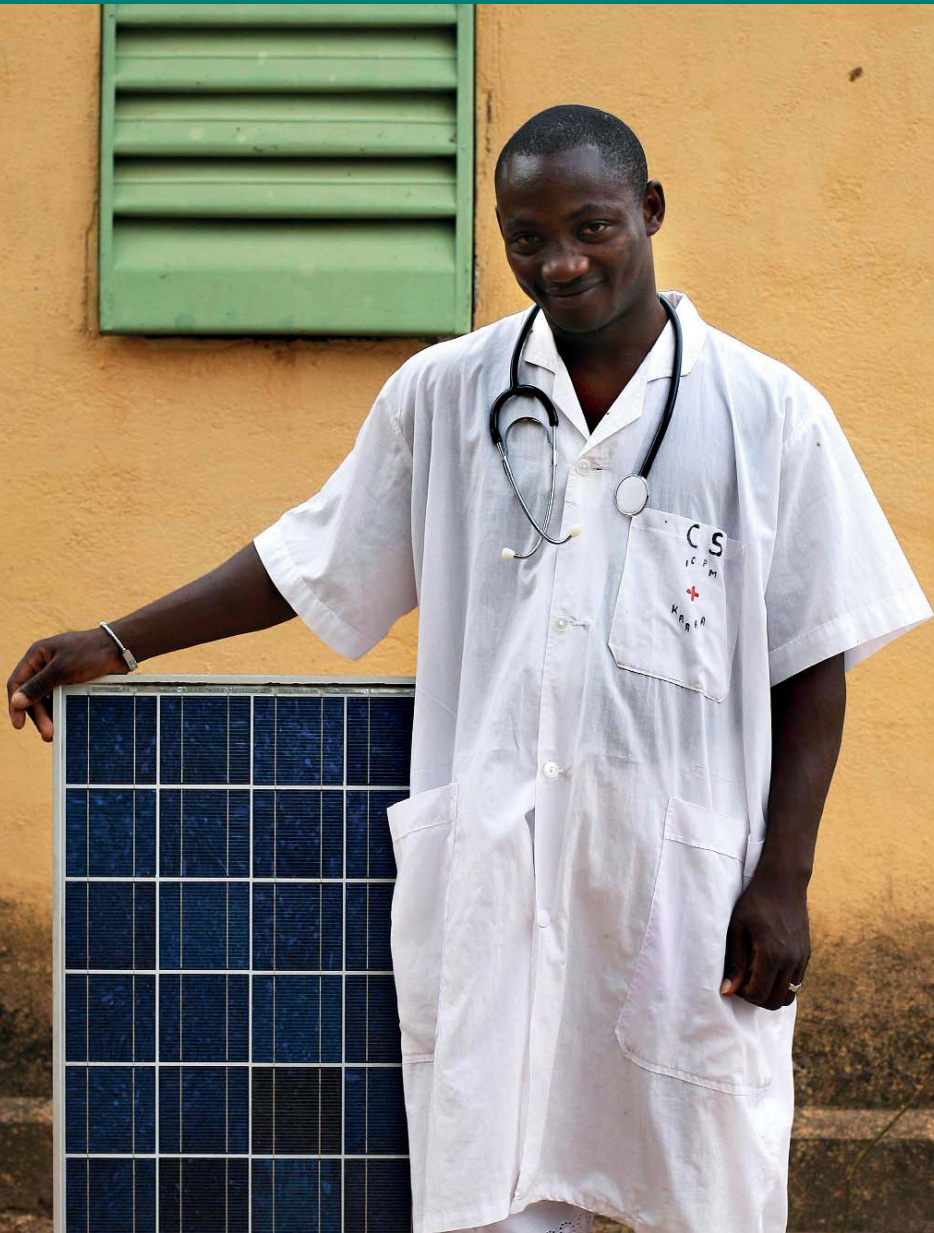


Public spending on climate change in Africa

Experiences from Ethiopia, Ghana, Tanzania and Uganda

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Cover image: Dr. Sidiki Toe pictured with new solar panels that will power a fridge and electric lights at the Kaara health centre, Mali. Supplied as part of a renewable energy programme to help poor communities deal with climate change, the electricity will give the doctor more time to see and treat patients in the evening. *Abbie Trayler-Smith / Panos, 2006.*

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Abbreviations and acronyms

AEO	African Economic Outlook	MLHUD	Ministry of Lands, Housing and Urban Development (Uganda)
AfDB	African Development Bank	MLNR	Ministry of Lands and Natural Resources (Ghana)
AU	African Union	MoA	Ministry of Agriculture (Ethiopia)
CPEIR	Climate Public Expenditure and Institutional Review	MoC	Ministry of Communications (Ghana)
CPI	Consumer Price Index	MoEP	Ministry of Energy and Petroleum (Ghana)
CRGE	Climate-Resilient Green Economy (Ethiopia)	MoF	Ministry of Finance (Ghana)
CRS	Creditor Reporting System	MoFA	Ministry of Food and Agriculture (Ghana)
EPA	Environmental Protection Authority (Ethiopia)	MoFAD	Ministry of Fisheries and Aquatic Development (Ghana)
EU	European Union	MoFEA	Ministry of Finance and Economic Affairs (Tanzania)
FDRE	Federal Democratic Republic of Ethiopia	MoFEC	Ministry of Finance and Economic Cooperation (Ethiopia)
GCAP	Global Climate Adaptation Partnership	MoFED	Ministry of Finance and Economic Development (Ethiopia)
GCF	Green Climate Fund	MoFEP	Ministry of Finance and Economic Planning (Ghana)
GDP	Gross Domestic Product	MoFPED	Ministry of Finance, Planning and Economic Development (Uganda)
GEF	Global Environment Facility	MoH	Ministry of Health (Ethiopia, Uganda)
GHG	Greenhouse Gas	Mol	Ministry of Industry (Ethiopia)
GIZ	German Development Corporation	MoRH	Ministry of Roads and Highways (Ghana)
GSS	Ghana Statistical Service	MoT	Ministry of Transport (Ghana)
GTP	Growth and Transformation Plan (Ethiopia)	MoTI	Ministry of Trade and Industry (Ghana)
IFMIS	Integrated Financial Management System	MoWIE	Ministry of Water, Irrigation and Energy (Ethiopia)
IMF	International Monetary Fund	MoWT	Ministry of Works and Transport (Uganda)
INDC	Intended Nationally Determined Contribution	MoUDHC	Ministry of Urban Development and Housing Construction (Ethiopia)
LDC	Least Development Country	MTEF	Medium-Term Expenditure Framework
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries (Uganda)	MTIC	Ministry of Trade, Industries and Cooperatives (Uganda)
MAFC	Ministry of Agriculture, Food Security and Cooperatives (Tanzania)	MTTI	Ministry of Trade, Tourism and Industry (Uganda)
MDAs	Ministries, Departments and Agencies	MTWA	Ministry of Tourism, Wildlife and Antiquities (Uganda)
MEM	Ministry of Energy and Minerals (Tanzania)	MWE	Ministry of Water and Environment (Uganda)
MEMD	Ministry of Energy and Mineral Development (Uganda)	MWI	Ministry of Water and Irrigation (Tanzania)
MESTI	Ministry of Environment, Science, Technology and Innovation (Ghana)		
MGCSP	Ministry of Gender, Children and Social Protection (Ghana)		
MINT	Ministry of Interior (Ghana)		
MLGRD	Ministry of Local Government and Rural Development (Ghana)		

MWRWH	Ministry of Water Resources, Works and Housing (Ghana)	PFM	Public Financial Management
NADMO	National Disaster Management Organisation (Ghana)	PMO-RALG	Prime Minister's Office-Regional Administration and Local Government (Tanzania)
NAPA	National Adaptation Programme of Action	PPCR	Pilot Programme for Climate Resilience
NBS	National Bureau of Statistics (Tanzania)	REC	Regional Economic Community
NCCP	National Climate Change Policy (Ghana, Uganda)	REDD	Reducing Emissions from Deforestation and Forest Degradation
NCCS	National Climate Change Strategy (Tanzania)	RoU	Republic of Uganda
NDP	National Disaster Prevention and Preparedness Fund Office (Ethiopia)	UBoS	Uganda Bureau of Statistics
NEPAD	New Partnership for Africa's Development	UK	United Kingdom
NGO	Non-Governmental Organisation	UN	United Nations
NPA	National Planning Authority (Uganda)	UNDP	UN Development Programme
ODA	Official Development Assistance	UNEP	UN Environment Programme
ODI	Overseas Development Institute	UNFCCC	UN Framework Convention on Climate Change
OECD	Organisation for Economic Co-operation and Development	URT	United Republic of Tanzania
OPM	Office of the Prime Minister (Uganda)	US	United States
PCI	Principles, Criteria and Indicators	USAID	US Agency for International Development
PEAP	Poverty Eradication Action Plan (Uganda)	VAT	Value-Added Tax
PEFA	Public Expenditure and Financial Accountability	WCED	World Commission on Environment and Development

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Part A: Introduction

Chapter 1: The analysis of climate change finance

Neil Bird and Godber Tumushabe

1.1 The significance of climate change finance analysis

Climate change is a relatively new area of public policy, one that will have a significant impact on economic development and will also directly affect people's lives and livelihoods. Current understanding of what the cost of responding to climate change will be over the short to medium term is limited but expanding. One important starting point in attempts to better understand the costs involved is to identify what governments are at present spending to fund climate change-related activities. This can provide an indication of how far national responses to climate change have evolved.

Meanwhile, looking forward, the expected rapid growth in climate change public expenditure will raise governance and management challenges for implementing agencies that need to be considered in the design and execution of national climate change strategies.

At the international level, the 2015 Paris Agreement of the Parties to the UN Framework Convention on Climate Change (UNFCCC) aims to avoid the most dangerous impacts of global warming. An important component of this international response is the provision of new and additional finance to support actions carried out within the world's more vulnerable countries. This is recognised in the goal set by the international community for developed countries to raise \$100 billion per year by 2020. International support to assist developing countries in preparing for and responding to climate change is already forthcoming. However, international funds raise questions related to sustainability and how to channel such support into national systems. There is also the broader question of how to prioritise

spending of finite public financial resources. Budgetary allocations are never sufficient to meet all spending needs, which means a review of the strength of the national budget systems that manage climate change-relevant expenditures is important.

Measuring public spending on climate change actions is fraught with difficulties, given the definitional ambiguity of such actions and the complexity of public funding flows. There are a number of further challenges to face: there is often limited information on actual expenditures (as opposed to budget estimates); the national budget classification can act as a barrier to the interpretation of climate change actions; and in many developing countries a significant amount of international funding does not pass through the national budget. So, at present, measuring public climate change finance, and therefore promoting effective practice in the allocation of public funds to climate change-related actions, is constrained.

This publication aims to address both of these challenges, by describing how to identify relevant public expenditure and then to measure the effectiveness of such spending against an analytical framework developed for the purpose. It also helps identify gaps where increased funding from both domestic and international sources may be required. This approach can thus support governments to improve the prioritisation, efficiency and effectiveness of public resources directed at supporting climate change adaptation and mitigation actions.

1.2 Classifying climate change finance

In the absence of an internationally agreed definition of climate finance, the approach our country studies has taken has entailed following a

country-led understanding of what spending should cover, based on what national policy documents have defined as the response to climate change. All countries recognise mitigation and adaptation as two complementary strategies in response to climate change, and expenditure items can be classified as contributing to these two strategies.

There are conceptual differences between an activity (and hence an expenditure) that aims to help institutions, systems and communities adapt to the realities of a changing climate; and those that seek to reduce the change in the climate itself by mitigating the impacts of human activity through a reduction in greenhouse gas emissions (GHGs).

Understanding the balance of climate change-related activities between these two strategies in each government can provide important information on the nature of their response to the public policy challenge of climate change.

However, classifying expenditures as relevant to mitigation or adaptation requires expert judgement, as allocation into a mitigation or adaptation category cannot be externally and objectively determined with complete confidence. Table 1.1 gives the definitions the country studies use to make these judgements. In each country, where information in the budget documentation was insufficient to make such a determination, further

Table 1.1: Definitions of mitigation and adaptation

Category	Definition
Mitigation	Human interventions to reduce the sources, or enhance the sinks, of GHGs. All climate change mitigation actions aim to reduce the concentration of atmospheric GHGs.
Adaptation	Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

Source: *OECD (2011)*.

investigation was undertaken through additional budget documentation and/or direct contact with the ministry concerned.

These definitions are consistent with the emerging international consensus on a definition for climate finance. The 2014 Biennial Assessment and Overview of Climate Finance Flows Report of the UNFCCC Standing Committee on Finance proposed the following definition, based on a review of existing operational definitions: ‘Climate finance aims at reducing emissions, and enhancing sinks of greenhouse gases and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts’ (UNFCCC, 2014: 5). Such a definition recognises all types of spending directed at the twin strategies of mitigation and adaptation.

Other classification approaches include additional categories such as capacity-building or

technology transfer alongside mitigation and adaptation. Given that the identification of climate finance is at an early stage of development, this publication examines only the first two categories (of adaptation and mitigation). Future analyses could consider expanding the range of activities to include in the classification so as to gain a clearer understanding of public spending on climate change.

It is important to acknowledge that spending on climate change can come from a variety of sources. These may include international climate funds, bilateral and multilateral donors, development finance institutions, domestic public funds, private sector finance and funds channelled through non-governmental organisations (NGOs). This publication focuses on public funds allocated to finance climate change actions through the national budget, as such spending is assumed to be most

closely aligned with national policy settings and domestic institutional arrangements.

1.3 Objectives of the analysis

The primary objective of our analysis is to understand the extent to which public expenditure responds to national climate change policy and the institutional demands required to implement it. This is achieved by quantifying the amount of public spending on activities related to climate change that pass through a country's budgetary system in response to the national policy setting. Recommendations can then be made for the further integration of such expenditure into budgetary allocation and budget execution processes. This objective is met by examining three interlinked analytical elements:

1. Examining **national policy processes** helps us build a picture of the overall context for climate change public expenditure, from the formulation of climate change policy to its linkages to spending through national strategies and action plans.
2. Mapping the **institutional architecture** unpacks the role and responsibilities of institutions involved in managing the response to climate change and their interaction. This provides an important basis for the allocation of public spending on climate change actions.
3. **Public expenditure** analysis quantifies climate change-relevant expenditures in the national budget. This is done by identifying selected activities, projects and programmes that are recognised as being part of the national response to climate change and then extracting and summarising budget estimates and, where possible, actual expenditures from the budget documentation.

1.4 Countries studied

Climate change is a phenomenon whose impacts are now being felt across all regions of the world. However, these impacts are unequally distributed and their consequences depend, in part, on the economic and technological capacity of each country. Climate change predictions indicate that

Africa south of the Sahara is the region that will be most affected (Solomon et al., 2007). Here, the increase in magnitude and frequency of climate variability is already causing concern for both national governments and the international community. The four countries of this study – Ethiopia, Ghana, Tanzania and Uganda – therefore provide valuable insights into the early mobilisation of climate change finance within an important region, as each country attempts to address the new challenges climate change is bringing about.

1.4.1 Ethiopia

Ethiopia has experienced strong economic growth in recent years, but the country has historically been plagued by weather extremes (particularly droughts), resulting in large income swings; such shocks are expected to become more pronounced and frequent in the future. The country is already experiencing more frequent droughts than in the past, leading to water scarcity and degradation of range resources, with a negative impact on food production.

Agriculture, water and range resources, biodiversity and human health are directly vulnerable to climate variability and change, with potentially huge social and economic impacts. There is also growing evidence of a link between climate-related disasters, conflict and security, with pressure on resources often leading to increased mobility and the probability of conflict.

Despite these challenges, Ethiopia has taken significant steps in terms of a national policy response and the design of sector strategies to deal with current as well as future impacts of climate change. The formulation of the 2011 Climate-Resilient Green Economy (CRGE) Strategy is considered a major step forward in terms of the country's commitment towards building a green economy that is also resilient to climate change (FDRE, 2011). The importance of this strategy is demonstrated by analysis that shows climate change may affect the gross domestic product (GDP) growth of the country by between 0.5% and 2.5% each year unless effective steps to build resilience are taken. Climate change thus has the potential to hold back economic progress, thereby exacerbating social and economic problems.

1.4.2 Ghana

Increasing climate variability is a serious threat to Ghana's national development also. Temperature increase, sea-level rise and greater rainfall variability (including unpredictable and extreme events) are some of the established evidence associated with climate change in Ghana. These impacts could thwart the country's vision of becoming a stable middle-income nation by 2020 because they will compound existing socioeconomic inequalities. Sectors such as agriculture, water resources, land, fisheries, forestry and energy, on which most people depend for their livelihoods, are expected to be severely affected.

The 2014 National Climate Change Policy (NCCP) gave policy direction to the government's response to climate change (MESTI, 2014). The vision of this policy is to ensure a climate-resilient and climate-compatible economy while achieving sustainable development through equitable low-carbon economic growth. As in Ethiopia, the national policy makes new and additional demands on public spending.

1.4.3 Tanzania

In Tanzania, the impact of climate variability is being felt in many sectors of the economy and there is evidence to show such variability is disproportionately affecting vulnerable sectors such as land, agriculture, water, energy and forestry. The complex relationship between climate change, water and poverty in the country is exacerbating these impacts. For example, climate change impacts on water systems can result in prolonged droughts, leading to a reduction in crop yields, food insecurity, water scarcity and recurrent power shortages; or to major floods that cause massive loss of property and lives. Climate variability is also interacting with other stress factors such as low levels of technology, poor governance and limited access to information to worsen the country's existing vulnerabilities.

In this context, the 2012 National Climate Change Strategy (NCCS) provides guidance for many of the implementation and coordination challenges (URT, 2012). However, as in the other three countries, less attention has been given to the funding of this response. So, while the National

Climate Change Strategy represents a significant milestone, it contains only the briefest of references to what financing mechanisms will be required to implement the proposed actions.

1.4.4 Uganda

As with the other three countries, Uganda's macroeconomic performance over the recent past has been strong, with steady growth in GDP since the late 1980s. GDP composition has shifted over time, with significant growth coming from the services and industrial sectors, although employment remains concentrated in the climate-vulnerable agriculture sector. Climate trends in Uganda remain uncertain. However, an increase in average temperature and a significant increase in mean annual rainfall are expected, with changes in the severity and frequency of extreme events (floods, droughts, heatwaves and storms).

Climate change as a policy concern has advanced in Uganda in recent years, with policy articulation on climate change increasingly becoming more consistent, clear and coherent. The 2012 National Climate Change Policy (NCCP) was an important milestone. However, policy narratives on funding with regard to volume, sources and delivery mechanisms are only now beginning to emerge. The present institutional arrangements concerning government's response to climate change are in a state of transition, with the creation of several new institutional structures making additional demands on the public finances.

1.5 Five questions posed

Five questions guide the analysis and provide a structure for the country accounts. Although descriptive in nature, the answers to these questions provide important information for an analysis of the effectiveness of public spending on climate change actions. The five questions each country study addresses are:

1. What is the level of public spending on climate change actions?
2. Who within the government administration is committing this spending?

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3. How strong is climate change as an objective of this expenditure?
 4. What climate change strategies are being supported?
 5. Where is the finance coming from?

By answering each of these questions, the country studies, individually and collectively, contribute to an improved understanding of the effectiveness of public spending on climate change, potentially strengthening the national (and international) response to this global phenomenon.

1.6 Structure of the book

This book is divided into three parts. The first part, which includes this introductory chapter, also

outlines the effectiveness framework used in each of the country studies. A third chapter discusses the methodological challenges associated with public expenditure reviews as applied to national climate change actions. The second part of the book provides country accounts for Ethiopia, Ghana, Tanzania and Uganda on the level and nature of climate change-relevant public spending, set in the context of each country's macroeconomic and public finance management systems. The final section concludes by drawing lessons for policy development, institutional strengthening, local delivery of climate change finance and monitoring of public finance, based on the insights gained from the country studies.

Chapter 2: An analytical framework to assess the effectiveness of public climate change finance

Neil Bird, Simon Bawakyillenuo and Nella Canales Trujillo

2.1 Introduction

This chapter describes the analytical framework that was developed for the four country studies and used to assess the effectiveness of public climate change finance. This framework provides an approach to measuring the overall effectiveness of the national systems that underpin public climate change finance delivery. Specifically, we assess three interlinked elements: the policy environment that supports climate change expenditures; the institutional architecture that determines relevant roles and responsibilities over funding decisions; and the public finance system through which climate change relevant expenditures are channelled. Key principles of effective climate finance delivery for each of these three elements are defined from the literature. We also define criteria and indicators that reflect the practical expression of the principles.

2.2 The effectiveness framework

Effectiveness is a performance measure and its scope depends on identifying an objective or problem to be solved, which is determined within a particular context. In this case, the objective is the national response to climate change in developing countries and the role public funding plays in that response.

The assessment framework uses a hierarchy of principles, criteria and indicators (PCI). The selected principles were drawn from the international literature and collectively indicate the characteristics of effective climate change finance delivery (see Bird et al., 2013). They are not intended to define any

ideal state, but rather provide a pragmatic challenge to current practice that can highlight important areas for progress. The framework provides, therefore, an outline for lines of enquiry rather than indicating a best practice ideal.

The principles attempt to formulate what good governance in the sphere of climate change public financial management (PFM) should look like. There is an extensive literature that supports, challenges and critiques the good governance approach and the (mis-)use of international best practice formulas to guide development interventions in low-income countries. Building on this debate, it is important to recognise that most government institutions, their policies and their spending patterns are often far from ideal. Country context varies enormously, from middle-income high-capability states through to fragile low-income states with weak government capacity. The application of this framework therefore needs to acknowledge these differing contexts and be interpreted on a country-by-country basis.

2.3 What makes climate change finance delivery effective in the national context?

The three interlinked elements of national public administration that provide information on the performance of the systems in place to manage climate change finance are not separate spheres of activity, but are intimately related with many interactions:

1. the overall policy environment that supports climate change expenditure, from the formulation of climate change policy to its linkages to spending through national strategies and action plans
2. the institutional architecture that determines the role and responsibilities of the different parts of the government administration involved in managing the response to climate change, and their interaction
3. the financial systems and instruments through which climate change-related expenditures are channelled, for example the national budget and other funding mechanisms. Such funding supports activities, projects and programmes recognised as being part of the national response to climate change

This approach builds on a methodology adopted for a series of country studies implemented by the UN Development Programme (UNDP) in South-East Asia, which began the detailed analysis of climate finance delivery at the national and subnational levels (Bird et al., 2012).

There are already many methodologies and tools available to assess the effectiveness of public administration and public expenditure management in developing countries. There are both high-level summary indices (e.g. the World Bank Institute's World Governance Indicators) and very specific diagnostic tools (e.g. the Public Expenditure and Financial Accountability (PEFA) framework). The approach adopted here involves developing a more intermediate level of analysis that is specific to climate change. This provides more detail than that found in high-level indices, which do not have a specific climate finance element, or in specific metrics such as PEFA. The intention is that this intermediate level of analysis will capture more contextual detail on the day-to-day operation of policies, institutions and public expenditure management practices relevant to climate change, thus making the analysis more focused for both country governments and the international community.

2.4 Applying the principles, criteria and indicators approach

The PCI framework comprises principles (fundamental laws or truths, expressing a core concept), criteria (operational standards by which to judge the principles) and indicators (information to measure or describe observed trends) (Prabhu et al., 1996). This approach is applied to each of the three elements of the national public administration system to draw together a composite picture of whether or not finance for climate change-related actions is being delivered effectively. The next three sections list the PCI that have been identified under each element.

2.4.1 Policy requirements for effective climate finance delivery

Four principles underpin the development and implementation of public policy and are relevant to the effective delivery of climate change finance:

1. ease of implementation (Nill and Kemp, 2009; van den Bergh, 2013)
2. legitimacy (Bierman and Gupta, 2011)
3. coherence (Bird et al., 2012)
4. transparency (Bird, 2010)

Climate change policies shall be designed for ease of implementation

Any assessment of climate change policies needs to address the issue of implementation. Ultimately, the effectiveness of any policy is measured by its outcomes, as 'no matter how effective a policy may be at achieving certain goals in principle, it is useless if it cannot be implemented' (Thomas and Grindle, 1990: 1178). To allow for implementation, a policy should be costed, have explicit, time-bound objectives and be supported by relevant instruments, including economic and regulatory measures as well as administrative norms. In short, if climate change policy is going to direct effective spending, it needs to come with a set of enabling instruments and regulations.

All stakeholders shall recognise the legitimacy of climate change policies

Climate change policies may require new governance arrangements incorporating a wide set of stakeholders, as climate change entails interdisciplinary and cross-

sectoral involvement. In general terms, legitimacy refers to the procedural processes of decision-making as well as the related governance arrangements (Biermann and Gupta, 2011). The representation of different stakeholders, including those at greatest risk from climate change, helps bestow legitimacy on policy design (Burton et al., 2002). However, equal representation of different groups is unlikely, as the different actors have different relative influence. For instance, those directly affected by climate change at the local level often lack a powerful voice with which to influence the executive and policy-makers in national government. Yet policy development should be open to many to secure the legitimacy of the policy-making process.

Climate change policies shall be coherent with national development policies

If they are to be effective, climate change policies need to be coherent with other government policies related to national development (Nill and Kemp, 2009). The national climate change response is often characterised by several strategy and planning processes, and their integration into broader national development planning to ensure the coherence of resource allocation is a recognised challenge. Although this challenge is not limited to climate change, the interdisciplinary and cross-sectoral nature of climate change puts high demand on securing strong coordination and coherence (which in the process may have to overcome vested interests that are resistant to change).

Climate change policies shall promote transparency in climate finance delivery

Transparent funding decisions are required in order to be able to demonstrate effectiveness in climate finance delivery. Climate change policy should, therefore, include appropriate guidance that commits all the key actors along the climate change finance delivery chain to high standards of transparency. For example, transparency of policies and public spending plans may be secured, in part, through timely publications made available to the general public and in the official records of the national legislature.

Table 2.1 lists criteria that relate to each of the above principles, together with indicators of

compliance. These criteria and indicators are not intended to be comprehensive, but rather focus on areas where there is often already some debate and traction in national policy circles.

2.4.2 Institutional requirements for effective climate finance delivery

An institutional assessment helps determine the extent to which existing institutions enable or hinder climate change finance delivery, allowing for an understanding of their ability (or lack of ability) to achieve this objective. Three principles identified from the literature on institutional performance considered to be relevant to the effective delivery of climate change finance are:

1. institutional coordination mechanisms (Booth, 2010; Flynn, 2011)
2. capacity to change and innovate (Imperial, 1999; Peters et al., 2012)
3. ability to respond to local needs (Booth, 2010)

A national mechanism shall exist for coordination between institutions involved in climate finance delivery

Coordination implies the organisation of different participants to enable them to work together in a systematic way. A government-led process of service delivery is a coproduction that involves the participation of diverse types of institutions, including government and non-government, formal organisations and informal collaborations. This mix of actors requires coordination capacity and incentive structures (Booth, 2010), as well as reporting systems (Flynn, 2011) across diverse levels of government. Institutional coordination for effective climate change finance delivery is made more complex because governance of climate change is highly dispersed and fragmented. Responsibilities are shared among a multitude of actors operating across numerous scales (Newell, 2011). In many cases, the environment ministry holds the lead on climate change policy and is the national UNFCCC focal point, but decisions over climate-related public expenditures will usually involve the finance ministry (Miller, 2012).

The multiple external financial flow channels exacerbate the fragmentation of inter-ministerial

Table 2.1: Policy-related effectiveness PCI for climate finance delivery

Principle	Criteria	Indicators
Climate change policies shall be designed for ease of implementation	<ul style="list-style-type: none"> • Policy objectives are clearly expressed. 	<ul style="list-style-type: none"> • Targeted objectives are listed in the policy documentation. • Timelines to achieve the set policy objectives are articulated in the relevant policy documents. • The method for mobilising financial resources to implement the policy is contained within the policy statement.
	<ul style="list-style-type: none"> • Means for implementation accompany policy statements. 	<ul style="list-style-type: none"> • Subsidiary instruments to achieve specific policy objectives are identifiable within the policy documents. • Timelines are in place to establish appropriate subsidiary instruments. • Appropriate subsidiary instruments are legally gazetted.
All stakeholders shall recognise the legitimacy of climate change policies	<ul style="list-style-type: none"> • Policy-making processes represent key stakeholders' interests. 	<ul style="list-style-type: none"> • Policy-making platforms exist, where key policy decisions are made (e.g. policy working groups, expert working groups, sector working groups). • Existing policy platforms provide for representation of key stakeholders from both government and civil society. • Existing policy platforms provide opportunities for stakeholders to contribute to the policy-making process.
	<ul style="list-style-type: none"> • Policy-making is evidence-based. 	<ul style="list-style-type: none"> • The policy formulation process is preceded by, and benefits from, background analytical work. • Policy think-tanks and research institutions provide evidence-based analysis to support the policy process.
Climate change policies shall be coherent with national development policies	<ul style="list-style-type: none"> • Policy statements on climate change acknowledge national development goals. 	<ul style="list-style-type: none"> • Reference is made to national development goals in the national climate change policy.
	<ul style="list-style-type: none"> • Climate change actions are consistent with strategies and planning processes for national development. 	<ul style="list-style-type: none"> • Climate change strategy documents and national development plans refer to each other.
Climate change policies shall promote transparency in climate finance delivery	<ul style="list-style-type: none"> • Climate change policies provide for the establishment and operationalisation of mechanisms and modalities to promote transparency. 	<ul style="list-style-type: none"> • Mechanisms and modalities exist to promote transparency of climate finance

Source: Bird et al. (2013).

decision-making (Thornton, 2011). A robust coordination mechanism between national leads on climate change policy and expenditure is therefore needed to ensure that, when national climate policies are put in place, priorities are then translated into

expenditure decisions in the budgetary process, as well as for extra-budgetary funds. For instance, when parts of external finance are channelled through such channels, an extended mechanism would involve liaison and, to some extent, coordination with extra-

budgetary fund administrators, multiple donors and civil society representatives.

Institutions shall demonstrate a strong ability to change and innovate

An institutional ability to cope with high levels of complexity and uncertainty in the face of new challenges is crucial in terms of capacity for change. Considering that climate change policy – and hence its funding – is relatively new, and that the vulnerability context changes constantly because of interactions between social and environmental conditions, ability to demonstrate institutional innovation is an important characteristic to secure the effective delivery of climate change finance. Mapping how the current institutional infrastructure responds to such challenges can indicate the level of change and innovation capacity of the institutions concerned.

Climate change institutions shall respond to local needs

‘Meeting the needs of the most vulnerable to climate change will require a strong local finance delivery mechanism’ (Bird, 2011: v). Such a mechanism depends on the capacity of institutions that have a local (i.e. subnational) presence or anchorage. Institutions that enable local collective action comply with a double sense of local anchorage: ‘the rules they incorporate are problem-solving in the local context and they make use of institutional elements inherited from the past’ (Booth, 2010: 34). Therefore, this principle can be expected to exert a strong influence on the effectiveness of climate change finance delivery.

The effectiveness of climate change finance will depend on how far these three institutional principles are respected and followed in practice. Table 2.2 lists the principles, with the criteria and indicators, that support an assessment of progress towards the attainment of each principle.

2.4.3 Public expenditure requirements for effective climate finance delivery

High-level principles for effective PFM are set out in numerous handbooks provided by various donor agencies (e.g. Allen and Tommasi, 2001; Potter and Diamond, 1999; Schiavo-Campo and Tommasi,

1999; Shah, 2007). In addition, the PEFA methodology represents the most developed and widely used diagnostic tool to assess country performance in public expenditure management. However, the approach developed for the country studies does not rely on the PEFA methodology, as it aims to assess a more intermediate level of government effectiveness that allows for greater understanding of the context in which climate financing is being handled. It does, however, follow the stages of the national PFM cycle.

Climate change expenditure shall be planned and budgeted for in the annual budget formulation process

Good practice budget preparation for climate change expenditure would involve the scrutiny and challenging of spending proposals, based on the results of monitoring and evaluation of performance in previous years. It would also involve consultations with external stakeholders, culminating in detailed information on the proposed budget and an understandable public explanation of the budget’s intentions.

An effective planning and budgeting process would also require all relevant bodies to submit planned expenditures to the finance ministry to highlight their climate-related plans. A political process would then determine the relative priority of these proposals and generate agreement among agencies that they will abide by the results of the process. Monitoring and evaluation of climate change-related expenditure from previous years would inform this prioritisation process, so as to give decision-makers an understanding of the progress being made against overall climate change policy goals. However, many finance ministries continue to approach budgeting on a case-by-case consideration of increases or decreases to a specific ministry’s budget, rather than on the basis of a cross-government programme of expenditure, such as the response to climate change.

Climate change expenditure shall be executed through government systems using the budget

Spending agencies should follow a standard process of committing expenditure, verifying the delivery of

Table 2.2: Institutional effectiveness PCI for climate finance delivery

Principle	Criteria	Indicators
A national mechanism shall exist for coordination between institutions involved in climate finance delivery	<ul style="list-style-type: none"> • Leadership of the national response to climate change in terms of climate finance delivery is established within the government administration. • Key stakeholders know the roles actors play in the delivery of climate finance. • Other actors within the policy making process outside government (e.g. the legislature, party-governing committees) review and challenge policy. • Institutional arrangements are in place for inter-agency collaboration. 	<ul style="list-style-type: none"> • The national lead institution has the mandate to determine or advise on what constitutes climate finance. • The national lead institution provides specific inputs and guidance into the budget process and the budget on what constitutes climate finance. • All mandated national institutions report their expenditures on climate change activities each financial year. • Relevant actors provide opportunities (presentation of memoranda, petitions, convening of public hearings) and encourage non-state actors working on climate change to present their voices. • Mechanisms for inter-agency collaboration between climate change institutions and other national institutions can be identified. • Reports on inter-agency collaboration and climate-financed activities are available to the public.
Institutions shall demonstrate a strong ability to change and innovate	<ul style="list-style-type: none"> • The national response to climate change facilitates the adoption of change and promotes innovation. 	<ul style="list-style-type: none"> • New institutional arrangements are established as demand occurs through appropriate policy, administrative or political action (e.g. through the production of national strategies and action plans).
Climate change institutions shall respond to local needs	<ul style="list-style-type: none"> • Institutional arrangements respond and adapt to local needs. 	<ul style="list-style-type: none"> • Funding is directed to local climate change institutions within the national budgetary system.

Source: Bird et al. (2013).

goods and services, authorising and making payment and then recording the transaction appropriately (Potter and Diamond, 1999). The finance ministry, as the agency with overall responsibility for overseeing delivery of the approved budget, should have information systems that are robust enough to allow it to monitor and track expenditure on a regular basis. Ministries themselves should actively monitor and manage their own expenditure to anticipate expenditure shocks and to ensure their expenditure reflects the climate change-related activities they have outlined in their budget proposals.

However, this type of effective cash management is a challenge in many countries, as domestic revenue and international funding may not be spread equally across the budget period. This presents knock-on challenges for spending agencies that may undermine implementation plans, resulting from the lack of availability of sufficient funds to pay for the necessary goods and services. Such challenges are often particularly acute for subnational governments (e.g. district and provincial authorities). Such authorities may not be fully connected to any national integrated financial management system, while also facing communication difficulties because

of the geographical distances between their location and the national capital.

Climate change expenditure shall be subject to proper classification, accounting and financial reporting

Climate change-related expenditure should follow the standard pattern of financial reporting and accounting, with PFM systems able to capture and record expenditure as part of a comprehensive system of classification, financial reporting and accounting. Accounting for expenditure should be done on the same basis as the original budget, allowing for a rapid and straightforward comparison of expenditure against original plans. In practice, this means classifying individual expenditures against the same coding system as used in budget planning. However, analyses of spending on climate change-related activities is possible only if a system to identify climate change spending is in place and budgets for climate adaptation and mitigation activities contain adequate funding to monitor and evaluate such expenditure.

Climate change-related expenditure shall be subject to external oversight and scrutiny

Climate-related expenditures should be part of the whole-of-government approach to external audit and scrutiny. External audit and scrutiny aims to review the degree to which the budget has been executed correctly, in accordance with the law and administrative regulations. Typically, this is the role of a publicly appointed auditor-general or equivalent. This entity is responsible for reviewing the government's published accounts, ensuring the accuracy of transactions and the correct reconciliation of accounts and assessing the evidence that correct procedure has been followed.

Expenditure for climate change strategies should be reviewed and audited in the same way as any other government expenditure. Where climate change related expenditures are identified, it should be possible for the supreme audit institution to focus on performance in this area of the budget. However, given the current absence of systems to track and monitor climate change-related expenditure, specific climate analysis is unlikely. Instead, wider audits will capture climate

spending that is on budget. For off-budget funds, specific audit requirements are likely to be in place that the funds' governing bodies sign off on.

It is also normal for the legislature to be involved in budget scrutiny and oversight through its review of budget implementation after the end of the year. It might be that the entire legislature is involved in the review of the previous year's budget execution and the auditor-general's report, through debates on the audit findings, or this work may be delegated to specific finance or public expenditure committees that review audit reports in detail and challenge the government administration to respond to specific findings. Climate change-related spending may well be included in the remit of such committees alongside other types of spending. This is yet another area where the challenges of separately identifying and monitoring climate change-related spending have an impact on the understanding of national climate change adaptation and mitigation.

Table 2.3 details the criteria and indicators considered relevant to assessing present day practice against these four principles of public expenditure management.

2.5 Conclusions

The framework described in this chapter is an analytical tool that can assist with assessment of the effectiveness of climate change finance delivery. It approaches the effectiveness question through a focus on institutional and governance processes and, by so doing, emphasises the early stages of the input to impact continuum. It is considered an appropriate measure reflecting the early stage in most countries response to climate change. However, a sole focus on inputs is also acknowledged to be an insufficient measure of effectiveness, as inputs are often a poor proxy for the outcomes and impact of publicly funded actions. This constraint is recognised: further study will be required to develop effectiveness measures based on the substantive outcomes associated with national climate change strategies. In the meantime, this framework allows us to obtain some insights into the strengths and weaknesses of present day systems in support of the national response to climate change.

Table 2.3: Public expenditure effectiveness PCI for climate finance delivery

Principle	Criteria	Indicators
Climate change expenditure shall be planned and budgeted for in the annual budget formulation process	<ul style="list-style-type: none"> Budget preparation captures the actors involved in climate change expenditures. 	<ul style="list-style-type: none"> Adherence by all climate change actors to a budget calendar for the formulation of the national budget. Representation of climate change concerns in the discussion and scrutiny of spending proposals, resulting in the development of the national budget's priorities. <i>Ex-ante</i> scrutiny, challenge and approval of the national budget, and its climate change provisions, by a legitimate authority (e.g. the national legislature).
	<ul style="list-style-type: none"> Budget preparation identifies key climate change expenditure. 	<ul style="list-style-type: none"> Budget classification structures allow for climate change expenditure to be identified across ministries, departments and agencies. Budget information that includes climate change expenditure is publicly available.
	<ul style="list-style-type: none"> Budget preparation captures climate change expenditure in a medium-term policy framework. 	<ul style="list-style-type: none"> The government has a medium-term policy and expenditure framework for key areas of spending, including climate change.
	<ul style="list-style-type: none"> Budget preparation takes into account the findings of the audit, evaluation and monitoring of government programmes. 	<ul style="list-style-type: none"> The key recommendations of any audit, monitoring and evaluation exercises for climate change programmes are considered.
Climate change expenditure shall be executed through government systems during the budget year	<ul style="list-style-type: none"> The finance ministry manages cash flow to ensure resources are available to spending agencies in line with the approved budget. 	<ul style="list-style-type: none"> Cash is available to agencies to fulfil their climate change commitments in line with the approved budget.
	<ul style="list-style-type: none"> In-year adjustments to the budget are done only when unavoidable and aim to maintain delivery on the government's budget priorities. 	<ul style="list-style-type: none"> Spending agencies maintain oversight of their climate change operations to manage any unexpected financial shocks.
	<ul style="list-style-type: none"> Climate funds are spent in line with the planned budget. 	<ul style="list-style-type: none"> Expenditure tracking reports against the budget for climate funds are available to fund management committees to meet in-year reporting requirements.
Climate change-related expenditure shall be subject to reporting and accounting	<ul style="list-style-type: none"> Government financial statements (reports) exist for all expenditure, including climate change expenditure. 	<ul style="list-style-type: none"> Government financial statements that cover climate change and all other expenditure are published in a timely manner (in compliance with national timetables) after the end of the budget period. Financial reports can be related back to the original budget format, allowing assessment of climate change expenditure compared with the approved budget.

Table 2.3: Public expenditure effectiveness PCI for climate finance delivery (continued...)

Principle	Criteria	Indicators
<p>Climate change-related expenditure shall be subject to external oversight and scrutiny</p>	<ul style="list-style-type: none"> • Government financial statements are independently audited. <hr/> <ul style="list-style-type: none"> • The legislature reviews government accounts and audit findings and provides challenge and scrutiny. 	<ul style="list-style-type: none"> • The supreme audit institution undertakes a timely audit – to international public sector audit (INTOSAI) standards – of government financial statements, including those of climate change-related elements. • Findings from these financial audits, compliance audits and performance audits are made public. • As a result of these audits, recommendations are made to government on ways to improve their handling of public finances, including climate change expenditures where appropriate. <hr/> <ul style="list-style-type: none"> • Audit findings, including those relevant to climate change expenditure, are transmitted to the legislature and/or its relevant committees. • The legislature and/or its relevant committees are able to understand and use the financial information presented. • The legislature and relevant committees engage in a scrutiny and challenge function regarding government financial performance, including performance against climate change objectives.

Source: Bird et al. (2013).

Chapter 3: Methodological issues associated with identifying public expenditure on climate change actions

Neil Bird and Deograsias Mushi

3.1 Introduction

As the previous chapter described, the methodology developed for the country studies focused on an assessment of public expenditures recorded in the national budget, together with the policy and institutional drivers of that expenditure. The methodology built on the Overseas Development Institute's (ODI's) experience of climate public expenditure and institutional reviews (CPEIRs) carried out in South and South-East Asia in partnership with UNDP¹ (e.g. Government of Nepal, 2011). A major challenge for this type of analysis is that a manual examination of budget spending is necessary for the identification and summary of climate-change relevant expenditures. This task is a challenging and time-consuming one, which explains, in part, why this is a poorly developed area of public expenditure analysis.

The following sections describe the steps the research teams took to identify relevant expenditures within the national budgets in each of the four countries.

3.2 First step: identifying relevant policy areas and government ministries

The teams used a prioritised approach to identifying climate change-relevant expenditure, recognising that it was not possible to review each and every expenditure item within a national budget (which

can number in the tens of thousands of classification codes). The approach began by identifying those policy areas and administrative units most likely to be relevant to climate change, and then drilled down into the details of sector financing in order to identify relevant expenditure. As a result, there remains a risk that the analysis missed climate change-relevant activities undertaken in sectors considered not relevant to climate change (e.g. in defence). However, this risk was considered small and unlikely to have affected the overall conclusions reached.

In each country, the relevant policy areas were ascertained from national policy documentation. In recent years, these countries have carried out a range of studies to examine how climate change may affect the national economy. These provided an important starting point for the analysis (e.g. GCAP, 2011; Hepworth and Goulden, 2008; MESTI, 2013; World Bank, 2010). Although the exact nature of climate change remains uncertain, likely impacts across a number of policy areas were identified and are listed in Table 3.1.

Following the identification of relevant policy areas, the analysis then related the findings to the ministries mostly likely to be active in these areas. A feature of most national budget systems across the world is that public expenditure is managed on the basis of an individual ministry or other government institution, rather than by sector; in other words,

¹ <http://www.aideffectiveness.org/climatechange/finance>

appropriations and budgets are structured administratively, rather than by policy, function or programme. As a result, identification of spending lines had to be carried out on an institution-by-institution basis. The relevant ministries were

cross-checked through reference to national documentation, including climate change implementation strategies, which had identified priority climate change programmes and the ministries expected to deliver them.

Table 3.1: Anticipated impacts of climate change and possible response actions

Policy area	Examples of climate change impact	Possible response actions
Agriculture	Decline in crop yields, raised livestock mortality and subsequent food insecurity	Improving efficiency of crop and livestock production practices; soil and water conservation; introducing sustainable land management technologies
Forestry	Reduced yields and increased sensitivity to fire and disease in both exotic and indigenous tree species	Improved forest conservation and management; establishing forests on degraded lands to build carbon stocks
Energy	Changes in demand levels; hydro-electricity supply weakened by changing river flows/lake levels	Expanding electricity generation from renewable sources of energy; introducing more efficient cooking stoves
Transport	Physical damage to existing infrastructure; higher maintenance costs	Introducing modern and energy-efficient technologies, including light rail and bus rapid transit systems in urban areas
Water and sanitation	Changes in water quantity and quality; greater water demand	Improved water usage (e.g. water basin management and small irrigation schemes)
Health	Mortality and severe injury caused by extreme weather events; increase in climate-related disease incidence	Strengthened disaster risk management and early warning systems
Housing and settlements	Physical damage to existing settlements caused by increasing frequency of catastrophic weather events	Introducing modern and energy-efficient technologies
Industry	Decline in domestic production, worsening terms of trade	Introducing modern and energy-efficient technologies

Source: Authors' compilation.

3.3 Second step: identifying climate relevant programmes and projects in the development budget

Once the relevant ministries had been identified, the analysis moved to a detailed review of the individual programmes and projects within each ministry's

annual development budget. Governments' budget systems consist of several layers of information. Expenditure items are coded to express a number of categories that help identify the nature of individual expenditures, including categorisation of expenditures by department, programme and

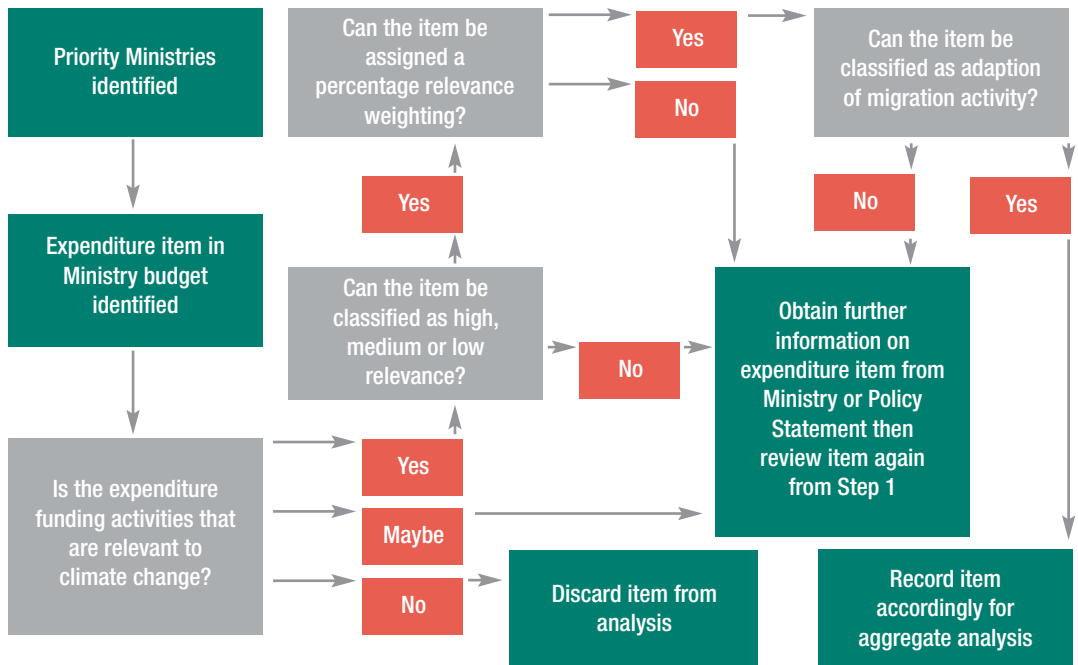
project. The second major task was therefore to compile a list of all the programmes and projects for each of the selected ministries for assessment of their relevance to climate change.

The description of programmes in the budget documentation was usually very brief, for example ‘administration’ or ‘rural water and sanitation’. It was relatively straightforward to review and exclude items from the expenditure analysis on the basis that they were not related to climate change, for example a ‘construction of State House’ project. Equally, certain programmes and projects were clearly relevant to climate change adaptation or mitigation (e.g. ‘hydropower construction’). Others were less clear (e.g. ‘capacity-building in the Ministry of Agriculture’). Where expenditure items were less clear in their relationship to climate change, the team always undertook further investigation. The first reference point was any documentation published alongside the budget that contained more

information on the activities by the ministry concerned, such as ministerial policy statements that included details on the programmes and projects being implemented. Using this information, it was sometimes possible to decide whether a particular expenditure item was climate change-relevant or not. Where it was not, contact was made with well-informed officials in the ministry concerned before making a final decision on the selection of relevant actions.

Once the relevant spending item was identified, three additional stages were required to classify the relevant public expenditure: the team 1) estimated the level of relevance of the identified expenditure to climate change; 2) assigned to each item of expenditure a percentage weight that reflected its relevance; and 3) determined the focus of the expenditure on either adaptation or mitigation action. Figure 3.1 shows a summary stylised view of this process.

Figure 3.1: Diagrammatic representation of approach to the classification of expenditure items



Source: Tumushabe et al. (2013).

3.4 Third step: allocating high-, medium- and low-relevance to identified expenditures

Once a relevant expenditure item was identified in a ministry, it was then allocated into one of three broad categories. This classification tried to capture how explicit and direct the response to climate change was as an intention of the planned expenditure. It also took into account that most public expenditure has more than one objective, and therefore aimed to capture spending where the response to climate change was one of several intended outcomes.

Initially, the teams identified three categories: high-, medium- and low-relevance, using the following definitions are a guide:

- high-relevance: projects that had a clear focus on climate change adaptation or mitigation, where the stated primary objective of the expenditure was to deliver specific outcomes that were climate change-related
- medium-relevance: those projects and programmes that had a stated secondary objective relating to climate change adaptation and/or mitigation outcomes, but where the primary objective of the expenditure lay elsewhere
- low-relevance: spending that supported activities that displayed attributes where indirect adaptation and mitigation benefits might be expected (e.g. social protection programmes). This third category attempted to identify actions where, although there was no intention to respond to climate change, the outcome of the expenditure led to greater adaptation or mitigation capacity. This was the most challenging category to identify with confidence; much depended on the knowledge of the research team and the understanding of climate change impacts by government officials

The study teams in Ethiopia, Tanzania and Uganda applied these categories of relevant spending but in Ghana the team identified only high- and medium-relevance actions. In this last country study, the definition of high-relevance remained the same but medium-relevance expenditures were identified

as those where the description of the planned action in the budget documentation could be readily linked to actions listed under each programme and focus area of the NCCP Master Plan. By explicitly tying the relevance of the expenditure to a well-developed national strategy, the relevance of the spending could be more readily explained to sector planners and their budget officers.

Table 3.2 sets out the definitions the country studies used to allocate expenditure lines into high-, medium- or low-relevance categories.

3.5 Fourth step: determining the percentage weights to identified expenditures

Following the logic of the relevance approach, if only part of the intended impact of a programme was relevant to climate change adaptation and/or mitigation, then we should count only a commensurate part of the expenditure. A percentage weight was therefore applied to each expenditure item. Table 3.3 indicates the range of percentages applied for each level of relevance. For the first three country studies, the percentage to be applied to any one expenditure was then made using 10% intervals within each relevance class, reflecting the assumed level of precision possible with this type of analysis. This percentage weighting was based on information gathered from official documents, the knowledge of the study team and individual follow-up with relevant officials in the ministries concerned. For the Ghana study a simpler approach was adopted, with all high-relevance projects being assigned 100% of funding and all medium-relevance projects 50%. The latter weighting was decided on to reflect the inherent imprecision of this approach, associated with the limited budget information available to the study team. This difference in methodology should be recognised as limiting the scope for cross-country comparisons.

This element of the classification is subjective. There is no objectively 'correct' percentage of spending to attribute to climate change expenditure, so this approach should be viewed as a 'best estimate'. Different researchers might apply different weights. However, using an approach that first

Table 3.2: Examples of high-, medium- and low-relevance expenditures

Relevance	Definition	Examples of projects and programmes
High	Clear primary objective of delivering specific outcomes that improve climate resilience and adaptation or contribute to mitigation	<ul style="list-style-type: none"> • Energy mitigation (e.g. renewables, energy efficiency) • The additional costs of changing the design of a programme to improve climate resilience (e.g. extra costs of climate proofing infrastructure, beyond routine maintenance or rehabilitation) • Health care for climate-sensitive diseases • Building institutional capacity to plan and manage climate change, including early warning and monitoring • Raising awareness about climate change • Anything meeting the criteria of climate change funds (e.g. GEF, GCF, PPCR)
Medium	Either 1) secondary objectives related to building climate resilience and adaptation or contributing to mitigation or 2) mixed programmes with a range of activities that are not easily separated but include at least some that promote climate resilience or mitigation	<ul style="list-style-type: none"> • Forestry and agroforestry motivated primarily by economic or conservation objectives, because this will have some mitigation effect • Water storage, water efficiency and irrigation motivated primarily by improved livelihoods because this will also provide protection against increasing drought • Biodiversity and conservation, unless explicitly aimed at increasing resilience of ecosystems to climate change or increasing carbon sequestration • Ecotourism, because it encourages communities to put a value on ecosystems and raises awareness of the impact of climate change
Low	Activities that display attributes where indirect adaptation and mitigation benefits may arise	<ul style="list-style-type: none"> • Water quality, unless the improvements in water quality aim to reduce problems from extreme rainfall events, in which case the relevance would be high • General planning capacity, either at national or local level, unless it is explicitly linked to climate change, in which case it would be high • Livelihood and social protection programmes, motivated by poverty reduction, but building household reserves and assets and reducing vulnerability. This will include programmes to promote economic growth, including vocational training, financial services and the maintenance and improvement of economic infrastructure, such as roads and railways

Source: Authors' compilation.

relates how climate change features as an objective of the expenditure limits the discretion of those making the judgement and increases the likelihood that a different study team will come to broadly similar conclusions.

3.6 Fifth step: identifying climate change-relevant expenditure within recurrent budgets

Public expenditure analysis should ideally cover both recurrent and development expenditure, as in many countries the government budget is split between these two categories. In theory, recurrent expenditure meets the day-to-day costs of government services and the development budget provides funding for capital and new investments.

Table 3.3: Weighting of expenditure for different levels of relevance, Ethiopia, Ghana, Tanzania and Uganda (%)

Relevance category	Percentage weighting for expenditure			
	Uganda	Tanzania	Ethiopia	Ghana
High	>75%	>75%	>75%	100%
Medium	26–74%	26–74%	26–74%	50%
Low	10–25%	10–25%	10–25%	–

Source: Authors' compilation.

However, this distinction is not always adhered to, which means in practice it can lack meaning. Many countries that receive official development assistance (ODA) classify all donor-financed projects as development spending irrespective of whether they are funding recurrent or capital expenditure.

In both Ghana and Uganda, the budget classification allowed for the identification of the recurrent component of each relevant development programme, so recurrent expenditure was classified in the same way as development expenditure. In Ethiopia, once the team had identified the climate change-relevant programmes within the development budget, they then reviewed the recurrent budget of each sub-agency where a development project had been identified and applied a percentage to the recurrent budget using weights of 50%, 30% and 10% for the high-, medium- and low-relevance expenditure lines, on the basis that not all recurrent resources would be in support of the identified relevant development projects. In Tanzania, the study team decided to apportion the same percentage weight to each ministry's recurrent budget as that attributed to the development budget for that ministry. These slightly different approaches reflect the uncertainty in this type of analysis associated with partitioning the recurrent side of the budget that meets the day-to-day running costs of the government administration.

3.7 Treatment of international grants in the national budget

In some countries, government financial regulations require the inclusion of all donor funds in the budget and in reported expenditures. In practice, there are challenges to achieving this. The ability to capture international funds (either ex-ante in budget appropriation or ex-post in reporting) varies according to the nature of the aid received and the channel of funding used. There are three channels through which external donor grants are disbursed:

1. Funds follow normal government financial channels; these are fully captured in the budget.
2. Donors disburse funds to sector ministries rather than the central finance agencies of the government, but these are also captured in the budget since the sector ministries report to the finance ministry.
3. Donor funds are disbursed directly to projects and programmes operating outside government structures. These are very difficult to capture.

The analysis of national budget data considers spending by donors through the first and second channels only. Expenditure passing through the third channel is not captured with the same level of consistency and this raises the danger of double-counting of expenditures, making the monitoring of such flows quite problematic. This has resulted in inadequate capture of this third channel of funding in climate change public expenditure analyses to date (including in our four country studies).

However, with regard to the first and second channels, most budget systems allow for some identification of the source of expenditure, at least for the development budget. Within the coding of expenditure through the Chart of Accounts, it is often possible to identify the funder of the expenditure line. Expenditure items financed from government revenues can be considered domestically funded,² whereas items listed as ‘donor’ will be externally financed (although budget systems rarely identify the specific donor providing funding within the budget system). An analysis of the source of funding in this way was possible in Ethiopia, Tanzania and Uganda but not in Ghana, owing to lack of data.

3.8 Conclusions

Comprehensive budget data covering both budgeted expenditure and final outturn are rarely available in one single volume or dataset and therefore have to be constructed for any public expenditure review. Some datasets – mostly budgeted expenditure – are in the public domain; however, access to data on actual outturns often requires direct engagement with the finance ministry and accountant-general or similar.

Further challenges to public expenditure reviews include that presentation of the data within budget systems’ various categorisations is not always consistent and directly comparable from year to year. In addition, the administrative structure of government changes, meaning some ministries are split or merged into other institutions. This complicates the task of trying to track expenditure on the same activities through different ministerial configurations over any time period. As a result, there is rarely a clear and fully comprehensive ‘line of sight’ of expenditure from budgets to outturns for all programmes on the same basis across a number of years. In some cases, therefore, it was necessary to work manually, putting together information from a number of slightly different datasets in order to construct a picture of expenditure over the study period.

Regarding international climate funds, expenditure data tend to be less completely recorded and available. Whereas government expenditure passes through regular PFM systems and is therefore largely identifiable through the government budget, international climate fund spending is far more difficult to track. For example, central government will be unlikely to record spending by an international NGO acting as project implementer on climate change-related disaster preparedness in a particular district. Yet, if such projects are taking place within the country, they can form an important part of total national expenditure on climate change-relevant activities. Further analysis of public funding on climate change actions beyond a focus on the national budget is thus required.

There can also be substantial domestic extra-budgetary funds in operation. Such funds may not be included in the budget documentation, or in the monthly or quarterly financial reports of the national government. Off-budget funds may include very large capital investments, such as hydropower, geothermal, wind power and railway projects, which may have a strong climate change-relevant dimension. Further analysis is then also required to determine the expenditures going through such extra-budgetary arrangements.

Many countries operate a multi-level structure of government administration and spending. Analysis of climate change-relevant public expenditure to-date has focused on national spending. It has not examined in a systematic way the financial transfers made to subnational governments, or expenditures that such subnational governments make using their own locally generated revenue. Further analysis of subnational government and off-budget financial information needs to be considered in future in order to make it possible to assess the totality of the government’s public expenditure on climate change-relevant activities.

Hence, the type of expenditure analysis carried out in the four countries are constrained with regard to documenting the full extent of the financial

2 The complication to this analysis is general budget support, which is provided by donors but goes to fund general expenditure through the consolidated fund. General budget support revenues can be a sizeable aspect of overall government revenues. However, given that they are provided on the explicit understanding that they are not allocated or earmarked, but are intended to fund general government activities, they can be considered ‘own revenue’.

resources being directed at climate change actions in each country. This is clearly a drawback when it comes to policy and institutional analysis, as a significant, but unknown, level of resources lies outside the analysis. Accepting these limitations, there is still merit to focusing initially on the national budget system, as its linkages to the domestic policy setting and national institutions can be assumed to be strong.

Part B: Public climate finance expenditure analyses

Chapter 4: An introduction to the country studies

Neil Bird, Felix Asante, Zewdu Eshetu, Godber Tumushabe and Pius Yanda

4.1 Introduction

A country's macroeconomic and fiscal setting defines the context for public spending on climate change actions. Any discussion on the application of this category of public expenditure therefore needs to be preceded by an understanding of the prevailing macroeconomic conditions and PFM systems of a country.

The four countries that are part of this study are at a critical point in their economic and social development. Three (Ethiopia, Tanzania and Uganda) remain within the UN's least developed country (LDC) categorisation; Ghana attained lower-middle-income country status in 2011. All aspire to be prosperous advanced economies, but it is the nature of their projected development that climate change has brought into stark relief. Traditional high-carbon growth has come under scrutiny as all countries seek to find development pathways that are compatible with a response to climate change.

This chapter first provides an overview of the prevailing macroeconomic and PFM conditions in the four countries, drawing out some of the common challenges that face each to set the scene for an analysis of climate change public finance. This subsequent analysis centres on addressing five questions:

1. What is the current level of public spending on climate change actions?
2. Who in the government administration is committing this expenditure?
3. How strong is addressing climate change as an objective of this expenditure?
4. What climate change strategies are being supported?
5. Where is the money coming from?

This chapter provides an introduction and broad response to each of these questions; subsequent chapters re-examine them in more detail for each country.

4.2 Macroeconomic and public financial management context

The macroeconomic and fiscal policy setting in all four countries provides a challenging environment for the public funding of climate change actions. Considerable economic and social change is underway, reflected in a volatile fiscal environment where public expenditure is not managed in a stable and controlled manner. This puts the achievement of climate change policy objectives under a high degree of uncertainty, often leading to slow implementation. This uncertainty is apparent across a range of measures, as the following sections detail.

4.2.1 Economic growth

The economies of all four countries exhibit similar structural characteristics. Agriculture, long the mainstay, has over the past decade lost its pre-eminence as the engine of growth to the services and industry sectors. All four countries can be seen to be at an historical moment in their development, as agrarian economies give way to industrialised states. Change is happening quickly, and the impact of climate change represents both an opportunity and threat under these circumstances. An increasing share of economic growth generated from services and industry should increase the economic resilience of the country as climate patterns change. Services and industry are somewhat protected from the uncertainties of climate change, whereas rain-fed

agricultural production is particularly at risk. In addition, these sectors add more value than agriculture, thereby raising the prospect of larger public revenues through taxation, which might in turn support higher public expenditure, potentially including on climate change actions. The overall prospects for continued economic growth even under the climate change scenario therefore appear broadly promising.

However, the shift in the locus of economic growth away from agriculture has not been accompanied by a similar movement in labour and employment opportunities. As a result, the economies of these countries have yet to see any structural transformation that would lead to a new model of growth. Climate change represents a very significant risk to the well-being of the considerable populations, in particular the rural poor, who continue to engage in subsistence and low-return agriculture. There is already recognition that the impact of climate change will be felt disproportionately by the poor and that these impacts risk undermining longstanding national poverty reduction strategies.

At the same time, the growth of the urban middle class means social change is taking place in each of these countries. This may lead to a broader tax base for raising government revenue, which could lead to greater public expenditure. However, it may also lead to unsustainable levels of consumption, exacerbating the negative impacts of climate change. This is evident in the rapid increase in private car ownership, with the ensuing heavy traffic congestion in major cities, one consequence of which is that urban pollution is becoming a new environmental concern that governments are only beginning to address.

One area of the economy that is particularly relevant to climate change considerations is energy provision. In none of the four countries has electricity supply been able to keep up with increasing demand for electricity. As a result, electricity rationing has been common, with an associated continuing heavy dependence on biomass fuels. Clean energy has been slow to replace carbon-based power generation; if anything, there has been some reversal in recent years, as hydropower

schemes have been put at risk through changing precipitation patterns as a result of climate change. In Ethiopia, diversifying renewable energy resources is underway through large-scale exploitation of wind, solar and geothermal energy. In Ghana, Tanzania and Uganda, national exploitation of fossil fuel reserves has begun. How each country manages the transition in its energy provision, with all the consequences for carbon emissions, has yet to become clear, but the use of climate change finance to resource major public investment programmes in clean energy is already apparent.

In many ways, economic growth in these countries is at a pivotal moment, with the forward development pathway as yet undetermined. The prospect of high-carbon development remains despite the international consensus moving towards low-carbon economies.

4.2.2 Inflation

Inflation has been a major destabilising factor to growth in each of the four countries. High and volatile inflation has a negative effect on public expenditure management by creating considerable uncertainty in the budgeting process. Across all areas of expenditure – including climate change actions – governments face the pressure of making budget adjustments to account for changes in purchasing power, creating discrepancies between budget projections and actual expenditure. Large, multi-year capital projects that often feature as early strategic investments of national climate change strategies are particularly exposed to such inflationary pressures.

4.2.3 Sources of public revenue

Fiscal policy in all four countries aims to increase public revenue through the improved administration of national taxation policies. There have been some notable advances in raising public revenue through institutional reform, including the creation of revenue authorities in Ethiopia and Uganda. However, a significant increase in domestic revenue awaits structural change in each country's economy. At the current time, a large number of the economically active population operate in the informal sector of the economy and therefore

remain outside the tax base. Equally, tax avoidance and evasion by large-scale business represents a significant challenge. These twin pressures limit the scope for raising domestic public revenue levels in the short term.

The four countries continue to receive ODA from international donors. Almost all international climate change finance has been delivered through ODA channels and is therefore subject to the norms that apply to this type of funding. One characteristic of ODA funding common across all four countries has been the considerable volatility associated with this revenue source, which has undermined the orderly function of the national budget. International funding remains an important source of funding for national climate change actions but increasing its predictability should be a priority for both donors and recipient governments.

4.2.4 Recurrent and capital expenditure

The national response to climate change requires significant public investment, be it in renewable energy programmes that will develop wind and hydro-energy production capacity, in resilient water management systems for agriculture and human use or in forest development for landscape restoration and economic gain. Such public spending is associated with governments' capital budget, but this type of expenditure appears to be under pressure, with a declining share of capital expenditure in total government expenditure observed in Ghana and Ethiopia. A declining share of the budget spent on capital items will challenge the timely implementation of each country's national climate change strategy, given that these are heavily biased towards physical adaptation investments. With domestic spending constrained in this way, major public investment programmes (including those in response to climate change) tend to rely on international support, which is subject to the uncertainties of funding referred to above.

4.2.5 Approved and actual expenditure

Actual expenditures at the end of the financial year often deviate from the original planned budget estimate for all four countries. Capital budgets tend to be more prone to such divergence on account of

changes in the timing of major investment programmes brought about by operational constraints. At present, there is a likelihood that climate change investments suffer disproportionately, as these have yet to gain prominence among government spending priorities as determined by national planning processes. Budget estimates are therefore an insufficient measure of public spending on climate change actions, yet data on end of year outturns were not available to the study team in Ghana and Tanzania, limiting the analysis of climate change public spending. Financial reporting and monitoring systems require strengthening urgently.

4.2.6 Public financial management reform

Each of the four governments has followed PFM reform, to a greater or lesser degree, for a number of years. However, significant challenges to securing effective PFM systems remain, as evidenced by international assessments. In particular, monitoring and reporting systems remain weak. This prevents the tracking of expenditures, including those for climate change-related actions, from the start-of-year budget estimates to the end-of-year actual expenditures.

A major challenge in all four countries is that a significant, but uncertain, amount of public finance does not pass through the national budget system. This applies to domestically raised revenue, often managed by semi-autonomous national funds, as well as finance received from development partners that operate parallel systems of delivery outside of the government's budget system. As a result, the national budget provides an incomplete picture of total public spending.

Climate change finance needs to be seen as part of overall public spending, and hence the general shortcomings of national PFM systems will hold back the effective deployment of resources aimed at supporting climate change actions. This is an example where it is not possible to separate spending for one area of public policy (i.e. climate change) from the challenges facing the overall national system. Securing greater effectiveness of national PFM systems should therefore be seen as a critical enabling condition for the delivery of climate finance.

4.3 Climate change public expenditure

4.3.1 What is the level of public spending on climate change?

Notwithstanding the methodological limitations of the country analyses, significant national budget provisions have been made for climate change action (Table 4.1). Over the four-year periods analysed, Ethiopia, Ghana and Tanzania all committed over \$1 billion of public funding to climate change-relevant actions. For countries with significant human development deficits, these expenditures come with high opportunity costs. For example, Ethiopia's spending on climate change activities is equivalent to almost half of the national spending on primary education. In the case of Tanzania,

climate spending equates to almost two thirds of health spending.

Table 4.1 suggests there may be differences in the political attention given to climate action. Public spending is ultimately a political decision, with ministry budgets coming under the direction of each minister, accountable to the head of state (and the national legislature). Uncertainty over the national impacts of climate change continues to raise doubts for policy-makers in the context of the many development challenges facing each country. Ethiopia adopted an ambitious climate change strategy under former Prime Minister Meles Zenawi, and subsequently built on those foundations; the political leadership in Uganda appears to have attached less importance to climate change.

Table 4.1: Level of public expenditure on climate change actions, Ethiopia, Ghana, Tanzania and Uganda

	Average annual climate change-relevant expenditure		Years
	(\$ mn)	(% of government expenditure)	
Ethiopia	440	10.8	2008–2011
Tanzania	383	5.5	2009–2012
Ghana	276	2.3	2011–2014
Uganda	25	0.9	2008–2011

Note: These figures relate to spending recorded in the national budget only, for the years stated. They do not include 'off-budget' spending (nor commitments to fund in the future).

Source: Authors' own compilation.

4.3.2 Is current funding meeting the needs of the national response to climate change?

All four countries have embarked on comprehensive national planning processes in response to the challenges climate change has brought about. These national strategies include first estimates of the level of public spending considered necessary to meet national climate change policy goals. However, the level of current spending is a very small fraction of these targets, as indicated for each country below:

- **Ghana:** Implementation of the NCCP Master Plan for 2015–2020 is costed at \$9.3 billion,

suggesting an annual average spend of approximately \$1.5 billion (MESTI, 2014). This compares with the estimated annual spend of \$276 million – meaning a six-fold increase is needed to fulfil the spending needs of the national plan (Asante et al., 2015).

- **Ethiopia:** The country's climate change strategy (CRGE 2011) has called for annual spending of \$7.5 billion to respond to climate change (FDRE, 2011). With national budgetary resources for climate change-relevant actions estimated at around \$440 million per year, and international sources adding an uncertain

amount that may be in the tens of millions of dollars per year, there appears to be a major financing gap (Eshetu et al., 2014).

- **Tanzania:** A 2011 study concluded that the immediate needs for building adaptive capacity and enhancing resilience against future climate change were of the order of \$150 million per year. However, additional funding is needed to address current climate risks, with a conservative estimate of an additional \$500 million per year, adding to a total of \$650 million (Watkiss et al., 2011). This compares with an estimated current annual spend of \$383 million (Yanda et al., 2013)
- **Uganda:** The climate change policy is supported by a comprehensive implementation strategy that sets out how much it will cost. This cost is put at \$258 million per year compared with current public spending in the region of \$25 million per year (Tumushabe et al., 2013).

It is clear that present national budget allocations are inadequate to the task of resourcing the national response to climate change in each country.

4.3.3 What parts of the government administration are spending this money?

All four countries now see climate change as an economic development issue rather than an environmental concern. This is reflected in the climate change-relevant expenditure identified in

major spending ministries such as agriculture, water and energy (Figure 4.1). Relevant government programmes include irrigation projects, water management programmes, natural resource management and infrastructure development projects designed to promote renewable energy and energy efficiency. These all represent capital-intensive investments, the implementation of which requires strong project management skills.

Three to four ministries dominate government spending on climate change-relevant actions in each country (Figure 4.1). While this highlights where early leadership is developing within the government administration – and can demonstrate early strategic prioritisation – it also highlights the mainstreaming challenge of embedding climate change spending across the whole of the government administration, including such ministries as health and education.

4.3.4 How strong is climate change as an objective of expenditure?

The country analyses identified different categories of relevant expenditure in an effort to isolate the component of spending that could be attributed as a response to climate change (Chapter 3). Planned expenditures for highly relevant actions – where responding to climate change was the primary objective of the expenditure – were extremely small in Ghana and Uganda for the years studied.

Figure 4.1: Climate change-relevant spending by ministry, Ethiopia, Ghana, Tanzania and Uganda (% of total relevant government expenditure)

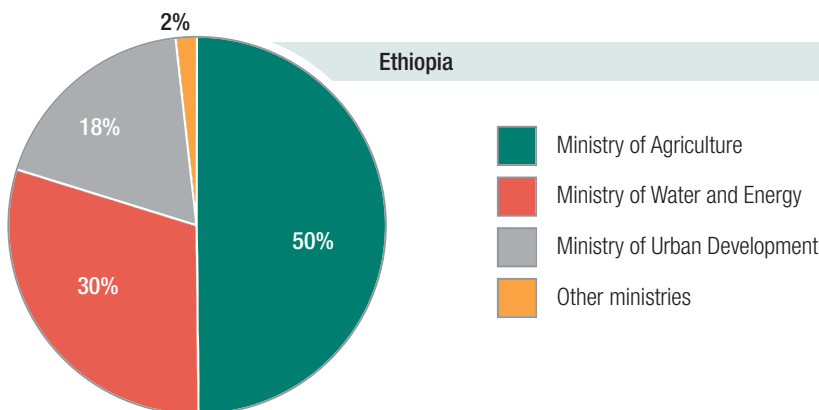
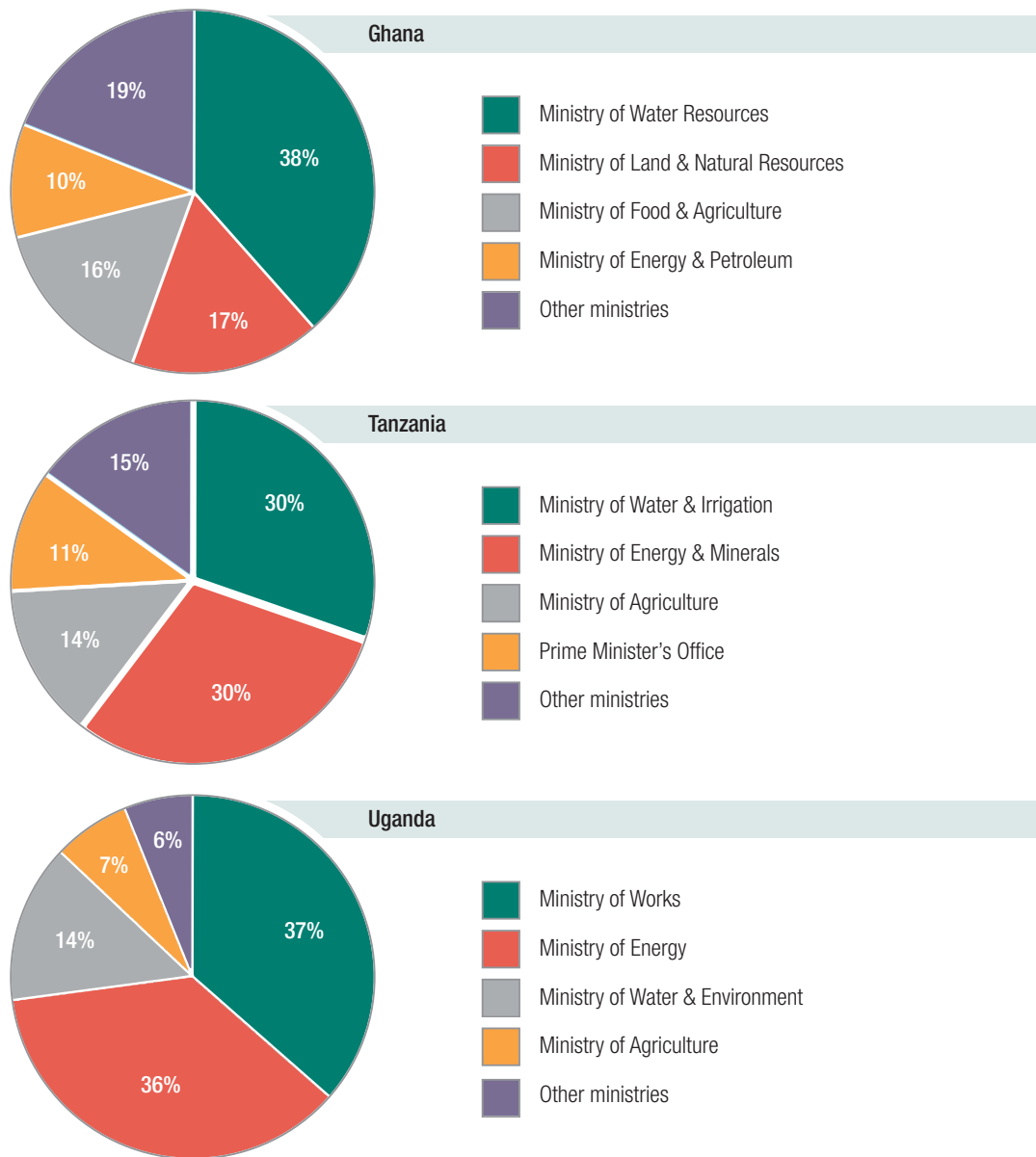


Figure 4.1: Climate change-relevant spending by ministry, Ethiopia, Ghana, Tanzania and Uganda
 (% of total relevant government expenditure) *(continued...)*



Source: Authors' compilation.

This contrasted with the situation in Ethiopia and Tanzania, where a significant proportion of climate change-relevant spending (25% and 13%, respectively) was exclusively for climate change actions.

In both Ethiopia and Ghana, most climate change-relevant spending was located in medium-relevance expenditures, where responding to climate change was one of several objectives of the expenditure. Such a pattern of spend is consistent with a government spending prioritisation strategy

that focuses on economic development while taking climate change into consideration.

In both Tanzania and Uganda, most funding was found in budgets that fund actions that are consistent with the goals of the national climate change policy, albeit without being explicitly labelled climate change-relevant expenditures. There is, therefore, a considerable amount of spending taking place in ministries without the full realisation of the significance of such spending in terms of its relation to climate change.

Table 4.2: Relevance of climate change budgeted expenditure, Ethiopia, Ghana, Tanzania and Uganda (%)

	Climate change relevant expenditure (%)		
	High	Medium	Low
Ethiopia	25	56	19
Tanzania	13	3	84
Ghana	1	99	–
Uganda	1	28	71

Source: Authors' own compilation.

4.3.5 What climate change strategies are being supported?

The carbon emissions of all four countries are very small, reflecting their state of industrialisation. What carbon emissions are produced are largely the result of land-use change, with significant continuing levels of deforestation for timber exploitation and expansion of arable and pasture lands. Each country's recognised vulnerability to climate change is driving public investment in adaptation (Figure 4.2), as detailed below:

- In Ethiopia, spending is significantly higher on adaptation actions compared with mitigation activities. Adaptation spending is heavily concentrated in water and agriculture, where the new emphasis on irrigation reflects a shift away from rain-fed to irrigated agriculture as an explicit adaptation strategy. Only in one ministry (the

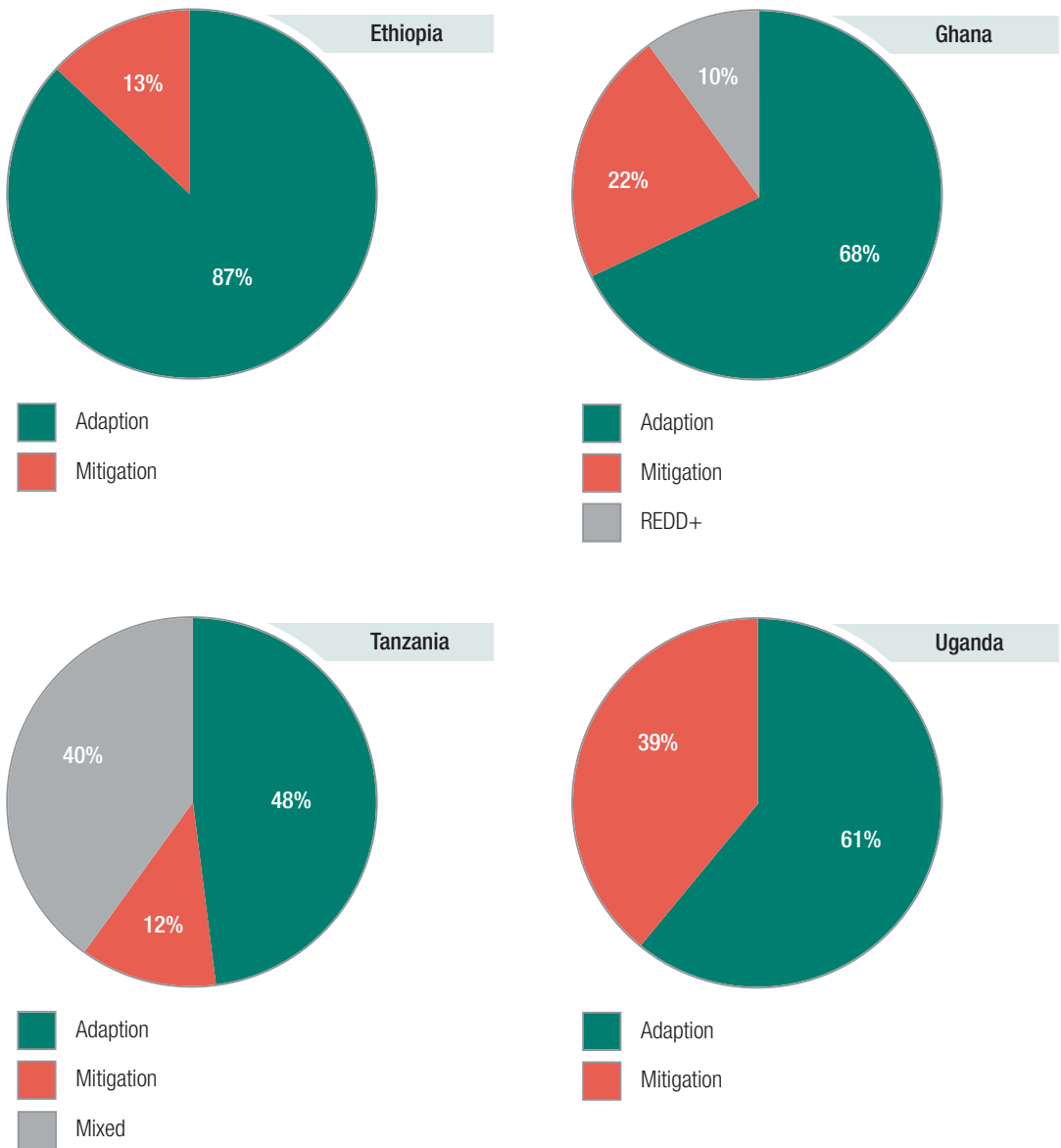
Ministry of Water, Irrigation and Energy) is there a significant level of mitigation spending, associated with the expansion of renewable energy.

- In Ghana, there is a significantly greater budget allocation for adaptation than for mitigation activities, with an increasing trend towards adaptation actions apparent over the four-year period studied. The budget allocation in support of Reducing Emissions from Deforestation and Forest Degradation (REDD)+ activities has remained at approximately 10% over the period, evidencing the significant role the forest sector plays in the country.
- In Tanzania the balance is somewhat different, on account of the number of programmes, mostly land-based activities such as tree planting and forest conservation, considered to have both mitigation and adaptation benefits. Programmes aiming to promote natural forest conservation, reforestation

and better agricultural practices will improve the resilience of rural communities and allow them to adapt to changing climatic conditions as well as to store carbon through land-use practices that promote the retention of tree cover.

- In Uganda, adaptation takes up the most of climate change-relevant expenditures. This includes development of a national early warning system to provide timely information on crop production, as well as disaster preparedness and management to

Figure 4.2: Climate strategies supported by budget funding, Ethiopia, Ghana, Tanzania and Uganda (% allocated)



Source: Authors' compilation.

prepare the country against climate-related disasters. Mitigation spending is also apparent, mostly in the start of investments in clean energy projects, such as hydropower generation.

4.3.6 Where is the money coming from?

The overwhelming majority of development budget expenditure relevant to climate change adaptation or mitigation in Ethiopia and Uganda is funded domestically, as is evident from Figure 4.3. The situation is different in Tanzania, where on-budget

donor funding makes a significant contribution to the overall pool of funding available for climate change actions.

While there is no ‘correct’ funding mix between government and donors, the international commitment under the UNFCCC is that vulnerable countries should receive new and additional resources to assist national efforts. There is little evidence this is happening through the national budgetary systems in Ethiopia and Uganda. In Tanzania, the question is whether the donor resources are in addition to longstanding development assistance to the country. Unfortunately, this analysis could not be made in Ghana as the necessary data were unavailable.

4.4 Conclusions

The intention of this overview was to provide a general view of public spending on climate change in the four countries. Overall, the situation can be

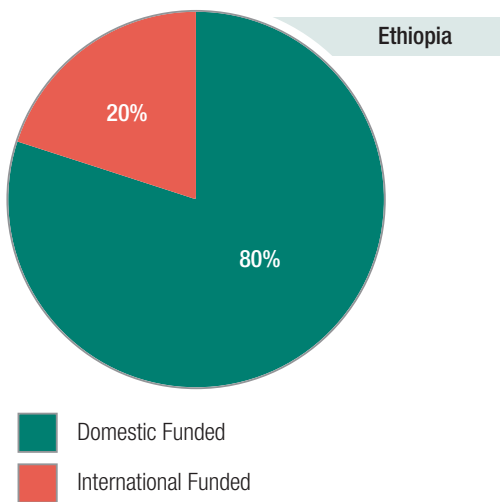
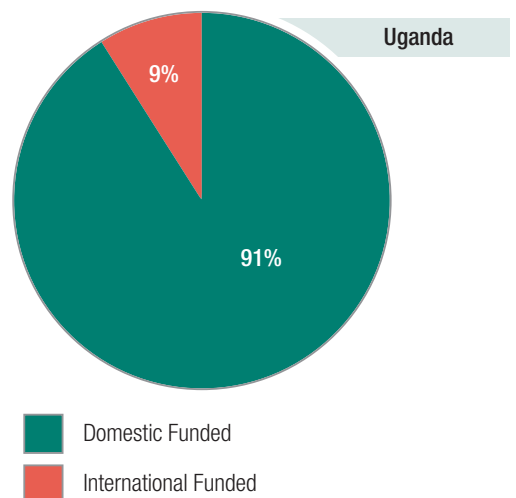
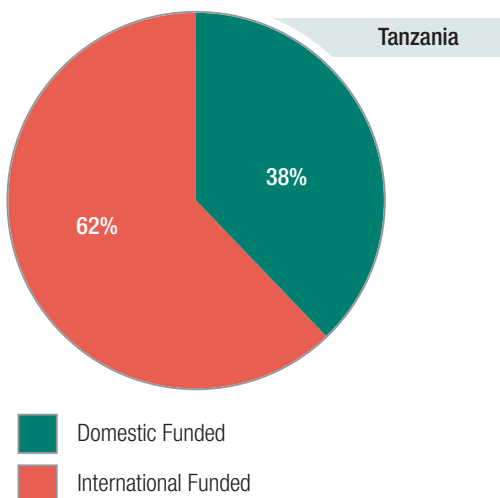


Figure 4.3: Source of funding for budgeted development expenditure relevant to climate change, Ethiopia, Ghana, Tanzania and Uganda (% allocated)

NO DATA **Ghana**



characterised as one where public expenditure is only starting to be committed, as the public spending consequences of countries' initial climate change policies become clearer. Estimates of public spending needs – and public expenditure levels – are imprecise, but a number of notable trends are already apparent:

- Public spending on climate change actions is dependent on strong national leadership.
- There needs to be a strong ratcheting-up of spending if national policy goals are to be met.
- A small number of government ministries are already committing significant funding to climate change outcomes, and these ministries can offer leadership in the national response to climate change.
- Most climate change actions can be funded within larger development programmes, using an effective mainstreaming strategy that recognises the development challenges facing these countries.
- Adaptation – that is, responding to the immediate threat of a changing climate – is the main objective for public expenditure in these countries. The energy transition away from biomass fuels to modern, clean energy provision is also securing significant domestic investment.

The following four chapters examine these issues in greater depth as they relate to specific country circumstances.

Chapter 5: Ethiopia

Zewdu Eshetu and Aklilu Amsalu

5.1 Introduction

This chapter first presents the macroeconomic and fiscal context for climate change-relevant public expenditure in Ethiopia over the years 2008/09–2011/12 (2001–2004 in the Ethiopian fiscal calendar). A robust, sustainable economy will support the government’s ability to raise and deploy finance for climate change-related activities. Such activities delivered by government also rely on effective government management systems to use such finance. Both of these issues will have a bearing on the overall impact of the public sector response to climate change. Secondary sources are used to review these themes: government of Ethiopia budget and macroeconomic data are mainly used for the macroeconomic and fiscal analysis, supplemented by data and information from reports of agencies such as the International Monetary Fund (IMF) and the World Bank.

Climate change public expenditures are then identified for a four-year period, following the common methodology applied in all four countries. Comprehensive Ethiopian federal government budget data on approved, revised and actual expenditure for 2008/09 to 2011/12 were used as the basis for the analysis. These budget data came from the Ministry of Finance and Economic Development (MoFED) (now the Ministry of Finance and Economic Cooperation, MoFEC).

5.2 Macroeconomic trends and public financial management issues

The key sectors of the Ethiopian economy are agriculture and allied activities, industry and services. Their contributions to GDP remained stable over the four years considered in this study (Table 5.1).

Table 5.1: Share of GDP by major industrial classification, Ethiopia, 2008/09–2011/12 (%)

	2008/09	2009/10	2010/11	2011/12
Agriculture	44	42	45	44
Industry	13	13	11	11
Services	43	45	44	45
Total	100	100	100	100

Source: MoFED (2013a).

The intention of the government’s first Growth and Transformation Plan (GTP) – the national development strategy – was to promote structural development in the economy that would increase the contributions of the industry and services sectors to GDP, alongside a commensurate reduction in the share of agriculture. Higher

growth in contribution to GDP of services and industry compared with agriculture holds particular challenges and opportunities with regard to climate change. An increasing share of GDP generated from services and industry, with less immediate vulnerability to changes in climate, should increase Ethiopia’s economic resilience.

These sectors add more value than agriculture, raising the prospect of larger tax revenues to support higher public expenditure that could be directed at climate-relevant programmes. However, agriculture remains the employer of the largest proportion of the workforce (estimated at around 80% (MoFED, 2013a)). This suggests that, while structural change means an increasing share of GDP that is less directly affected by a changing climate, employment – and particularly rural livelihoods – will remain vulnerable.

5.2.1 Trends in GDP growth

In recent years, Ethiopia has been one of Africa's fastest-growing non-oil economies, with double-digit GDP growth. However, this robust growth performance came under pressure in 2008 with the emergence of the twin macroeconomic challenges of high inflation and a challenging balance of payments situation, which were exacerbated by high fuel and food prices in the global market. These threats have since moderated, allowing GDP growth to pick up in 2009/10 and 2010/11, followed by a moderate decline in 2011/12 to 8.5% (Table 5.2).

Table 5.2: GDP growth rate, Ethiopia, 2008/09–2011/12 (% change on previous year)

	2008/09	2009/10	2010/11	2011/12
GDP	8.8	12.6	11.2	8.5

Source: MoFED (2013a).

5.2.2 Inflation

High and volatile inflation has a negative effect on government expenditure management (including for climate change) as it creates uncertainty in the budgeting process. Under such circumstances, the government faces the pressure of having to make budget adjustments to account for rapid changes in purchasing power, creating discrepancies between projected and actual expenditure. This undermines forward spending plans.

The inflation rate over the 2008–2012 period was in double digits (except for in 2010/11), in contrast with the expectations of the GTP, which envisaged the general consumer price index (CPI) to grow at a single-digit rate. High inflation has been attributed partly to price hikes in the international commodities market but imperfections in the domestic supply system have also contributed. As Table 5.3 shows, the CPI has shown considerable volatility over the period.

Table 5.3: Inflation rate, Ethiopia, 2008/09–2011/12 (CPI measure)

	2008/09	2009/10	2010/11	2011/12
Inflation rate	25.3	36.4	2.8	18.1

Source: MoFED (2013a).

In order to address the challenge of inflation, government has pursued tight fiscal and monetary policies alongside a number of measures to reduce supply bottlenecks in the domestic economy. As a result of these efforts, prices have started to stabilise. In this context of high and volatile inflation, national budget allocations and public expenditure made by the

government have grown at very high nominal rates. Importantly, over the period under consideration the increase in budgeted and actual expenditure has generally been slightly higher than inflation. This suggests an overall picture of increasing real public spending, and therefore potentially increased public resources for climate-related activities (Table 5.4).

Table 5.4: Inflation and growth in government budget and expenditure, Ethiopia, 2008/09–2011/12

Year	Rate of inflation (%)	Approved budget (Birr mn)	% increase in approved budget (year-on-year)	Actual expenditure (Birr mn)	% increase in actual expenditure (year-on-year)
2008/09	25.3	54,277	–	54,605	–
2009/10	36.4	64,508	18.9	71,281	30.5
2010/11	2.8	77,228	19.7	87,058	22.1
2011/12	18.1	117,813	52.6	121,207	39.2

Source: Calculated from MoFED fiscal reports for 2008/09, 2009/10, 2010/11 and 2011/12.

The figures also show actual expenditures are consistently higher than the initially approved budget – in some cases significantly so. The gap has usually been covered by a supplementary budget during the year.

5.2.3 Sources of revenue

The government's current fiscal policy focuses on increasing revenue through the better administration of existing tax policies and using these to increase budgetary expenditures on capital investments and on

pro-poor sectors, as set out in the national development plan. As Table 5.5 shows, both domestic and total revenue increased steadily between 2008/09 and 2011/12. Total revenue increased from Birr 52,492 million in 2008/09 to Birr 111,056 million in 2011/12 (an increase of 111%). Domestic revenue increased even more strongly, rising from Birr 31,775 million to Birr 82,279 million over the same period (a 159% increase – although a large element of this comes from inflationary pressure).

Table 5.5: Summary of actual revenue and expenditure, Ethiopia, 2008/09–2011/12 (Birr millions)

	2008/09	2009/10	2010/11	2011/12
Domestic revenue (tax and non-tax)	31,775	43,688	57,027	82,279
External grants	16,130	18,855	21,433	16,820
External loans	4,587	9,050	11,451	11,956
Total revenue	52,492	71,593	89,911	111,056
Recurrent expenditure	27,372	32,762	43,245	66,534
Capital expenditure	27,232	38,519	43,812	54,673
Total expenditure	54,605	71,281	87,058	121,207

Source: Calculated from MoFED fiscal reports for 2008/09, 2009/10, 2010/11 and 2011/12.

The proportion of the total budget covered by domestic revenue shows an increasing trend over the four-year period (60.5% of revenue in 2008/09 to 74.1% of revenue in 2011/12; this funded 58.2% of expenditure in 2008/09 and 67.9% in 2011/12). This indicates that government's budget is increasingly financed by domestic sources. External grants and loans combined represented a broadly declining share of the budget over the period reviewed. The government recognises the need to make more efforts to increase domestic revenue, while noting the difficulties in administering taxes that result from the structure of the economy, which is largely dominated by the informal sector. Despite the challenges in tax collection, a balance between overall revenue and expenditure has been largely maintained, with the government's overall budget deficit (including external grants and loans) at less than 2% of GDP (IMF, 2013).

5.2.4 Recurrent and capital expenditure

Both the capital and the recurrent budgets increased over 2008/09 to 2011/12 in nominal terms, as would be expected in a period of high inflation (Table 5.). Growth in development expenditure may have been driven by the GTPs' commitment to boosting infrastructure investment.

The capital budget is particularly important in tackling the impacts of climate change. On-going infrastructure projects such as hydropower, geothermal and wind farm investments can replace diesel-generated power plants, helping reduce carbon emissions. Infrastructure to increase electricity distribution could in time reduce the rate of depletion of forest cover. Given the likely capital requirements of many key elements of the country's climate change strategy, a declining share of the budget spent on capital items may challenge the effectiveness of the national response to climate change.

Table 5.6: Comparing actual capital and recurrent budgets, Ethiopia, 2008/09–2011/12

Expenditure categories	2008/09	2009/10	2010/11	2011/12
Recurrent budget (Birr mn)	27,373	32,762	43,245	66,534
Capital budget (Birr mn)	27,232	38,519	43,812	54,673
Total budget (Birr mn)	54,605	71,281	87,058	121,207
Proportion (%) of capital to total budget	49.9	54.0	50.3	45.1

Source: Calculated from MoFED fiscal reports for 2008/09, 2009/10, 2010/11 and 2011/12.

5.2.5 Approved and actual expenditure

Actual expenditure at the end of the financial year often deviates from the originally planned budget, which may be conservative at the start of the year and subsequently be amended as additional revenues are realised. However, where overall expenditures are consistently less than the adjusted budget, this suggests government overestimates expenditure even with in-year budget adjustments. It appears, therefore, that budget forecasting, planning and execution represent a continuing challenge for the

Ethiopian government. The recurrent and capital budgets show the same trends, as Table 5.7 shows. Actual recurrent expenditures are 95–8% of the adjusted budget for the four years, whereas actual capital spending for the four years is of the order of 88–93% of the adjusted budget. This differential performance between the two categories is not uncommon. Taken together, this implies the country has attained a reasonable level of achievement regarding the credibility of its planned budgets. A credible budget is a positive contributor

to effective expenditure management, and suggests climate change-related expenditure – as part of

general expenditure – has a better chance of being executed as planned.

Table 5.7: Federal government budget and source of finance, Ethiopia, 2008/09–2011/12 (Birr millions)

	2008/09		2009/10		2010/11		2011/12	
	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual
Recurrent budget	28,794	27,373	33,683	32,762	43,996	43,246	70,230	66,534
Capital budget	30,422	27,232	41,396	38,519	47,662	43,812	62,310	54,673
Total budget	59,216	54,605	75,079	71,281	91,658	87,058	132,540	121,207

Source: Calculated from MoFED fiscal reports for 2008/09, 2009/10, 2010/11 and 2011/12.

5.2.6 Financial flows from federal government to regional government

Ethiopia is a federal state and offers a significant degree of financial autonomy to the regional governments operating within the federal structure. Although the regional states in Ethiopia generate their own revenues, they also receive significant grant funding from central government. Table 5.8

shows the amount of recurrent and capital grants to regional governments. As can be seen, the finance that flowed from central to regional governments in the four years in question contributed 61–8% of the total budget of the regions. This suggests regional governments remain heavily dependent on central government transfers for their operations.

Table 5.8: Local governments budget by source of finance, Ethiopia, 2008/09–2011/12

Budget item	2008/09	2009/10	2010/11	2011/12
Local revenue (Birr mn)	8,261	9,835	13,698	20,132
Federal grant (Birr mn)	17,300	20,512	26,165	30,880
Total budget (Birr mn)	25,561	30,347	39,863	51,012
Federal grant (%)	68	68	66	61

Source: Calculated from MoFED data.

5.2.7 Public financial management reform

Ethiopia's PFM system showed improvement over the period 2007–2010 according to the PEFA assessment methodology (Federal Democratic Republic of Ethiopia, 2010). However, although the budget process is well ordered and spending execution is well managed, significant amounts of

public expenditure occur off budget, reducing the ability of the federal budget to direct all government spending and contributing to relatively weak oversight and accountability mechanisms.

5.3 Climate change public expenditure

This section analyses the federal budget to identify

climate change-relevant expenditures. The study team relied heavily on Ethiopia's Climate-Resilient Green Economy (CRGE) Strategy, developed in 2011, to identify which ministries and institutions were involved as CRGE fast-track implementing entities to identify activities that can be expected to have an impact on climate change. Ten ministries and institutions were identified and prioritised for the public expenditure analysis.

5.3.1 Overall level of spending on climate change

Total spending on climate change-relevant activities grew in cash terms over the four-year period,

although this should be considered alongside high and volatile inflation, as discussed above. Table 5.9 shows the growth in climate and non-climate-related expenditure in comparison with the prevailing rate of inflation in order to give a sense of the real purchasing value of the expenditure. Climate change-relevant expenditure grew most strongly in 2009/10. The strong growth registered in that year owes to a large investment made by the government in road construction, considered to a climate change-relevant activity.

The average annual percentage share of climate change-relevant expenditure over the four years was 11% of total government expenditure. Although

Table 5.9: Growth in climate change-relevant expenditure vs. non-climate expenditure

Budget year	Rate of inflation (%)	Climate change-relevant expenditure (Birr mn)	Increase from previous year (%)	Non-climate change-relevant expenditure (Birr mn)	Increase from previous year (%)
2008/09	25.3	5,945	–	48,660	–
2009/10	36.4	10,263	72.6	61,018	25.4
2010/11	2.8	8,409	-18.1	78,649	28.9
2011/12	18.1	9,970	18.6	111,237	41.4

Source: Eshetu et al. (2014).

climate change-relevant expenditure grew over the period under review, overall it grew less strongly than total government expenditure (particularly in

the last year of the study), resulting in a lower share of expenditure by the end of the period (Table 5.10).

Table 5.10: Climate change-relevant expenditure as a share of government expenditure, Ethiopia, 2008/09–2011/12

Budget year	Total government expenditure (Birr mn)	Total climate-relevant expenditure (Birr mn)	Climate-relevant expenditure as % of government expenditure
2008/09	54,605	5,945	10.9
2009/10	71,281	10,263	14.4
2010/11	87,058	8,409	9.7
2011/12	121,207	9,970	8.2

Source: Eshetu et al. (2014).

Comparison of climate change-relevant expenditure with GDP shows the same trend, with an average of just under 2% of GDP: such expenditure grew over the four-year period but this growth did not fully keep pace with the expansion in GDP (Table 5.11). In line with expenditure on climate change-related activities as a percentage of government spending, climate change-related expenditures as a share of GDP increased substantially in 2009/10 before falling back in the two following years.

Ethiopia's CRGE Strategy foresees a significant level of funding becoming available from climate funds to help finance green growth initiatives, at a level of approximately \$20 billion per year in the short term (FDRE, 2011). This represents a very significant amount in the context of the Ethiopian economy. Compared with this expectation, over the four-year study period budget expenditure was approximately \$440 million per year. If the strategy is to be delivered, much more effort is needed to mobilise additional resources, both domestically and internationally.

Table 5.11: Climate change-relevant expenditure as a proportion of GDP, Ethiopia, 2008/09–2011/12

Budget year	GDP (million Birr)	Total climate-relevant expenditure (million Birr)	% of climate-relevant expenditure from GDP
2008/09	404,437	5,945	1.5
2009/10	455,196	10,263	2.3
2010/11	506,079	8,409	1.7
2011/12	548,922	9,970	1.8

Source: Eshetu et al. (2014).

The small share of climate change-relevant expenditure in GDP may owe in part to the team using only the federal government budget for information. Subnational government expenditures on such activities both from their development and recurrent budgets and from extra budgetary sources are

not included in this analysis because of lack of access to reliable data. This means the figures presented above likely represent a 'low-end' estimate for total expenditure on climate change-relevant activities.

One key observation emerging from the review of the four-year period is that budgeted and actual

Table 5.12: Budgeted vs. outturn for climate change relevant expenditure, Ethiopia, 2008/09–2011/12

Budget year	Budgeted climate change-relevant expenditure (Birr mn)	Outturn climate change-relevant expenditure (Birr mn)	Variance in cash terms (Birr mn)	Variance as a proportion (%)
2008/09	19,678	5,945	13,733	30.2
2009/10	28,955	10,263	18,692	35.4
2010/11	29,941	8,409	21,532	28.1
2011/12	39,399	9,970	29,429	25.3

Source: Eshetu et al. (2014).

expenditure related to climate change has poor credibility. As Table 5.12 shows, the approved budget is a poor predictor of actual expenditure. This is a significant finding given the high rates of budget execution at an aggregate level.

In a number of cases individual spending lines featured actual expenditure that far exceeded the approved budget, but in most cases budgets were significantly under-spent. This suggests that, for reasons that cannot be readily explained, climate change-relevant expenditure is concentrated in areas of spending with low budget credibility. Further investigation into specific budget lines might yield an insight as to why this is the case.

5.3.2 Spending across government

Climate change-relevant expenditures were heavily concentrated in two ministries over the period reviewed (Table 5.13): the Ministry of Agriculture (MoA) and the Ministry of Water, Irrigation and Energy (MoWIE) hosted approximately 75% of the total climate change-relevant programmes in 2011/12. The Ministry of Health (MoH), the former Environmental Protection Authority (EPA) and the Ministry of Urban Development and Housing Construction (MoUDHC) each contained a number of relevant programmes and projects.

This trend of concentration in two ministries is even more pronounced when climate change-

Table 5.13: Climate change-relevant programmes by ministry, Ethiopia, 2008/09–2011/12 (number of programmes)

Ministry	2008/09	2009/10	2010/11	2011/12
MoWIE	45	37	37	47
MoA	46	44	40	43
MoH	9	8	9	10
EPA	0	2	2	8
MoUDHC	13	10	11	7
National Disaster Prevention and Preparedness Fund Office (NDP), MoA	3	2	2	1
Ministry of Industry (Mol)	2	2	2	2
Ministry of Finance and Economic Development, MoFED	3	2	2	2
Total	121	107	105	120

Source: Eshetu et al. (2014).

relevant expenditures are reviewed as a percentage of total ministry expenditure (Table 5.14). For MoA and MoWIE, this type of expenditure forms a significant share of total expenditure. In no other ministries does climate change-relevant expenditure approach these levels. The decline in relevant expenditure by MoWIE (where these expenditures as a percentage of the budget declined from 59% in

2008/09 to 35% in 2011/12) is most likely explained by the timing of major development investments over this short time period.

5.3.3 Relevance of spending

Three categories of climate change-relevant expenditure were distinguished in the study: high-, medium- and low-relevance.

Table 5.14: Climate change-relevant expenditure by ministry, Ethiopia, 2008/09–2011/12 (Birr millions)

		MoA	EPA	MoWIE	MoUDHC	MoH	Mol	NDP	MoFED	Total
2008/09	Total spend	7,979	5	3,149	8,992	3,546	207	20	125	24,023
	CC-relevant spend	3,187	0	1,849	880	20	4	4	1	5,945
	CC-relevant %	40	0	59	10	1	2	19	1	25
2009/10	Total spend	10,592	6	3,847	13,712	3,822	111	560	374	33,024
	CC-relevant spend	5,681	3	3,153	1,344	68	7	3	3	10,263
	CC-relevant as %	54	50	82	10	2	7	1	1	31
2010/11	Total spend	7,113	11	5,218	16,022	5,376	282	13	686	34,721
	CC-relevant spend	3,540	11	2,783	1,904	163	5	4	0	8,409
	CC-relevant as %	50	100	80	12	3	2	28	0	24
2011/12	Total spend	11,365	120	7,458	23,431	4,095	503	17	777	47,766
	CC-relevant spend	4,823	48	2,578	2,243	256	5	5	13	9,970
	CC-relevant as %	42	40	35	10	6	1	26	2	21

Source: Eshetu et al. (2014).

1. High-relevance projects were those where the stated primary objective of the expenditure was to deliver climate change-related outcomes.
2. Medium-relevance expenditure items were those projects and programmes that included a secondary objective relating to climate change.
3. Low-relevance expenditure captured activities where the research team could identify an indirect climate change benefit.

All high-relevance projects were hosted within MoA and MoWIE and included irrigation projects, dry land management programmes and development projects designed to promote renewable energy and energy efficiency. As Table 5.15 shows, a large number of the programmes/projects classified as highly relevant to climate change mitigation and adaptation were implemented in the year 2011/12, suggesting

increased government awareness on the importance of tackling the effects of climate change as a result of the launching of the CRGE Strategy.

Medium-relevance expenditures dominated the pattern of expenditures over the four years. This is consistent with the five-year GTP I, which focused investment on agriculture and infrastructure development such as renewable energy generation (hydropower, geothermal, wind farm, biogas distribution) to ensure food security and the promotion of industrial growth with reduced fossil fuel energy consumption. A large number of medium-relevance projects is consistent with a government spending prioritisation plan that focuses on economic development while taking climate change into consideration.

In cash terms, Table 5.16 and Figure 5.1 present a summary of total climate change-relevant expenditure by the high-, medium- and low-

Table 5.15: Climate change-relevant programmes by ministry and relevance category, Ethiopia, 2008/09–2011/12 (number of programmes)

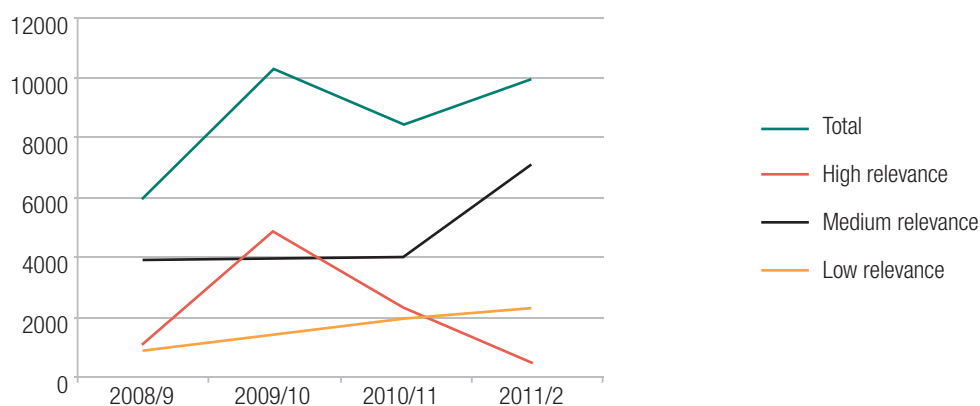
	2008/09			2009/10			2010/11			2011/12		
	High	Med	Low	High	Med	Low	High	Med	Low	High	Med	Low
MoWIE	13	30	2	9	27	1	13	23	1	16	30	1
MoA	4	26	16	4	25	17	4	21	17	14	19	18
MoH	0	2	7	0	2	6	0	2	7	0	3	7
NDP	0	3	0	0	2	0	0	2	0	0	1	0
MoUDHC	0	0	13	0	0	10	0	1	10	0	1	6
Mol	0	0	2	0	0	2	0	0	2	0	0	2
MoFED	0	0	3	0	0	2	0	0	2	0	0	2
Total	17	61	43	13	56	38	17	49	39	30	54	36

Source: Eshetu et al. (2014).

relevance categories. Looking into the total magnitude of the expenditure, this shows a high concentration on medium-relevance climate change programmes/projects, except for in 2009/10, where the balance is relatively even between high- and medium-relevance (Figure 5.1). Medium-relevance

climate change expenditures account for just over half (56%) of total climate change expenditure over the four-year period, followed by high-relevance climate change expenditures with a 25% share of total expenditure. Low-relevance climate change activities expenditure accounts for 19% of spending.

Figure 5.1: Expenditure by high-, medium- and low-relevance in cash terms, Ethiopia, 2008/09–2011/12 (Birr millions)



Source: Eshetu et al. (2014).

Table 5.16: Expenditure by high-, medium- and low-relevance in cash terms, Ethiopia, 2008/09–2011/12 (Birr millions)

		MoA	MoWIE	MoUDHC	MoH	MoFED	NDP	Mol	Total
2008/09	High	44	1,023	0	0	0	0	0	1,067
	Medium	3,114	822	0	4	0	4	0	3,944
	Low	28	3	880	16	1	0	4	932
	Total	3,186	1,848	880	20	1	4	4	5,945
2009/10	High	2,856	1,959	0	0	0	0	0	4,815
	Medium	2,775	1,193	0	22	0	3	0	3,993
	Low	53	1	1,344	46	3	0	7	1,455
	Total	5,684	3,153	1,344	68	3	3	7	10,263
2010/11	High	1,037	1,329	0	–	0	0	0	2,366
	Medium	2,459	1,443	0	154	0	4	0	4,059
	Low	53	6	1,904	9	0	0	5	1,977
	Total	3,549	2,777	1,904	163	0	4	5	8,409
2011/12	High	424	55	0	0	0	0	0	479
	Medium	4,396	2,521	1	242	0	5	0	7,164
	Low	51	2	2,241	14	13	0	4	2,326
	Total	4,870	2,577	2,243	256	13	5	4	9,970

Source: Eshetu et al. (2014).

5.3.4 Adaptation and mitigation spending

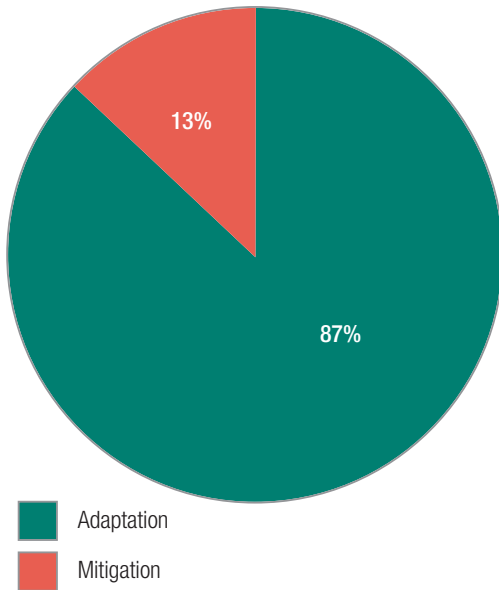
Climate change-relevant expenditures have also been classified as adaptation or mitigation spending for the years under review. Those expenditures that fund activities designed primarily to reduce the emissions of GHGs or act as carbon sinks are classified as mitigation, including renewable energy programmes and afforestation/reforestation initiatives. Those expenditures that fund actions aimed at reducing the adverse impacts of climate changes are considered adaptation, and include activities such as small- to medium-scale irrigation, early warning

systems and efforts to improve food security such as productive safety net programmes.

Significantly higher spending was made on adaptation (87%) compared with mitigation activities (13%) over the four-year period, 2008/09–2011/12 (Figure 5.2). This is to be expected, as Ethiopia's GDP is largely dependent on rain-fed agriculture and its carbon emissions are at very low levels compared with many other countries.

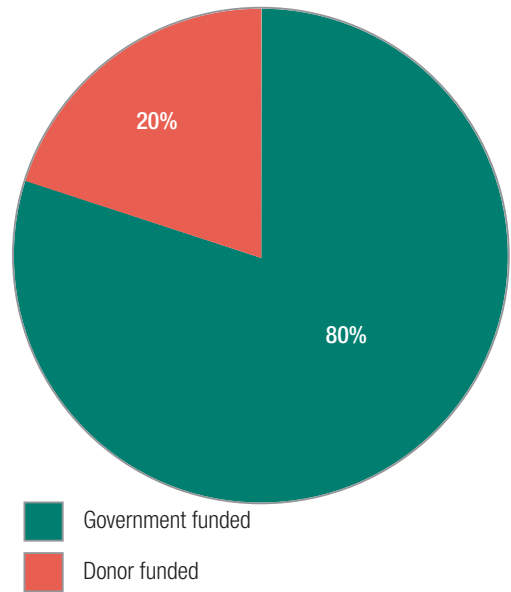
Mitigation spending is confined to two ministries: MoWIE and MoA. In the former ministry there is a significant level of expenditure,

Figure 5.2: Proportion of adaptation and mitigation expenditure, Ethiopia, 2008/09–2011/12 (%)



Source: Eshetu et al. (2014).

Figure 5.3: Source of funding (government and donors) for budgeted climate-relevant development expenditure, Ethiopia, 2011/12



Source: Eshetu et al. (2014).

associated with the development of renewable energy; in the latter the relevant expenditure is associated with a sustainable land management programme that has a focus on large-scale afforestation of degraded landscapes.

5.3.5 Source of funding

The Ethiopian government budget system allows the development budget to be disaggregated by source of funding, distinguishing between government and donors. Doing this to climate change-relevant development expenditure provides an indication as to the balance between donor assistance and government resources being used to finance climate change-relevant expenditure. The analysis is based on 2011/12 data provided from MoFED and an extrapolation made by the study team. As a result, the findings need to be interpreted with caution, and cover only one year. On-budget government funding for climate change-relevant development expenditures in 2011/12 accounted for 80% of

expenditure; donor support accounted for 20% (Figure 5.3).

5.4 Conclusions

The preceding expenditure analysis has considered the place of climate change-relevant expenditure within the budget of the Ethiopian federal government. Overall, climate change-relevant expenditure is estimated to have been approximately 11% of total government spending. This share was volatile over the four-year period, declining from a peak in 2009/10 to a low in 2011/12 – the last year of this study – with non-climate-relevant expenditure across government increasing more quickly. In all years, total expenditure remains substantially below that required by the national climate change strategy. Furthermore, climate change-relevant expenditure budgets lacked credibility – less than half of the amount budgeted for such activities was actually spent in each of the

four years in question. This is a striking result given the high level of aggregate credibility across total expenditure in the federal budget.

During the period of study, climate change-related expenditure was found to be heavily concentrated in two ministries – MoWIE and MoA – and only these two ministries contain high-relevance projects, where the primary purpose of the expenditure is to respond to climate change. Spending on climate-related activities within these ministries showed a high level of volatility over the years considered. Other ministries took up a relatively small amount of total climate-related expenditure. Almost all public expenditure was adaptation-related, with substantial mitigation expenditure found in only one ministry – MoWIE.

Chapter 6: Ghana

Felix Asante and Nicholas Ashiabi

6.1 Introduction

This chapter first describes the macroeconomic framework and fiscal context for public expenditure in Ghana. These factors fundamentally determine the level of resources available for spending on government activities, including climate change-relevant actions. Furthermore, the sustainability of climate change spending is dependent on these factors, as a robust and sustainable economy will support government's ability to raise and deploy funds for climate change actions. The chapter then comments on the strength of the PFM system, since the effectiveness of public spending is dependent on this. Irrespective of the amount of resources available, a strong PFM system helps minimise waste and ensure maximum benefits. The final section of the chapter discusses the nature and quantity of public expenditure that is focused on climate change by analysing the national budget over the period 2011–2014 to identify climate change-relevant budgeted expenditures.

6.2 Macroeconomic trends and public financial management issues

Ghana, as with many African countries, has been subject to severe macroeconomic challenges, which have been reflected in its growth and development. The agriculture sector has historically dominated the economy, with exports consisting mainly of primary (agricultural) products. Until recently, the country was classified as an LDC. In 2011, it attained lower-middle-income status with a GDP value of approximately GH¢60 billion (\$40 billion), a per capita GDP of GH¢2,370 (\$1,566) and a GDP growth rate of 14% (GSS, 2015).

6.2.1 Trends in GDP growth

The 2011 GDP growth rate (14%) was one of the highest in the country's history. It was about twice

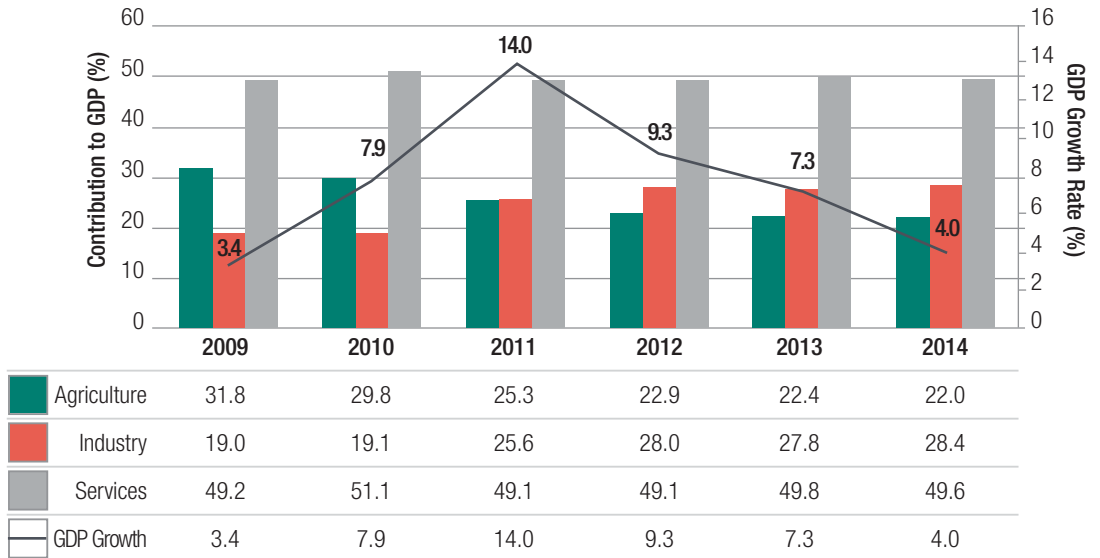
the 2010 growth rate and about four times the 2011 world average of 3.8%. However, this was highly associated with the initial commercial extraction of oil and gas in that particular year. Other factors that led to such a remarkable growth rate in 2011 include political stability, traditional exports and good governance (UNEP, 2013). Since 2011, Ghana has experienced a steady decline in annual GDP growth, achieving 9.3% in 2012, 7.3% in 2013 and 4.0% in 2014 (Figure 6.1).

Ghana is largely an agrarian economy because of the contribution of agriculture to employment and national output. However, sectoral composition of national output has changed over the years. The contribution of the agriculture sector – formerly the dominant sector – to GDP has been on the decline in favour of the services and industry sectors. The sector's contribution to GDP declined from 32% in 2009 to 25% in 2011 and then to 22% in 2014. Despite this, the sector continues to play a key role in Ghana's economic development by offering employment to about 44% of the Ghanaian labour force (GSS, 2014). This is because the sector is made up mainly of a large number of smallholder farmers who continue to use traditional farming techniques.

The contribution of industry to national output has seen some improvements since 2009. This sector – the lowest contributor to GDP over the years – saw its share of GDP rise from 19% in 2009 to approximately 28% in 2014. The significant rise in the sector's contribution to GDP in 2011 is attributed to the initial commercialisation of oil production in the country during that year. The services sector assumed a dominant role in the Ghanaian economy in the early 2000s. It is now the largest contributor to GDP, accounting for approximately half of GDP.

The structural changes in the Ghanaian economy present major opportunities with regard to climate change adaptation. An increasing share of the services and industry sectors' contribution to GDP

Figure 6.1: GDP growth rate and sectoral contribution to GDP, Ghana, 2009–2014 (%)



Source: GSS (2015).

could increase the economic resilience of the country in the face of climate change with its attendant effects, especially on agriculture. This is because these sectors are likely to be less directly susceptible to changes in the climate. Besides, these sectors add more value than agriculture, thereby raising the prospect of larger public revenues – through taxation – to support higher public expenditure in climate-relevant programmes. However, such a swing away from agriculture could adversely affect the employment situation in the country since the sector is still the largest contributor to employment in the economy. Furthermore, climate change will have a significant continuing impact on the livelihoods of smallholder farmers, given their farming methods.

Ghana’s economic performance in recent years has been considered one of Africa’s success stories, given its resilience in the face of the global recession, even though the growth rate has been declining since 2011 (ISSER, 2014). Ghana faced significant macroeconomic challenges in 2014 as its fiscal and current account deficits remained very high. By the

end of December 2014, the stock of public debt stood at 67.1% and the fiscal deficit was 7.0% of GDP (Bank of Ghana, 2015; MoF, 2014b). The surge in the budget deficit as well as other factors (such as the exchange rate regulation implemented in the first quarter of 2014) led to a sharp depreciation of the currency, especially in the first eight months of 2014, before it strengthened against the major trading currencies from September onwards when controls were relaxed.

6.2.2 Inflation

Inflation volatility creates discrepancies between projected public expenditure and actual expenditure. It is thus one of the cardinal factors influencing the certainty and integrity of a country’s budgeting process. Ghana, like most developing countries, has experienced very high volatility in inflation rates. However, with good economic practices, the inflation rate stabilised and the country began experiencing single-digit inflation from mid-2010. This was nonetheless short-lived: inflation began picking up in 2012 and moved to double digits in

2013 (Table 6.1). The high inflation rates in the country in recent years are attributed mainly to the ‘pass-through’ effects of the cedi depreciation as well

as fuel and utility price adjustments, although developments in the international commodities market have also helped drive the rates upwards.

Table 6.1: Inflation rates, Ghana, 2009–2014 (%)

Inflation	2009	2010	2011	2012	2013	2014
Year-on-year	16.0	8.6	8.6	8.8	13.5	17.0
Monthly average	19.3	10.8	8.7	9.2	11.5	15.5

Source: GSS (2015).

An increasing rate of inflation is one of the main factors responsible for the consistent nominal increases in government expenditure over the years. From Table 6.2, it is evident there were increases in both budgeted and actual government expenditures in Ghana over the period 2011–2014. The figures show that annual

growth in government expenditure outstripped inflation rates during the period under consideration – thus indicating growth in government expenditure in real terms. This suggests government’s capacity to spend, including the potential to finance climate change-related activities, has risen in recent years.

Table 6.2: Inflation and growth in government budget and expenditure, Ghana, 2011–2014

Year	Inflation rate (year-on-year %)	Approved budget (GH¢ mn)	Increase in approved budget (year-on-year %)	Actual expenditure (GH¢ mn)	Increase in actual budget (year-on-year %)
2011	8.6	13,534	–	13,837	–
2012	8.8	19,035	40.7	20,944	51.4
2013	13.5	28,163	48.0	27,463	31.1
2014*	17.0	33,783	20.0	32,368	17.8

Note: *Actual expenditure in 2014 is an estimated figure in the 2015 budget statement.

Source: MoF (2013, 2014a, 2014b); MoFEP (2012).

6.2.3 Sources of revenue

To address the macroeconomic challenges confronting the country, the Bank of Ghana and the government have pursued tight monetary and fiscal policies. These include increasing the monetary policy rate and introducing new taxes as well as increasing the rates of existing ones.

Tight fiscal policy coupled with an improvement in tax administration has led to significant increases in Ghana’s domestic revenue,

which in nominal terms more than doubled between 2011 and 2014, increasing from GH 11.8 billion in 2011 to GH 23.9 billion in 2014 (Table 6.3). Although domestic revenue is made up of both tax and non-tax components, tax revenues usually make up more than three quarters each year. Correspondingly, total government revenue has been on the rise since 2011. Total revenue comprises domestic revenue and external grants and/or loans from both internal and external

sources. Such increases imply a rising amount of financial resources at the disposal of government,

some of which could be directed to climate change-related activities.

Table 6.3: Sources of government revenue and expenditure, Ghana, 2011–2014 (GH¢ millions)

Revenue source	2011	2012	2013	2014
Domestic (tax and non-tax)	11,811	15,508	18,732	23,937
External grants	1,231	1,160	739	802
Total revenue	13,042	16,668	19,471	24,739
Recurrent expenditure	10,155	17,360	22,671	26,896
Capital expenditure	3,681	3,584	4,791	5,472
Total expenditure	13,836	20,944	27,462	32,368

Source: MoF (2013, 2014a, 2014b); MoFEP (2012).

Ghana attained middle-income status in 2011. This came with a continuous rise in development needs coupled with declines in external grants. Hence, although generation of domestic revenue has improved, challenges continue to exist in raising resources to a level that can sustain the country's development needs. This mainly accounts for the recent structure of the Ghanaian economy, characterised by rising fiscal deficits and public debt levels. The fiscal deficit as a percentage of GDP increased from 4.0% in 2011 to 11.5% in 2012 before declining to 10.1% in 2013 and is projected to fall slightly to 9.5% in 2014 (MoF, 2013, 2014a, 2014b; MoFEP, 2012).

Shortfalls in external grants have compelled various governments to rely on borrowing, resulting in a consistent rise in the yearly loans used to finance government expenditure. The composition of grants and loans is changing in favour of loans (ISSER, 2014). As a result, Ghana's public debt has assumed an upward trend, increasing from 36.3% of GDP in 2009 to 55.5% in 2013 and then 67.1% at end of December 2014 (Bank of Ghana, 2015; MoF, 2014b). The increasing trend in total debt stock – with its increasing debt servicing burden and consequential impact on financial planning choices

– poses a challenge for the economy in the medium term, including spending on climate change-related activities (ISSER, 2014).

6.2.4 Recurrent and capital expenditure

In terms of government spending, most of the national budget is directed at supporting the recurrent functions of government, with approximately 80% of the annual budget allocated to recurrent expenditure each year during the period under review. The relatively small composition of the capital budget necessarily limits public investment, including on climate change-related programmes. Capital expenditure in Ghana remains largely foreign-financed, with a heavy dependency on international development partners.

6.2.5 Approved and actual expenditure

Actual government expenditures at the end of the financial year often deviate from originally planned budgets. Actual total expenditures fell short of the approved budget estimates in the years under consideration, except in 2012. Whereas in some cases recurrent expenditure outturn exceeded the approved budget, capital expenditure outturn always fell short of the budget estimates (Table 6.4). This is not surprising as capital expenditure is

largely foreign-financed: it is vulnerable to fluctuation given that it is heavily dependent on development partners. Such deviations in capital

expenditure in Ghana could affect the pace of delivery of major infrastructure projects related to climate change.

Table 6.4: Trend in budget and actual expenditures, Ghana, 2011–2014 (GH¢ millions)

Expenditure	2011		2012		2013		2014*	
	Budget/ revised*	Actual	Budget/ revised*	Actual	Budget/ revised*	Actual	Budget/ revised*	Actual
Capital	4,311	3,724 (-13.6%)	5,9072	4,971 (-16.8%)	5,155	4,791 (-7.1%)	5,990	5,471 (-8.7%)
Recurrent	9,222	9,704 (5.2%)	13,063	15,973 (22.3%)	23,008	22,671 (-1.5%)	27,792	26,896 (-3.2%)
Total	13,534	13,429 (-0.8%)	19,035	20,944 (10.0%)	28,163	27,463 (-2.5%)	33,783	32,368 (-4.2%)

*Note: Figures in parenthesis are percentage change over revised budget estimate. * In Ghana, there is usually an adjustment or a revision of the budgeted indicators in a particular year. This is mainly because of developments in the global economy and unexpected disasters/expenditure, or for political reasons.*

Source: MoF (2013, 2014a, 2014b); MoFEP (2012).

The continual deviation in total government expenditure affects the credibility of its budgets since some of the activities in the budget cannot be executed as planned. A credible budget is a positive contributor to effective expenditure management, and would suggest climate change-related expenditure – as part of general expenditure – would have a better chance of being executed as planned.

6.2.6 Public financial management reform

Although certain areas of Ghana's PFM system have shown an improvement in recent years, most areas of budget performance remained constant or deteriorated between 2009 and 2012, according to the PEFA assessment methodology (Government of Ghana, 2013). In particular, reporting and accounting systems remain weak, with financial reports prepared by ministries lacking expenditure data at the commitment level. This prevents the tracking of expenditures, including climate change-related actions. Significant PFM reform efforts are now underway, including the introduction of

programme-based budgeting and the Ghana Integrated Financial Management Information System, which can be expected to lead to improvements over time.

6.3 Climate change public expenditure

This section undertakes close scrutiny of the national budget of Ghana to identify climate change-relevant budgeted expenditures. The approach to identify such expenditures has been one of:

- identifying sector ministries and institutions involved in climate change-relevant activities
- identifying climate change-relevant expenditures from these ministries' budgets for the period 2011–2014
- further classifying such expenditures as being high- or medium-relevance to climate change³
- assigning a weight to the high- and medium-relevance expenditures reflecting the percentage of the activity considered climate change-relevant

³ This classification differs from the three other country studies as low-relevance actions were not included.

- classifying the activities as adaptation or mitigation actions

Government budget data by ministry for the four-year period (2011–2014) were used as the basis for the analysis. These budget data came from published sources of the Ministry of Finance (MoF), principally the annual estimates contained within each sector’s medium-term expenditure framework (MTEF) report. An effort to collate the end of year outturns for the identified budget codes proved unsuccessful, as the sector ministries’ reporting frameworks do not record spending disaggregated to the policy objective level. As a result, line ministries were unable to provide expenditure data to MoF. The analysis therefore considers only the proposed allocation within the national budget for climate change actions and not actual expenditures.

The first step in the expenditure analysis was to identify the ministries, departments and agencies (MDAs) where climate change-relevant expenditure might be expected to occur, based on the direction of the National Climate Change Policy (NCCP), which was publicly launched in 2014. A total of 19 MDAs were identified. This list was reduced to 16 as a result of the absence of budget datasets for three ministries. All subsequent analysis was therefore based on these 16 MDAs. However, no climate change-relevant spending could be identified over the four-year period under two budget heads (the National Development Planning Commission and the Ministry of Tourism, Culture and Creative Arts), thereby reducing the number of MDAs to 14. Not

all the 14 MDAs had climate change-relevant activities budget in all four years under consideration. In addition, some ministries were restructured during the years under consideration. For example, the Ministry of Women and Children Affairs became the Ministry of Gender, Children and Social Protection (MGCSP) and the Ministry of Energy became the Ministry of Energy and Petroleum (MoEP). MoEP was then restructured into the Ministry of Power and the Ministry of Petroleum in 2015.

6.3.1 Overall level of spending on climate change

The total budget allocation to climate change-relevant activities in Ghana grew relatively strongly in cash terms from a very low base over the four-year period under review. However, this needs to be considered alongside high and volatile inflation, as discussed in the previous section. Table 6.5 summarises the growth in climate- and non-climate change-related budget allocations in comparison with prevailing inflation. The aim here is to give a sense of the real purchasing value of the currency.

The year 2011 saw a high budget allocation on account of two large planned investments, made by the Ministry of Energy (to increase the proportion of renewable energy) and the Ministry of Water Resources, Works and Housing (MWRWH) (to accelerate provision of adequate drinking water). Thereafter the climate change-relevant budget increased from GH¢ 394 million in 2012 to GH¢ 637 million in 2013. Allowing

Table 6.5: Growth in climate change-relevant budget vs. non-climate change budgeted expenditure, Ghana, 2011–2014

Year	Inflation rate (year-on-year %)	Climate change relevant budget (GH¢ mn)	Increase from previous year (%)	Non-climate change relevant budget (GH¢ mn)	Increase from previous year (%)
2011	8.6	573	–	12,961	–
2012	8.8	394	-49.3	18,641	46.1
2013	13.5	588	49.1	27,575	47.9
2014	17.0	637	8.4	33,146	20.2

Source: Asante et al. (2015).

for inflation, this represents a real increase in planned government spending on climate change actions over the study period.

Share of the growth in the climate change-relevant budget in the total government budget and GDP shows a similar trend (Tables 6.6 and 6.7). The percentage share of climate change proposed expenditure in the total government budget was higher in the first year (on account of the two abovementioned investment programmes), and subsequently fell back to a fairly constant level of

approximately 2% in each of the following three years. The share of the climate change-relevant budget in GDP shows the same trend, at approximately 0.5% of GDP.

This level of budget allocation represents a very low base on which the NCCP has to build over the next five years to accomplish its policy objectives. The scale of build-up can be seen by comparing the 2014 budgeted expenditure of GH¢637 million with planned annual spending under the NCCP Master Plan of GH¢4,127 million – a six-fold increase.

Table 6.6: Climate change-relevant budget as a share of the total government budget, Ghana, 2011–2014

Budget Year	Total government budget (GH¢ mn)	Total CC-relevant budget (GH¢ mn)	CC-relevant budget as % of government budget
2011	13,534	573	4.2
2012	19,035	394	2.1
2013	28,163	588	2.1
2014	33,783	637	1.9

Source: Asante *et al.* (2015).

Table 6.7: Climate change-relevant budget as a proportion of GDP, Ghana, 2011–2014

Budget Year	GDP (GH¢ mn)	Total CC-relevant budget (GH¢ mn)	CC-relevant budget as % of GDP
2011	59,816	573	0.96
2012	75,315	394	0.52
2013	94,939	588	0.62
2014	113,436	637	0.56

Source: Asante *et al.* (2015).

6.3.2 Spending across government

The number of climate change-relevant budget codes is greatest in the Ministry of Lands and Natural Resources (MLNR) (Table 6.8). MLNR, together with three other ministries: the Ministry of Environment, Science, Technology and Innovation (MESTI), MWRWH and the Ministry of Food and

Agriculture (MoFA), contained over three quarters of all relevant budget codes in 2014. Overall, there was a significant jump in the number of relevant codes between 2011 and 2012, perhaps associated with an increasing awareness of the need for public spending on climate change at the time of the NCCP formulation. The fact that spending has been planned

across all the main sectors of the Ghanaian economy, with the majority of initiatives in the economic sector,

signals some success in the mainstreaming of climate change issues by government.

Table 6.8: Number of climate change-relevant policy objectives by ministry, Ghana, 2011–2014

Ministry	2011	2012	2013	2014
MLNR	2	14	15	14
MESTI	3	12	9	7
MWRWH	2	6	6	6
MoFA	2	5	4	5
Ministry of Interior (MINT)	2	3	2	3
Ministry of Communications (MoC)	1	1	1	1
MoEP	1	1	1	1
Ministry of Local Government and Rural Development (MLGRD)	0	2	3	1
MGCSP	0	2	1	1
Ministry of Roads and Highways (MoRH)	0	1	1	1
Ministry of Transport (MoT)	0	1	1	1
MoF	0	0	0	1
Ministry of Fisheries and Aquatic Development (MoFAD)	0	0	1	0
Ministry of Trade and Industry (MoTI)	2	0	0	0
Total	15	48	45	42

Source: *Asante et al. (2015)*.

The distribution of planned spending across ministries shows a slightly different pattern to that of the number of budget codes. In terms of the level of the annual budget allocations, the ministry with the largest allocated budget for climate change-relevant actions is MWRWH, followed by MLNR and MoFA (Table 6.9 and Figure 6.2).

6.3.3 Relevance of spending

Two categories of climate change-relevant expenditure were distinguished in the analysis. High-relevance expenditure is where the description of the policy objective in the budget documentation contained an explicit reference to climate change. For these policy objectives, all the budgeted expenditure was included in the analysis (100%). For medium-relevance expenditure, the policy

Table 6.9: Climate change-relevant budgeted expenditure, by ministry, Ghana, 2011–2014

	2011			2012			2013			2014		
	Total budget (GH¢ mn)	CC-relevant (GH¢ mn)	CC-relevant (%)	Total budget (GH¢ mn)	CC-relevant (GH¢ mn)	CC-relevant (%)	Total budget (GH¢ mn)	CC-relevant (GH¢ mn)	CC-relevant (%)	Total budget (GH¢ mn)	CC-relevant (GH¢ mn)	CC-relevant (%)
MWRWH	558	258	46.1	283	53	18.7	598	226	37.8	531	246	46.3
MLNR	98	59	60.2	217	86	39.2	226	84	37.0	359	118	32.7
MoFA	221	38	16.9	262	74	28.0	292	89	30.5	306	115	37.2
MINT	301	3	1.0	406	14	3.5	825	16	1.9	1,013	97	9.5
MESTI	177	11	5.9	123	20	16.2	139	11	7.9	245	24	9.8
MLGRD	226	0	0	223	0	0.04	447	16	3.5	239	21	8.9
MoF	178	0	0	446	0	0	292	0	0	23	8	35.2
MoT	18	0	0	99	0	0.92	187	0	0.03	89	5	5.7
MGCSP	13	0	0	15	0	1.1	38	15	39.0	91	3	2.8
MoC	29	0	0.01	66	0	0.6	56	0	0.00	93	0	0.45
MoEP	405	204	50.4	657	0	0.01	1,061	0	0.02	1,340	0	0.06
MoRH	335	0	0	907	147	16.1	706	131	18.5	699	0	0.02
MoTI	82	0	0.85	157	0	0	124	0	0	256	0	0
MoFAD	0	0	0	0	0	–	48	0	0.30	128	0	0
Total	2,641	573		3,861	394		5,039	588		5,412	637	

Note: Spending less than GH¢ 1 million

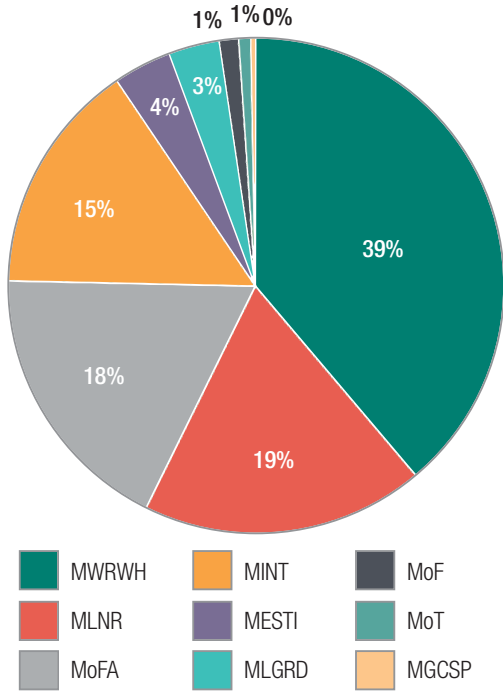
Source: Asante et al. (2015).

objective description could be readily linked to actions listed under each programme and focus area of the NCCP Master Plan. For these policy objectives, half of the budgeted expenditure was included in the analysis (50%). The intensive planning effort completed during the preparation of the NCCP and its Master Plan provided a comprehensive listing of activities that could be

considered relevant to the response to climate change in Ghana.

Overall, five policy objectives were identified as being high-relevance climate change actions given their inclusion of a direct reference to climate change. An additional 39 policy objectives were identified as being medium-relevance, where the objective description related to actions identified in

Figure 6.2: Climate change-relevant budgeted expenditure by ministry, Ghana, 2014 (%)



Source: Asante et al. (2015).

the NCCP Master Plan. From Table 6.10, it is evident that the proportion of planned expenditures devoted to highly relevant actions – where climate change was an explicit policy objective – is extremely small (at less than 1% on average). This means almost all climate change planned funding is being directed at policy objectives that are consistent with the goals of the NCCP but is not being explicitly labelled as climate change-relevant expenditure.

6.3.4 Adaptation and mitigation spending

Climate change budgetary allocations in Ghana have been classified as mitigation or adaptation depending on the activities being undertaken. The team reviewed government policy objectives against their intended impact and classified them according to whether these impacts were concerned with

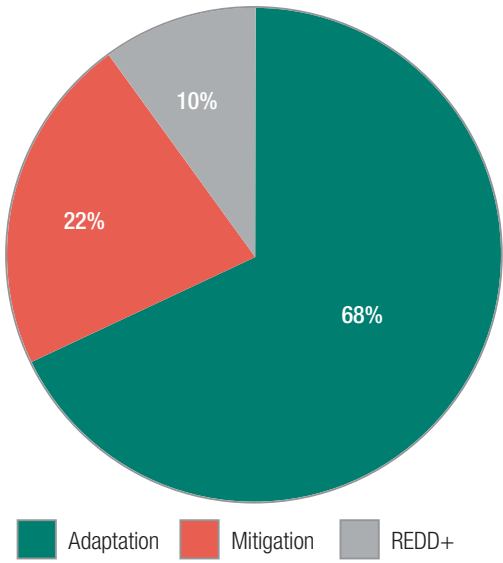
Table 6.10: Climate change-relevant budgeted expenditure by relevance as a share of total climate change relevant expenditure, Ghana, 2011–2014 (%)

Inflation	High (%)	Medium (%)
2011	0.0	100.0
2012	1.5	98.5
2013	0.6	99.4
2014	0.2	99.8

Source: Asante et al. (2015).

climate change mitigation or adaptation. The review revealed that, overall, a significantly larger proportion of the climate change budget allocation was directed at adaptation activities (Figure 6.3), with an increasing trend towards adaptation actions over the four years under consideration (2011–2014) (Table 6.11). The budget allocation in support of REDD+ activities remained at approximately 10% over the period.

Figure 6.3: Climate change strategies, Ghana, 2011–2014 (%)



Source: Asante et al. (2015).

Table 6.11: Budgeted expenditure on, and percentage of, adaptation compared with mitigation activities for climate change-relevant budgeted expenditures across all ministries, Ghana, 2011–2014

Budget year	Adaptation (GH¢ mn)	% of total climate budget	Mitigation (GH¢ mn)	% of total climate budget	REDD+ (GH¢ mn)	% of total climate budget
2011	310	54	204	36	59	10
2012	215	55	148	38	31	8
2013	406	69	132	22	50	9
2014	556	87	6	1	75	12
Total	1,487	68	490	22	215	10

Source: *Asante et al. (2015)*.

6.3.5 Sources of funding

Accounting for international development partner-funded climate change-relevant expenditure was not possible during the study period, as the breakdown between domestic and international sources of funding could not be ascertained. Public spending flowing through government systems is captured in the national budget according to standardised coding. Unfortunately, development partner expenditure is not captured with the same level of consistency, and development partner funds do not all flow through one single financial channel. Further complicating the issue is the fact that some development partner funds are spent via government systems, leading to the risk of double-counting of expenditures.

6.4 Conclusions

Since Ghana ratified the UNFCCC as a Non-Annex I Party in September 1995, the country has invested in many processes aimed at mainstreaming climate change activities, especially in the public sector. This has led to several institutional arrangements as well as policy developments, leading to the launch of the NCCP in 2014.

Issues related to climate change are identified in the objectives as well as the activities of several public institutions in the country. Furthermore, climate change-relevant budget allocations have been identified across a range of MDAs, signalling that the

mainstreaming of climate change has begun.

However, a major challenge is the absence of outturn data, necessary to assess the credibility of the budget figures in relation to climate change activities.

Analysis of the budget data between 2011 and 2014 shows that a small number of ministries committed a significant proportion of spending to climate change-relevant actions. This allows us to see where institutional leadership in the public sector response to climate change may be forthcoming; MWRWH, MLNR and MoFA all show potential in this regard.

In Ghana, the proportion of planned climate change expenditures devoted to actions that directly address climate change remains extremely small. Almost all the identified budget allocations over the period studied were for actions identified in the NCCP Master Plan, without there necessarily being recognition of the relevance of this planned spending. This warrants further awareness-raising and the acknowledgement of all such activities in the national response to climate change.

Adaptation actions dominate climate change-relevant spending. This is consistent with the NCCP and reflects the country's needs. However, budget expenditure is yet to reflect the commitment to increase the proportion of renewable energy used in the country. There is also a challenge in relation to adequately tracking international funds related to climate change activities, given the manner in which such funds are disbursed.

Chapter 7: Tanzania

Pius Yanda, Deograsias Mushi and Adolphine Kateka

7.1 Introduction

The government of Tanzania has initiated a number of climate change-focused plans, programmes and strategies. However, implementing these remains a challenge. A major problem, as in many developing countries, is that these initiatives require very considerable financial resources that the country cannot meet in their entirety.

This chapter presents an overview of the climate change finance situation in Tanzania for the four-year period between 2009/10 and 2012/13, through the identification of relevant public expenditure recorded in the national budget. It discusses the constraints inherent in disbursement and traceability of climate change finance. The chapter begins by describing the macroeconomic environment in which climate change finance is implemented and the PFM system through which such finance flows.

7.2 Macroeconomic trends and public financial management issues

Tanzania's economy has changed from one dominated by agriculture to one where services and industry now comprise a substantial proportion of growth. The contribution of agriculture to GDP has declined markedly during the past 15 years, from around a half to one quarter of GDP (Figure 7.1). The average growth of the sector has been 4.2%, less than the national average of 6.7% during the past decade. The output of the sector has been affected by droughts as weather patterns have become increasingly variable. Tanzania's agriculture is mainly rain-fed, which makes it highly vulnerable to fluctuating weather patterns and drought. An estimated one fifth of the agriculture sector is informal and is dominated by smallholder subsistence agriculture. As this sector employs almost three quarters of Tanzania's labour force, the low growth of the sector is a concern for poverty reduction efforts and in terms of vulnerability to climate change.

Figure 7.1: Contribution to GDP of key sectors, Tanzania, 1996–2010 (% of total GDP)



Source: Yanda et al. (2013).

Electricity supply has been a national concern during the past 15 years, with load-shedding having a negative impact on economic growth. Generation has recently improved, although it still presents a potential constraint to growth. Oil imports bridged the decline in hydropower generation in 2011 and 2012 and reduced the length of the outages. While this led to deterioration in the current account, this is expected to be ease once a new gas pipeline delivers natural gas for electricity generation.

However, sustained growth in national GDP has not translated into a notable reduction of poverty. The proportion of the population living below the poverty line was 33.6% in 2007, only slightly below the 35.7% recorded in 2001. This is partly explained by the sector composition of growth and its urban focus. Eight out of 10 poor Tanzanians continue to live in rural areas, yet economic growth has been concentrated in the urban centres, particularly Dar es Salaam.

This economic structure represents challenges and opportunities in relation to climate change. The increasing share of GDP generated from communications, financial services and construction is less vulnerable to changes in the climate, which will increase economic resilience as

further changes in climate are experienced. These sectors are also typically higher valued-added than agriculture, presenting the possibility of higher tax revenues to support public expenditure, which in turn could be directed towards climate change-relevant programmes. However, high employment in agriculture means a large portion of the population will remain vulnerable to the impacts of climate change. In summary, climate change may have less effect on GDP figures owing to the higher growth of certain sectors, but it will continue to have a significant impact on the livelihoods of smallholder farmers.

7.2.1 Trends in GDP growth

Tanzania's macroeconomic performance in the recent past has been strong, with steady growth in GDP since the late 1980s. Tanzania has sustained real GDP growth of at least 6% since 2006 (Table 7.1). The communications sector has generated the strongest growth in recent years, growing three times faster than the average rate. The construction and financial intermediation sectors have also performed strongly. Other sectors have experienced considerably volatility, including the mining and energy sectors.

Table 7.1: Annual GDP growth, Tanzania, 2006–2013 (%)

	2006	2007	2008	2009	2010	2011	2012	2013
GDP growth	6.7	7.1	7.4	6.0	7.0	6.4	6.9	7.0

Source: <http://tanzania.opendataforafrica.org/frcevse/tanzania-gdp>.

7.2.2 Inflation

Increasing inflation is one of the main factors in the consistent nominal increases in government expenditure over the study period (Table 7.2). Government expenditure has in fact outstripped inflation and there has thus been increasing fiscal space for new expenditure priorities such as climate change adaptation and mitigation. Increasing revenue collection from natural gas production can be expected in the medium term, although this needs to be effectively managed to ensure fiscal stability. Overall, recent macroeconomic performance presents

a relatively positive context in which government can implement expenditure policies that include adaptation and mitigation activities.

7.2.3 Sources of revenue

There are considerable challenges in raising resources to a level that can sustain the country's development needs. The gap between domestic revenue and expenditure has grown in recent years, and so dependence on external financing persists. This presents an on-going challenge in meeting Tanzania's medium-term development objectives.

Table 7.2: Inflation and growth in the national budget, Tanzania, 2008/09–2011/12

Year	Rate of inflation (%)	Approved budget (TSh bn)	% increase in approved budget	Actual expenditure (TSh bn)	% increase in actual expenditure
2008/09	8.4	7192.1	–	6,907	–
2009/10	11.8	9,271	29	8,312	20
2010/11	10.5	10,770	16	9,439	14
2011/12	17.4	12,640	17	10,765	14

Source: Expenditure data obtained from IMF Staff Tables and MoFEA.

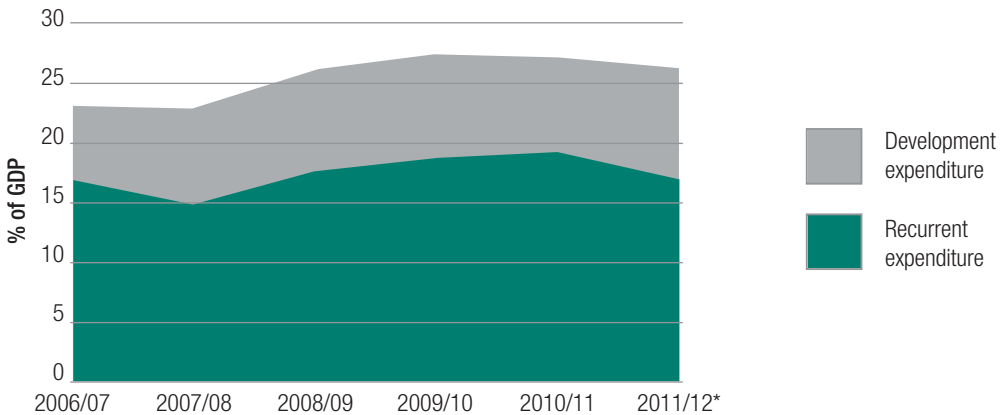
Poor revenue performance in Tanzania can be attributed partly to structural factors. The country is heavily dependent on a narrow revenue base, which is dominated by indirect taxes such as VAT, which accounted for a third of domestic revenue between 2004 and 2010. In addition, the poorly performing agriculture sector and a disproportionately large informal sector support a significant portion of the population who pay no tax. This problem is further compounded by the high rate of tax evasion and avoidance among large taxpayers, which makes it difficult for tax revenue to increase. Structural transformation that will broaden the tax base is necessary if revenue collection is to increase

substantially, although it is envisaged that an increase in domestic revenues will come from gas and petroleum by 2020.

7.2.4 Recurrent and capital expenditure

Recurrent expenditure is substantially greater than development expenditure in Tanzania (Figure 7.2), although the split between the two is not an accurate representation of the amount of spending on current items compared with capital investments. The development budget contains substantial recurrent spending that is donor-financed; it also includes government counterpart funding in addition to government investment spending.

Figure 7.2: Government recurrent and development expenditure, Tanzania, 2006/07–2011/12 (% of GDP)



Note: * Preliminary figures.

Source: IMF 2009, 2010, 2011, 2013.

Low execution rates of the development budget have affected the level of public infrastructure investment spending in the budget. Despite efforts to improve the execution of the development budget, this has remained a challenge; in 2010/11, its execution declined to 59% after non-concessional external borrowing could not be accessed (URT, 2012).

7.2.5 Approved and actual expenditure

On the budget side, the gap between the government-approved budget and actual expenditure remains high. This is a consequence of low domestic revenue

collection and donor delays in disbursements. For the year 2013/14, the government managed to finance only 84% of the total budget, with 64% of the development budget realised and 93% of the recurrent budget. This gap in the development budget is likely to have an impact in terms of addressing climate change challenges, as the climate change response is operationalized under the development budget and most climate change measures rely on public investments. Table 7.3 shows the difference between approved estimates, allocations and actual expenditures for the 2013/14 budget.

Table 7.3: Approved funds, allocated funds and actual expenditures, Tanzania, 2013/14 (TSh billions)

	Approved	Allocated	Actual
Development	5,698.6	3,563.8	3,548.9
Recurrent	12,661.5	11,752.7	11,741.0
Total	18,360.1	15,316.5	15,289.9

Source: Data obtained from MoFEA.

7.2.6 Public financial management reform

Public cash management and procurement plans are outside the Integrated Financial Management System (IFMIS) and this undermines the coherence of expenditure control. These challenges greatly affect the ability to effectively implement the budget and, when compounded by un-budgeted operations, final spending can differ substantially from the original budget. Credibility of budget execution, at an aggregate level and for major budget heads, is poor and has not improved in recent years (URT, 2012). Cash shortfalls, shifting priorities during the year, uneven implementation capacity in ministries and unrealistic budgeting have all resulted in actual expenditures being less than budgeted forecasts, both in aggregate and, to a greater degree, within ministries.

Within the budget process in Tanzania climate change is not acknowledged as a key policy issue, even though it is reflected in a number of national development planning documents, such as the

National Development Plan and the National Strategy for Growth and Reduction of Poverty, MKUKUTA II. These planning documents identify operational objectives, strategic interventions and key outputs, and refer to the 2012 National Climate Change Strategy (NCCS). However, climate change expenditure is not assigned specific coding within the budget. In addition, medium-term policy-based budgeting, including those areas relevant to climate change, is weakly institutionalised. The budget operates on a one-year rolling basis, with frequent changes between years that are not linked to clear national priorities. At the sector level, there are often disparities between the strategic plans of sectors and their annual budgets. As a result, it is not possible to isolate within key budget documentation examples of where climate change expenditure has been adjusted to take into account monitoring and evaluation findings on efficiency throughout the year.

Although there have been some cash management reforms, with the establishment of cash management units in the Accountant-General's Department, management constraints remain that affect climate change-relevant expenditures. For example, national programme efforts have not given sufficient attention to the need to link national priorities to public investment or to monitoring and evaluating programme results. There is no central mechanism or process in place to guide the translation of national strategic plans into policy reforms and expenditure programmes (including, and most important, public investment). In fact, the process for systematically gathering information about the impact of public expenditures and public investment and analysing their relevance and impact remains weak. Neither the Ministry of Finance and Economic Affairs (MoFEA) nor the President's Office Planning Commission collects information about public investment project outputs and outcomes; nor has the government established whose responsibility it is to do so.

Cash to fund climate change actions appears to be managed erratically, with delays and unexpected changes to requested levels of cash. This leads to cash constraints, which risk negatively affecting climate change expenditure if it not strategically prioritised. In this situation, maintaining close management of climate change-relevant expenditure remains a challenge. Crucially, reporting of government expenditure on the basis of the original budget would allow the tracking of expenditure from the approved budget through to actual spending for key climate change-relevant programmes, but this does not take place at present.

7.3 Climate change public expenditure

Tanzania has embarked on a range of initiatives that seek to either mitigate or enable adaptation to climate change and climate variability. Additionally, there are initiatives that by design are not climate change-focused but whose outcomes relate to climate change mitigation or adaptation. This section considers all such climate change-relevant activities in Tanzania from an expenditure perspective using five selected areas for analysis:

1. the overall level of spending on climate change
2. where spending is taking place across government
3. the relevance of this spending to climate change
4. adaptation and mitigation spending
5. the sources of funding for this expenditure

Analysis of climate change public expenditure in Tanzania was carried out for the first time in 2013 (Yanda et al., 2013). Data on approved budgets and actual expenditures were sourced from the MoFEA for the years 2009/10, 2010/11, 2011/12 and 2012/13. The annual budget datasets were used to identify climate change-related projects. Other sources of information included the IMF and Tanzania Economic Survey data from 2012.

Estimation of climate change expenditure started with identification of programmes, projects and activities that could be labelled relevant to climate change. These included actions with clear climate change-related objectives as well as those where the team could ascertain a climate change outcome. Identification of relevance was carried out for all development projects listed in the national budget. Climate change-relevant expenditure for each identified project and programme was then determined (following the protocol in Chapter 3). The resulting figures were consolidated to determine the climate change-related share of the development budget for each ministry. This percentage was then applied to the recurrent budget of each ministry so the team could estimate recurrent spending supporting execution of the climate change-relevant development budget.

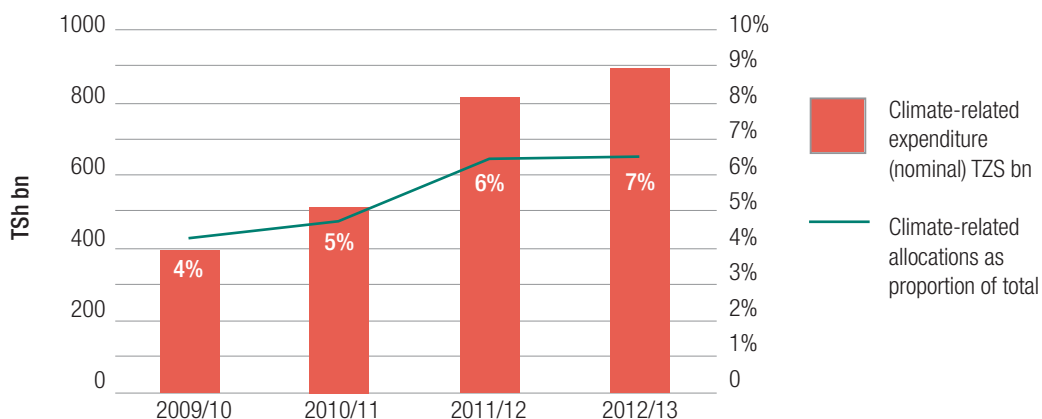
7.3.1 Overall level of spending

Analysis of budgeted climate change-relevant expenditure shows a significant increase in financial allocations for climate change-relevant activities since 2009/10, in both absolute and relative terms. Figure 7.3 shows climate change-relevant expenditure in nominal terms and as a proportion of the total budget for the financial years 2009/10–2012/13. The budget allocation for climate change related activities increased from TSh 392 billion in 2009/10 to TSh 896 billion in 2012/13; adjusted for inflation this represents a real growth rate of 57% over the four-year period. Figure 7.3 further

indicates that the proportion of climate change-relevant allocations in the total budget grew from 4% in 2009/10 to 7% in 2012/13. Therefore, we

can discern an increasing trend for both absolute and proportional allocations to climate change-relevant activities.

Figure 7.3: Climate change-relevant allocations and as a share of the total budget, Tanzania, 2009/10–2012/13



Source: Yanda et al. (2013).

Budget allocations indicate a financial commitment to various development programmes and projects, including detailed areas of spending by activities. The outturn at the end of the financial year will depend on, among other factors, the availability of cash needed to execute the budget. As such, budgetary allocations for climate change and outturn expenditures are not necessarily the same; in fact, in Tanzania in recent years, the latter have always been lower than the former. In financial year 2009/10, the outturn for the climate change-relevant budget was approximately 90%; this subsequently dropped to 80% in 2011/12. Thus, not all budgetary allocations for climate change-related expenditure are released, with spending units receiving less than their approved budget for climate change-related activities. The overall execution rate of the development budget was only 72% in 2010/11 and 77% in 2011/12, owing to delays in project and contract implementation. This would have affected the overall rate of climate change-relevant expenditure. In terms of the breakdown of climate change-relevant budgetary

allocations by the development budget and the recurrent budget, the majority of climate change-relevant funding is allocated through development expenditure (Table 7.4). This reflects the capital nature of climate change mitigation and adaptation activities. It also reflects the current budgetary practice by MoFEA to classify all projects and programmes (including those funded by foreign sources) as being development expenditure. For the four-year period studied, the development budget was approximately 70% of total allocations towards climate change actions.

As a percentage of GDP, climate change-related expenditure increased from 1.3% in 2009/10 to 1.7% in 2011/12, reflecting absolute growth in climate change-relevant expenditure that outstripped GDP growth (Table 7.5). Had the budget been executed fully, this growth would have been even more pronounced, with the climate change-related budget rising from 1.4% of GDP in 2009/10 to 2.2% in 2011/12. Total government expenditure has remained relatively constant at 29% of GDP.

Table 7.4: Climate change-relevant budget by development and recurrent budget and source of funding, Tanzania, 2009/10–2012/13 (TSh billions)

	2009/10	2010/11	2011/12	2012/13
Total budget for climate change-relevant activities	392	513	811	896
Recurrent	136	156	203	296
Development	256	357	608	600
Domestically financed	145	124	171	249
Foreign financed	111	233	437	351
Climate change development budget as share of total	65%	70%	75%	67%

Source: Yanda et al. (2013).

Table 7.5: Climate-related expenditure as share of GDP, Tanzania, 2009/10–2011/12

Description	2009/10	2010/11	2011/12
Total GDP (TSh bn)	28,213	32,293	37,533
Total expenditure as % of GDP	29.0%	29.2%	28.7%
Climate change-relevant expenditure as % of GDP	1.3%	1.3%	1.7%
Climate change-relevant budget as % of GDP	1.4%	1.6%	2.2%

Source: Yanda et al. (2013).

7.3.2 Spending across government

Ministries at central level control the majority of climate change-relevant expenditures, and this share has been increasing. Regional levels control a relatively small share of climate change-relevant programmes, and this share has halved from 24% in 2009/10 to 12% in 2012/13 (Table 7.6).

Spending is concentrated in relatively few ministries: the Ministries of Water and Irrigation (MWI) and Energy and Minerals (MEM) stand out, being natural focal points for government's response to adaptation and mitigation respectively (Table 7.7).

The Ministry of Agriculture, Food Security and Cooperatives (MAFC) and MoFEA are also committing significant expenditure to climate change-relevant activities, although in the latter case this represents only a very small percentage of the

ministry's spending and is therefore unlikely to feature in ministerial spending plans. For three other ministries (MWI, MEM and MAFC), climate change-relevant spending amounts to approximately a quarter of the development budget in the period 2011/12 and so climate change may be expected to feature more strongly in their spending plans. The absolute level of spending within the Vice-President's Office is not high but it is significant in percentage terms, reflecting the fact that the Division of Environment within this office is the national climate change focal point. Relevant spending by the local government ministry (the Prime Minister's Office-Regional Administration and Local Government, PMO-RALG) has diminished over the time period, mirrored by less spending at the regional level.

Table 7.6: Climate change-relevant budget by level of government, Tanzania, 2009/10–2012/13

Spending entity institutional level		Climate change budgetary allocations by respective entities			
		2009/10	2010/11	2011/12	2012/13
MDAs (central) level	%	76%	71%	84%	88%
	TSh bn	298	364	681	788
Regional level	%	24%	29%	16%	12%
	TSh bn	94	149	130	108

Source: Yanda et al. (2013).

Table 7.7: Climate change-relevant expenditure as a percentage of ministry development spending, Tanzania, 2009/10–2011/12

Ministry	2009/10			2011/12		
	Total spend (TSh bn)	CC- relevant spend (TSh bn)	CC- relevant (as % total)	Total spend (TSh bn)	CC- relevant spend (TSh bn)	CC- relevant (as % total)
MWI	443.5	55.8	12.6	448.8	110.9	24.7
MEM	298.4	72.6	24.3	364.5	92.2	25.3
MoFEA	663.9	4.2	0.6	600.6	31.8	5.3
MAFC	93.8	45.1	48.1	126.8	30.5	24.0
Prime Minister's Office	76.1	0.6	0.7	115.0	15.5	13.5
Ministry of Education and Vocational Training	–	–	–	563.7	13.5	2.4
Vice-President's Office	28.0	3.4	12.3	16.9	4.0	23.9
Ministry of Livestock Development and Fisheries	–	–	–	26.8	1.9	7.1
Ministry of Transport	1,643.0	0.5	0.0	263.2	1.6	0.6
PMO-RALG	191.5	59.0	30.8	101.8	0.9	0.9
Ministry of Lands and Human Settlements	61.3	0.0	0.0	31.4	0.9	2.9
Ministry of Natural Resources and Tourism	64.9	4.4	6.8	–	–	–
Ministry of Health and Social Welfare	1,105.4	0.5	0.0	–	–	–

Source: Yanda et al. (2013).

7.3.3 Relevance of spending

The majority of climate change-related expenditure was budgeted for programmes with low climate change relevance (Table 7.8). Approximately 85% of all climate-related expenditure in Tanzania is of low

relevance, meaning it funds activities that contribute indirectly to adaptation and mitigation but this is not the project budget's primary objective. Significantly, the share of high-relevance projects increased from 5% to 13% of the total between 2009/10 and 2011/12.

Table 7.8: Relevance of climate-related expenditure, Tanzania, 2009/10–2011/12

Climate change relevance	2009/10		2011/12	
	No. of projects	Share of total budget (%)	No. of projects	Share of total budget (%)
High	3	5	9	13
Medium	4	7	2	3
Low	51	88	57	84
Total	58	100	68	100

Source: Yanda et al. (2013).

7.3.4 Adaptation and mitigation spending

The composition of climate change-relevant expenditure appears to have shifted over the four-year period, away from projects with a primary focus on either adaptation or mitigation to projects that combine both of these climate change strategies. During the national analysis, the team classified each project according to whether its impact was likely to mitigate the effects of climate change or help in adapting to its effects. The results indicate that by 2012/13 half of

Tanzania's climate change-relevant projects had both adaptation and mitigation impacts; 37% had adaptation as the sole objective; and 13% were for mitigation purposes. Analysis of climate change-relevant expenditures show that, during the period 2009/10–2012/13, the share of funding for adaptation activities fell from 62% to 37% and funding for mitigation projects from 25% to 13%, whereas the share of funding for projects that address both mitigation and adaptation rose from 13% to 50% (Table 7.9).

Table 7.9: Climate change expenditure (development budget only), Tanzania, 2009/10–2012/13

Strategy	2009/10		2010/11		2011/12		2012/13	
	TSh bn	%	TSh bn	%	TSh bn	%	TSh bn	%
Adaptation	159	62	243	68	252	41	221	37
Mitigation	64	25	32	9	35	6	79	13
Both	33	13	82	23	321	53	300	50
Total	256	100	357	100	608	100	600	100

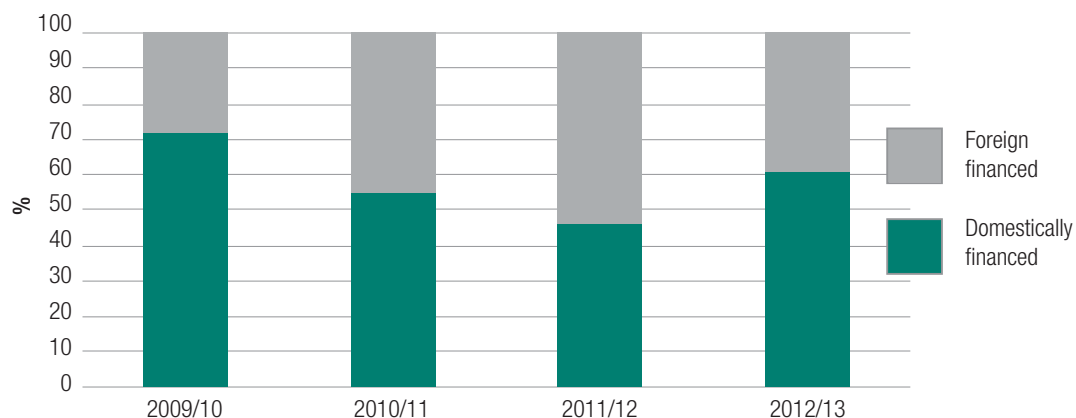
Source: Yanda et al. (2013).

7.3.5 Sources of funding

The growth in the budget allocation for climate change-relevant activities in Tanzania is being driven by an increase in on-budget donor funding, as Figure 7.4 shows. In fact, the domestically financed climate change-relevant budget declined

by 4% over the period, while foreign financing grew by 61%. Foreign financing comprised approximately 28% of all climate change-relevant budgeted funds in 2009/10 but increased to account for more than half in 2011/12, before falling in 2012/13 to 39%.

Figure 7.4: Composition of climate change finance by source of funds, Tanzania, 2009/10–2012/13 (%)



Source: Yanda et al. (2013).

7.4 Conclusions

Tanzania has invested considerable resources in the area of climate change. Elaborate strategies, plans and programmes are already in place to address its impacts, especially in the key sectors relevant to development. However, a number of challenges are affecting the effective implementation of these initiatives relating to the PFM system, which require significant structural improvement to be able to support the funding of climate change actions.

While in recent years Tanzania has achieved improvements in its PFM system, significant challenges remain that affect the national response to climate change. For example, there is no linkage between medium-term strategies and annual

budgets and the annual budget credibility is low, with significant divergence between budgeted and actual expenditure. Tanzania's capacity needs to improve significantly in these areas if climate change is to be managed effectively.

Climate change-relevant expenditure was concentrated in low-relevance projects over the four-year period studied, meaning few of the identified projects specifically aim to tackle climate change. There is, therefore, spending taking place in ministries without them fully realising the significance of such spending in terms of its relation to climate change. This warrants further awareness-raising among sector planners so as to make the link between sector spending and the NCCS.

Chapter 8: Uganda

Godber Tumushabe and Tony Muhumuza

8.1 Introduction

The macroeconomic and fiscal policy environment is central to any analysis of climate change finance trends and issues. This chapter first analyses the macroeconomic and PFM issues relevant to the Ugandan context. The data used in this analysis were obtained from Uganda’s Ministry of Finance, Planning and Economic Development (MoFPED), the Uganda Bureau of Statistics (UBoS) and ministerial policy statements of selected MDAs.

The chapter then analyses the allocation of public funds for climate change-relevant activities, projects and programmes across ministries, in order to show how such expenditure is currently funding actions that will support climate change adaptation or mitigation.

8.2 Macroeconomic trends and public financial management issues

Uganda’s economy and economic policy landscape has changed dramatically over the last two decades. Most of the changes relate to the structure of the

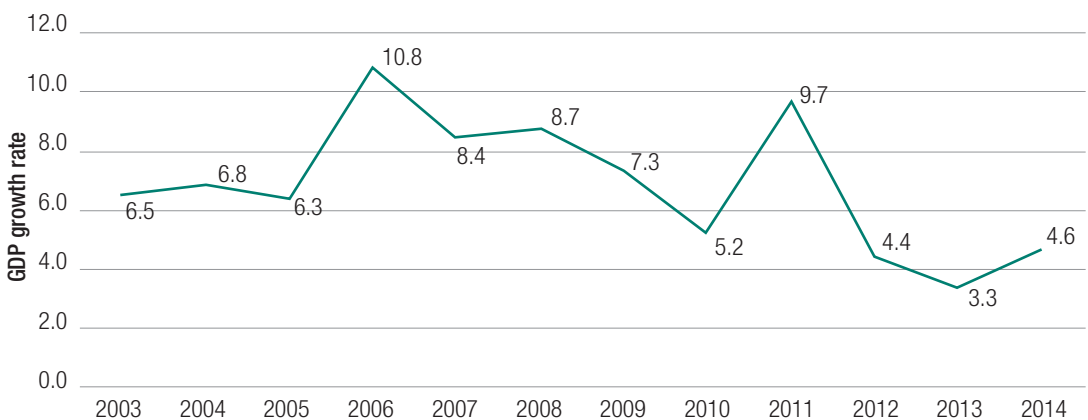
economy, changes in economic growth, levels of poverty, and the overall trends and practices regarding public finance management (PFM). These changes have direct implications for public expenditure on climate change actions.

8.2.1 Trends in GDP Growth

Uganda has maintained positive growth, with annual GDP growth estimated to be in the range of 5% to 7% over the past 15 years. This growth is mainly attributed to three important factors: 1) improved political stability, including an upsurge in foreign aid; 2) liberalisation and wide-ranging market reforms; and 3) early productivity gains that were later completed by factor accumulation (World Bank, 2015). As Figure 8.1 shows, Uganda’s growth has slowed since 2011. In many ways, this points to the exposure and vulnerability of the economy to a wide range of economic shocks.

Uganda’s economy is generally divided into four broad sectors: agriculture, industry, manufacturing and services. At the time of the publication of the first

Figure 8.1 GDP growth, Uganda, 2003–2014 (%)



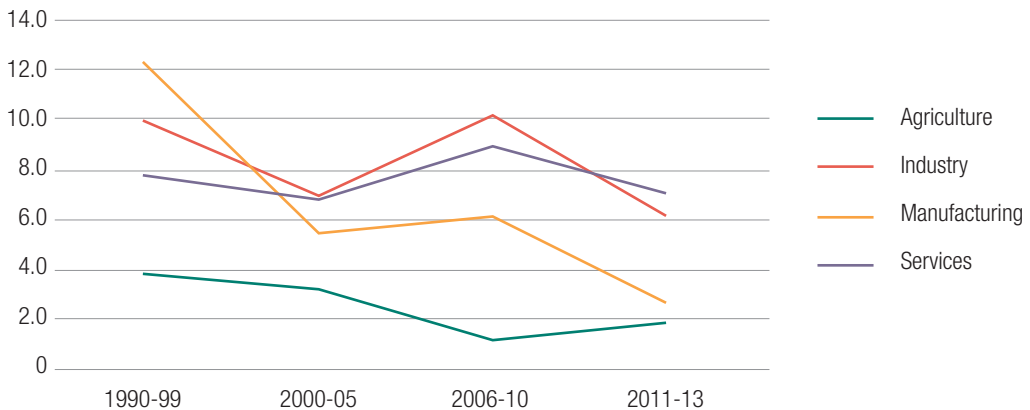
Source: UBoS (various dates); World Bank Development Indicators (2014).

Poverty Eradication Action Plan (PEAP 1) in 1997, agriculture contributed the largest share of GDP, estimated at 42.0%. At the same time, industry contributed 8.6% and services 40.5% (UBoS, various dates). Of all the economic sectors, agriculture has experienced the slowest growth since that time. After the highs of the 1990s, when the sector grew at 4% each year, growth has declined consistently, posting annual average growth of less than 2% (Figure 8.2).

As a result, the contribution of agriculture to GDP has declined considerably, dropping to approximately 23% in 2015. In comparison, the contribution of industry and services to GDP has

risen, reaching 26% and 50%, respectively. Generally, the increased contribution of the services and industry sectors to GDP shows a healthy growth trend whereby significant government revenues would come from sectors likely to be less vulnerable to climate change. However, the fundamental challenge is that the economy has not experienced a structural transformation as evidenced by the movement of labour from agriculture to these high-growth sectors. Over 75% of the population continues to be directly or indirectly dependent on agriculture. Out of an estimated population of 17.3 million women, 83% remain engaged in the sector.

Figure 8.2: Annual GDP growth across selected sectors, Uganda, 1990/99–2011/13 (%)



Source: UBoS (various dates).

8.2.2 Trends in poverty

A major focus of the government macroeconomic policy agenda has been to reduce poverty. PEAP 1 signalled a firm commitment on the part of government to focusing public spending and policy action on eradicating poverty. There were also attempts to direct substantial public funds to financing agriculture within the framework of the Plan for the Modernisation of Agriculture.

Available data show that, over the past two decades, Uganda has been fairly successful in reducing the number of people living in abject poverty, which went down from 9.8 million in 1992

to 6.7 million in 2012 (Table 8.1). The size of the middle class has also grown significantly, from 1.8 million in 1992 to 12.6 million in 2012. This presents both an opportunity and a challenge for the national response to climate change. On the positive side, an increase in the size of the middle class may lead to increases in the tax-paying public, leading to increased domestic revenue collection. On the other hand, middle class status may lead to unsustainable levels of consumption, exacerbating the potential negative impacts of climate change. Continuing high numbers of poor people remain vulnerable to the impacts of climate change.

Table 8.1: Ugandans who are poor, non-poor insecure and middle class, Uganda, 1992/93–2012/13

	1992/93	1999/20	2002/03	2005/06	2009/12	2012/13
Millions of Ugandans						
Poor	9.8	7.2	9.8	8.4	7.5	6.7
Non-poor insecure	5.8	9.4	10.1	10.9	13.2	14.7
Middle class	1.8	4.8	5.4	7.8	10.0	12.6
% of Ugandan population						
Poor	56.4%	33.8%	38.8%	31.1%	24.5%	19.7%
Non-poor insecure	33.4%	43.9%	39.9%	40.2%	42.9%	43.3%
Middle class	10.2%	22.4%	21.2%	28.7%	32.6%	37.0%

Source: UBoS, 2000, 2006, 2010 and 2013.

8.2.3 Inflation

Inflation, which was under control in the 1990s and early 2000s, became a major challenge after 2008. In 2011, inflation rates rose sharply to more than 20%, mainly because of supply-side shocks in the food market within Uganda and neighbouring countries (Bank of Uganda, 2012). High and volatile inflation has a negative effect on government expenditure management, including for climate change. One of the general short-term effects is the emergence of uncertainties in the budgeting process. Across all areas of expenditure, the government faces pressure

to make budget adjustments to account for changes in purchasing power, which will create discrepancies between projected and actual expenditure (Aizemann and Hausmann, 2000). However, the actual impact on government expenditure is difficult to determine precisely. While changes in the approved budget estimates show some relation to changes in prevailing inflation, actual spending remained below the budget estimates for several of the years under consideration, suggesting other factors were at work that led to the approved budget not accurately predicting the level of actual expenditure (Table 8.2).

Table 8.2: Inflation and growth compared in the government budget, Uganda, 2008/09–2011/12

Year	Rate of inflation (%)	Approved budget (USh bn)*	% increase over previous year	Actual expenditure (USh bn)	% increase over previous year
2008/09	14.1	6,129.6	–	5,237.6	–
2009/10	9.4	7,080.8	15.5	6,831.7	30.4
2010/11	6.5	7,477.6	5.6	8,878.7	30.0
2011/12	23.5	9,869.3	32.0	9,731.5	9.6

Note: As indicated in the table, this column refers to the budget originally approved by Parliament at the beginning of the financial year, and not to the supplementary budget usually presented to Parliament mid-way through the year.

Source: Tumushabe et al. (2013).

8.2.4 Sources of revenue

Uganda has registered substantial progress in domestic revenue generation since the creation of the Uganda Revenue Authority in 1991. Domestic revenue has more than doubled in nominal terms, from about US\$ 3.2 trillion in 2007/08 to about US\$ 6.6 trillion in 2011/12. Revenue growth for 2010/11 was attributed mainly to increased collections from oil exploration and related activities. While generation of domestic resources has improved, challenges continue to exist in raising resources to a level that can sustain the country's development needs. Insufficient revenues have resulted partly from the structure of the economy, which is largely dominated by the informal sector, a high degree of tax evasion and avoidance, largely arbitrary tax incentives and tax holidays and corruption. As a consequence, domestic revenues have not kept pace with the country's growing public expenditures needs, resulting in deficits.

Financing of government activity has also come from external donors, who accounted for more than 20% of the total budget between 2008/09 and 2011/12. Donor assistance constitutes more than 4% of GDP. The challenge with donor funding pertains mainly to its unreliability. Coupled with low domestic revenue collection, shocks in aid flows can negatively affect both the macro-economy and government expenditure. Aid cuts in 2012 that resulted from mismanagement of donor funds in the Prime Minister's Office and other cases of gross corruption are a case in point. Volatility in the flow of donor funds makes it harder for government to plan effectively and to deliver its policy objectives, including those relating to climate change.

External borrowing remains one of the main mechanisms for financing Uganda's fiscal deficit, although overall debt levels are considered to be sustainable. In 2009/10, external borrowing financed 52% of the budget deficit. This had increased to 85% in 2011/12.

The impact of sustained deficits on government activity, including activities related to climate change, will depend on a number of factors. Sharp increases in fiscal deficit levels usually raise government borrowing costs, diverting resources from other spending areas, including climate-

relevant programmes. Fiscal deficits can also lead to the increase of lending rates, which can crowd out private investment and reduce economic growth in the long term. However, if resources financing the deficit are invested in projects that are critical to stimulating economic growth, long-term revenues that accrue from these sectors could compensate for short-term negative effects. Using the documentation available, it is not possible to state definitively if deficit financing has been used to fund long-term infrastructure or recurrent costs.

However, with the development budget consistently being underspent as compared with the recurrent budget, this suggests deficit finance has supported recurrent rather than development costs.

8.2.5 Recurrent and capital expenditure

Except for 2010/11, budgeted expenditure has been split roughly equally between development and non-development budgets, with a slight bias towards recurrent expenditure. Wages and salaries account for around 60% of recurrent expenditure. The growth in development expenditure has been driven in part by the government's plans to boost infrastructure investment and an increase in energy subsidisation. Since 2007, the government has committed substantial resources to rehabilitating and constructing roads and hydroelectric power dams. There are plans to continue expanding the infrastructure budget for the next two decades in line with the objectives of the National Development Plan (Republic of Uganda, 2009). However, strong conclusions based on the distinction between 'development' and 'non-development' expenditure need to be treated carefully. The 2012 PEFA report suggested that, in practice, distinctions between the two categories are arbitrary (MoFPED, 2012).

The increase in the share of development expenditure in the national budget could be important for the national response to climate change. For instance, growth in public expenditure on infrastructure projects and hydropower investment can help reduce emissions and enhance adaptation potential. Expenditures geared towards an increase in electricity distribution could reduce the rate of depletion of forest cover and the use of

other forms of biomass. However, the effectiveness of such expenditures must be balanced against the increased costs required for delivery. For instance, while the supply of electricity has recently increased, the cost of access has continued to rise. This provides fewer avenues for reducing forest depletion in the event that forest resources continue to offer a cheaper alternative to hydro energy.

8.2.6 Medium- and long-term policy framework and implications for climate finance

Uganda's long-term macro-policy framework, as enshrined in the Vision 2040 document, is to transform Ugandan society from an agrarian to a modern and prosperous country within 30 years. The theme of the second National Development Plan (2015–2020) is to strengthen Uganda's competitiveness for wealth creation, employment and inclusive growth. The plan puts strong emphasis on five key sectors: agriculture; tourism; minerals, oil and gas development; infrastructure development; and human capital development. However, recent public expenditure trends show the bulk of public spending is directed towards the development of transport and energy infrastructure.

Uganda's medium- and long-term growth prospects remain unpredictable. In particular, risks associated with fiscal management and a volatile external environment threaten the sustainability of current growth trends. More importantly, there are risks associated with the inability of the economy to raise productivity of both the agriculture and non-agriculture sectors. Political uncertainty and corruption remain major bottlenecks to investment as well as the effectiveness of public spending in terms of reducing poverty and vulnerability.

Analysis of climate expenditure in Uganda needs to be premised in the context of this macro-policy framework, which is likely to influence and shape public expenditure for the foreseeable future.

8.2.7 Public financial management reform

Recent PFM diagnostic studies suggest budget credibility is weak, both in year and over the medium term, owing to erratic cash management, volatile inflation and uncertain donor funding; this

makes regular financing of climate change-relevant programmes difficult to manage (MoFPED, 2012). In practice, during the year supplementary budgets are used to revise expenditure in line with excess spending and to accommodate under-spending of certain development budgets. In 2010/11, selected ministries received increases in their expenditure above 25% of the original budget; others received unanticipated cuts required by MoFPED. This suggests executing expenditure, including climate change-relevant expenditure, will be problematic given lack of certainty with regard to adherence to planned budgets – outside of certain 'protected areas' – during the financial year.

Cash management to fund agreed expenditure is also weak, with unpredictable and late release of funds to ministries leading to high levels of under-spending as well as unspent balances. This is identified as a key contributor to the low credibility of budget execution. Ministries are not usually warned in advance regarding shortfalls in cash against budgeted requirements and subsequent low cash releases, and this reduces their ability to plan and sequence expenditure. In addition, the predictability of donor funding is poor, suggesting unpredictable provision of funds by donors will exacerbate the government's challenge in managing expenditure.

Ministries struggle to maintain an oversight of their expenditure and to anticipate and manage unexpected financial shocks. As a result, multi-year budgeting is weak and subject to significant uncertainty. Cash to fund these budgets also appears to be managed erratically, with delays and unexpected changes to requested levels of funding. In this situation, maintaining close management of climate-relevant expenditure – or, in fact, any expenditure – is a challenge.

There are several strengths to the Ugandan system for reporting and accounting for public expenditure, in large part because of the existence of a computerised IFMIS. IFMIS system has complete coverage of central government departments' transactions, and its automated nature means reconciliation between expenditure and bank accounts is done daily. Expenditures are classified on the same basis as the budget, allowing for

straightforward comparison of budget with outturn. Improvements in the use of IFMIS in recent years have resulted in the production of more consistent and useful accounts and financial statements in a timely manner at the end of the year. Although climate expenditures are not separately and comprehensively identified within the budget, it can be assumed they are likely to follow the same path regarding correctness of procedures for reporting and accounting.

The overall impression is one of relative strength in the area of reporting transactions and accounting for the use of public funds, but significant weaknesses in the area of budget execution.

8.3 Climate change expenditures

In Uganda, it is evident that resources earmarked in the national budget do not often reflect the amount disbursed or actually spent on targeted activities at the end of the budget cycle. In most cases, development expenditures tend to be less than planned, whereas recurrent activities for certain sectors receive extra resources. Taken together, this can result in a substantial variation between original budgets and final outturns. Therefore, the analysis below consciously aims to compare budgets with final outturn spending where possible.

Government expenditure on climate change is reviewed through a number of lenses. First, the

analysis considers total expenditure on climate change-relevant activities as a share of overall government expenditure and GDP. We then examine the pattern of climate change expenditure by ministry, followed by the degree of climate change relevance and then the recurrent and development budget. Finally, the analysis reviews the degree to which climate change-relevant expenditure is focused on adaptation as opposed to mitigation activity.

Within the discussion, the term ‘ministry’ is used to cover both the central ministry itself but also the subvented agencies for which they are responsible. For example, the figures for the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) include the National Agriculture Research Organisation; the Ministry of Water and Environment (MWE) also includes expenditure through the National Environment Management Authority and the National Forestry Authority. The analysis considers them as one ministry where total spending by ministry is considered, except where spending is specifically disaggregated by contributing agency.

8.3.1 Overall level of spending on climate change

Growth in climate change-relevant expenditure was observed over the period studied. Total expenditure increased from US\$ 41.5 billion to US\$ 71.8 billion (Table 8.3).

Table 8.3: Growth in climate change-relevant expenditure, Uganda, 2008/09–2011/12

Year	Total CC expenditure (US\$ bn)	Increase from previous year (%)	Non CC-relevant expenditure (US\$ bn)	Increase from previous year (%)	CC expenditure as % of government expenditure
2008/09	41.5	–	3,859	–	1.06
2009/10	53.6	28.0	5,389	39.6	0.98
2010/11	66.5	25.1	8,146	51.1	0.81
2011/12	71.8	8.0	8,179	0.4	0.87

Source: Tumushabe et al. (2013).

However, climate change-relevant expenditure has remained static as a percentage of GDP (Table 8.4). In addition, total expenditure on climate change-relevant actions has remained well below 1% of GDP, which is much less than the 1.6% the

implementation strategy of the 2012 NCCP recommends. This suggests that significant additional financing will be required above what is currently spent on climate change-relevant actions if the climate change policy goals are to be met.

Table 8.4: Climate change-relevant expenditure as a share of GDP, Uganda, 2008/09–2011/12

Financial Year	GDP (US\$ bn)	Total CC-relevant expenditure (US\$ bn)	% of GDP
2008/09	30,101	41.5	0.14
2009/10	34,908	53.6	0.15
2010/11	39,051	66.5	0.17
2011/12	49,087	71.8	0.15

Source: Tumushabe et al. (2013).

Actual spending on climate change-relevant activities was found to be around half of the budgeted amount, except for in 2009/10 (Table 8.5), both for the overall climate change-relevant budget and across ministries. This very low level of budget execution will clearly act as a major barrier to the

implementation of climate change programmes. The results of the PEFA review of central government (MoFPED, 2012) suggest poor cash management and the late release of funds has a major impact on the ability of ministries to manage their programmes, including climate change-relevant programmes.

Table 8.5: Comparison of budgeted vs. outturn for climate change-relevant expenditure, Uganda, 2008/09–2011/12

Year	Budgeted expenditure (US\$ bn)	Outturn expenditure (US\$ bn)	Difference in cash terms (US\$ bn)	Outturn vs. budget (%)
2008/09	96.9	41.5	55.4	57.2
2009/10	203.4	53.2	150.2	73.9
2010/11	153.6	66.5	87.1	56.7
2011/12	136.0	71.8	64.3	47.2

Source: Tumushabe et al. (2013).

8.3.2 Spending across government

A small number of ministries dominated climate change expenditure, with more than half of the relevant spending located in two ministries: MWE and MAAIF. Smaller numbers of climate change-relevant programmes were found in the Ministry of Energy and Mineral Development (MEMD)

and the Ministry of Works and Transport (MoWT); only marginal expenditures were found outside these four ministries (Table 8.6). Surprisingly, no expenditures could be identified in MoH, putting in question the government's readiness to address the impact of climate change on human health.

Table 8.6: Climate change-relevant programmes by ministry, Uganda, 2008/09–2011/12

Ministry	2008/09	2009/10	2010/11	2011/12
MWE	27	28	29	28
MAAIF	15	19	18	17
MEMD	5	12	12	12
MoWT	12	16	17	8
OPM	2	3	4	4
Ministry of Trade, Industries and Cooperatives (MTIC)	0	0	0	1
National Planning Authority (NPA)	1	1	1	1
MoH	0	0	0	0
Ministry of Trade, Tourism and Industry (MTTI)	1	1	1	0
Ministry of Tourism, Wildlife and Antiquities (MTWA)	0	0	0	0
Total	63	80	82	71

Source: Tumushabe et al. (2013).

Climate change-relevant expenditures featured thinly across ministry budgets, and in fact declined from 3.7% of the total ministries' budget in 2009/10 to around 1% in 2011/12 (Table 8.7). Only for MAAIF, MWE, NPA and MEMD did climate-relevant expenditure account for 5% or more of actual expenditure in any year over the four-year period.

As noted above, the category of 'Ministry' used above includes subvented and autonomous agencies that operate under the mandate of the ministry. The MAAIF, MoWT and MWE categorisations each include subsidiary agencies in the above data; the other ministries do not. In some cases, it is these agencies that account for the most significant climate change-relevant expenditures; in others, the ministry is the leading spending agency in relation to climate change (Figures 8.3 to 8.5).

While MWE as an institution handles the majority of climate change-relevant expenditure within its collection of agencies, the same is not the

case for MAAIF and MoWT. In both these ministerial groupings, other agencies (predominantly the Road Fund Secretariat and the National Agricultural Research Organisation) accounted for the bulk of climate change-relevant expenditures. Overall, this suggests that, in terms of future planning for climate change-relevant expenditure, policy-makers will need to consider the relationships and linkages between the central ministries and their subordinate agencies to ensure climate-relevant expenditure is handled effectively. Focusing attention and funding solely on the lead ministry of a particular grouping may not necessarily be the most effective way to engage with the agencies and staff actually undertaking climate change-relevant work.

8.3.3 Relevance of spending

As part of the expenditure analysis, an activity was classified as being highly climate change-relevant if its primary objective, as specified in the ministerial

Table 8.7: Climate change-relevant expenditure as a percentage of ministry spending, Uganda, 2008/09–2011/12 (US\$ bn)

	2008/09			2009/10			2010/11			2011/12		
	Total spend	CC-relevant spend	CC-relevant as % of total	Total spend	CC-relevant spend	CC-relevant as % of total	Total spend	CC-relevant spend	CC-relevant as % of total	Total spend	CC-relevant spend	CC-relevant as % of total
MoWT	899.5	13.4	1.5	554.6	12.4	2.2	652.5	30.9	4.7	794.9	28.2	3.5
MEMD	203.6	13.1	6.5	480.2	31.0	6.5	245.9	18.5	7.5	1014.1	22.1	2.2
MWE	55.6	6.4	11.5	61.0	5.8	9.5	72.8	7.1	9.7	87.6	13.7	15.7
OPM	57.5	2.2	3.9	100.7	0.9	0.9	102.9	2.0	2.0	8044.4	4.0	0.0
MAAIF	120.9	5.6	4.6	111.5	1.6	1.5	120.7	6.5	5.4	143.4	2.3	1.6
NPA	6.1	0.2	3.6	6.5	0.6	8.8	7.9	0.7	9.4	9.5	0.9	9.5
MLHUD	12.7	0.6	4.8	25.2	0.8	3.1	19.9	0.6	3.2	24.6	0.6	2.5
MoH	111.1	0.0	0.0	66.0	0.0	0.0	58.1	0.0	0.0	59.1	0.0	0.0
MTIC	–	–	–	–	–	–	–	–	–	13.6	0.0	0.3
MTWA	–	–	–	–	–	–	–	–	–	0.0	0.0	0.0
MTTI	11.9	0.0	0.4	22.2	0.1	0.3	14.9	0.0	0.3	–	–	–
Total	1,479	41.5	2.8	1,428	53.15	3.7	1,296	66.5	0.1	10,191	71.8	1.0

Source: Tumushabe et al. (2013).

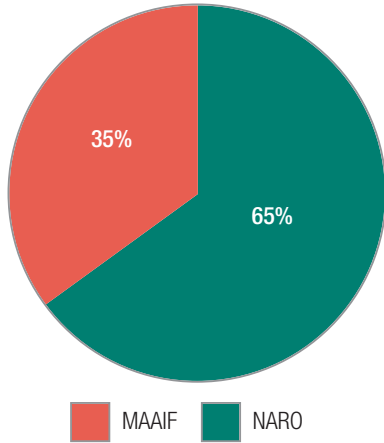
policy statement, was explicitly geared towards climate adaptation or mitigation outcomes. Medium-relevance activities included adaptation or mitigation outcomes as secondary objectives. Activities indirectly related to adaptation and mitigation outcomes were classified as being of low relevance.

The number of high-, medium- and low-relevance programmes classified in each ministry over the four years remained stable (Table 8.8). Over the period studied, there was very little movement in the number and location (in terms of Ministry) of high relevance programmes. Only two projects across the whole of government expenditure could be classified as being highly relevant to climate

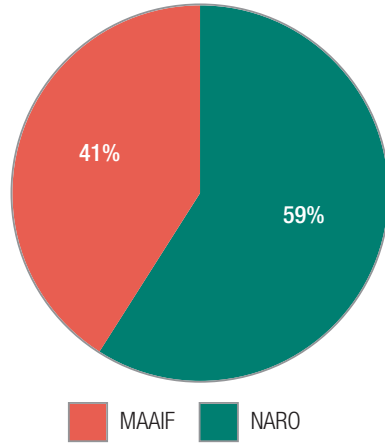
change: the Climate Change Unit housed in MWE and the development project promoting renewable energy and energy efficiency in MEMD. There was an increase in the number of medium-relevance programmes, mostly in MAAIF. However, the overwhelming number of relevant expenditure items were of programmes of low relevance, concentrated in three ministries (MAAIF, MWE and MoWT), where the main intention of the programme was something other than climate change and hence only a proportion of its intended impact could be considered to have an adaptation or mitigation focus. Taking this information together would suggest climate-relevant expenditure was relatively diffused between ministries and ministries'

Figure 8.3: Share of climate-relevant expenditure between MAAIF and supporting agencies for budgeted and actual expenditure, Uganda, 2008/09–2011/12

MAAIF climate-relevant budgeted expenditure
(Average over years 2008/09 to 2011/12)



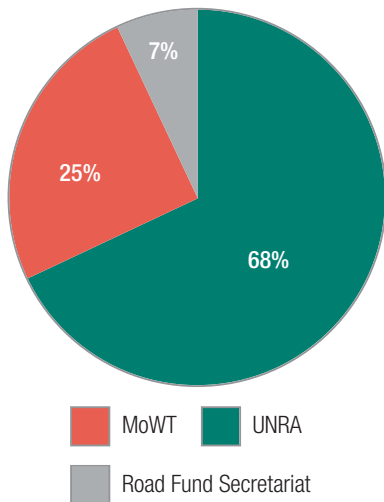
MAAIF climate-relevant actual expenditure
(Average over years 2008/09 to 2011/12)



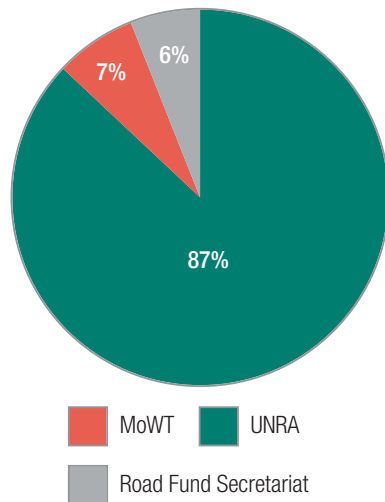
Source: Tumushabe et al. (2013).

Figure 8.4: Share of climate-relevant expenditure between MoWT and supporting agencies for budgeted and actual expenditure, Uganda, 2008/09–2011/12

MoWT climate-relevant budgeted expenditure
(Average over years 2008/09 to 2011/12)

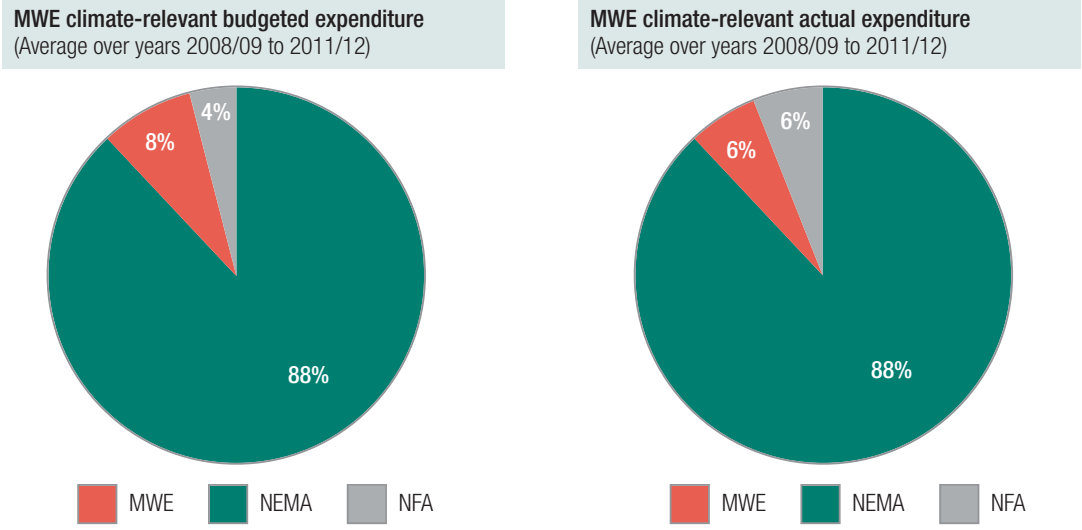


MoWT climate-relevant actual expenditure
(Average over years 2008/09 to 2011/12)



Source: Tumushabe et al. (2013).

Figure 8.5: Share of climate-relevant expenditure between MWE and supporting agencies for budgeted and actual expenditure, Uganda, 2008/09–2011/12



Source: Tumushabe et al. (2013).

programmes, with very little change in the pattern of expenditure over the four-year period.

Looking at the level of expenditure and the percentage of climate change-relevant expenditure under each relevance category confirms the view that the majority of climate change-relevant expenditure was focused on low-relevance projects. With the exception of MEMD, almost all expenditure by value is concentrated in low-relevance programmes. MEMD had a slightly higher amount of its climate change-relevant expenditure in the medium-relevance category. A review of the ministry’s programmes suggests this relates to a number of rural electrification projects, which might be assumed to experience peaks and troughs of expenditure as capital investment is made.

8.3.4 Adaptation and mitigation expenditure

The research team classified expenditures within the budget as mitigation or adaptation depending on the activities being undertaken. Government programmes and activities were reviewed against their intended impact and classified according to

whether these impacts were concerned with climate change mitigation or adaptation. Where the activity appeared to be related to both, the expenditure was weighted in proportion to the apparent share of the impact of the activity between mitigation and adaptation. Where activities and impacts were unclear, additional clarification on intended impact was sought from the lead ministry.

Overall, more was spent on adaptation than on mitigation, but the relative balance changed between the years (Table 8.9). Adaptation was clearly the area of greatest spend within climate change-relevant expenditures, although there was greater mitigation spending in 2009/10. This was because of the start of investments in major clean energy projects, such as hydropower generation. Nevertheless, over the period studied, the majority of funds expended on climate change-relevant activities was on adaptation-relevant activities.

The pattern of adaptation compared with mitigation spending varied substantially between ministries. Most ministries had nearly all their climate-relevant expenditure focused on adaptation

Table 8.8: Number of high-, medium- and low-relevance expenditure items by ministry, Uganda, 2008/09–2011/12

Ministry	2008/09			2009/10			2010/11			2011/12		
	High	Medium	Low	High	Medium	Low	High	Medium	Low	High	Medium	Low
MAAIF	0	2	13	–	5	14	0	5	13	0	5	12
MoH	0	0	0	0	0	0	0	0	0	0	0	0
MWE	0	2	25	1	2	25	1	2	26	1	2	25
MoWT	0	0	12	0	0	16	0	0	17	0	0	8
OPM	0	0	2	0	0	3	0	0	4	0	1	3
MTTI	0	0	1	0	0	1	0	0	1	–	–	–
MTWA	–	–	–	–	–	–	–	–	–	–	–	–
MTIC	–	–	–	–	–	–	–	–	–	0	0	1
MEMD	1	3	1	1	9	2	1	9	2	1	9	2
NPA	0	0	1	0	0	1	0	0	1	0	0	1
Total	1	7	55	2	16	62	2	16	64	2	17	52

Source: Tumushabe et al. (2013).

Table 8.9: Expenditure on, and percentage spend of, adaptation compared with mitigation activities in climate-relevant expenditures across all ministries, Uganda, 2008/09–2011/12

Year	Adaptation spending (US\$ bn)	% of total climate expenditure	Mitigation spending (US\$ bn)	% of total climate expenditure
2008/09	27.6	66.5	13.9	33.5
2009/10	21.2	39.9	31.9	60.1
2010/11	46.6	70.2	19.8	29.8
2011/12	46.9	65.3	24.9	34.7

Source: Tumushabe et al. (2013).

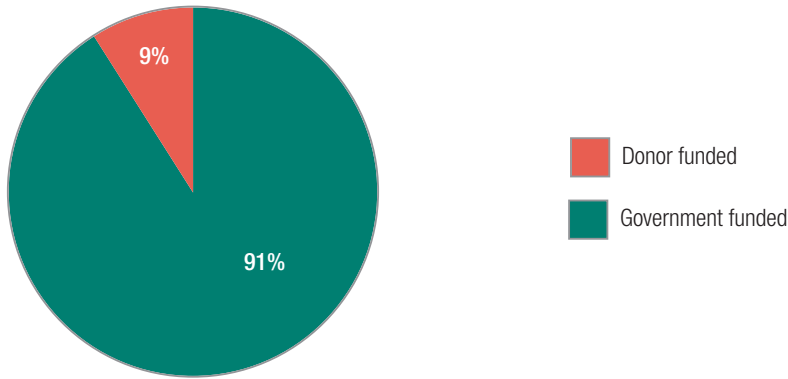
activities. For example, among the largest-spending ministries on climate change-relevant activities, MoWT and MAAIF focused nearly all their expenditure on adaptation expenditure. As might be expected, only one major spending ministry – MEMD – focused its expenditure on mitigation activities, through expenditure on hydropower generation projects.

8.3.5 Sources of funding

Within the Uganda budget system, it is possible to distinguish between development expenditure that

is financed by government and expenditures financed by donors. This can be applied to climate change-relevant expenditures to show the share of expenditure financed by donors and that financed by government. This gives an indication as to the level of external assistance being used to finance the government’s climate-relevant expenditures through the national budget. Given limitations related to data availability, information was available only for the year 2008/09 (Figure 8.6); caution should be taken in extrapolating the findings to subsequent years.

Figure 8.6: Source of funding (donor and government) for budgeted climate-relevant development expenditure, Uganda, 2008/09



Source: Tumushabe et al. (2013).

As Figure 8.6 shows, in 2008/09 the government funded the overwhelming majority of development expenditure relevant to climate change adaptation or mitigation. While there is no ‘correct’ funding mix between government and donors on these issues, if the majority of development expenditure on climate change-relevant activities is from government, this increases the ability of government to amend and redirect these expenditures. This may make climate change-relevant development expenditure more flexible in the future as government implements its adaptation and mitigation strategies. However, it also shows that, for 2008/09, the government received little support from international partners to implement climate change-relevant actions.

8.4 Conclusions

Climate change-relevant expenditures were a very small part of the Ugandan budget over the period 2008/09–2011/12. During this period, such expenditures accounted for less than 1% of central government expenditure. In addition, the credibility of this expenditure in terms of actual spend compared with budget was very low, at around 50% for three of the four years considered.

Climate change-relevant expenditure was found to be focused primarily on supporting adaptation activities but did not comprise a significant share of ministries’ budgets, and was generally made up of a large number of low-relevance programmes. Taken together, this suggests that little strategic investment

was made in climate change programmes over the four-year period. Rather, a great deal of climate change-relevant expenditure went to programmes that aimed at other impacts, and therefore only a part of their expenditure can be considered climate change-relevant.

Chapter 9: International public climate finance to Ethiopia, Ghana, Tanzania and Uganda

Marigold Norman and Neil Bird

9.1 Introduction

This chapter summarises the situation regarding international public climate finance disbursements to the four countries. The aim is to indicate the levels of finance the international community provides for climate change mitigation and adaptation actions, as well as to assess the sectors and projects the main donors to the four countries supported over a four-year period, between 2010 and 2013.

To help countries mitigate and adapt to a changing climate, developed countries have committed to scaling up finance under the UNFCCC, in recognition of the common but differentiated responsibilities of all countries to respond to climate change. International publicly sourced climate finance plays an important role in augmenting domestic resources and can help developing countries reconcile their efforts to respond to climate change with their on-going efforts to reduce poverty and achieve economic development. It can make it possible either to take actions sooner or to create the necessary enabling conditions to unlock public and private finance for climate-compatible development at a greater scale. Almost all international public funding flows through ODA channels.

9.2 Methodology

The overall objective of this chapter is to show how international climate finance has supported the four countries in their efforts to deliver climate-compatible development. To fully understand the

relative role of finance the international community provides, as well as what counts as donor climate finance and projects on the ground, it is important to consider the overall levels of finance available, how this has been targeted and who receives it in country.

The starting point for the analysis was information on donor disbursements published on the Organisation for Economic Co-operation and Development (OECD) Creditor Reporting System (CRS) database for the years 2010, 2011, 2012 and 2013. We filtered the data for all projects and disbursements reported by donors as supporting mitigation and/or adaptation outcomes. We then conducted data analysis to answer the following six questions, which frame this chapter:

1. *How much international public funding does each country receive for climate change actions?* This figure indicates the scale of financial support to climate change mitigation and adaptation actions provided by the international community, which supplements and complements the domestic funds the previous chapters describe.
2. *What climate change strategies do these funds support?* This refers to the proportion of finance directed at supporting mitigation (including for energy and forests or REDD+) and adaptation actions, providing an insight into the priorities of international funders.
3. *Which sectors receive this support?* A sector analysis highlights the priority actions the international community supports and thus can provide an indication of the extent to which this finance

- targets nationally determined priorities.
4. *How significant is climate change as an objective of this spending?* It is important to consider the extent to which donor finance is solely or principally supporting climate mitigation and adaptation goals or whether finance is funding multiple development objectives. This contributes to a better understanding of the scale of international finance available for climate change actions.
 5. *Who provides the funding?* Understanding which funders provide climate finance to different countries helps us assess the importance of bilateral relationships in determining the scale of climate finance, as well as the types of projects and sectors supported, which can reflect the programming preferences and strategy of the donor.
 6. *Who receives the funding?* International finance is not exclusively channelled through the governments of developing countries. This analysis therefore provides an insight into the

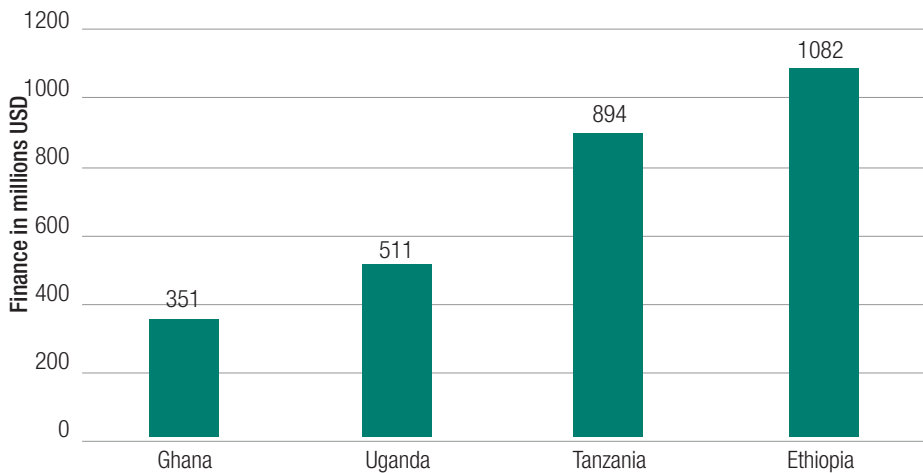
perceived capacity of different actors, both government and non-government.

The following sections provide the data summaries we have collated to answer each of the above questions.

9.3 How much international public funding does each country receive for climate change actions?

International public funding for climate change actions through ODA channels, as recorded in the OECD CRS database, varies considerably across the four countries, averaging \$88 million each year between 2010 and 2013 in Ghana, \$128 million each year in Uganda, \$223 million each year in Tanzania and \$271 million each year in Ethiopia. Overall, international public finance disbursed by OECD countries as ODA over the four years totalled \$351 million in Ghana, \$511 million in Uganda, \$894 million in Tanzania and \$1.08 billion in Ethiopia (Figure 9.1).

Figure 9.1 Total international public climate finance disbursed to Ethiopia, Ghana, Tanzania and Uganda, 2010–2013 (\$ millions)



Source: OECD CRS online database.

The disbursement of international climate finance to the four countries partially reflects their developmental status, as might be expected when

these flows are classified as ODA. Donors disbursed the highest levels of climate finance to Ethiopia, where GDP per capita is \$503 (2013 figures). In

contrast, Ghana's higher GDP per capita of \$1,857 is associated with much lower levels of climate-specific finance (Table 9.1). Other factors contributing to

donor allocation decisions lead to these considerable differences, influenced by the political relationships between donors and each country.

Table 9.1: Comparison of GDP and foreign direct investment, Ethiopia, Ghana, Tanzania and Uganda

Country	Average annual CC-relevant expenditure recorded in national budget (\$ bn)	Average annual international public CC finance disbursed through ODA (\$ bn)	GDP per capita 2013 (\$)	Foreign direct investment, 2013 (\$ bn)
Ethiopia	27.6	66.5	13.9	33.5
Uganda	21.2	39.9	31.9	60.1
Tanzania	46.6	70.2	19.8	29.8
Ghana	46.9	65.3	24.9	34.7

Note: Yearly averages are not for identical years and national budget figures may include an unknown contribution from international ODA sources.
Source: Authors' own compilation and World Bank Open Data website.

Table 9.1 also provides an insight into the relative contribution international public funds make in each of the four countries in support of climate change actions. In Ethiopia, Ghana and Tanzania, domestic resources appear to be significantly higher than the international ODA contribution (even allowing for a considerable percentage of ODA funds passing through the national budget). Considering that both Ethiopia and Tanzania are LDCs and therefore within the group of countries most vulnerable to climate change, this is a significant finding. The situation in Uganda appears to be the reverse: with limited domestic resource allocation to climate change actions, the international community's support seems critical for the early implementation of the climate change strategy.

9.4 What climate change strategies do these funds support?

Globally, the level of international support for mitigation has far surpassed adaptation finance (Nakhooda and Norman, 2014), although there has been attention in recent years to increasing finance that targets the latter. For example, the recently

operationalised Green Climate Fund, an operating entity of the UNFCCC, has a targeting strategy that seeks to spend equally on mitigation and adaptation.

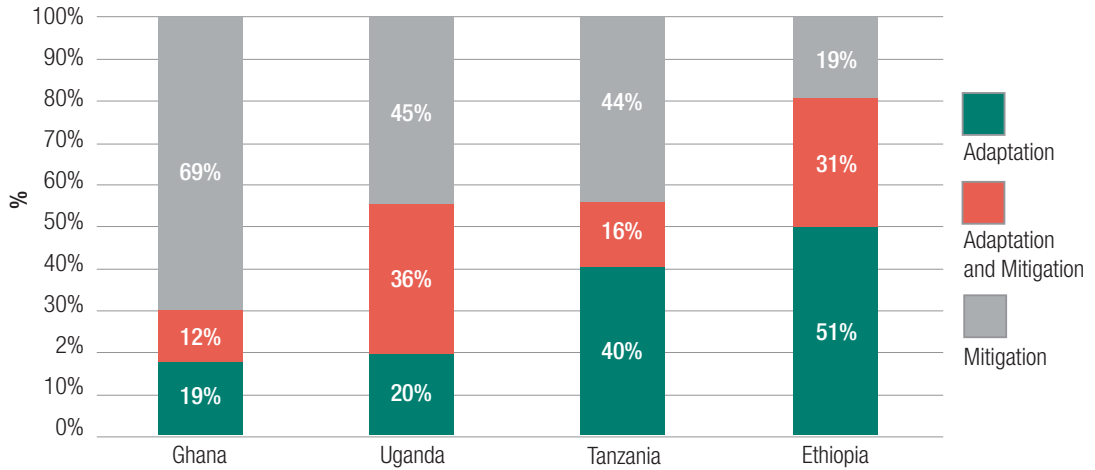
Reflecting the distinction between mitigation and adaptation, the OECD CRS allows donors to self-report on both of these strategies for each project disbursement. Scoring for adaptation and mitigation is not mutually exclusive; the same project can be scored as having both mitigation and adaptation objectives. The mitigation marker was introduced in 1998 and became mandatory in reporting on ODA flows in 2006. The adaptation marker was introduced for donor reporting only from 2010 (the first year of this time series).

Figure 9.2 illustrates the percentages reported under each of these categories. Over the four-year period, the focus of the finance disbursed to the four countries has been quite different. Sixty-nine percent of international public finance disbursed to Ghana was in support of mitigation actions, with just 19% to adaptation and 12% supporting both mitigation and adaptation outcomes. In contrast, international public finance to Ethiopia predominantly targeted adaptation actions (51%), with 19% targeting mitigation and 31% targeting both mitigation and adaptation outcomes. International finance was more

evenly split between mitigation- and adaptation-focused actions in Tanzania, and in Uganda a high

percentage of finance targeted projects and actions that supported both goals.

Figure 9.2 Breakdown of international public climate finance by strategy, Ethiopia, Ghana, Tanzania and Uganda, 2010–2013 (%)



Source: OECD CRS online database.

What these data suggest is that the global bias towards supporting mitigation actions appears to hold even for these vulnerable countries. The GHG emissions of all four countries are negligible by global standards, yet the international community appears to be supporting spending on mitigation over adaptation. This is in contrast with domestic spending priorities, where adaptation spending is the priority for early climate change action in three of the countries (see Section 4.3.5).

The focus on mitigation (as a percentage of climate finance disbursed) is highest in Ghana. Much of Ghana’s mitigation finance reflects commitments to support forest conservation through REDD+ as a mitigation action (Asare et al., 2013). Ghana has been seen as one of the continental leaders on REDD+. While the overall percentage of climate finance targeting mitigation actions is highest in Ghana, Tanzania received more finance for such actions, with \$394 million disbursed between 2010 and 2013. This reflects a

high level of international support to the protection of Tanzania’s forests, which are significant at 33.4 million ha yet are subject to the challenges associated with dominance of the energy sector by traditional biomass collection for domestic use. Electricity access and consumption are low but increasing at a fast pace. Electricity is planned to reach 75% of Tanzanians by 2035 and international donors have been interested in supporting renewable and efficient energy access as part of their mitigation finance.

While Ethiopia looks to have received less support for forest protection and REDD+, a significant proportion of the international finance tagged as mitigation and adaptation includes agricultural, land-use and reforestation projects that contribute to both a reduction in emissions through restoring degraded landscapes and an increase the forest cover, while also supporting adaptation through new sustainable agricultural practices that build resilience.

9.5 Which sectors receive this support?

Over the four-year period, international public climate finance has targeted a number of the same sectors across the four countries. Table 9.2 highlights that international donors have tended to focus on

supporting climate-compatible energy generation (with approximately 18% of all international finance disbursed to the four countries in support of renewable energy and energy efficiency outcomes), followed by food aid and security and water supply and sanitation.

Table 9.2: How international public finance is programmed – priority sectors, Ethiopia, Ghana, Tanzania and Uganda, 2010–2013 (\$ millions)

Country	Energy	Food aid & security	Water supply & sanitation	Agriculture	Forestry	Transport	Other	Total
Ghana	75.7	0.0	6.4	80.5	19.6	14.4	154.6	351.2
Uganda	133.4	15.8	147.8	88.8	17.1	1	106.5	510.4
Tanzania	214.6	2.1	188.4	80.3	26.8	72.6	308.5	893.3
Ethiopia	82.1	398.3	71.3	117.7	52.1	0.3	361.5	1083.3
Total	505.8	416.2	413.9	367.3	115.6	88.3	931.1	

Source: OECD CRS online database.

While the focus on energy, agriculture and water reflects strong priorities as listed by the national governments, it also indicates individual donor country approaches to financing the response to climate change. For example, crop intensification and food security have been core issues for a number of the largest donors, including the European Union (EU) and the US. In addition, countries such as France and Germany have looked for opportunities to support small-scale farmers in Sub-Saharan Africa to facilitate their development from subsistence farming to produce a marketable surplus for national and international markets. This has been supported by improving irrigation and other water measures, as well as through inclusive models for contract farming (SEEK Donor Tracker, 2014).

International funders have also sought to support renewable energy and energy efficiency projects in countries with substantial abatement potential in the energy sector. Tanzania has received the largest amount of international climate finance for energy out of the four countries. Donors have been interested to support the country to shift energy

consumption away from biomass, which accounted for 88% of total primary energy supply in 2011. Consequently, energy access and distribution is a priority both for international donors and the national government. Tanzania has therefore seen international public mitigation finance support focused on electrical transmission and distribution, together with transport (Figure 9.3).

International support for climate change outcomes in Ghana has focused on the agriculture, energy and forestry sectors (Figure 9.4). The core focus is relatively well aligned with priorities identified by the government of through the 2013 NCCP, which identifies the need for a green economy transition while at the same time reducing the impact on affected communities. Agriculture has become a significant part of climate change policy debates in Ghana, with greater focus in the past five years on the importance of climate-resilient food production systems (Sarpong and Anyidoho, 2012). Agriculture contributes approximately 22% of Ghana's GDP and offers employment to more than 44% of the population (Section 6.2.1 and GSS, 2015).

Figure 9.3: Sectors supported by international public climate finance, Tanzania, 2010–2013 (%)

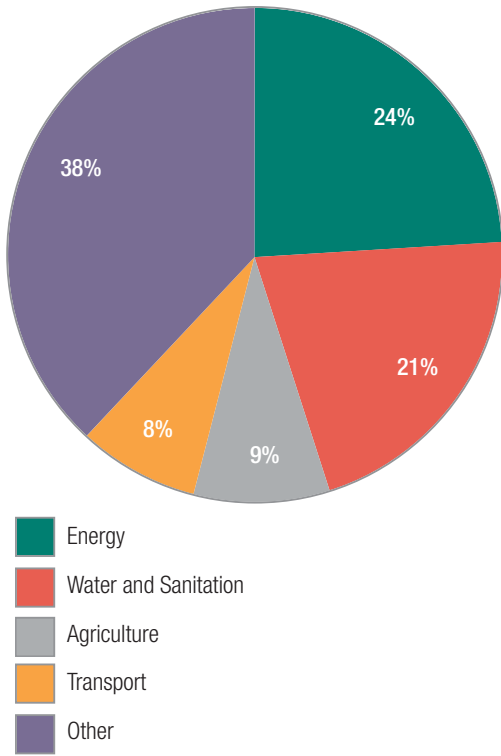
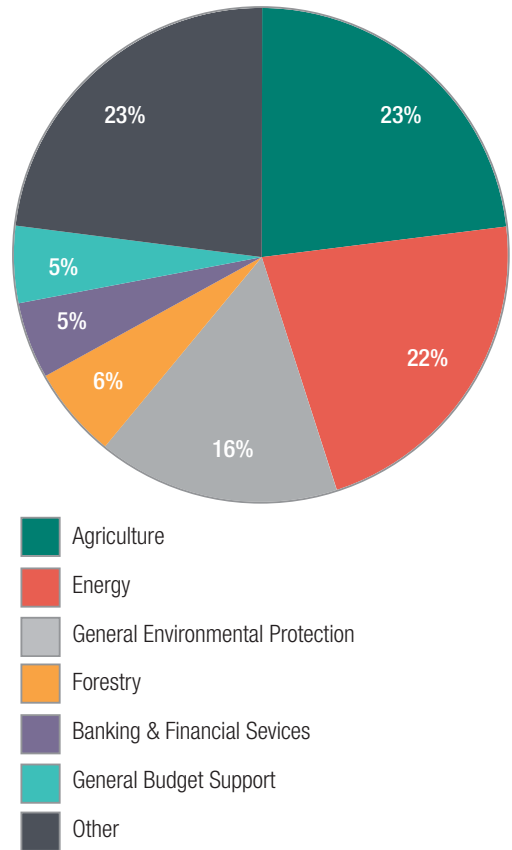


Figure 9.4: Sectors supported by international public climate finance, Ghana, 2010–2013 (%)



Source: OECD CRS online database.

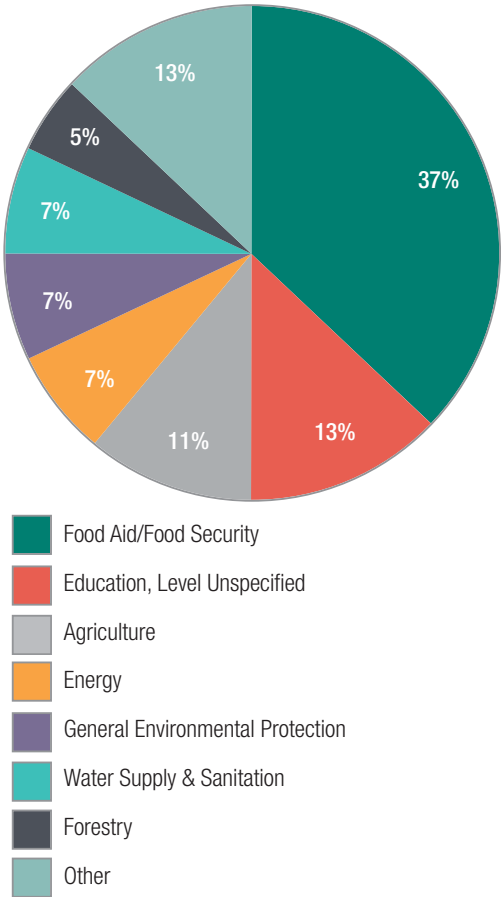
Source: OECD CRS online database.

Unlike the other countries, in Ethiopia international public climate finance has predominantly supported adaptation outcomes in the food security and education sectors (Figure 9.5). Food aid and education support to Ethiopia reflects donor core concerns around drought and the number of people facing food insecurity. Ethiopia also has a high proportion of international adaptation finance supporting multiple development objectives, and this is particularly the case in education projects, where climate change adaptation is one of many outcomes supported.

International support to Uganda has, as in

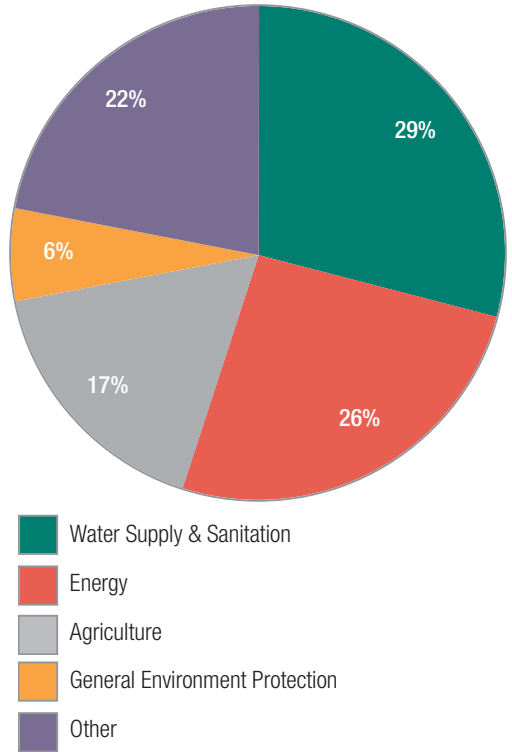
Tanzania, primarily supported adaptation outcomes in the water and sanitation sector and mitigation outcomes in the energy sector (Figure 9.6). The government of Uganda's Costed Adaptation Strategy identifies current dependence on biomass and gives importance to promoting energy conservation and the efficient utilisation of energy to reduce GHG emissions, which reflects the donor focus on reducing emissions in the energy sector. Donor support for water supply and sanitation action reflects the national goal of Uganda to increase access to water supply and sanitation services from 70% in 2010 to 100% by 2035 (AfDB, 2015).

Figure 9.5: Sectors supported by international public climate finance, Ethiopia, 2010–2013 (%)



Source: OECD CRS online database.

Figure 9.6: Sectors supported by international public climate finance, Uganda, 2010–2013 (%)



Source: OECD CRS online database.

9.6 How significant is climate change as an objective of this spending?

International donors often programme and spend development finance on projects that support multiple objectives or benefits. Climate finance is no different, and reporting through the OECD CRS can highlight the extent to which it is solely supporting climate mitigation or adaptation objectives as well as the extent to which it is being spent to further other development objectives.

To better understand the extent to which international climate finance is targeting climate actions in the four countries, we analysed the OECD Rio Markers (OECD, 2011) in more detail. The markers not only distinguish between adaptation and mitigation spending but also require that donors rate the extent to which climate change objectives are the principal reason for undertaking the activity or whether climate change is one of several objectives for the expenditure.

Table 9.3 shows the results of this analysis, which indicate that the majority of climate change spending over the four-year period was reported as supporting multiple objectives, with climate change action being one of a number of goals. A higher proportion of climate change adaptation finance targets multiple objectives than is the case mitigation finance, as might be expected, given the strong complementarity of climate change adaptation actions with other development initiatives. The percentage of finance solely supporting climate adaptation objectives (and marked with a 'principal' tag on the OECD Rio

Markers) ranges from 9% to 19% across the four countries, whereas the percentage of finance principally supporting climate change mitigation objectives ranges from 14% in the case of Ethiopia to 30% in Uganda.

This analysis highlights a significant methodological consideration: the OECD CRS categorises all spending tagged under the Rio Markers as climate finance, even where it is for an activity where climate change is only one of several objectives.⁴ The level actually spent on mitigation and adaptation actions in the four countries is thus likely to be lower than the OECD dataset suggests.

Table 9.3: Climate significance of spending, Ethiopia, Ghana, Tanzania and Uganda, 2010–2013

	Tanzania				Ghana			
	Mitigation		Adaptation		Mitigation		Adaptation	
	\$m	%	\$m	%	\$m	%	\$m	%
Principal objective	182.75	21	166.01	19	68.4	19	30.5	9
Significant objective	365.38	41	303.74	34	217.7	62	76.7	22
Not targeted	345.48	38	423.86	47	65	19	243.9	69
Total	893.61	100	893.61	100	351.1	100	351.1	100
	Ethiopia				Uganda			
	Mitigation		Adaptation		Mitigation		Adaptation	
	\$m	%	\$m	%	\$m	%	\$m	%
Principal objective	156.2	14	150.6	14	151	30	69.5	14
Significant objective	380	35	728.1	67	259.1	51	213.6	42
Not targeted	547.2	51	204.7	19	100.4	20	227.4	45
Total	1083.4	100	1083.4	100	510.5	100	510.5	100

Source: OECD CRS online database.

⁴ This contrasts with the methodology developed by the authors within each of the national studies, where only a proportion of such funding is attributed to responding to climate change.

9.7 Who provides the funding?

Over the four-year period, 12 countries provided the majority of the international public climate finance to the four countries (Table 9.4). The UK disbursed the highest level of ODA (\$498 million), but almost all of this went to Ethiopia (Figure 4.9), with a

much smaller contribution to Uganda. Germany, Norway and the EU supported three of the four countries over the period. Table 9.4 also demonstrates the importance of European and particularly Nordic donors, which reflects the strong climate focus of these donors globally.

Table 9.4: Top five donors of climate finance, Ethiopia, Ghana, Tanzania and Uganda, 2010–2013 (\$ millions)

	Tanzania	Ghana	Ethiopia	Uganda
Japan	181.8		103.0	
EU	115.5		100.3	73.6
Germany	100.8	40.9		70.2
Norway	77.5		64.1	76.4
Sweden	71.8			
Canada		62.5		
International Development Association		56.1		
Netherlands		39.1		
France		34.9		
UK			440.4	57.0
Ireland			86.5	
Denmark				120.3

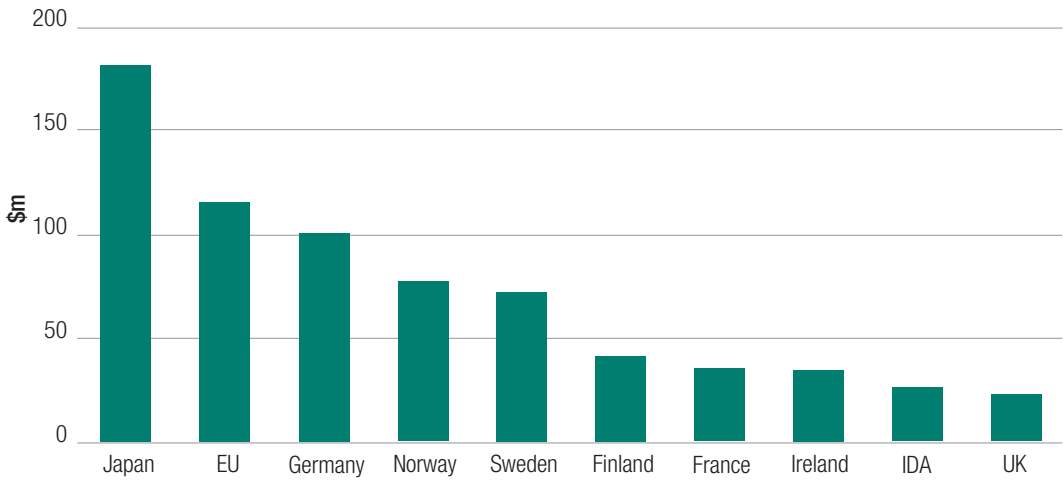
Source: OECD CRS online database.

At the country level, there is more variation in the donors providing support for climate change actions. To date, Tanzania is the third biggest recipient of climate finance in the Sub-Saharan Africa region, after South Africa and Kenya (GIZ, 2013). Ten donor countries provided at least \$20 million in bilateral funding to Tanzania through ODA channels in support of climate change actions between 2010 and 2013, with Japan being the largest donor (Figure 9.7). Japan's Fast Start Finance supported the biggest mitigation

project in the country, providing \$52 million to the Iringa Shinyanga Backbone Transmission Investment project.

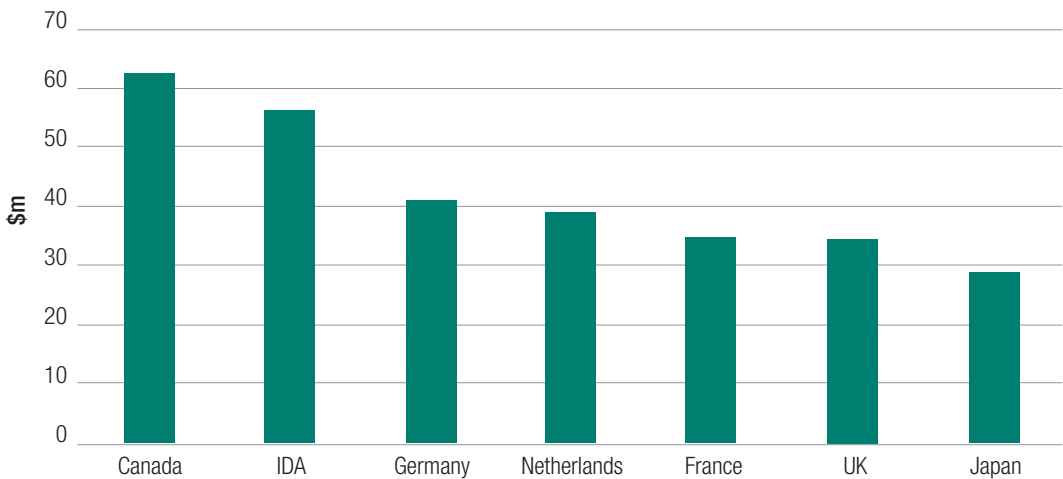
For Ghana, a total of seven donors provided more than \$20 million between 2010 and 2013, with the main provider of international public climate finance being Canada (Figure 9.8). Canada and the UK have a large Collaborative and Adaptation Research Initiative in Africa and Asia, which Canada has used to finance adaptation actions in Ghana.

Figure 9.7 Climate change action donors, Tanzania, 2010–2013 (\$ millions)



Source: OECD CRS online database.

Figure 9.8 Climate change action donors, Ghana, 2010–2013 (\$ millions)

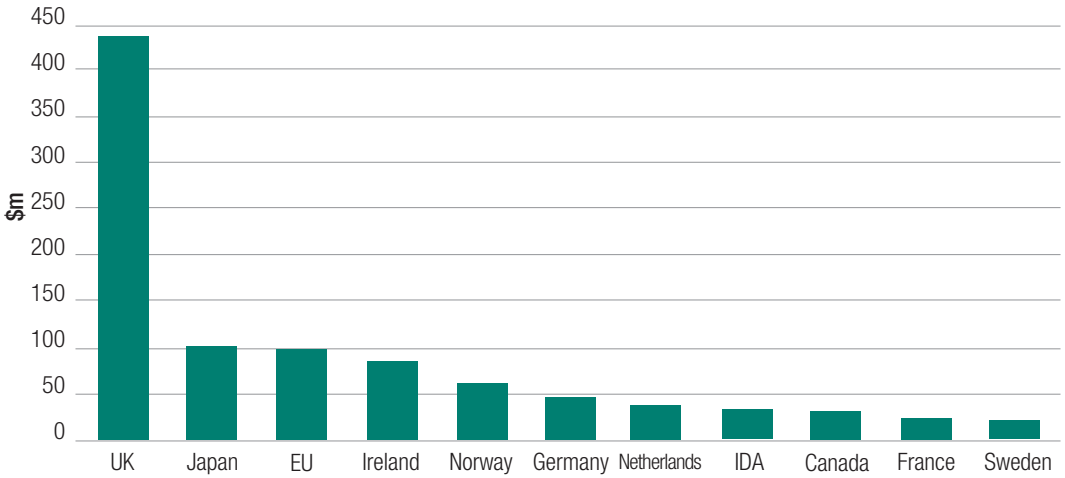


Source: OECD CRS online database.

Eleven donors provided more than \$20 million between 2010 and 2013 to Ethiopia (Figure 9.9). The UK dominated ODA climate finance contributions, providing more than four times the level of finance from Japan (the next biggest donor).

Ethiopia is considered a priority country for the UK for development, foreign policy and security reasons, which has led to strong support to climate change adaptation actions and attention to improved food security through food aid contributions.

Figure 9.9 Climate change action donors, Ethiopia, 2010–2013 (\$ millions)

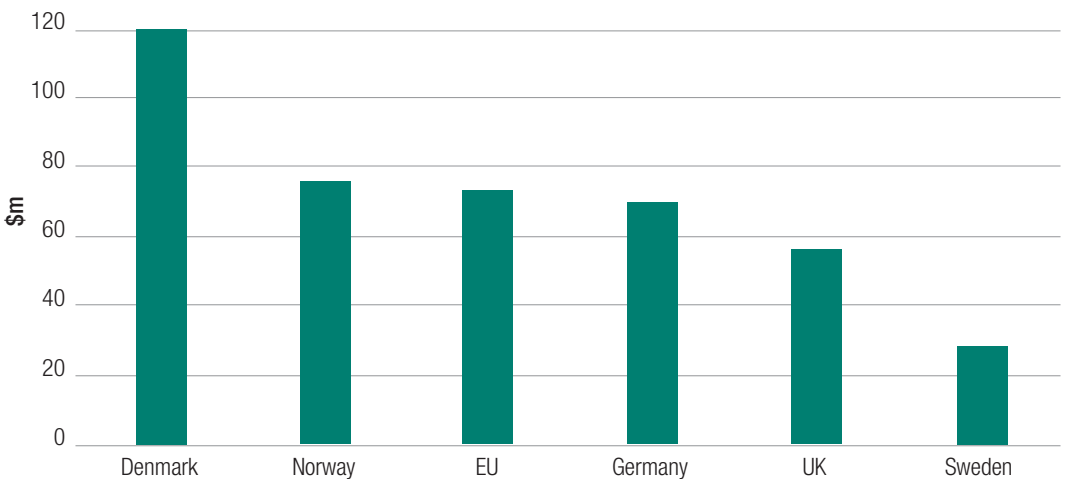


Source: OECD CRS online database.

Six donors provided more than \$20 million of international public climate finance to Uganda between 2010 and 2013, with Denmark being the largest donor (Figure 9.10). Climate change is a high priority for the Danish Agency for

International Development Assistance, which has been the lead donor on the issue in Uganda, establishing a support project for the government to establish a Climate Change Unit (Hepworth, 2010). Funds have also made a major contribution

Figure 9.10 Climate change action donors, Uganda, 2010–2013 (\$ millions)



Source: OECD CRS online database.

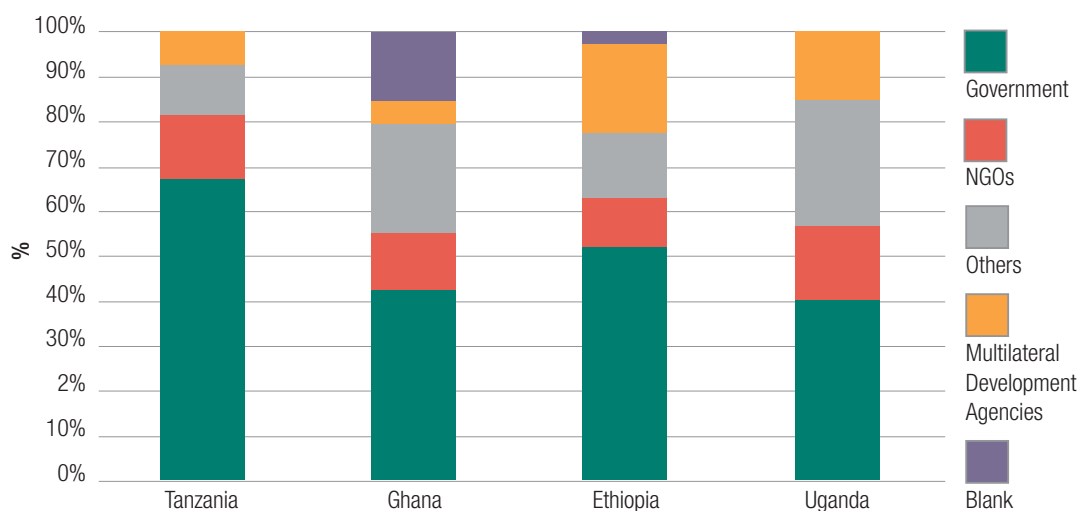
towards Uganda's preparation for and participation at UNFCCC Conference of the Parties meetings. The remaining portion has been directed at mainstreaming adaptation and development of the NCCP.

9.8 Who receives the funding?

International donors are predominantly supporting the recipient governments of the four countries, working directly with, and channelling finance through, government ministries (Figure 9.11). The major difference in the proportion of finance different recipients receive reflects the percentage of finance donors channel through their own institutions in the recipient country. The high percentage of finance channelled to 'others' in Uganda and Ghana reflects two key points:

1. The fact that donors are channelling their climate finance to their own embassies and offices in country or to third country governments. This has been the case for a number of the climate adaptation projects supporting water supply and sanitation outcomes, as well as for environmental policy technical assistance in Uganda and the Dawhenya Community Rural Development Programme in Ghana.
2. The percentage of donors not reporting recipient categories or reporting general and very broad information. For example, for 16% of the international climate finance to Ghana donors did not report any recipient. In addition, the high proportion of the international finance tagged 'other' for recipient reflects donor reporting that this was channelled through the public sector, which can include both donor and recipient public institutions.

Figure 9.11 Main recipients of international public funding for climate change actions, Ethiopia, Ghana, Tanzania and Uganda, 2010–2013 (%)



Source: OECD CRS online database.

9.9 Conclusions

The scale of climate finance the international community provides to the four countries remains relatively modest, albeit with considerable variation

across countries and sectors. However, international climate finance has targeted key sectors and actions that are compatible with the national policies, strategies and priorities the recipient countries have identified,

and donors are working with, and channelling finance through, recipient government institutions. Finally, there is room for improvement in the way donors report through the OECD CRS to account for how international climate finance is being spent.

Part C: Reviews of crosscutting issues

Chapter 10: Lessons for policy development

Godber Tumushabe, Pius Yanda and Belay Simane

10.1 Introduction

The Africa Adaptation Gap Technical Report succinctly summarises Africa's climate challenge, noting that, 'Africa is a "vulnerability hot spot" for the impacts of climate change. Its adaptation challenge will grow substantially, even if the 2020 "Emissions Gap" is closed and global-mean warming held below a 2°C increase above pre-industrial temperatures' (UNEP, 2014: vi).

It is now generally accepted that the phenomenon of climate change is irreversible (Pachauri and Meyer, 2014). The impacts of climate change have been well documented and a growing body of knowledge shows African countries will be affected significantly. Africa lacks the institutional, technological and financial capabilities to address the phenomenon. Consequently, its impacts will exert tremendous pressure on economic and social-ecological structures and functions while overstressing the limits of government to respond in a timely manner.

The development and adoption of national policies provides an opportunity for a systematic response to climate change. National policy processes and the resulting policies create opportunities to address weak institutional capacities, confront the absence of effective institutional coordination mechanisms, address the slow pace of development planning and climate resilience interventions and mobilise adequate financial and other resources to support agreed responses and interventions.

This chapter examines the approaches adopted by governments in developing their national climate change policies and the lessons learnt from these processes. From the four country case studies, the

following four common policy approaches and lessons emerge: 1) international and regional policy processes have provided an impetus for national policy-making; 2) deliberate efforts are being made to achieve national policy convergence between economic development and a national response to climate change; and 3) sectoral integration and coordination are being enhanced; however, 4) national climate change policies do not yet provide adequate guidance on issues of climate change finance and its delivery. All of these issues influence public expenditure.

10.2 International and regional policy instruments providing impetus for national policy development

International and regional climate change policy processes and instruments have been instrumental in creating the impetus for national climate change policy development. Evidence from the four country studies shows that most of the early national policy processes were a response to international treaty obligations set by the global climate change policy regime. This policy regime is complemented by regional climate change policy processes pursued under the African Union (AU) and multiple regional economic communities (RECs) on the continent.

10.2.1 The international climate policy regime

Climate change as an international public policy challenge gained prominence during the work of the World Commission on Environment and Development (WCED). Five years after the publication of the WCED report commonly referred to as Our common future (UN, 1987), on

9 May 1992, the UNFCCC was adopted in New York. By the time of its entry into force on 21

March 1994, Ethiopia, Ghana, Tanzania and Uganda had all signed it (Table 10.1).

Table 10.1: Dates of treaty compliance with key protocols, Ethiopia, Ghana, Tanzania and Uganda

	UNFCCC			Kyoto Protocol	
	Signature	Ratification	Entry into force	Ratification	Entry into force
Ethiopia	10 June 1992	5 April 1994	4 July 1994	14 April 2005	13 July 2005
Ghana	12 June 1992	6 September 1995	5 December 1995	30 May 2003	16 February 2005
Tanzania	12 June 1992	17 April 1996	16 July 1997	26 August 2002	16 February 2005
Uganda	13 June 1992	8 September 1993	21 March 1994	25 March 2002	16 February 2005

Source: Authors' own compilation.

The UNFCCC is complemented by the Kyoto Protocol, which was adopted in Kyoto, Japan, on 11 December 1997, entering into force on 16 February 2005. The Kyoto Protocol commits the signatory parties by setting internationally binding emission reduction targets. Both the UNFCCC (Article 4) and the Kyoto Protocol (Article 10) are premised on the principle of 'common but differentiated responsibility', which places a heavier burden on developed nations in recognition of their significant contribution to GHG emissions.

The UNFCCC and the Kyoto Protocol require signatory parties to integrate climate change considerations into their national social, economic and environmental policies and programmes; keep levels of their emissions under check by providing national inventories of anthropogenic emissions and removal of GHG sinks; and promote the sustainable management of these same sinks (forests and other land cover). These are legally binding commitments that continue to shape the development of national policy on climate change.

10.2.2 Regional and sub-regional policy instruments on climate change

The AU provides the main geopolitical regional framework for policy development on the continent. Through this framework, African countries

coordinate their participation in international policy processes and negotiate continent-wide regional agreements and strategies. The AU has no stand-alone policy on climate change but has a wide range of instruments that articulate such policies.

The most comprehensive of Africa's instruments on climate change is the AU's New Partnership for Africa's Development (NEPAD) Action Plan on the Environment Initiative (AU, 2003). Programme Area 5 of this focuses on 'combating climate change in Africa'. According to this, Africa's climate change response builds on vulnerability assessments and the development of adaptation strategies, realised through the identification of ecosystems, regions and people most vulnerable to climate change and the development of adaptation strategies for the identified regions and sectors.

The four countries are also part of RECs. Ghana is a member of the Economic Community for West African States; Ethiopia and Uganda are members of the Common Market for Eastern and Southern Africa; and Tanzania and Uganda are members of the East African Community. These regional processes and instruments have contributed significantly to the development of national climate change policies in two important ways. First, they create a sense of ownership and solidarity with regard to the climate change policy agenda. And

second, they are a basis for the coordination of Africa's negotiating positions in international climate change processes. Ownership and solidarity induce peer pressure that helps trigger implementation of agreed actions.

10.3 National policy response options

The policy response to climate change falls into two broad categories: mitigation and adaptation. Examples of mitigation policy options include greater energy efficiency measures; carbon cap-and-trade systems; carbon taxes; support for afforestation programmes; adoption of new fuel economy standards; and promotion of renewable energy technologies such as solar power, wind and biofuels. Examples of adaptation policy measures include new zoning requirements; appropriate land-use regulations; livelihood diversification; and building the resilience of infrastructure development through regulatory controls and incentives. While the tendency is to adopt a combination of adaptation and mitigation measures, all four countries' national policies put greater emphasis on adaptation. This focus is not surprising given that most of the regional strategy documents emphasise adaptation as the priority for responding to the phenomenon of climate change.

10.3.1 Convergence with development policy objectives

Policies adopted by the four countries to date show clear convergence of strategic-level policy objectives (Table 10.2). Broadly, the overriding development policy objective is a desire to achieve economic growth and economic development simultaneously. Economic growth leads to an increase in the volume of goods and services produced in the country. In this regard, all four countries have set ambitious annual GDP growth targets. Ethiopia has the highest growth target, at 11% (FDRE, 2015), with Ethiopia, Tanzania and Uganda all seeking to join Ghana by attaining middle-income status within less than a decade. Besides ambitious levels of growth, the four countries are also committed to achieving economic development – a qualitative increase in growth focusing more on inclusiveness, driving down poverty levels and

improving the livelihoods of the majority of their citizens. Climate change is seen as a potential obstacle to achieving these development policy objectives, hence the emerging recognition that address climate change is critical to securing economic development.

10.3.2 Climate change as shaping national economic policy

Across the four countries, building economic resilience is seen as a strategic pathway to achieving convergence between economic development and the twin aspects of climate change policy (of adaptation and mitigation). This is implicit in Uganda's National Development Plan (2015–2020), Ghana's Agenda for Transformation (2014–2020), Tanzania's Development Vision 2025 and Ethiopia's GTP II. The focus on economic resilience underscores that sustained rapid economic growth and the structural transformation of national economies go hand in hand. Ethiopia's CRGE Strategy provides a compelling example of how far countries can go in shaping their economic policies towards achieving climate change policy objectives.

10.3.3 Integration versus mainstreaming of climate change policy actions

Government policies on climate change across the four countries show the often-apparent tension between integration and mainstreaming as two divergent approaches to deal with policy problems that cut across sectors. Mainstreaming is an approach whereby measures or interventions are designed elsewhere for all affected sectors to adopt and implement. In the majority of cases, the sponsoring sector or agency has no mandate to oversee the implementation of such measures across the different sectors. Consequently, implementation of and reporting on these measures depends on the goodwill of the sector or agency that is required to mainstream such measures in its activities.

Integration, on the other hand, is a policy and planning model by means of which relevant sectors integrate crosscutting themes in their sectoral processes. This implies that sectors such as health, agriculture and infrastructure must provide for climate change mitigation and adaptation measures in their sectoral policies, programmes and budgets.

Table 10.2: National macro-policy and climate policy instruments, Ethiopia, Ghana, Tanzania and Uganda

Country	Macro-policy instrument	Climate policy instruments
Ghana	Coordinated Programme of Economic and Social Development Policies 2014–2020: An Agenda for Transformation	NCCP 2013
	Medium-Term National Development Policy Framework: Ghana Shared Growth and Development Agenda Two 2014–2017	NCCP Master Plan 2015–2020 Intended Nationally Determined Contribution (INDC) and Accompanying Explanatory Note, September 2015
Tanzania	Tanzania Development Vision 2025 and Long-Term Perspective Plan	NCCS 2013
	Tanzania Five-Year Development Plan	Sector climate change resilience strategies and programmes
	Tanzania Poverty Reduction Strategy	National Adaptation Programme of Action (NAPA), 2007 INDC, September 2015.
Uganda	Vision 2040	NCCP, 2012
	National Development Plan 2015-2020	National Climate Change Action Plan, 2013 NAPA, 2007 INDC, October 2015
Ethiopia	GTP I and II, 2010 and 2015	CRGE Strategy, 2011 Agriculture and Forestry Climate Resilience Strategy, 2015 INDC, 2015

Source: Authors' own compilation.

Integration as an approach to policy and planning makes it mandatory for the identified sectors to adopt specific actions, provide the necessary human and financial resources and report on progress on implementation.

Evidence from the four country studies shows that mainstreaming is the dominant approach. Climate change policy leadership is largely domiciled in designated ministries and agencies that try to coordinate responses across a variety of sectors

without the backup of a strong compliance mechanism. However, variations are beginning to emerge as climate change processes continue to evolve. For example, Uganda's approach is largely built around a mainstreaming strategy, although the National Planning Authority now appears to be pursuing efforts towards integration of climate activities into relevant sector plan and budgets. Ethiopia pursues a more integrationist approach, and its CRGE Strategy is designed around this model.

10.3.4 Climate change policy and climate finance readiness

The enormity of the challenge climate change presents requires countries to mobilise and deploy considerable resources towards confronting the associated impacts. Climate change policy therefore provides an opportunity for countries to address questions of climate finance readiness. It has been suggested that climate finance readiness entails adopting policy and other actions focusing on four components: financial planning, including determining the sources of funding; accessing financing; delivering finance, including capacity to implement activities; and monitoring, reporting and verification (UNDP, 2012).

At the international level, there have been general and specific commitments to providing new and additional funding for climate change activities. The UNFCCC commits developed country parties to support developing country parties in their efforts to implement the Convention. Additionally, the Busan Declaration on Aid Effectiveness provides a clear commitment to promoting coherence, transparency and predictability across aid approaches for effective climate finance and broader development cooperation. However, the scale and timeliness of international climate finance remains unpredictable. A key policy lesson from the four countries is that domestic sources of finance will remain critical for national policy implementation in the face of this uncertainty.

Although many countries have made significant progress with regard to developing national policies and strategies to respond to climate change, evidence from the four country case studies shows that national climate change policies do not yet provide adequate guidance on issues of climate finance and its delivery. Policy statements are couched in general terms and lack specifics on both issues of funding sources and the delivery mechanisms. Uganda's Vision 2040 essentially equates climate finance with international funding, yet the NCCP is generally silent on the mechanisms whereby international resources would be channelled towards climate change activities.

Further elaboration on the sources of funding, the mechanisms of delivery and verification of effective climate change finance delivery will be essential in achieving progress in this area. Emerging policy

narratives on climate change finance provide a basis for improvement and for moving the policy regime to a more desirable level, in order to provide adequate clarity on funding sources, delivery mechanisms and ensuring transparency in both the delivery of funding and the execution of climate change interventions.

10.4 Assessing the effectiveness of climate change policies

Over the past decade, most African countries have invested in developing general and specific policies to address the potential impacts of climate change. However, the effectiveness of these policies needs to be assessed regularly to allow for adjustment and reform. In each of the four country studies, we adopted a common analytical framework (Chapter 3) to assess the national policy setting and policy instruments that would support the effective delivery of climate change finance. This analysis identified four common challenges, as described below.

10.4.1 Climate change policies are becoming evident within national development policies

To secure effective action, it is important to ensure coherence between climate change policies and national development policies. Convergence of development and climate change policies helps deepen policy action while at the same time creating synergy in policy implementation. Evidence from the four country studies shows an increasing trend towards such policy coherence. In particular, all national development policy instruments now contain important narratives regarding the impacts of climate change on national development and the need to take appropriate action. The quality of these policy narratives in development and macro-policy documents has improved tremendously over the years. This is a clear demonstration that African policy-makers are increasingly appreciating climate change as a major development challenge.

10.4.2 Broad stakeholder engagement has strengthened the legitimacy of climate change policies

The case studies show that climate change policy processes across the four countries have entailed the

participation of a broad range of stakeholders. Stakeholder groups from the public and private sectors and civil society, as well as international development partners, have participated in policy processes and made their contributions. Policy processes have also been informed by strong scientific evidence. In each of the countries, processes to develop climate change policies were preceded by systematic diagnostic and analytical studies to generate evidence and propose alternative policy response options.

10.4.3 Climate change policies do not yet specify methods or sources for mobilising the necessary financial resources needed for implementation

The review of the four country case studies shows that, since the initial efforts to develop national adaptation programmes, the scope and content of national climate change policies has improved tremendously. Most of the policies adopted over the past five years contain very specific policy objectives and targets. These are further elaborated through national climate change action plans, which provide greater detail regarding timelines to achieve them. However, it is evident from the case studies that what is missing in these national policies are both detail and specificity on methods and sources with regard to mobilising the necessary financial resources to support climate change policy implementation.

10.4.4 Climate change policies do not yet promote transparency in climate finance delivery

A key measure of the effectiveness of climate change policy relates to considering the extent to which sources of funding for climate change actions are delineated while at the same time providing clear channels of reporting. However, the broad conclusion from the four country case studies is that most national climate change policies do not provide adequate clarity on provisions regarding the sources of climate finance, budget allocation targets and mechanisms for reporting on climate finance delivery. This is a major shortcoming at the present time that will constrain the implementation of these climate change policies and interventions.

10.5 Conclusions

All four countries have made significant progress in developing and adopting policies to guide the national response to the phenomenon of climate change. This chapter has provided a summary analysis of the key lessons drawn from the four case studies. We can draw at least three broad conclusions from this analysis.

First, international climate change policy processes and instruments have dominated the shaping of national climate change policy discourses to date. Some of the initial national actions, such as the development of NAPAs, were undertaken in direct fulfilment of treaty obligations and commitments. The UNFCCC can therefore be considered the main driver of early national policy development in each of the four countries. Under such circumstances, it is not unexpected that the resource question is the least well developed. Questions over resourcing national strategies and plans can be expected to become more prominent in the years ahead as the national policy discourse on climate change in each country matures.

Second, while specific country contexts differ, the policy approaches adopted show great similarity. This is in line with the previous conclusion, that each country's national response has largely been a reaction to the international direction set by the UNFCCC. However, African countries now have considerable opportunity to learn from each other with regard to processes of policy development as well as the policy content and quality of policy narratives. RECs and inter-governmental networks will play an important role in this near-neighbour lesson-learning.

Finally, although there have been some early attempts to provide policy clarity on the sources and scale of climate finance, and the mechanisms to be used for climate finance delivery, this remains a very underdeveloped part of the policy discourse. New and additional international climate finance has not fully materialised as hoped, as evidence from the four countries shows, and the future scale and speed at which international climate funds may become available remains unpredictable. At the national level also, the scale of funding needed for climate change activities is only beginning to emerge. In the

absence of clarity on the scale of international and national resources likely to become available to support climate change policies, little effort has been invested in processes to identify early priority actions and to consider the trade-offs that will be part of the decision-making process.

Chapter 11: Lessons for institutional strengthening

Simon Bawakyillenuo, Aklilu Amsalu and Neil Bird

11.1 Introduction

Sound policies and strategies for actions related to tackling climate change are important, yet without strong national institutions such policies will not materialise. Institutions are the vehicles by means of which countries' climate change policies and programmes are translated into action. Hence, the institutional arrangements of a country's climate change response will determine the extent and quality of the implementation of climate change-related activities.

As described in Chapter 2, the extent to which existing institutions enable or hinder climate finance delivery in any country depends on three key institutional features: 1) the strength of the mechanisms that exist for coordination between the various institutions involved in climate change actions; 2) whether these institutions demonstrate a strong ability to change and innovate; and 3) whether climate change institutions are locally anchored (Bird et al., 2013). The focus of this chapter is on lessons learnt from the four countries that can point the way towards institutional pathways for effective climate change finance delivery in Africa.

Examination of the findings from each of the four country studies reveals that they can be put into two broad categories: crosscutting lessons and country-specific lessons. The framing of these categories is underpinned by the extent to which each lesson was evident in the four countries. Crosscutting lessons were those identified in at least three of the original studies, whereas country-specific lessons were those that featured strongly in only one country but that appear to have relevance more broadly.

11.2 Crosscutting lessons

Six crosscutting lessons can be identified from the institutional analysis made in each of the country studies: 1) reforming the institutional framework in response to climate change; 2) establishing clarity over institutional mandates; 3) strengthening the programming of climate change actions; 4) ensuring adequate allocation of human resources; 5) delineating environmental and climate change programmes; and 6) recognising the central role of finance ministries in climate change finance delivery.

11.2.1 An effective national climate change response requires institutional reform

All four country studies show that developing a new institutional framework or architecture is a *sine qua non* for successful climate finance delivery. Institutional arrangements further explain the need for and relevance of issues such as local-level involvement, innovation, coordination and collaboration between institutions. Adding climate change as a new priority to a country's long-term development plan requires the creation, or reorientation, of the national institutional architecture. All four countries have created new structures where the existing institutional infrastructure was considered inadequate to deliver an effective response to climate change. This has included inter-ministerial committees on climate change; national climate change advisory committees; and, in the case of Ethiopia and Uganda, new climate change departments/ministries. The institutional framework has also expanded the scope of stakeholder collaboration to include additional ministries whose activities support the most vulnerable in society and their

response to climate change (such as ministries of agriculture, water resource management and energy). In Ghana, a blend of expertise from established ministries has been drawn together to provide programme leadership in climate change activities (Asante et al., 2015), and this has been acknowledged as a key requirement for successful implementation of the NCCP Master Plan.

Major institutional reforms to tackle climate change not only will lead to effective climate change action but also can place a country in a better position to access funding for climate change globally. In particular, the establishment of new ministries or government departments focused on climate change, with all the necessary training for personnel and a congenial working environment, can enhance institutional capacities to play leading roles in matters relating to climate change, both nationally and internationally. The redesign of the Ethiopian EPA, first as the Ministry of Environment and Forests, then as the Ministry of Environment, Forests and Climate Change, serves as an example. Having considered climate change as a priority area to realise the country's long-term development ambitions, Ethiopia carried out its redesign in order to create an enabling institutional architecture for climate change activities.

The active involvement of national civil society groups in public climate change-related activities appears to increase the expected impact of such programmes. Taking into account the findings in the four countries, we found that incorporating local-level knowledge and experiences was a key factor in the successful implementation of climate change policies. For example, in Tanzania, the involvement of NGOs in climate change issues in some districts has enhanced the planning and implementation of climate change programmes compared with in those districts where no NGO support has been available. An additional institutional element in all four countries is the need to develop linkages between science, research, innovation and policy formulation on climate change. Such linkages are necessary to improve knowledge transfer on climate change-related issues, at both national and local levels. Innovations at the national level can be communicated through the

institutional framework down to the local government level (and vice versa).

Hence, early actions to establish new institutions and new ways of working across existing institutions, involving a wide range of players, can be seen as an important contributory factor leading to improved delivery of climate change public finance. However, institutional reform takes time and during the transition period may lead to some loss of clarity over institutional mandates.

11.2.2 Clarity over institutional mandates has yet to be established in most countries

Establishing clarity on institutional mandates is an important measure that will help determine how the public finance system allocates funding to climate change initiatives. The national climate change policy document in each country has assigned the finance ministry the mandate to play the leadership role on climate finance. However, the prevailing institutional framework in most of these countries does not show clear lines of responsibility and accountability between the finance ministry and implementing agencies in terms of planning and reporting on the funding of climate change-related actions (Tumushabe et al., 2013). Also, with climate change funding coming from a variety of sources, including the government budget, private sector investments and international finance, there are no integrated approaches to securing a coordinated working system that will ensure funds made available to address climate change issues are used to achieve the objectives identified in the national policy. In other words, there are no well-constructed climate change finance tracking tools coupled with trained personnel to track climate change spending. For example, even though Ghana's MoF created the Natural Resources, Environment and Climate Change Unit in 2010 to oversee, coordinate and manage the financing of natural resources and climate change activities, this leadership role has been undermined as the unit has no mechanism to track resources generated for climate change actions (Asante et al., 2015).

A major lesson on coordination and collaboration within the institutional framework has centred on the need to establish clear leadership, roles and

responsibilities among the relevant ministries (and their component departments and agencies) to oversee the implementation of climate change-related activities. Climate change action requires inter-ministerial collaboration between relevant ministries, with associated sharing of responsibility and accountability.

11.2.3 Programming of institutional action needs to be strengthened as part of broader reform

Another crosscutting lesson from the four country studies relates to how national institutions programme climate change actions. To ensure effective coordination of climate change actions across sectors and between levels of government, each country has adopted integrated programming, budgeting and capacity-building processes under the various climate change plans.

Planning and implementation of climate change-related activities are sector-based and therefore managed by the respective line ministries and their departments and agencies. This practice follows a pattern across all sectors of the economy, based on financial guidelines provided by the finance ministry. For example, in Ethiopia the process is known as the sectoral reduction mechanism, whereas in Ghana it is outlined in each sector's MTEF. Ministries are expected to prepare programmes and cost interventions relevant to their respective sectors based on the strategic interventions identified in national climate change strategies. Ideally, these plans are subsequently integrated into the government annual budget based on the MTEF guidelines for implementation (Yanda et al., 2013). However, there is an almost universal weakness in the institutional programming of priority actions, despite some wider efforts at reform that include programme-based budgeting (as in Ghana). Budget submissions continue to be heavily influenced by incremental year-on-year planning, with few strategic tools available to assist in more effective programming.

Little is known about the capacity of local-level institutions to discharge the national climate change policy or fulfil a climate finance delivery mandate effectively. In all four countries, central government

priorities and frameworks guide planning and budgeting processes, which may not necessarily reflect local climate change realities. This local-level knowledge remains largely undocumented at the national level (Chapter 12).

11.2.4 A lack of trained human resources constrains climate change programme implementation

Although institutional structures are specified in all four countries studied, the process of coordinating climate change actions across sectors and different levels of government remains a challenge on account of the limited human resource capacity within the public service. For example, the various climate change committees in these countries that are tasked with providing technical guidance are often composed of members who do not necessarily have the technical knowledge on climate change, undermining their effectiveness. In other instances, representatives on the technical committees from sector ministries are drawn from only one directorate, which may not be representative of the entire sector, or, in some cases, has little relevance to climate change. In Tanzania, environmental management units in various ministries are responsible for climate change by default even when climate change knowledge is not part of their area of expertise. In Ghana, the National Climate Change Committee, established in 2009, was unable to meet between 2012 and 2015, thus creating a vacuum regarding institutional coordination and the harmonisation of climate change activities (Asante et al., 2015).

11.2.5 Delineation between environmental and climate change programmes remains unclear

Although climate change has emerged as a global challenge, the lack of a clear distinction between this phenomenon and other environmentally related phenomena has created a high level of ambiguity and misunderstanding in national strategy development, and in project funding, implementation and monitoring (Yanda et al., 2013). Programmes and projects being implemented in the four countries that are climate change-related are often regarded as being environmental initiatives. For example, the water supply

programme using Lake Victoria to feed drought-stricken parts of Tanzania is considered an environmental development programme, although it can also be considered a climate change adaptation strategy. Similar misperceptions can be identified elsewhere, emanating from agencies' sectoral thinking and a lack of broader integration of activities across ministries. This lack of identity for climate change programmes has a knock-on effect on their financing.

Critical analysis of the climate change institutional landscape in conjunction with the policy domain of the four countries indicates that the identification of projects and programmes as climate change-relevant or otherwise has not yet been institutionalised, in part because of these definitional ambiguities between environmental and climate change actions.

11.2.6 Finance ministries have yet to play the central role

Effective climate finance delivery requires budgetary allocations, the delivery of funds to implementing agencies and the monitoring and evaluation of funded climate change programmes. Ideally, this process leads to lesson-learning and an improvement in subsequent climate finance programming. To secure effective action, countries have established leadership at the national level for climate change finance; ensured some transparency in the programming process; and established institutional arrangement for coordination and collaboration (Tumushabe et al., 2013).

Across the four countries, it is the finance ministry that has been vested with the leadership responsibility to ensure the effective delivery of climate finance. This ministry requires that other government ministries integrate climate change activities and adequately budget for implementation in their medium-term plans and annual budgets. In addition, each finance ministry is supposed to play a monitoring role by reviewing reports from the implementing ministries to ensure resource use is in line with planned and budgeted activities. This system has yet to mature anywhere, and is likely to take a number of years of sustained effort to build. In the first instance, finance ministries need to

secure information on climate change spending so as to have an overview of the overall financial resources being directed at this policy theme.

11.3 Country-specific lessons

Country-specific institutional lessons can be categorised into three main areas: the advantages of having a specialised national apex institution for climate change programming; the need for effective financial mechanisms and tools; and the implications of programme leadership on associated resource allocation.

11.3.1 National planning agencies are an important component of the institutional architecture

The involvement of a specialised apex institution for national development planning, such as the National Development Planning Commission in Ghana, makes it possible to provide strategic support to the climate change institutional architecture. Such institutions are tasked with the responsibility of preparing medium- to long-term national development frameworks, which now need to take account of climate change. Through collaboration with other government ministries and agencies, these bodies can ensure the medium-term development policy framework incorporates climate change dimensions. In addition, national planning institutions are often involved in the preparation of guidelines used to train subnational governments, including on how to mainstream climate change issues into local development plans.

11.3.2 The design of financial mechanisms matters for effective implementation

Identifying a financial mechanism in the national climate change policy can improve resource mobilisation and add clarity for the mandated institutions. Ethiopia has established an innovative funding mechanism to support implementation of the priorities set out in its national climate change strategy, the CRGE Facility. Designed as a single, national funding mechanism within MoFEC, this is intended to make the administration of funds easier for the government and to manage international

climate funds, donor funds and domestic funds in a coordinated manner. Because climate change is an economy-wide issue, inter-ministerial collaboration between MoFEC and the Ministry of Environment, Forests and Climate Change in managing the CRGE Facility is a key institutional arrangement that will underpin the effective implementation of the programmes set out in the national climate change strategy funded through the Facility.

11.3.3 Programme leadership has important resource allocation implications

Identifying the key ministries required to lead the national climate change response helps in planning for further institutional development. In Ghana, 22 MDAs are expected to provide programme leadership on climate change, as identified in the NCCP Master Plan. For several of the ministries highlighted in this plan, the projected spend would transform the ministry. MLNR projected climate change spending would more than double its 2015 budget allocation. The biggest proposed increase would be for MGCSF, whose annual budget would need to increase almost 10-fold over the present budget allocation. This reflects the level of ambition of national climate change strategy, but it also poses a significant institutional challenge for lead ministries in terms of scaling up to allow for timely implementation.

11.4 Conclusions

The effectiveness of national policies and strategies for climate change actions depends on the appropriateness and functionality of the existing institutional arrangements. Based on the experiences of the four studied countries, this chapter has identified some key lessons concerning the institutional arrangements that could lead to more effective use of climate change finance. We have made the case for strong coordination across a wide range of institutions, with an implicit requirement for additional funding to much of the government administration. Increased levels of funding will vary, however, and some ministries expected to play a leadership role in the national climate change response may require significant budgetary uplifts if they are to be able to respond effectively.

In all the countries studied, the relationship between national and subnational government with regard to climate change is only just developing. Implementation will rely on the capacity of local government, which has often been found to be limited. Further examination of the relationship between different levels of government is necessary – a subject the next chapter takes up. A sole focus on national ministries runs the danger of missing out those agencies most engaged with the delivery of public programmes that address climate change.

Chapter 12: Lessons for the local delivery of climate change finance

Nella Canales Trujillo, Aklilu Amsalu and Cynthia Addoquaye Tagoe

12.1 Introduction

This chapter builds on the subnational level analysis of the four country studies, which undertook reviews of local institutions, their budgets and public expenditures in two subnational administrative units in each country (Table 12.1). Selection of districts was carried out without any expectation of them being representative of the whole country, yet several

common challenges regarding effective climate finance delivery are considered to have broader applicability in the four countries.

The following sections describe the common challenges identified within the eight local governments studied concerning subnational level climate finance delivery. A total of seven challenges were identified, three on policy issues, two on institutions and two on expenditures.

Table 12.1: Description of districts, Ethiopia, Ghana, Tanzania and Uganda

Country	Municipality/ district	Main economic activities	Population (census year)	Year of national climate change policy/year of analysis	Subnational administrative divisions
Ethiopia	Yabelo	Pastoralism	102,385 (2007)	2011 CRGE/2014	Regions Zones Woredas/districts Kebeles
	Mecha	Mixed crop and livestock production	292,250 (2007)		
Ghana	Keta	Agriculture, fishing and livestock production	147,618 (2010)	2013 NCCP/2015	Regions Metropolis Municipalities/ districts
	Atiwa	Agriculture	147,618 (2010)		
Tanzania	Rufiji	Subsistence agriculture	217,000 (2012)	2012 NCCS/2013	Regions Districts Divisions Wards
	Longido	Pastoralism	123,000 (2012)		
Uganda	Tororo	Subsistence agriculture	438,500 (2002)	2012 NCCP/2013	Regions Districts Counties Municipalities
	Ntungamo	Mixed crop and livestock production	386,800 (2002)		

Source: Authors' compilation.

12.2 Policy challenges

12.2.1 National climate change policies are not explicit with regard to the financial mechanisms that can support implementation at the local level

Climate change policies at the national level recognise the need for local-level action and therefore subsidiary instruments include specific actions to be led by local governments. Examples include the 2007 NAPA in Tanzania and the NCCP Master Plan 2015–2020 in Ghana. However, in the eight cases analysed, there was a lack of clarity over how such activities were to be funded.

With the exception of the CRGE Strategy in Ethiopia,⁵ national climate change policies and other related instruments (e.g. strategies, action plans) rely on current funding sources and mechanisms to support implementation. These include direct transfers from central governments, local-level revenues and international cooperation funds (including funding from dedicated climate funds). Central government transfers to local governments are generally earmarked for specific development objectives such as education, health and water provision, with little flexibility to include climate change considerations. Although donor funding for climate change has been important for local-level implementation, its allocation has been limited and therefore not all the local governments studied had received such funding. An expectation that climate change action will come exclusively from international funds leaves some local governments without the financial resources for implementation. Without the right financial incentives, it is unlikely that implementation of national policies at the local level will be achieved at the pace required.

12.2.2 There is significant lack of local awareness of climate change responsibilities under national policies

There is a general lack of awareness of local-level responsibilities for national climate change targets. Climate change is a fast-moving policy theme, requiring constant ‘catch-up’ by local governments. The number of national policies and related instruments has increased significantly over the past decade. In 2007, the only climate change-specific policy instrument was the NAPA;⁶ this situation has changed dramatically. Between 2008 and 2014, all four countries finalised their national climate change strategies; began their readiness processes for reducing emissions from forests (REDD+ readiness);⁷ and identified sectors to develop Nationally Appropriate Mitigation Actions. In 2015, they developed their INDCs,⁸ indicating their contributions to the global climate change agenda.

All these policy and planning documents, and their subsidiary instruments, assign responsibilities to local governments in one way or another. Most claim to have been participatory but we identified no specific mechanisms that had raised local governments awareness of their responsibilities. Most of the officials interviewed during the research were not aware of their country’s national climate policies or of the local governments’ responsibilities stated in those documents. This was the case even when local governments had been identified as the main implementing entity of a national policy, as in the case of the Ghanaian National Climate Change Adaptation Strategy.

Evidence shows donor funding (implemented by NGOs or UN agencies) has played a role in capacity-building of local government and thus has helped raise climate change awareness in local planning, but such experience has been limited to those districts where such projects have been active.

5 The CRGE Facility has received \$24 million in funding from international cooperation.

6 The LDC Fund financed NAPAs in LDCs (e.g. Ethiopia, Tanzania and Uganda). Ghana, a middle-income country, did not receive such funding, thus its National Climate Change Adaptation Strategy was developed later on and published in 2012.

7 REDD+ includes activities to reduce emissions from deforestation and forest degradation, in addition to the conservation of forest carbon stocks, the sustainable management of forests and the enhancement of forest carbon stocks.

8 See submitted INDCs at http://unfccc.int/focus/indc_portal/items/8766.php

12.2.3 National development plans are the main policy instrument guiding local-level planning and budgeting, but linkages to climate change action remain weak

The importance of national development plans for establishing targets at the local level is common across the eight district studies. In all cases, these plans were recognised as the most important policy instrument for local-level planning and implementation. In Ethiopia, local governments were focused on complying with GTP I. GTP I identified six sectors – education; health; rural roads; microcredit; pastoral/agricultural development; and water, mines and energy – as pillars for poverty reduction efforts and as priority areas for allocation of the local government budget. None of these sectors has been given a specific mandate to deal with climate change issues at the local level. The national climate change strategy was designed to contribute to the GTP goals, but this complementarity was reflected at the local level through the GTP I targets.⁹

In Ghana, there is an example of good practice in articulating climate change and local development planning through the preparation of a guidebook for mainstreaming climate change and disaster risk reduction into national and development planning (Box 12.1). This guidebook includes a five-step process for district-level planning, making its application mandatory for the approval of medium-term plans, which are the basis for districts' annual composite budgets. As part of the first step, districts have to include comments on how climate change and disaster risk reduction issues have influenced the achievement of planned activities (NADMO et al., 2010). In this way the instrument has had some success in incorporating climate change considerations into local budget planning.

12.3 Institutional challenges

12.3.1 Coordination mechanisms on climate change issues at the local level either do not exist or are not clearly defined

National climate change policy generally designates a central ministry or agency to lead on climate change coordination, but these agencies often do not have representation at the subnational level. For example, in Ghana, the EPA is a national authority without an institutional structure at the local government level. In Ethiopia the situation was similar – the EPA did not have an institutional structure at the *woreda* level – but in 2013 it transitioned into the Ministry of Environment and Forest, and since September 2015 it has been the Ministry of Environment, Forest and Climate Change. It is expected that, as a ministry, it will have subnational representation, but it is likely that this process will take time. In the meantime, the coordination of climate change action at the local level lacks an institutional leader.

In practice, public climate change activities at the district level have been conducted on a project-by-project basis, with the involvement of local government offices. In some cases, this has entailed creating local government climate change committees. However, these are unlikely to remain operational beyond the lifespan of the project concerned. The sector offices regularly involved in climate change projects are those related to activities affected by climate change (e.g. livelihoods, agriculture, water resources, disaster management) or to the environment (e.g. wildlife, forestry). Local government offices found to be implementing climate change projects included pastoral/agricultural development (Ethiopia, Uganda, Tanzania), planning (Ghana, Tanzania), wildlife (Ghana, Tanzania) and health (Ghana). No evidence was found of the inclusion of climate considerations by offices related to infrastructure at the local level (e.g. works, water supply and sanitation, roads).¹⁰ This is of concern as it raises the risk of potentially locking climate change vulnerabilities into durable assets that are the main vehicle for locally provided services, such as local roads or water and sanitation.

9 This may change with greater recognition of climate change issues in the new national development plan, GTP II

10 Including the Works Department in Keta (Ghana), which is responsible for major sea defence works.

Box 12.1: Ghana's guidebook on integrating climate change and disaster risk reduction into national development, policies and planning

Ghana's guidebook was prepared by the EPA, in collaboration with the National Development Planning Commission and the National Disaster Management Organisation, with support from UNDP. It intends to create and deepen awareness about the critical role of climate change and disasters in national development efforts; ensure climate change and disaster issues are fully integrated and sustained in national planning processes; assist pilot districts to integrate climate change and disaster risk in their medium-term development plans; and take up adaptation and mitigation measures.

The steps for the integration of climate change and disaster risk reduction issues into district development planning process are as follows:

1. identify district climate change and disaster risk reduction issues and include remarks in the performance review format
2. incorporate issues in prioritised district development issues
3. develop one goal that incorporates issues in the district
4. develop plans of action and annual action plans, including budgets
5. implementation, monitoring and evaluation

Source: Adapted from NADMO et al. (2010).

There was some recognition in Ghana and Ethiopia of the coordination role that local offices of finance and planning could exercise, given the nature of their mandate to coordinate and monitor all the other sector offices. In Ghana, the guidebook for mainstreaming climate change and disaster risk reduction into national development planning (Box 12.1) suggests the planning officer be the focal point at local level, with support from the district planning coordination unit. This has secured a linkage between development planning and climate change. In Ethiopia, the potential coordination role of the *woreda* finance and budget office is also recognised, as it is the office in charge of monitoring and reporting progress related to national development plan targets.

There is also a potential role to be played by disaster risk reduction committees (where these exist) at the local level, if accompanied by funding. In Atiwa district in Ghana, the local committee has included adaptation to climate change and is in charge of the disaster preparedness plan. As these offices are focused on disaster response at the local level, they represent an institutional space that already coordinates with other units that deal with climate-related risks.

12.3.2 Significant capacity-building is needed to understand climate change at the local level

Levels of understanding of climate change at the local level vary. In some cases, such as in Ntungamo district in Uganda, district officers are capable of identifying adaptation and mitigation actions accurately. In others, there is a tendency to consider climate change and environmental protection activities (e.g. tree planting) as synonymous. Further knowledge on climate change depends on the level of exposure to information. Access to information and expertise generally comes with the implementation of climate change-specific activities but also with the implementation of disaster risk reduction-related activities. So far, there has been limited capacity available to provide guidance to local governments on climate change issues, and most capacity-building activities at this level have been supported by donor funding, through organisations including the Global Environment Facility and international NGOs (e.g. the International Union for Conservation of Nature and Natural Resources and CARE International).

While in all cases there is existing awareness of the current impacts of weather-related phenomena

at the local level (mainly as a result of traditional knowledge or local perceptions), local government officers were not sure what measures were needed

to increase resilience or reduce vulnerability, and awaited national-level guidance on what to do. In Uganda, for example, local administrators were awaiting the NCCP to identify climate change projects.

12.4 Public expenditure challenges

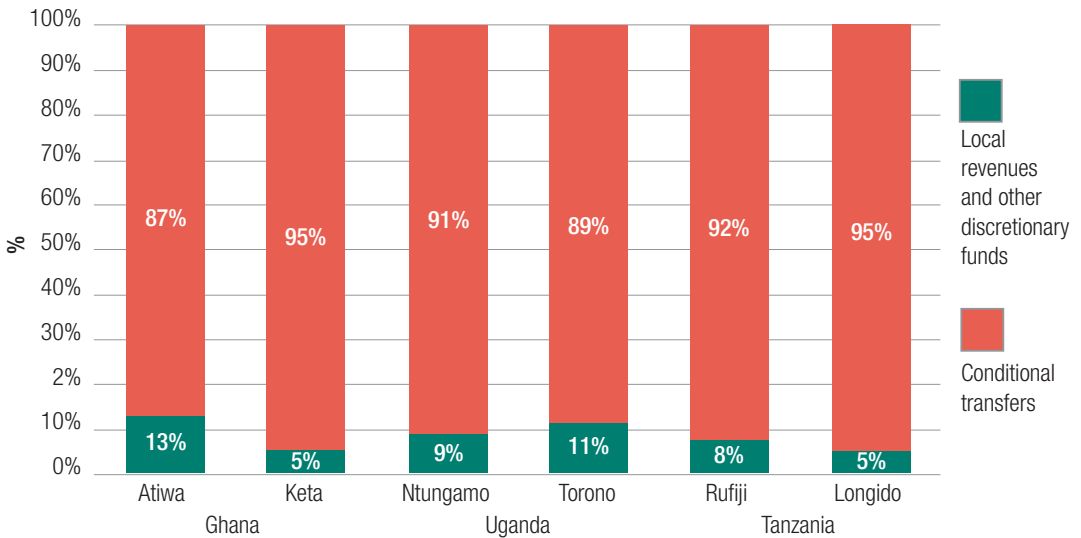
12.4.1 Small rural municipalities rely almost exclusively on central government transfers for implementation of public services, and this limits their degree of freedom to innovate or modify business-as-usual practices and incorporate climate change measures

The main source of funding for the local governments reviewed are transfers from central government (Figure 12.1), with local revenues or discretionary transfers at on average only 9% of total income. This gives local government very little flexibility to implement actions beyond the conditionalities of the funds transferred. As mainstreaming of climate change considerations has

yet to be developed, business-as-usual development activities do not guarantee local government action on climate change, even when they are mentioned as contributing to efforts to adapt or mitigate climate change within national climate change policies.

In addition, challenges arise as a result of lack of stability and predictability of central government transfers. For example, in Ghana most climate-related activities planned by Keta’s local government were to be funded nationally through the District Assemblies Common Fund. However, the funds transferred came to only 37% and 40% of the budgeted amounts for 2012 and 2013, respectively. As a consequence, the Keta Municipal Assembly decided to use some its locally generated revenue to conduct capacity-building activities on climate change. However, smaller and rural local governments have very few resources to rely on in complying with their central government climate change requirements or in addressing locally demanded climate change-related actions. This situation raises the significance of external donor funding, yet this has attendant risks of being project-based, time-bound and conditional on the funder’s interests.

Figure 12.1 Local government income, Ghana, Tanzania and Uganda (%)



Source: Authors’ calculations.

Box 12.2: Conditional funds for climate change action at the local government level?

In Keta, Ghana, municipal officers suggested local governments needed specific financial incentives to undertake climate change activities, and actions might be funded in the same way as those for people with disabilities, whose national scheme includes a mandate for allocating 2% of resources from the Common Fund to related actions.

However, and in spite of existing clear guidelines, serious problems in the management, disbursement, utilisation and accountability of such funds has been identified in almost all local governments. This highlights how conditional funds for climate change action in themselves may not necessarily be the solution, but that it may be necessary to have systems in place to ensure intended spending by local governments.

Source: Asante et al. (2015); Tuggun (2014).

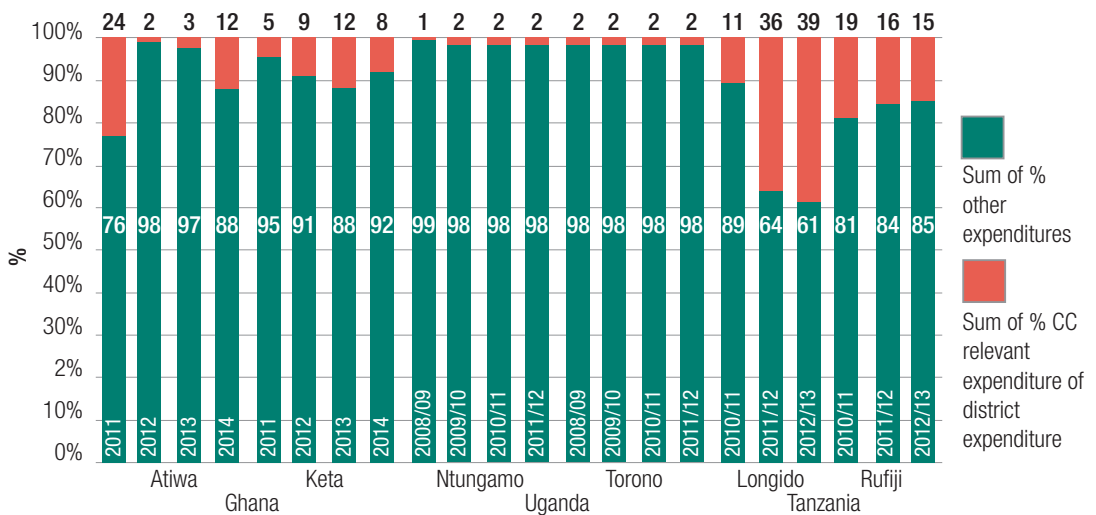
12.4.2 Expenditure reporting of public finance is poor in local governments

Local government expenditure monitoring is generally carried out at an aggregate level. The identification of climate-relevant activities supported by public funding conducted at the local level is therefore limited by data availability. Access to reporting is also incomplete in most of the cases analysed (Table 12.2). For example, In Keta (Ghana), data on expenditures were incomplete,

with information available only for 20%, 40% and 48% of total local government expenditures for 2012, 2013 and 2014, respectively.

The expenditure analysis was conducted differently in each country study, reflecting these data constraints, and thus made any detailed comparison of climate change-relevant expenditures across countries difficult. A comparison of the results in all countries was conducted (Figure 12.2), but it is important to bear in mind the differences between

Figure 12.2 Local government climate-relevant expenditure, Ethiopia, Ghana, Tanzania and Uganda



Source: Authors' calculations; Asante et al., (2015); Eshetu et al. (2014); Tumushabe et al. (2013); Yanda et al. (2013).

Table 12.2: Limitations in public expenditure analysis, Ethiopia, Ghana, Tanzania and Uganda

Country/ timeframe	Municipality/ district	Extent of the expenditure analysis	Year of national climate change policy/year of analysis
Ethiopia 2010/11– 2012/13	Yabelo and Mecha	<ul style="list-style-type: none"> Information by activity not available. Sector unit's budget and expenditures considered. 	<ul style="list-style-type: none"> Budget and expenditure information not publicly available. Information collected on site for each district at an aggregate level.
Ghana 2011– 2014	Keta and Atiwa	<ul style="list-style-type: none"> Data on expenditures incomplete. 	<ul style="list-style-type: none"> Composite budgets for all metropolitan, municipal and district assemblies publicly available for 2012 fiscal year on.* Documents contain information by activity. Expenditure information not publicly available. Information collected on site for each district.
Tanzania 2009/10– 2011/12	Rufiji and Longido	<ul style="list-style-type: none"> Climate-relevant programmes considered as a whole. Some programmes supported by donor funding and did not receive financial support from central government budget. 	<ul style="list-style-type: none"> Budget and expenditure information for local governments publicly available, but only at aggregate level (e.g. by sector).**
Uganda 2008/09– 2011/12	Tororo and Ntungamo	<ul style="list-style-type: none"> Climate-relevant programmes identified within agriculture, water and natural resources sectors. 	<ul style="list-style-type: none"> Budget and expenditure information publicly available by activity.***

Note: * Composite budgets available through Fiscal Decentralisation Unit in MoF (www.mofep.gov.gh/?q=divisions/fdu/composite-budget-of-MDAs-2012). ** PMO-RALG provides financial reports for all local governments (<http://lginf.pmoralg.go.tz/lginformation/monitor.php>). *** MoFPED, through the Uganda Budget Information website, provides all budget information, including local government budgets and performance reports (www.budget.go.ug/budget/individual-lg-budgets-and-performance-reports).

Source: Authors' compilation.

the studies (see examples of activities in Table 12.3). In Ethiopia, it was possible only to access expenditures at an aggregate level (sector office expenses), and total expenditures for those offices considered climate change-relevant were included in the analysis. This means the total of the sector budget at local level was considered climate-relevant.

The analysis in Tanzania was the only one that included national programme expenditures, which included both domestic and donor funding. This could explain why the shares of climate change expenditure are larger in Tanzania than they are for the other countries.

In Uganda, the team accessed budget and expenditure data by activity and was able to classify a number of activities as climate-relevant and assign

three levels of relevance (high, medium and low). The assessment of climate relevance for each activity ruled out all those activities that did not contribute to climate change responses at local level, and therefore the share in Uganda is relatively low compared with other countries.

And in Ghana, whereas budget information was publicly available, there were severe restrictions on the availability of expenditure information at the local level. Activities were selected based on what the NCCP Master Plan had determined to be climate change actions under the responsibility of local governments. The research in Ghana found no evidence at local level that these activities were being conducted under climate change considerations; rather, they were taking place under a business-as-usual scenario.

In spite of the challenges in identifying climate change-related expenditures by subnational governments, the local-level assessments provided lists of activities that support the climate change response (see Table 12.3). These include activities that have been designed as climate change response measures (e.g. research activities into new crop varieties adapted to changing agro-ecological conditions; early warning systems), activities that could contribute to the local level response if they integrate climate change considerations (e.g. water supply, community-led sanitation, transport

services activities) and sector offices within which activities may be relevant to climate change (e.g. pastoral and agricultural development offices, works offices).

The best way of understanding how much local governments are funding and executing climate change actions in their jurisdictions is at the activity level, where climate change considerations have been taken into account. However, this assessment is only possible when financial reporting mechanisms are in place and allows activity-by-activity assessment, as in Uganda.

Table 12.3: Expenditure lines included in the expenditure analysis, Ethiopia, Ghana, Tanzania and Uganda

Municipality/district	Expenditure lines considered in the analysis
Yabelo	Sector offices: Pastoral Development; Water, Mines and Energy; Land Use and Environmental Protection; Disaster Prevention and Preparedness; Irrigation Activities identified: Agro-pastoralism activities using productivity-enhancing technologies (e.g. fertiliser and seeds); provision of reliable and timely early warning drought information; helping pastoralists restock drought-depleted herds through government and NGO support; building community infrastructure (e.g. flood diversion channels) for communities affected by floods
Mecha	Sector offices: Agricultural Development; Water, Mines and Energy; and Land Use and Environmental Protection
Keta and Atiwa	Improve transport services to rural areas; plan for investments in minor repairs as well as major renewal, replacement and expansions of water supply service to peri-urban settlements and small towns; promote/scale up community-led sanitation services
Rufiji	National water supply and sanitation programme; agriculture sector development programme; Road Fund; District Irrigation Fund; Participatory Forest Management Project
Longido	Participatory forest management project and forest conservation programme; agriculture sector development programme; national water supply and sanitation programme; feasibility study by government on permanent sources of water; Road Fund
Tororo and Ntungamo	Extension and advisory services on adaptation strategies; research activities into new crop varieties adapted to changing agro-ecological conditions; tree planting along hills and roadsides to protect from soil runoff during heavy rains; wetland management planning, with benefits related to flood control and groundwater replenishment; training farmers in methods of retaining soil moisture during times of water stress; provision of more drought-/flood-tolerant crop seedlings; control of bush burning; improved energy access and conservation; protecting watersheds; sensitisation of district officials and communities about climate change; knowledge exchange between local communities in coping with and adapting to climate change

Source: Asante et al., (2015); Eshetu et al. (2014); Tumushabe et al. (2013); Yanda et al. (2013).

12.5 Conclusions

In the four countries studied, national climate change policies and their instruments lack the mechanisms to support multi-scale implementation of climate change actions. So far, non-governmental institutions and funding have supported most climate change actions at the local level, mainly through time-bound projects. Central government funding available at the local level is conditional on delivery against business-as-usual development targets, without climate change considerations. In the short term, changes in the current structure of this funding is unlikely, given current levels of fiscal decentralisation. Therefore, the key to unlocking climate change action at the local level lies in current development targets taking into account climate change considerations.

One strategy would be to link climate change considerations within existing local government budget allocation performance systems. Ghana's guidebook for mainstreaming climate change has been able to introduce some change with regard to mainstreaming climate change into local level planning. Linkages with performance assessments

could facilitate the involvement not only of planning offices but also of other climate-relevant offices within local municipalities, and could constitute a financial or regulatory incentive to local governments to implement climate change actions.

At the local level, there is an opportunity to support climate change compatibility through local infrastructure, but so far there is little experience on how to mainstream climate change in the design of local works. As part of the decentralisation process, local governments are in charge of the development of local infrastructure, including the construction of water and sanitation facilities and networks, roads and disaster risk reduction infrastructure (e.g. sea defences). However, there is limited expertise at the local government level on how to include such considerations, and this may require technical support, including from central government.

Better expenditure reporting is needed to quantify how much funding for climate change is executed at the subnational level. Expenditure reporting is of course not to be done only for climate change monitoring purposes; it is necessary for improving overall public finance transparency.

Chapter 13: Lessons for climate change finance monitoring

Neil Bird and Simon Bawakyillenuo

13.1 Introduction

Budget monitoring should be designed so as to improve understanding of the budget's effectiveness. Budget effectiveness for a particular policy outcome, in this case the public response to climate change, requires both an evaluation of the expenditure relevant to the outcome and the measurement of outcomes. Climate change finance monitoring addresses only the first of these concerns. This chapter¹¹ unpacks the rationale for investing in the measurement of public climate change finance and the lessons that emerge from the four national studies as far as the monitoring of climate change finance is concerned.

13.2 Why invest in the measurement of public climate change finance

Two broad benefits from investing in the measurement of public climate change finance can be identified. First, identifying relevant expenditures is important for climate change policy formulation and development, and the associated resource allocation across sectors. This is particularly needed at the present time in all four countries studied, as the implementation challenges associated with their national climate change policies begin to be recognised. With initial policy goals identified, it is necessary to understand the resource requirements of the public programmes that will help in meeting these policy goals. Second, accountability of public spending will be strengthened, as having financial information on relevant actions offers scope for improved oversight of public programmes.

In addition to domestic considerations, all countries are subject to international reporting obligations under the UNFCCC. However, reporting on climate finance flows remains at the earliest of stages, with the development of international guidelines yet to be compiled for developing countries. It is also worth emphasising that the objective of international reporting is to demonstrate compliance with the financing commitments of all parties under the UNFCCC. This represents a different objective compared with where monitoring efforts aim to improve the effectiveness of public spending.

13.3 Lessons for monitoring of climate change finance

Three broad lessons can be learnt from the experience gained during the course of the four country studies.

13.3.1 Outcome and impact monitoring needs to be considered together with expenditure analysis; this is not yet apparent in any of the countries

A first lesson from the experience of the country case studies is the need to understand how this type of budget analysis fits into broader public sector reform efforts. Climate change public expenditure analysis focuses on budgetary allocations and expenditures. The outputs and outcomes of funded programmes, which may lead to an impact on the policy goal, are not assessed. Other types of analysis that can complement budget tracking to form a view on the

¹¹ This chapter draws heavily on Bird and Granoff (2016).

overall effectiveness of public programmes therefore need to be considered. Budget tracking should be viewed as a first step in a performance management system, the ultimate effectiveness of which relies on an accompanying assessment of the outcomes and impacts of relevant public programmes. Budget tracking addresses the financial inputs of climate change-relevant actions. Other types of economic and climate analysis are therefore needed to complement budget tracking tools to evaluate climate finance effectiveness.

There is also the need to situate this type of analysis within the broader context of budget management reform, recognising the finance ministry as the lead government institution. This particularly applies to how any climate finance monitoring and tracking system is developed and integrated into existing budget reporting systems. Of the four countries studied, MoF in Ghana and MoFEC Ethiopia demonstrate a leadership role in this regard.

13.3.2 Nationally appropriate classifications of climate change finance are being determined through comprehensive national planning efforts that identify climate change actions

A second lesson concerns the need for both clarity and consensus over the classification of relevant expenditures, where the boundaries of such spending are inevitably diffuse, requiring a broad consensus over what to include as relevant spending. Expenditures relate to activities and hence classifying climate change-relevant actions is a key foundation for this type of public expenditure analysis. Reaching a broad, evidence-based consensus across relevant ministries, the national legislature and civil society on such actions and then developing a protocol whereby it is possible to estimate the degree of relevancy for each programme are among the most important early actions to consider. In each of the four countries studied, the comprehensive national policy processes have led to a good understanding of the actions required in response to climate change, providing an activity-based definition of climate change finance that covers both mitigation and adaptation actions.

An important consideration for climate change spending relates to differentiating between the

various sources of funding, particularly between domestic and international funds and between loans and grant finance. The amount of effort invested in distinguishing between these will be determined by the objectives set for the monitoring system.

13.3.3 Climate finance monitoring can be achieved in a number of ways

National studies on climate change-relevant public expenditure, such as the four country studies reported on in this publication, represent a newly emerging tool to quantify such finance. The focus of these studies was on all-government spending recorded in the national budget documentation over four-year periods, identifying expenditures that are explicitly, or implicitly, relevant to the policy goal of climate change. This in-depth research and analysis can provide a strong foundation for future climate finance monitoring efforts by raising awareness of such spending and by identifying which government agencies are committing part of their annual budget allocation to climate change-related actions.

A logical extension of these country studies is to institutionalise the identification of relevant expenditures in the national budget system. Rather than the completion of a one-off study carried out by research groups, national budget tracking implies uptake by the government administration of climate change tracking as part of the regular budget monitoring system. While this provides a comprehensive approach to monitoring and reporting (at least for 'on-budget' public expenditure), it is also resource-intensive, requiring significant commitments in terms of systems development and implementation.

The way the national budget is classified will have a bearing on the ease with which climate change-relevant spending can be identified. In many countries, the budget is made up of line items under administrative spending units. This means careful scrutiny is necessary of all intended actions to identify those that are climate change-relevant. Where national budget reform efforts are leading to programme-based budgeting approaches (as in Ethiopia and Ghana), identification of relevant activities will be eased considerably.

13.4 Conclusions

As described in previous chapters for Ethiopia, Ghana, Tanzania and Uganda, public funding is being committed as national climate change policies, strategies and plans are put into effect. There is a wealth of activity taking place and hence a strategic concern is to identify and secure early priority actions. In terms of financial monitoring systems, these remain at the earliest stage of development. Under such circumstances, some prioritisation should be considered, driven by the needs of national policy-makers.

The challenge is that data on climate change finance from all sources of funding are generally lacking. However, there is a difference between internationally and nationally sourced public finance. The former lies outside of the control of national policy-makers, making its monitoring a major challenge in all four countries studied. An early strategic concern should therefore be to collate the data on donor financial support and to integrate this information with the government monitoring system, thus increasing the coherence of public finance information systems. This is best achieved by ensuring all donor funding is recorded within the national budget.

The sequencing of monitoring efforts also requires consideration, and should be guided by what any national monitoring system is aiming to achieve and how the results of such monitoring will be used. In this context, the analysis within this

publication (and in the individual country studies) can provide guidance. Effectiveness can be optimised where financial monitoring is focused first on those sectors where the emissions reduction potential is highest or where adaptation efforts will support the greatest number of the most vulnerable. In both cases, the quantum of finance may be less important than what it is used for.

There is also the question of frequency of monitoring to consider. Financial monitoring often follows the annual budget cycle, being part of the yearly reporting system. However, this frequency may not be necessary to inform climate change policy development. Adopting a longer monitoring cycle, perhaps linked to the national multi-year planning system, often reported within the framework of an MTEF, may provide a more strategic view, especially of multi-year public investment programmes. This emphasises the need to embed such monitoring within existing national systems and to identify the potential for its uptake within broader PFM reform programmes.

These considerations all have a bearing on the costs of financial monitoring and the resource implications of ensuring that financial information is available to guide strategic decision-making for climate change action. The country studies reported on in this publication all provide a strong foundation for the development of national monitoring of public climate change actions.

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