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# **Part B: Public climate finance expenditure analyses**



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# Chapter 4: An introduction to the country studies

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## 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

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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

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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

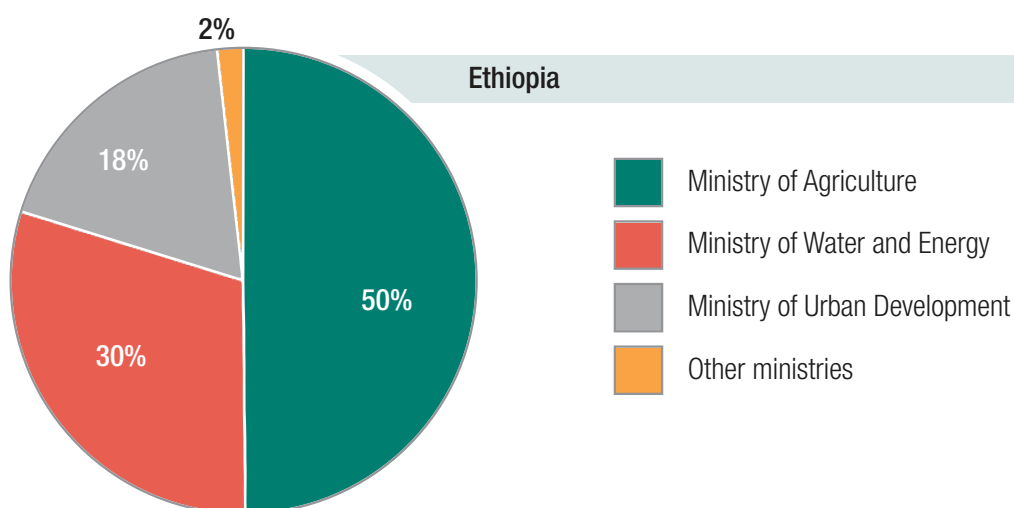
major spending ministries such as agriculture, water and energy (Figure 4.1). Relevant government programmes include irrigation projects, water management programmes, natural resource management and infrastructure development projects designed to promote renewable energy and energy efficiency. These 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.

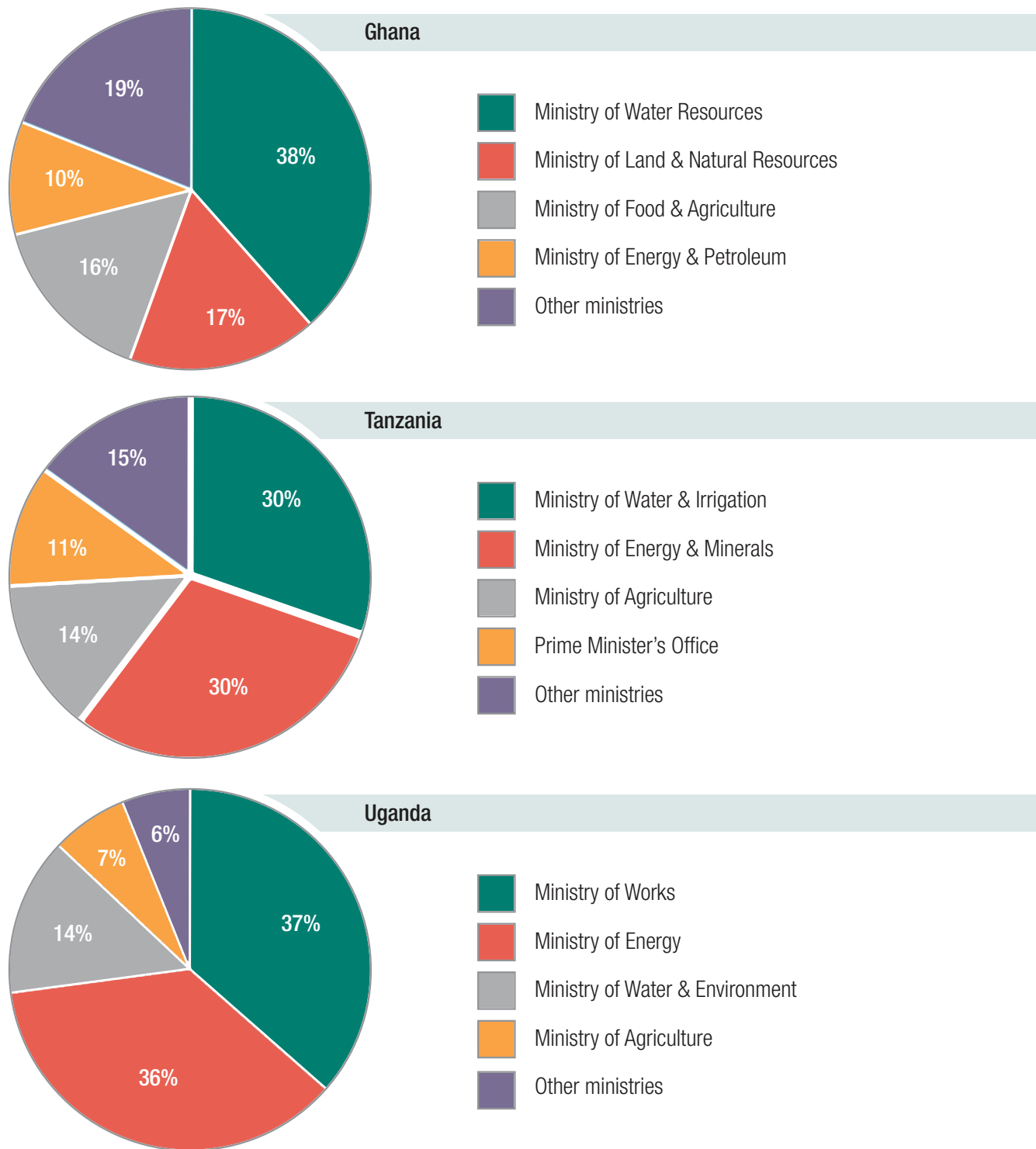
### 4.3.4 How strong is climate change as an objective of expenditure?

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
<b>Ethiopia</b>	25	56	19
<b>Tanzania</b>	13	3	84
<b>Ghana</b>	1	99	–
<b>Uganda</b>	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

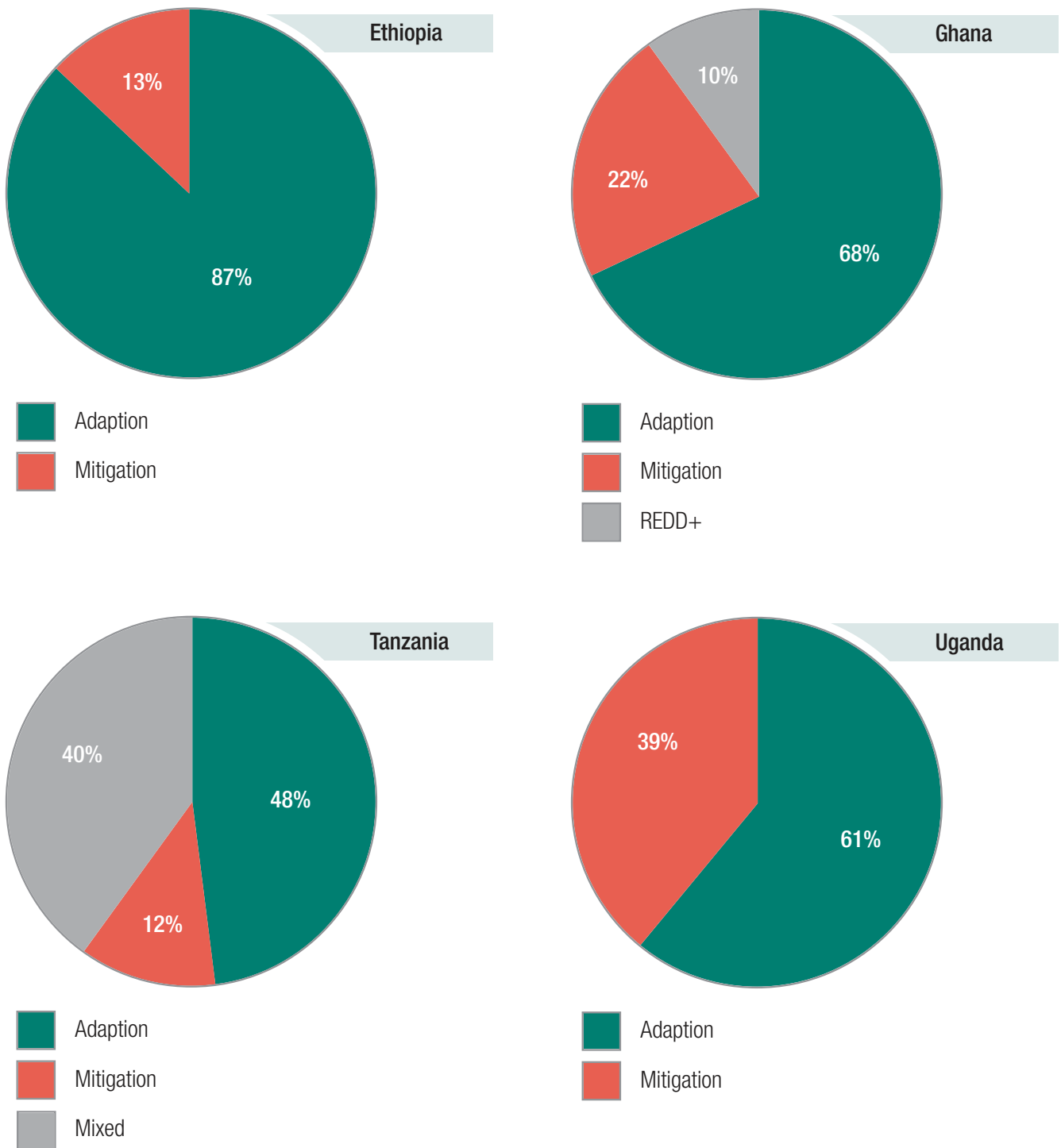
Ministry of Water, Irrigation and Energy) is there a significant level of mitigation spending, associated with the expansion of renewable energy.

- 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?

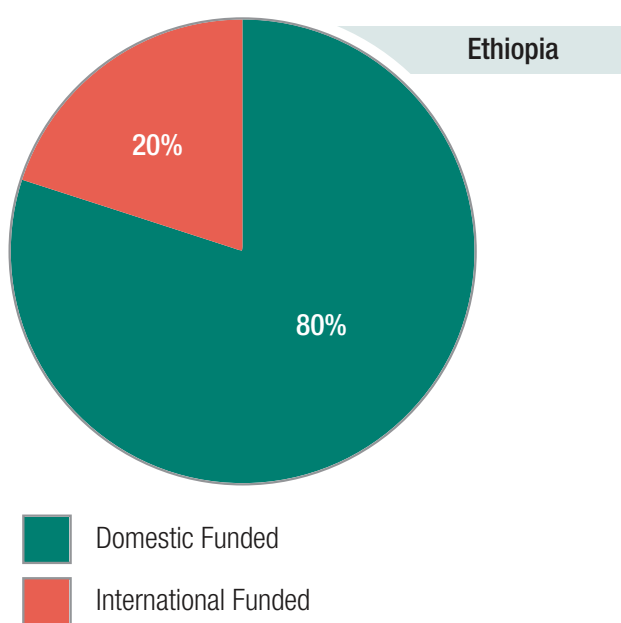
The overwhelming majority of development budget expenditure relevant to climate change adaptation or mitigation in Ethiopia and Uganda is funded domestically, as is evident from Figure 4.3. The situation is different in Tanzania, where on-budget

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

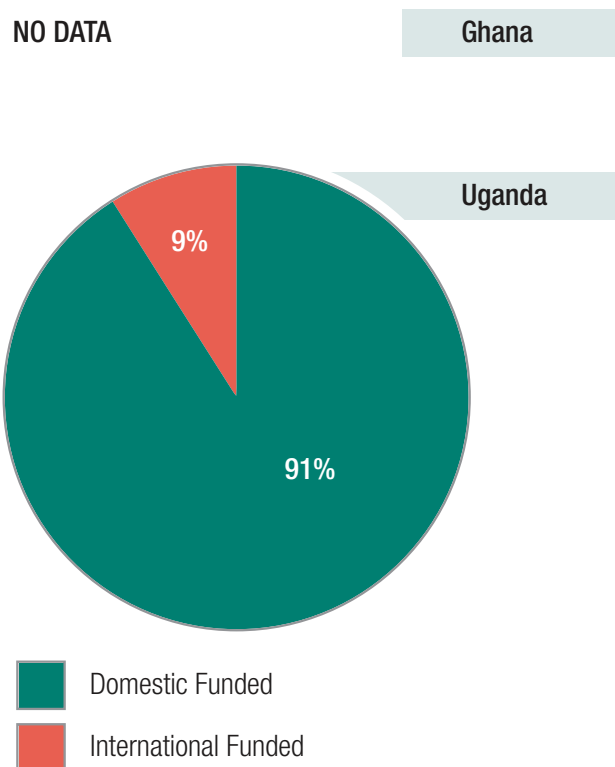
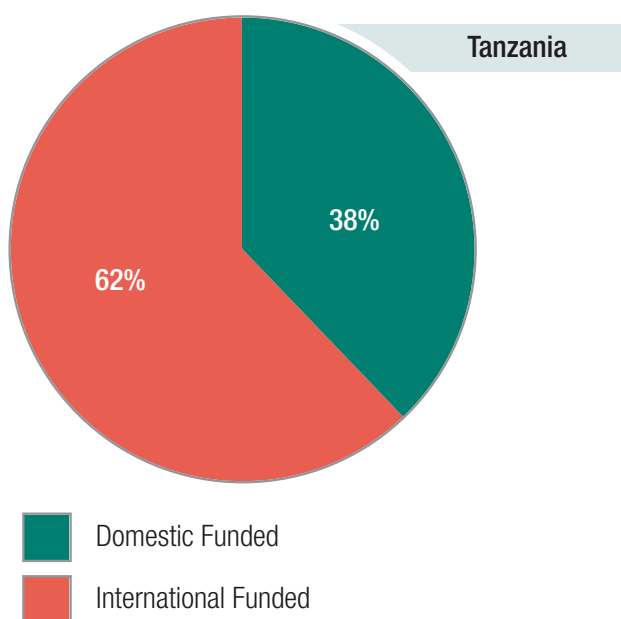
While there is no ‘correct’ funding mix between government and donors, the international commitment under the UNFCCC is that vulnerable countries should receive new and additional resources to assist national efforts. There is little evidence this is happening through the national budgetary systems in 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)**



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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
<b>Total revenue</b>	<b>52,492</b>	<b>71,593</b>	<b>89,911</b>	<b>111,056</b>
Recurrent expenditure	27,372	32,762	43,245	66,534
Capital expenditure	27,232	38,519	43,812	54,673
<b>Total expenditure</b>	<b>54,605</b>	<b>71,281</b>	<b>87,058</b>	<b>121,207</b>

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
<b>Recurrent budget</b>	28,794	27,373	33,683	32,762	43,996	43,246	70,230	66,534
<b>Capital budget</b>	30,422	27,232	41,396	38,519	47,662	43,812	62,310	54,673
<b>Total budget</b>	<b>59,216</b>	<b>54,605</b>	<b>75,079</b>	<b>71,281</b>	<b>91,658</b>	<b>87,058</b>	<b>132,540</b>	<b>121,207</b>

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
<b>Local revenue (Birr mn)</b>	8,261	9,835	13,698	20,132
<b>Federal grant (Birr mn)</b>	17,300	20,512	26,165	30,880
<b>Total budget (Birr mn)</b>	25,561	30,347	39,863	51,012
<b>Federal grant (%)</b>	<b>68</b>	<b>68</b>	<b>66</b>	<b>61</b>

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
<b>Total</b>	<b>121</b>	<b>107</b>	<b>105</b>	<b>120</b>

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

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)**

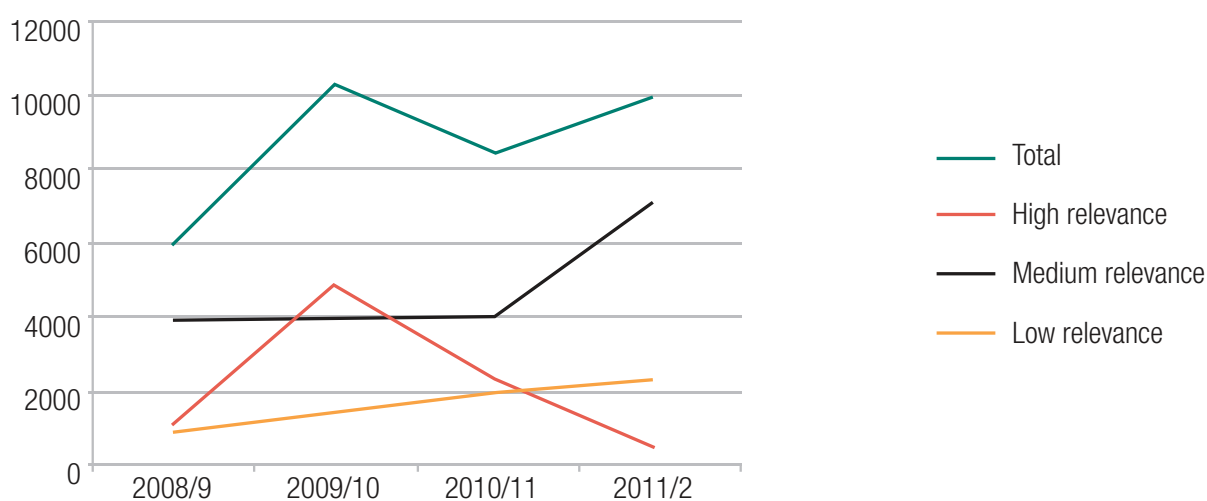
	2008/09			2009/10			2010/11			2011/12		
	High	Med	Low	High	Med	Low	High	Med	Low	High	Med	Low
<b>MoWIE</b>	13	30	2	9	27	1	13	23	1	16	30	1
<b>MoA</b>	4	26	16	4	25	17	4	21	17	14	19	18
<b>MoH</b>	0	2	7	0	2	6	0	2	7	0	3	7
<b>NDP</b>	0	3	0	0	2	0	0	2	0	0	1	0
<b>MoUDHC</b>	0	0	13	0	0	10	0	1	10	0	1	6
<b>Mol</b>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

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

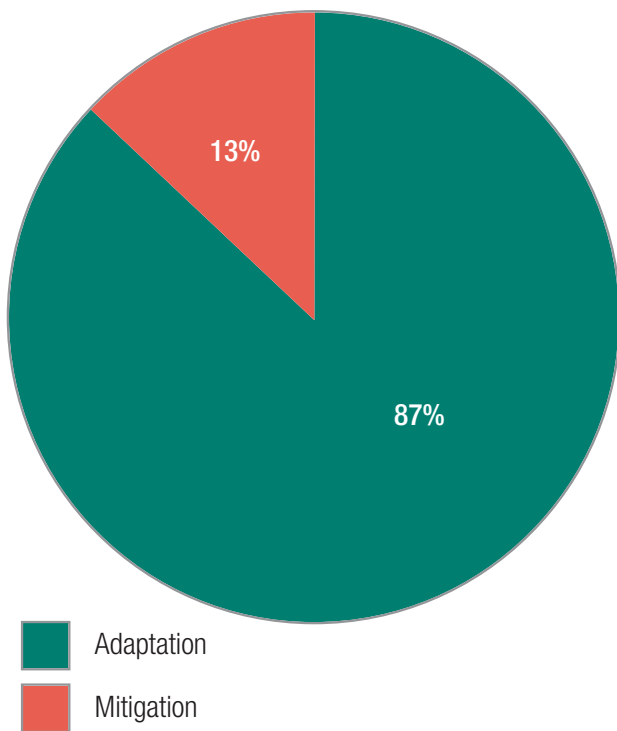
Climate change-relevant expenditures have also been classified as adaptation or mitigation spending for the years under review. Those expenditures that fund activities designed primarily to reduce the emissions of GHGs or act as carbon sinks are classified as mitigation, including renewable energy programmes 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 (%)



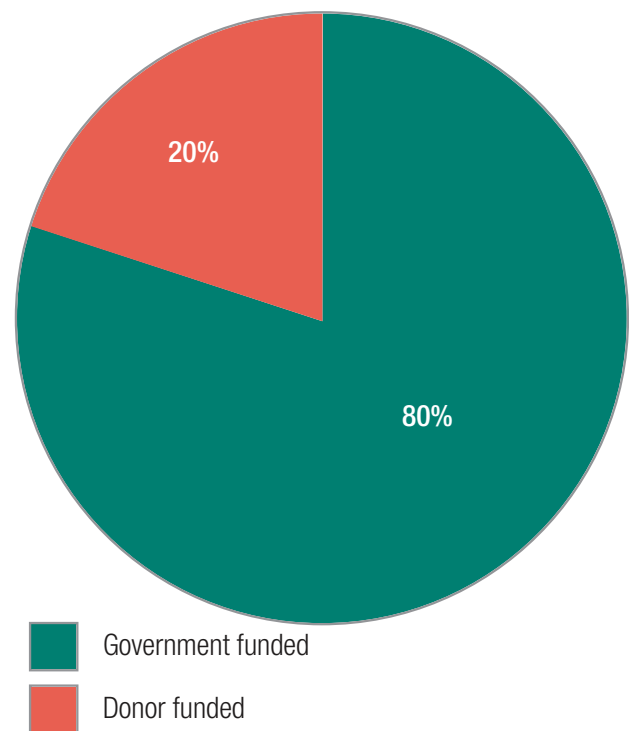
Source: Eshetu et al. (2014).

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

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



Source: Eshetu et al. (2014).

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



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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.

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# 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

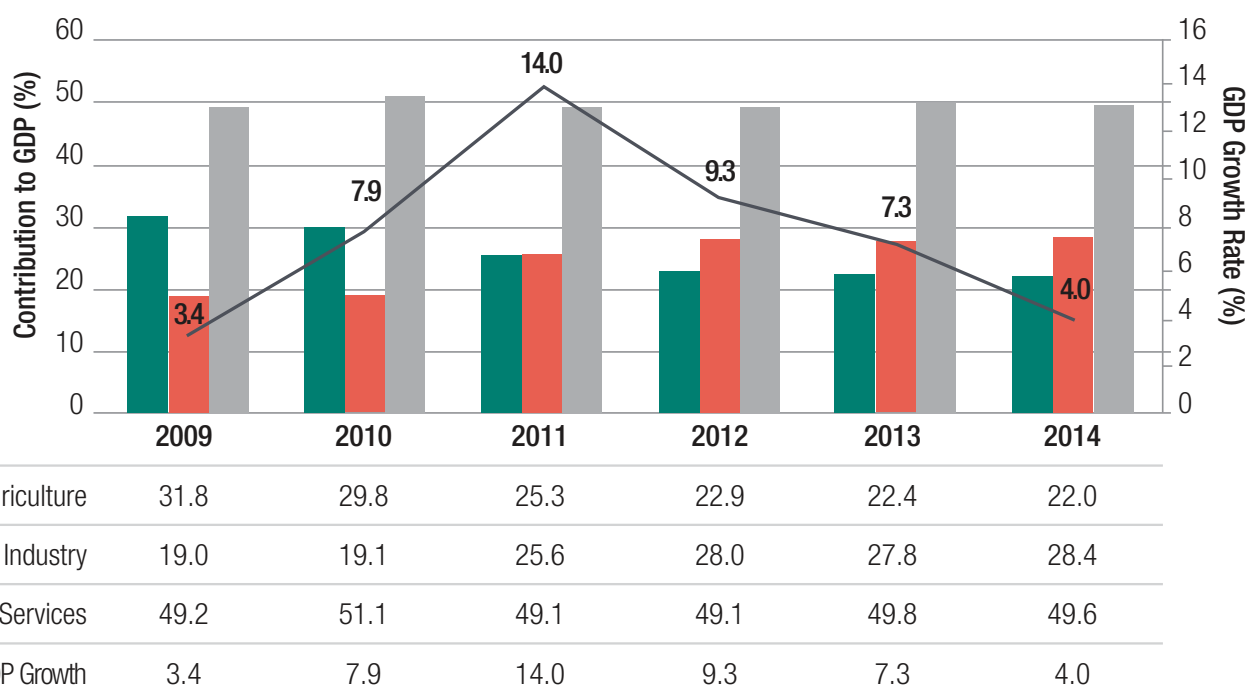
the 2010 growth rate and about four times the 2011 world average of 3.8%. However, this was highly associated with the initial commercial extraction of oil and gas in that particular year. Other factors that led to such a remarkable growth rate in 2011 include political stability, traditional exports 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
<b>Total revenue</b>	<b>13,042</b>	<b>16,668</b>	<b>19,471</b>	<b>24,739</b>
Recurrent expenditure	10,155	17,360	22,671	26,896
Capital expenditure	3,681	3,584	4,791	5,472
<b>Total expenditure</b>	<b>13,836</b>	<b>20,944</b>	<b>27,462</b>	<b>32,368</b>

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
<b>Capital</b>	4,311	3,724 (-13.6%)	5,9072	4,971 (-16.8%)	5,155	4,791 (-7.1%)	5,990	5,471 (-8.7%)
<b>Recurrent</b>	9,222	9,704 (5.2%)	13,063	15,973 (22.3%)	23,008	22,671 (-1.5%)	27,792	26,896 (-3.2%)
<b>Total</b>	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 change<sup>3</sup>
- assigning a weight to the high- and medium-relevance expenditures reflecting the percentage of the activity considered climate change-relevant

<sup>3</sup> 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
<b>Total</b>	<b>15</b>	<b>48</b>	<b>45</b>	<b>42</b>

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

Note: Spending less than GH¢ 1 million

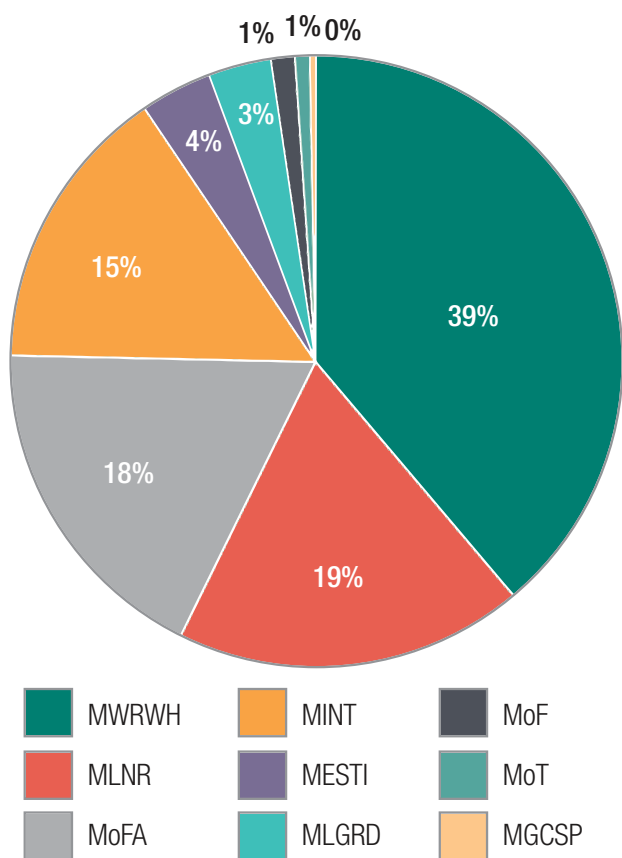
Source: Asante et al. (2015).

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

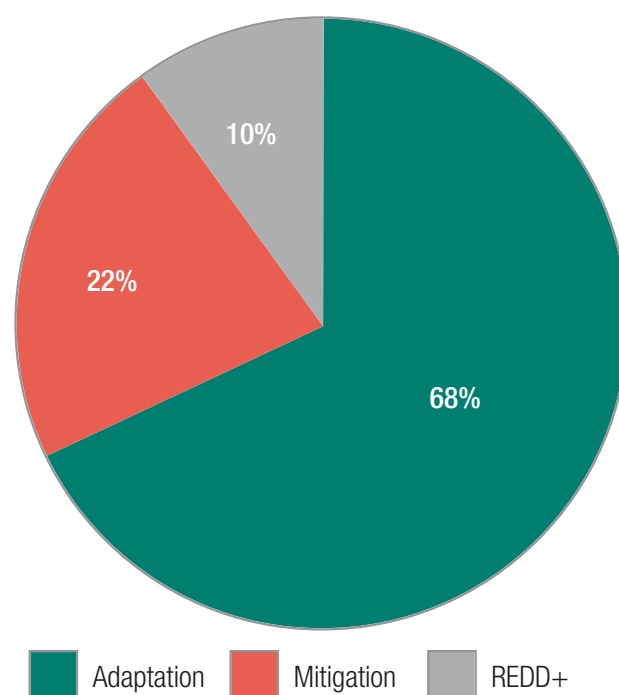
**Table 6.10: Climate change-relevant budgeted expenditure by relevance as a share of total climate change relevant expenditure, Ghana, 2011–2014 (%)**

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
<b>Total</b>	<b>1,487</b>	<b>68</b>	<b>490</b>	<b>22</b>	<b>215</b>	<b>10</b>

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

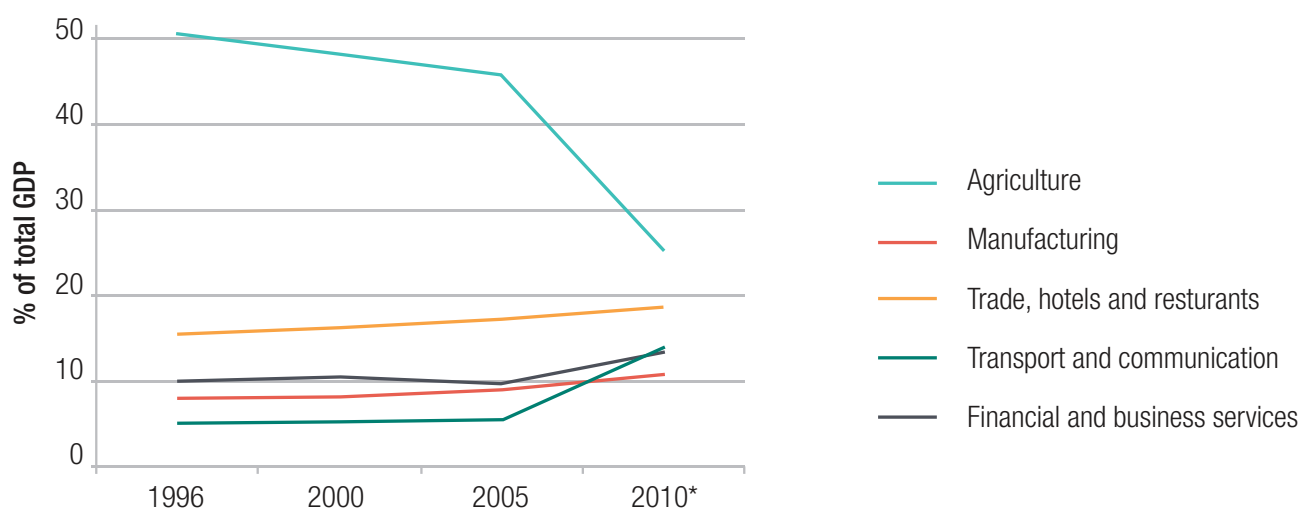
The government of Tanzania has initiated a number of climate change-focused plans, programmes and strategies. However, implementing these remains a challenge. A major problem, as in many developing countries, is that these initiatives require very considerable financial resources that the country cannot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

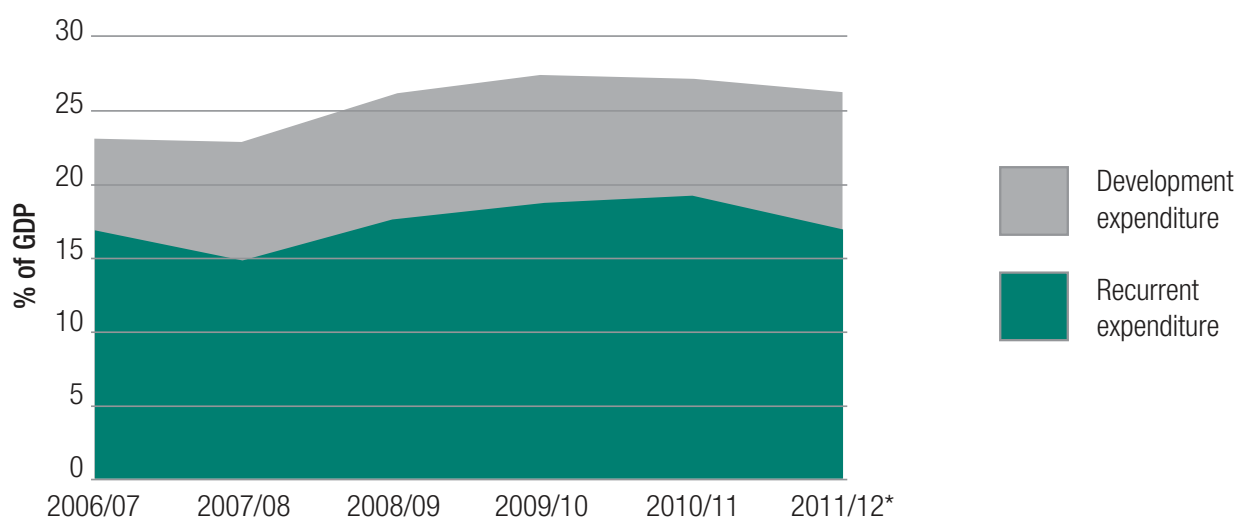
Poor revenue performance in Tanzania can be attributed partly to structural factors. The country is heavily dependent on a narrow revenue base, which is dominated by indirect taxes such as VAT, which accounted for a third of domestic revenue between 2004 and 2010. In addition, the poorly performing agriculture 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.

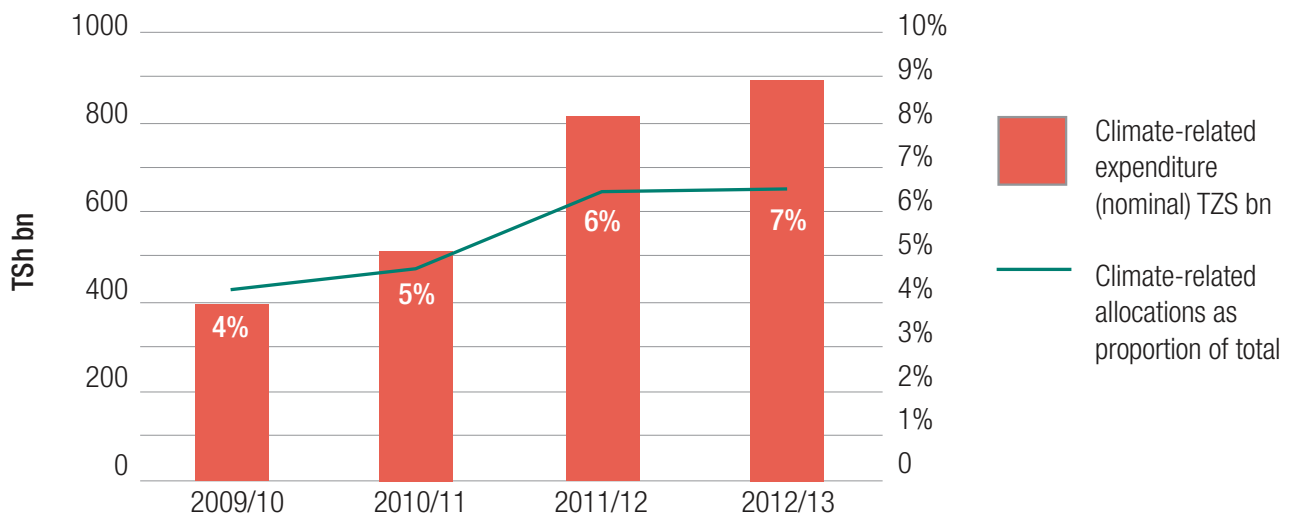
#### 7.3.1 Overall level of spending

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
<b>Total budget for climate change-relevant activities</b>	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
<b>Climate change development budget as share of total</b>	<b>65%</b>	<b>70%</b>	<b>75%</b>	<b>67%</b>

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
<b>Total</b>	<b>58</b>	<b>100</b>	<b>68</b>	<b>100</b>

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
<b>Total</b>	<b>256</b>	<b>100</b>	<b>357</b>	<b>100</b>	<b>608</b>	<b>100</b>	<b>600</b>	<b>100</b>

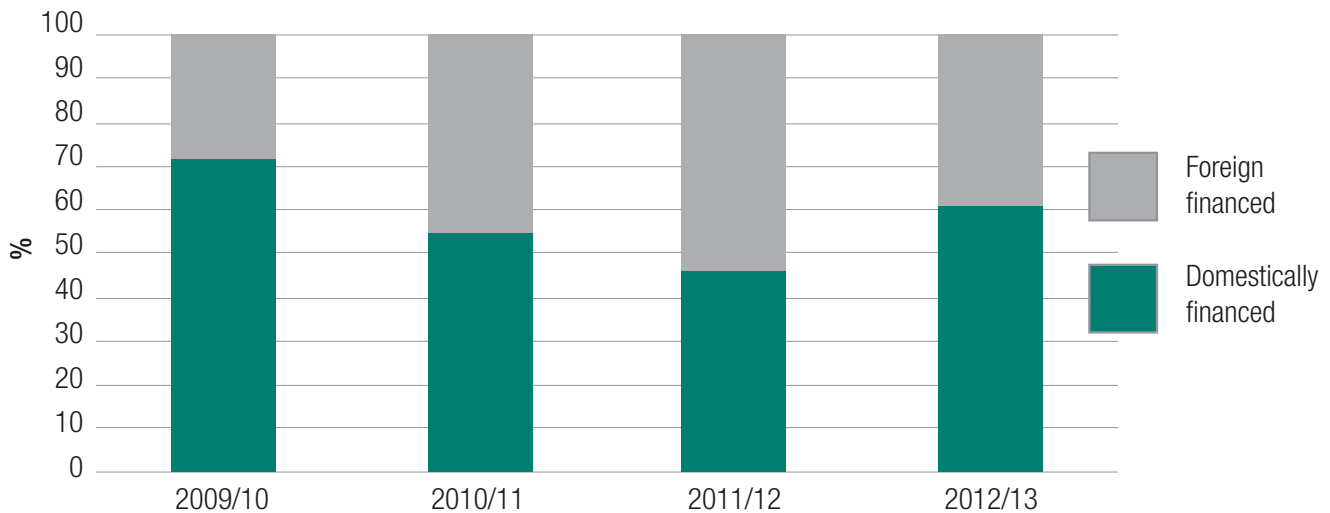
Source: Yanda et al. (2013).

### 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

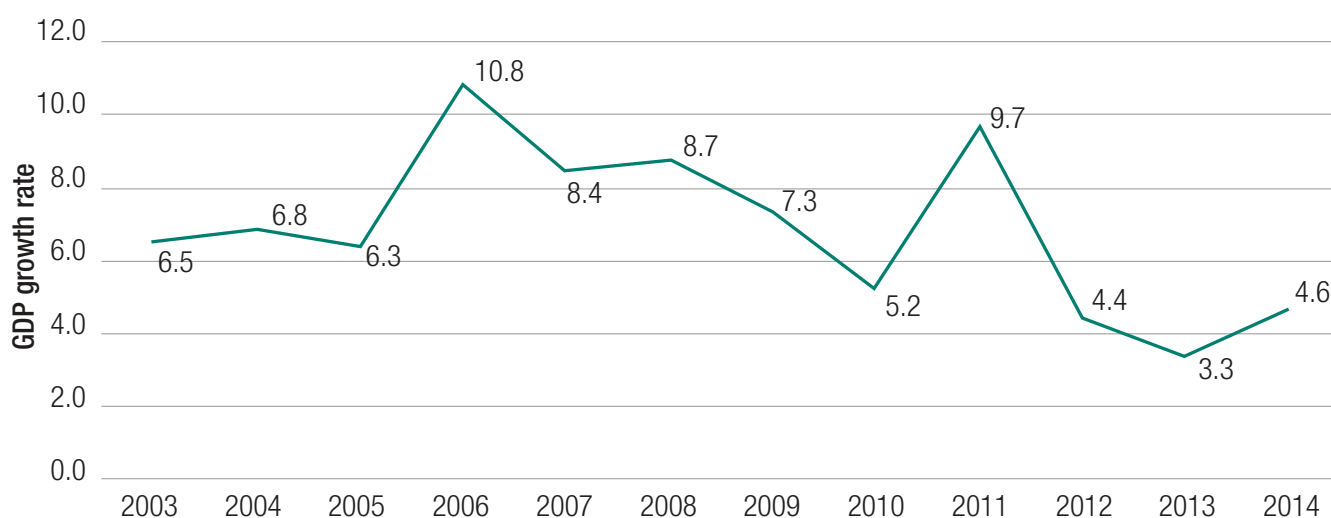
economy, changes in economic growth, levels of poverty, and the overall trends and practices regarding public finance management (PFM). These changes have direct implications for public expenditure on climate change actions.

### 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 (%)



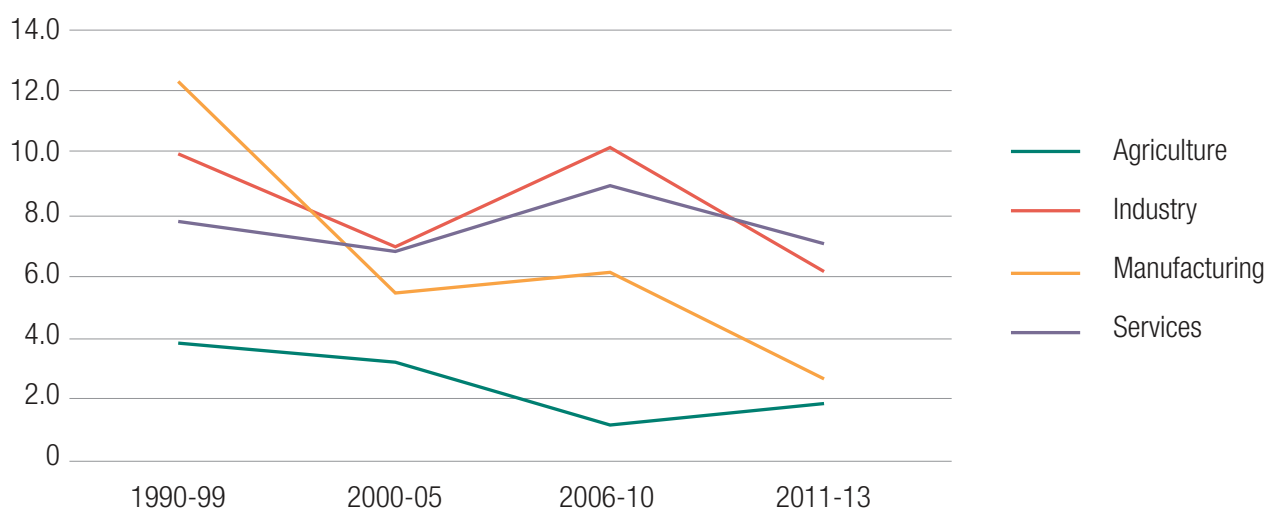
Source: UBoS (various dates); World Bank Development Indicators (2014).

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
<b>Millions of Ugandans</b>						
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
<b>% of Ugandan population</b>						
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 (US\$ bn)*	% increase over previous year	Actual expenditure (US\$ 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).

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## 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
<b>Total</b>	<b>63</b>	<b>80</b>	<b>82</b>	<b>71</b>

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	–	–	–
<b>Total</b>	<b>1,479</b>	<b>41.5</b>	<b>2.8</b>	<b>1,428</b>	<b>53.15</b>	<b>3.7</b>	<b>1,296</b>	<b>66.5</b>	<b>0.1</b>	<b>10,191</b>	<b>71.8</b>	<b>1.0</b>

Source: Tumushabe et al. (2013).

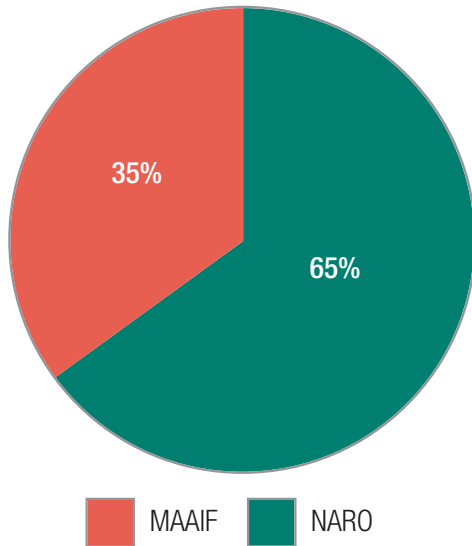
policy statement, was explicitly geared towards climate adaptation or mitigation outcomes. Medium-relevance activities included adaptation or mitigation outcomes as secondary objectives. Activities indirectly related to adaptation and mitigation outcomes were classified as being of low relevance.

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

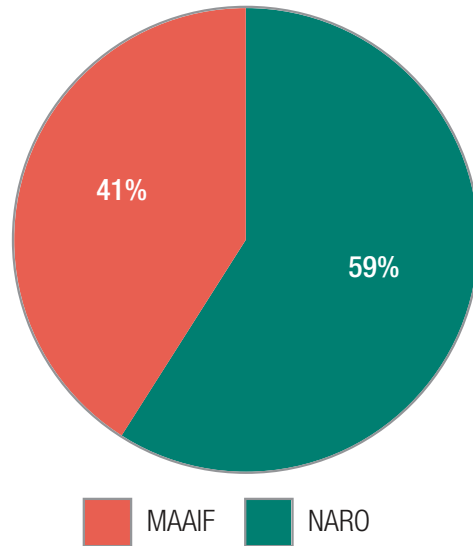
change: the Climate Change Unit housed in MWE and the development project promoting renewable energy and energy efficiency in MEMD. There was an increase in the number of medium-relevance programmes, mostly in MAAIF. However, the overwhelming number of relevant expenditure items were of programmes of 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)



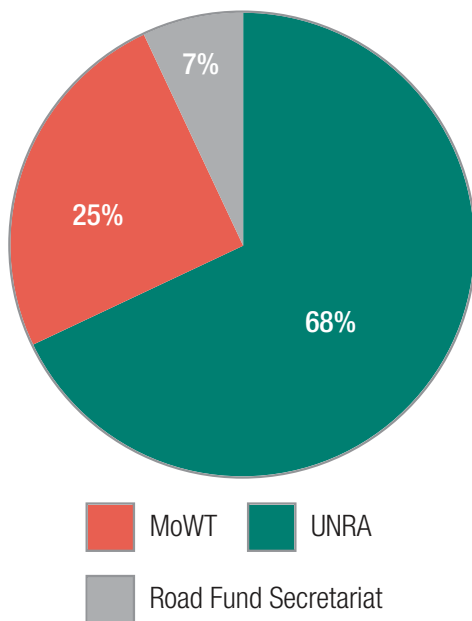
**MAAIF climate-relevant actual expenditure**  
(Average over years 2008/09 to 2011/12)



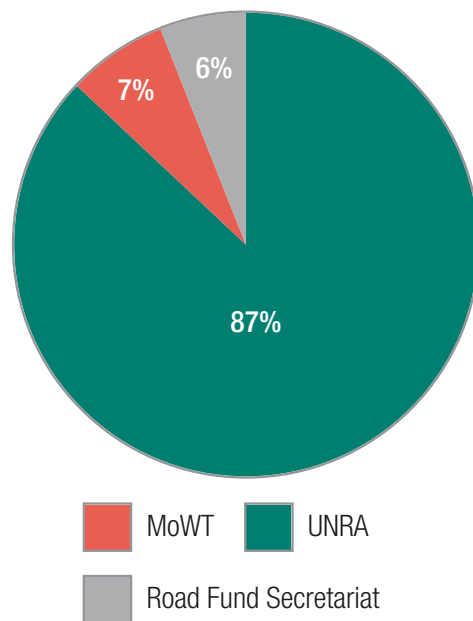
Source: Tumushabe et al. (2013).

**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)



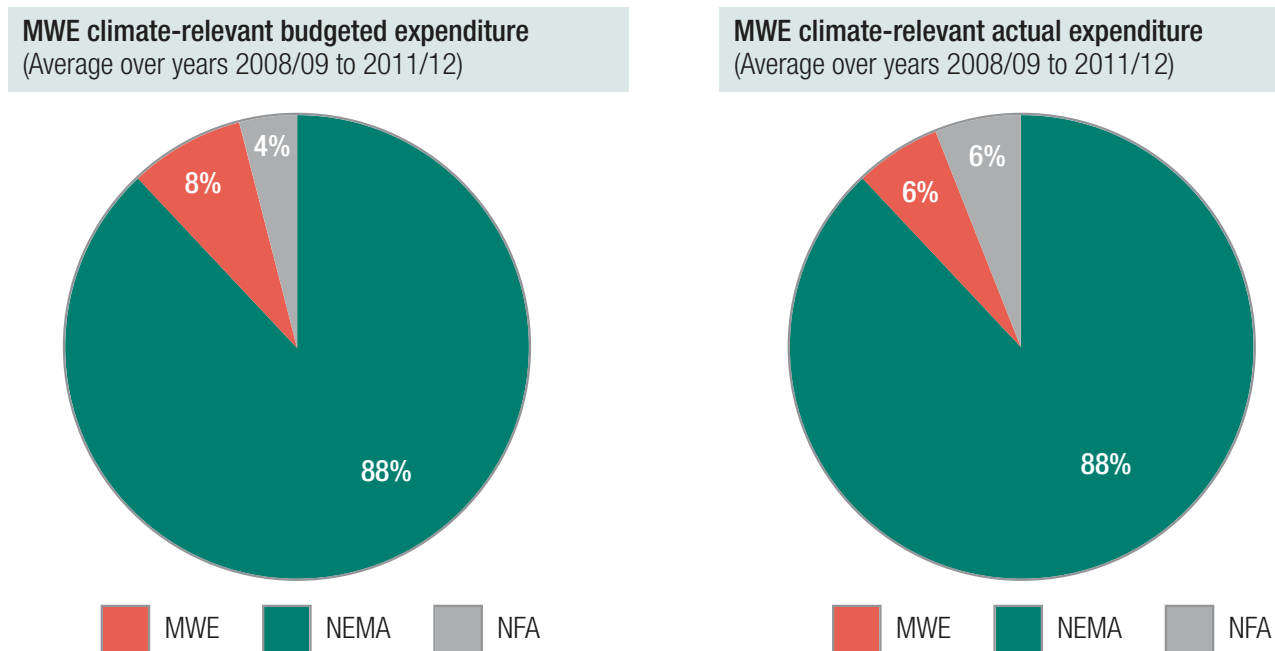
**MoWT climate-relevant actual expenditure**  
(Average over years 2008/09 to 2011/12)



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
<b>Total</b>	<b>1</b>	<b>7</b>	<b>55</b>	<b>2</b>	<b>16</b>	<b>62</b>	<b>2</b>	<b>16</b>	<b>64</b>	<b>2</b>	<b>17</b>	<b>52</b>

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).

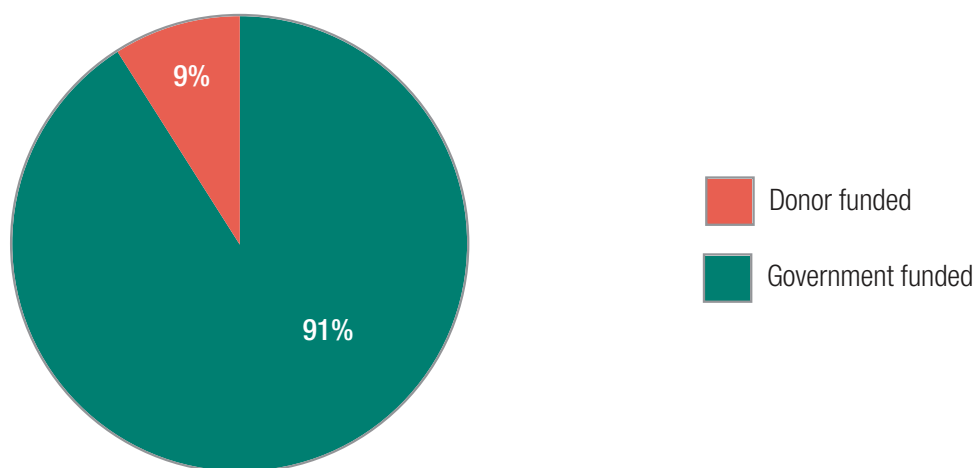
activities. For example, among the largest-spending ministries on climate change-relevant activities, MoWT and MAAIF focused nearly all their expenditure on adaptation expenditure. As might be expected, only one major spending ministry – MEMD – focused its expenditure on mitigation activities, through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

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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.

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# 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

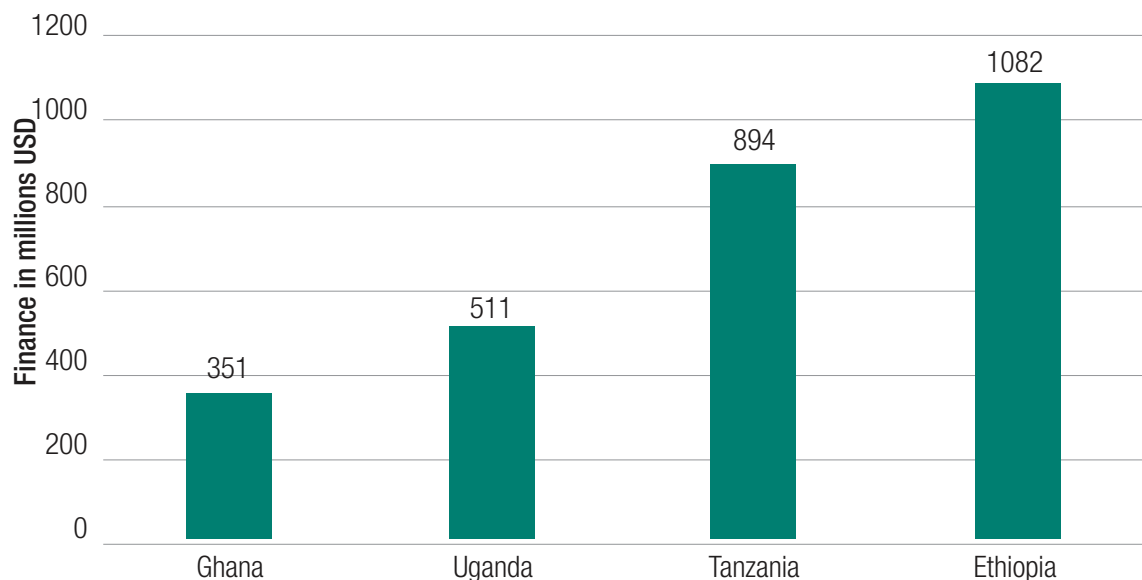
perceived capacity of different actors, both government and non-government.

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 (\$ mn)	Average annual international public CC finance disbursed through ODA (\$ mn)	GDP per capita 2013 (\$)	Foreign direct investment, 2013 (\$ bn)
Ethiopia	440	271	503	0.9
Uganda	25	128	675	1.2
Tanzania	383	223	927	1.9
Ghana	276	88	1,857	3.2

**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 (Nakhoda 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.

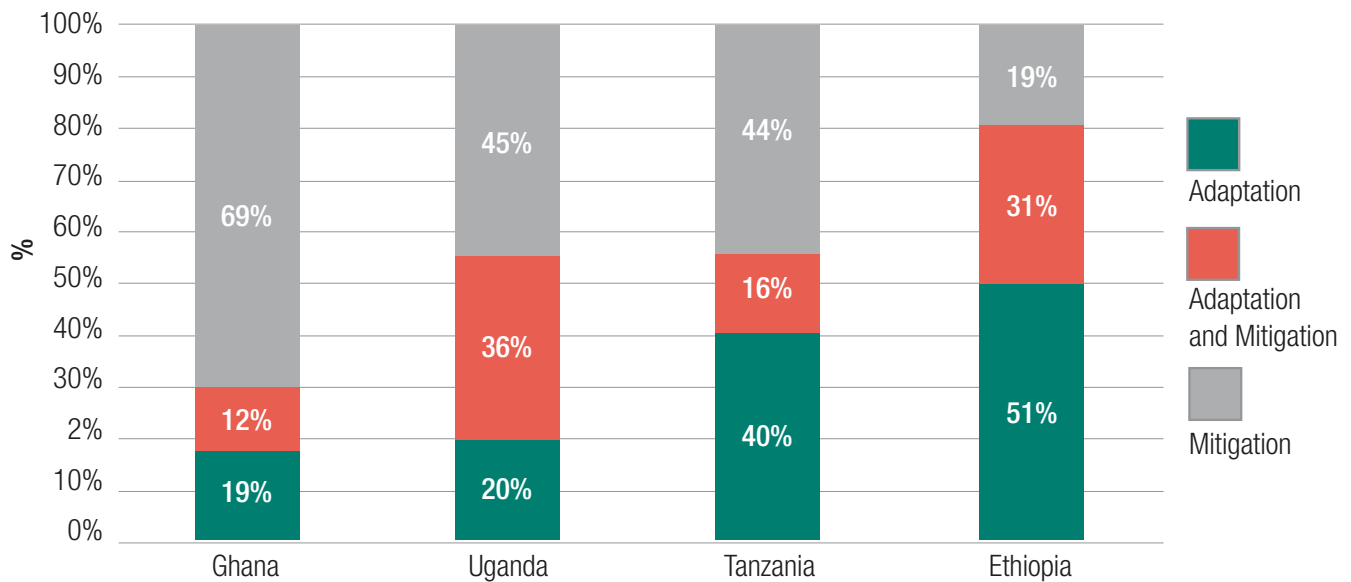
Reflecting the distinction between mitigation and adaptation, the OECD CRS allows donors to self-report on both of these strategies for each project disbursement. Scoring for adaptation and mitigation is not mutually exclusive; the same project can be scored as having both mitigation and adaptation objectives. 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	<b>351.2</b>
Uganda	133.4	15.8	147.8	88.8	17.1	1	106.5	<b>510.4</b>
Tanzania	214.6	2.1	188.4	80.3	26.8	72.6	308.5	<b>893.3</b>
Ethiopia	82.1	398.3	71.3	117.7	52.1	0.3	361.5	<b>1083.3</b>
<b>Total</b>	<b>505.8</b>	<b>416.2</b>	<b>413.9</b>	<b>367.3</b>	<b>115.6</b>	<b>88.3</b>	<b>931.1</b>	

Source: OECD CRS online database.

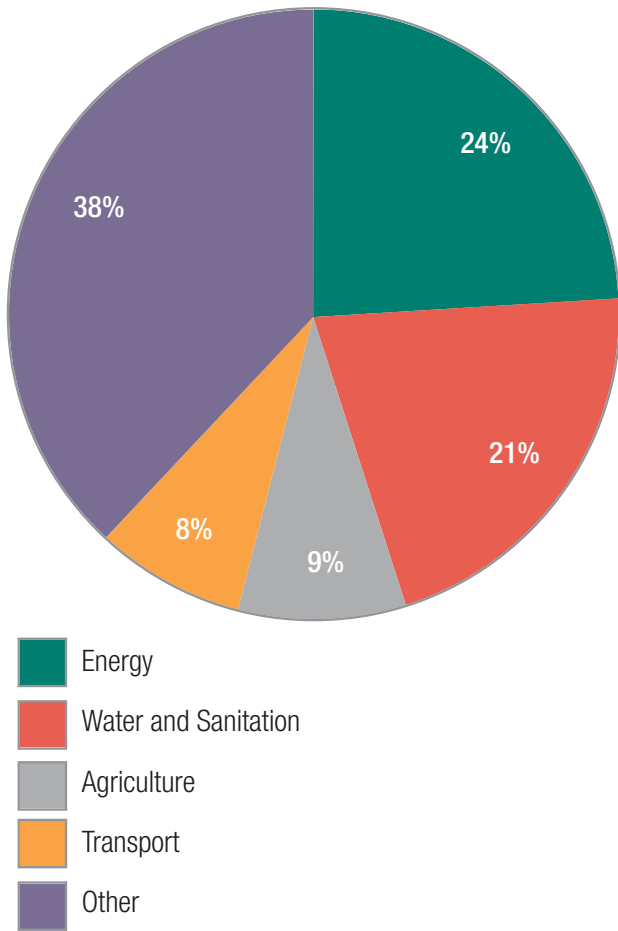
While the focus on energy, agriculture and water reflects strong priorities as listed by the national governments, it also indicates individual donor country approaches to financing the response to climate change. For example, crop intensification and food security have been core issues for a number 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

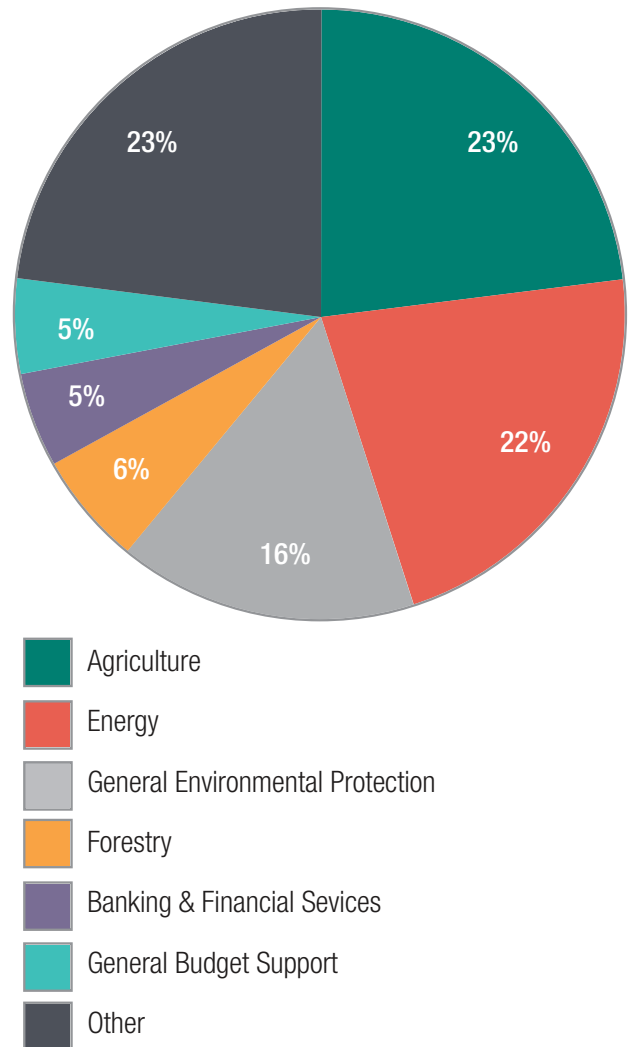
consumption away from biomass, which accounted for 88% of total primary energy supply in 2011. Consequently, energy access and distribution is a priority both for international donors and the national government. Tanzania has therefore seen international public mitigation finance support focused on electrical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

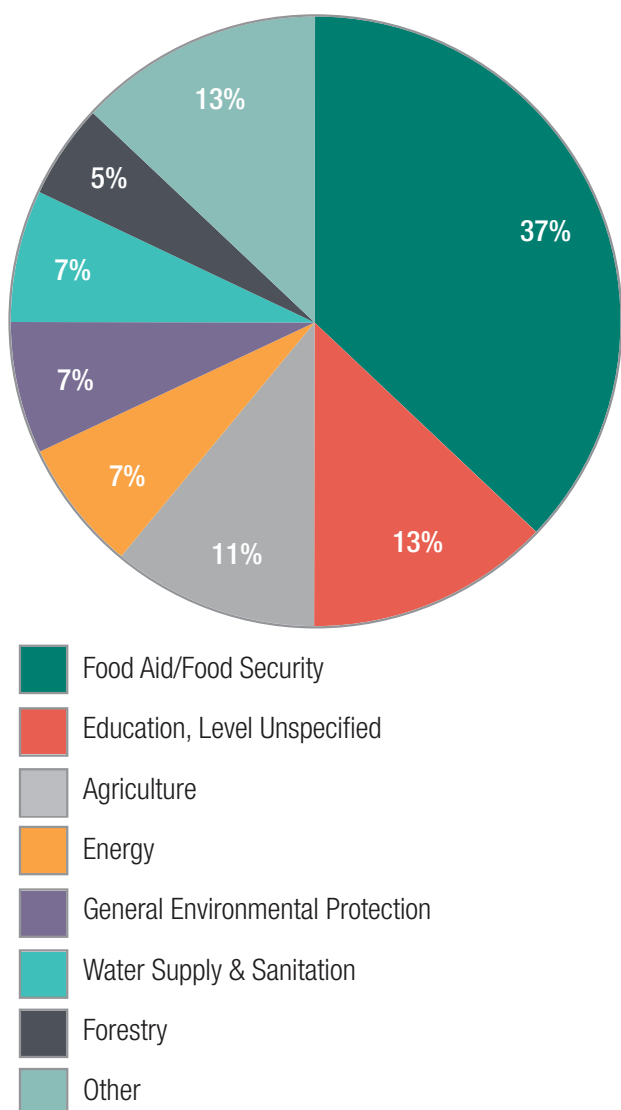
Source: OECD CRS online database.

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

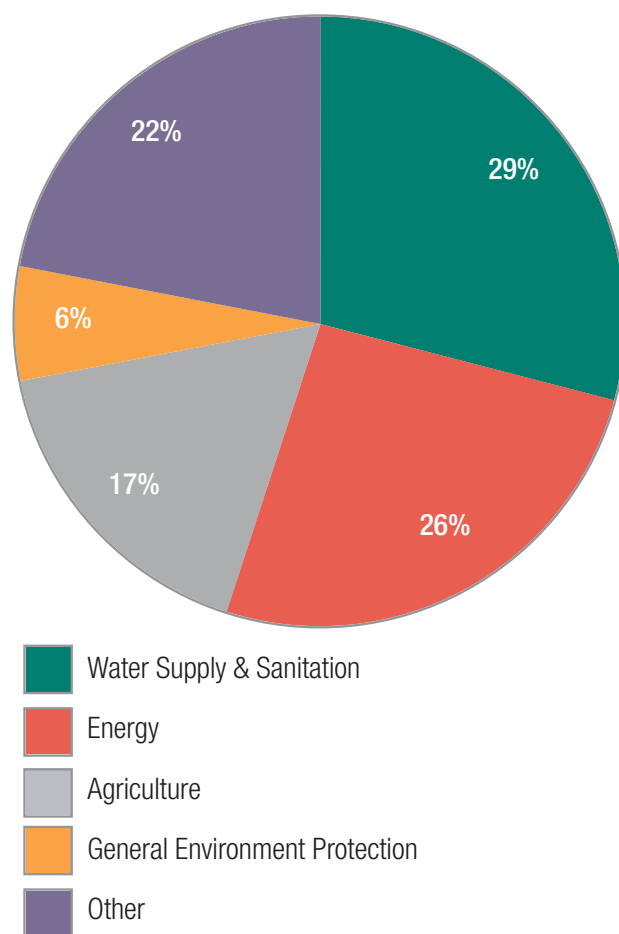
Tanzania, primarily supported adaptation outcomes in the water and sanitation sector and mitigation outcomes in the energy sector (Figure 9.6). The government of Uganda's Costed Adaptation Strategy identifies current dependence on biomass and gives importance to promoting energy conservation and the 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 with 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.<sup>4</sup> 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	%
<b>Principal objective</b>	182.75	21	166.01	19	68.4	19	30.5	9
<b>Significant objective</b>	365.38	41	303.74	34	217.7	62	76.7	22
<b>Not targeted</b>	345.48	38	423.86	47	65	19	243.9	69
<b>Total</b>	<b>893.61</b>	<b>100</b>	<b>893.61</b>	<b>100</b>	<b>351.1</b>	<b>100</b>	<b>351.1</b>	<b>100</b>
	Ethiopia				Uganda			
	Mitigation		Adaptation		Mitigation		Adaptation	
	\$m	%	\$m	%	\$m	%	\$m	%
<b>Principal objective</b>	156.2	14	150.6	14	151	30	69.5	14
<b>Significant objective</b>	380	35	728.1	67	259.1	51	213.6	42
<b>Not targeted</b>	547.2	51	204.7	19	100.4	20	227.4	45
<b>Total</b>	<b>1083.4</b>	<b>100</b>	<b>1083.4</b>	<b>100</b>	<b>510.5</b>	<b>100</b>	<b>510.5</b>	<b>100</b>

Source: OECD CRS online database.

<sup>4</sup> 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

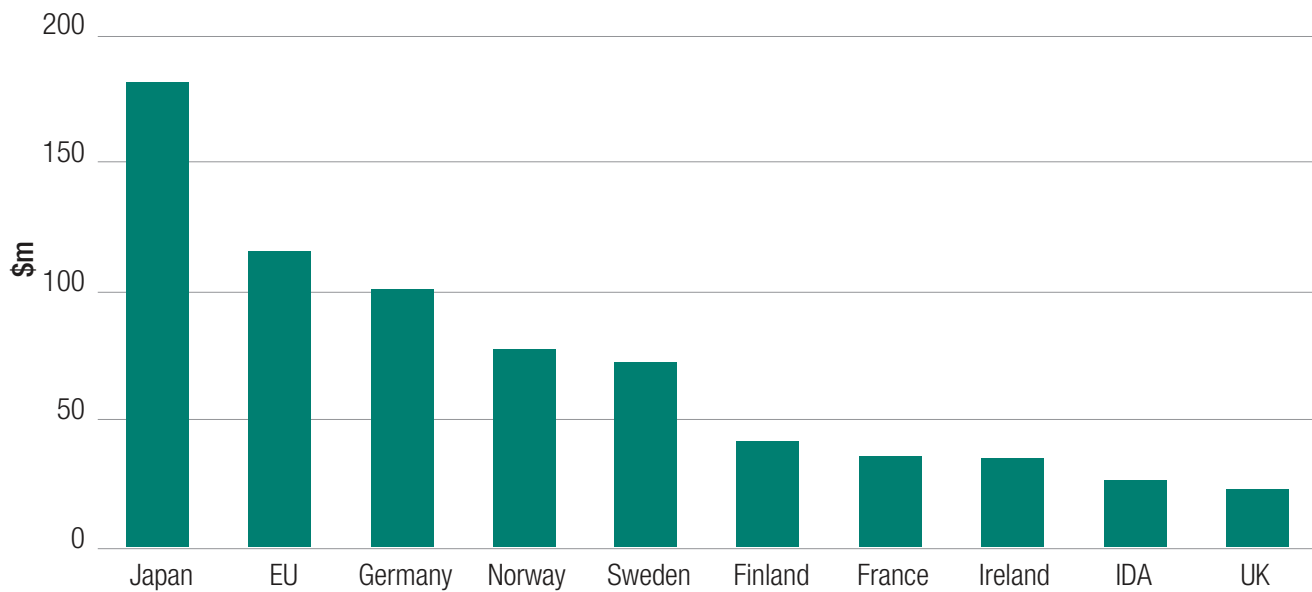
Source: OECD CRS online database.

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.

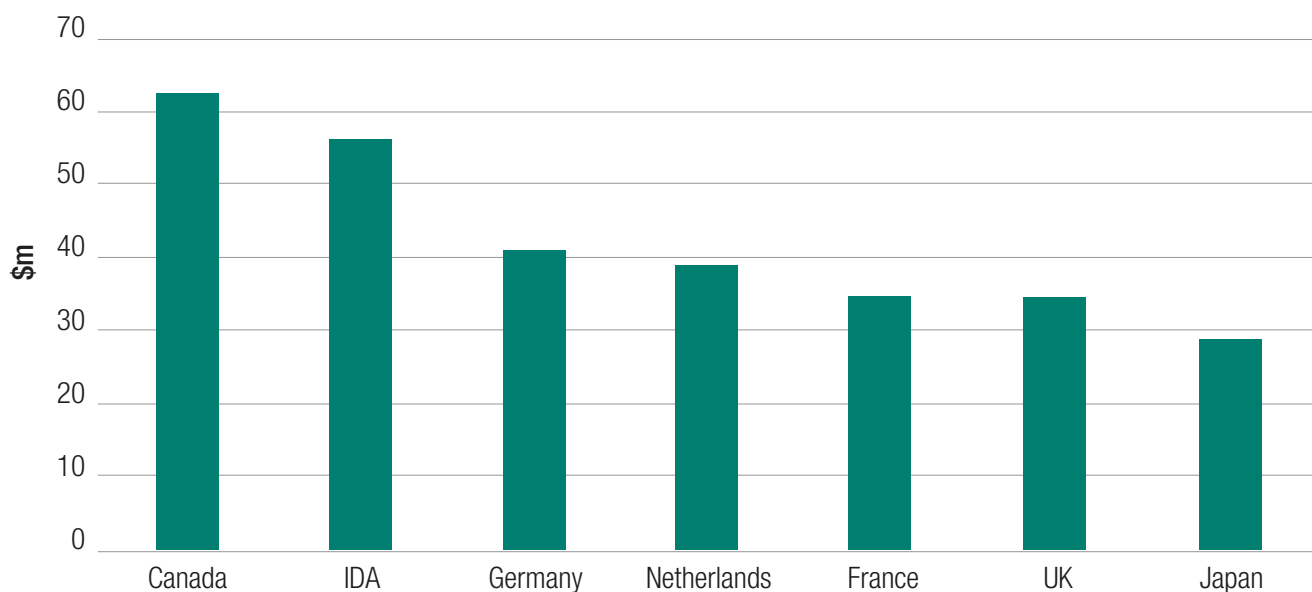
For Ghana, a total of seven donors provided more than \$20 million between 2010 and 2013, with the main provider of international public climate finance being Canada (Figure 9.8). Canada and the UK have a large Collaborative and Adaptation Research Initiative in Africa and Asia, which Canada has used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

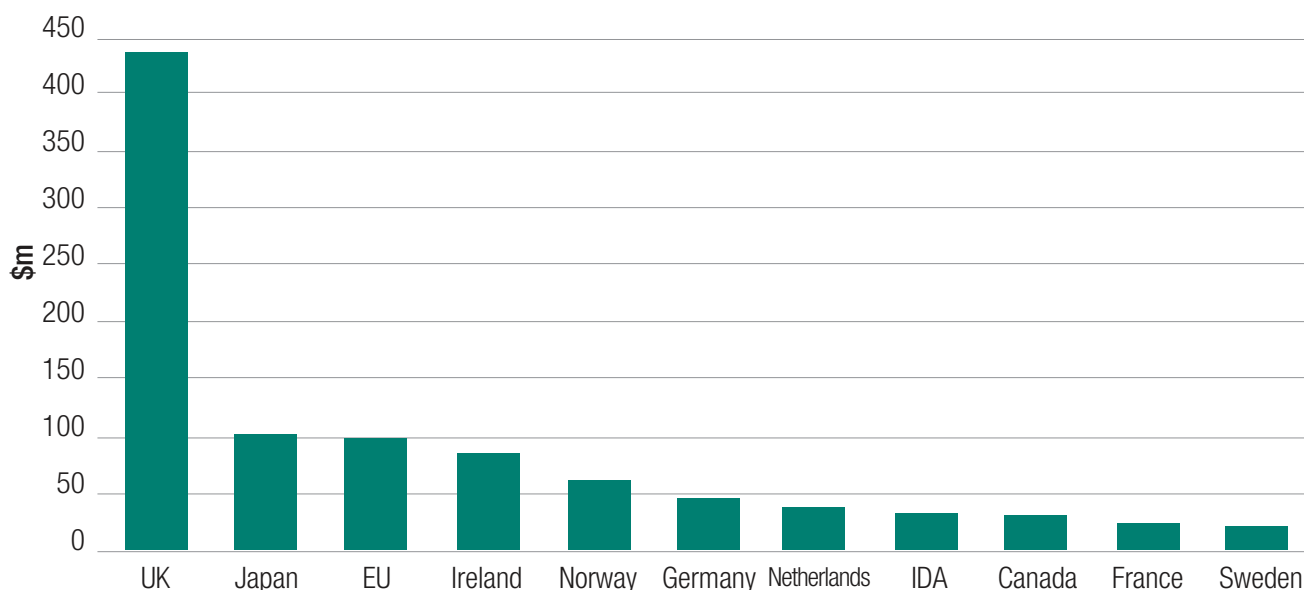


Source: OECD CRS online database.

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)

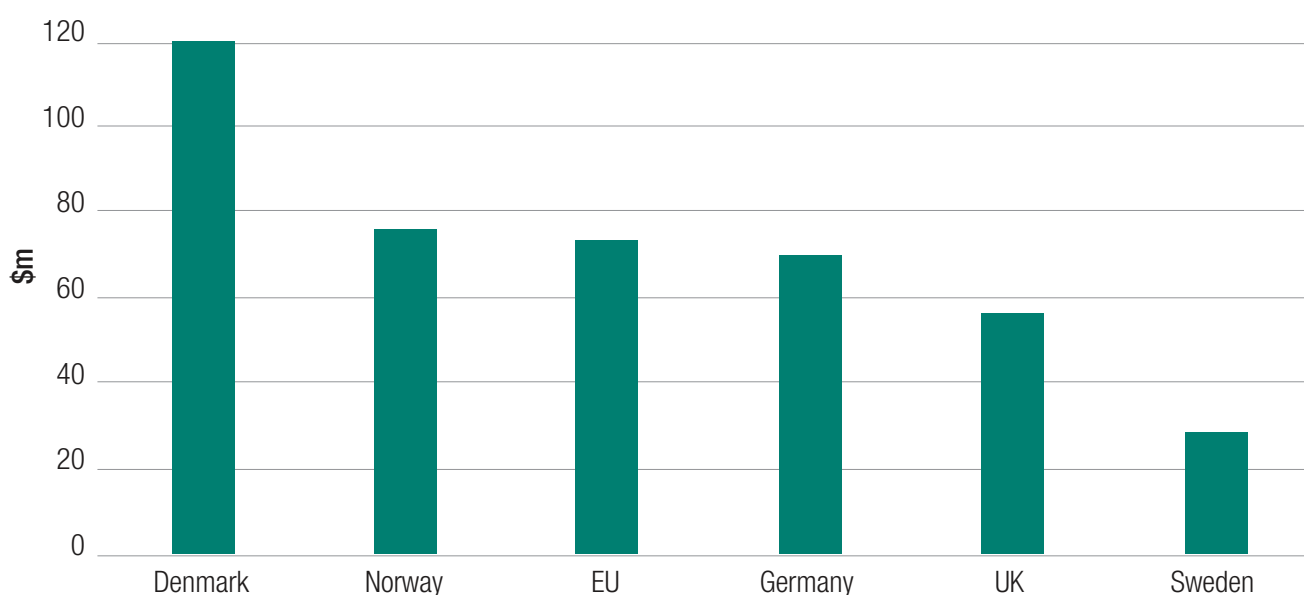


Source: OECD CRS online database.

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.

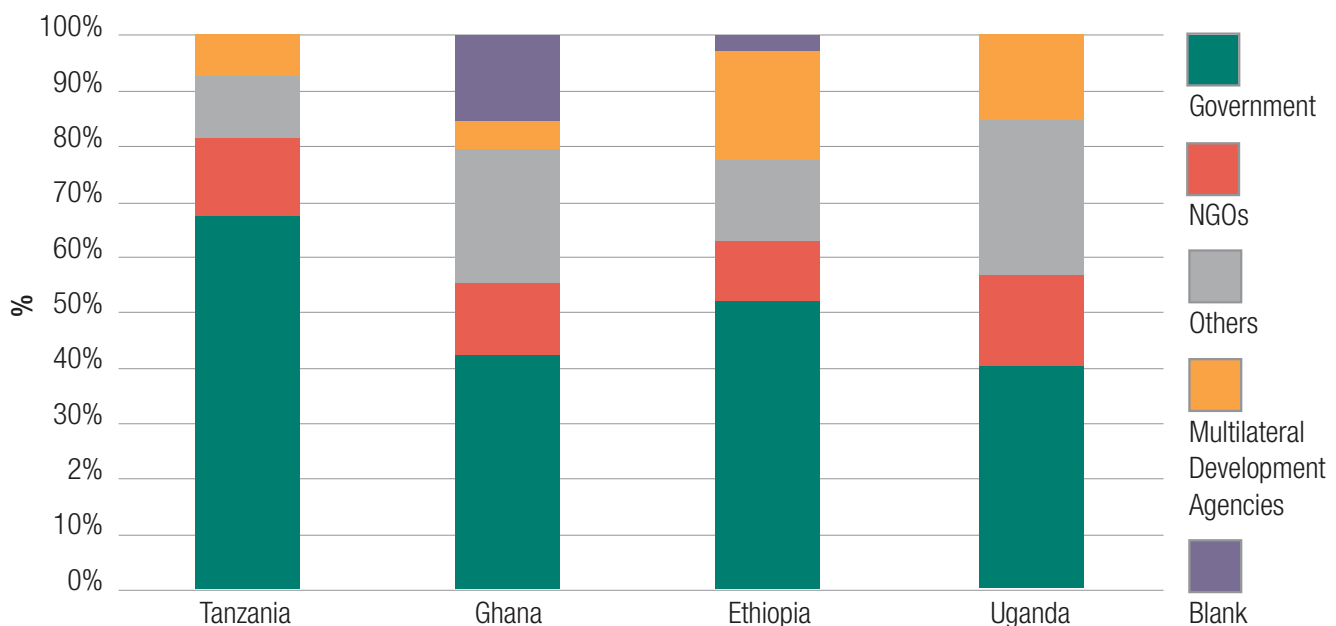
towards Uganda’s preparation for and participation at UNFCCC Conference of the Parties meetings. The remaining portion has been directed at mainstreaming adaptation and development of the NCCP.

### 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,



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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.

