

# ACCELERATING SUSTAINABLE DEVELOPMENT IN AFRICA:

Country lessons from applying  
integrated approaches



The Poverty-Environment Initiative of the United Nations Development Programme (UNDP) and the United Nations Programme Environment (UN Environment) is a global UN effort that supports country-led efforts to mainstream poverty-environment linkages into national development planning. The Initiative provides financial and technical assistance to government partners to set up institutional and capacity-strengthening programmes and carry out activities to address the particular poverty environment context.

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# TABLE OF CONTENTS

Acknowledgments..... 4

Foreword..... 5

Executive summary.....7

**1. INTRODUCTION** ..... 11

- 1.1. How poverty and environmental links affect development prospects in Africa..... 11
- 1.2. Ambitious global and African commitments: 2030 Agenda for Sustainable Development and Agenda 2063 – The Africa We Want..... 12
- 1.3. Aim of this paper – Lessons to scale up and speed up sustainable development in Africa..... 15

**2. WEAVING TOGETHER THE THREE DIMENSIONS OF SUSTAINABLE DEVELOPMENT in**

Natural Resource Sectors ..... 20

- 2.1. Sustainable, inclusive and climate-smart agriculture – integrated evidence..... 22
- 2.2. Sustainable forestry, wood fuel energy and poverty – Integrated evidence..... 27
- 2.3. Sustainable fisheries and poverty reduction – Integrated evidence ..... 32
- 2.4. Sustainable production in the extractives sector – Integrated evidence ..... 36
- 2.5. Lessons learned for better evidence..... 39

**3. ‘WIRING’ ORGANIZATIONS TOGETHER and Breaking Down Silos** ..... 41

- 3.1. Integrated national development planning..... 44
- 3.2. Cross-sector coordination for pro-poor environmental mainstreaming..... 47
- 3.3. Bridging plans and budgets to ensure implementation ..... 52
- 3.4. Effective decentralization for sustainable development..... 58
- 3.5. Measuring multi-dimensional change in poverty and environment ..... 62
- 3.6. Lessons learned for weaving institutions together..... 64

**4. PROSPECTS AND RECOMMENDATIONS** ..... 70

## 5. REFERENCES

78

<b>Evidence case 1:</b> Looking to reverse soil erosion and promote gender equality in agriculture? Start with integrated evidence.....	24
<b>Evidence case 2:</b> Women lead on sustainable forestry and energy practices .....	28
<b>Evidence case 3:</b> Riding a higher tide: Malawi’s fisheries sector guided by the light of integrated environmental, social and economic development.....	34
<b>Evidence case 4:</b> Turning red for gold: The Buriba River – and how a community fought back.....	37
<b>Institutional case 1:</b> Burkina Faso adopts a sustainable development pathway.....	44
<b>Institutional case 2:</b> Guide to Executive Decision-Making integrates inclusive and sustainable environment management in Malawi.....	49
<b>Institutional case 3:</b> Institutionalizing environment ‘focal points’ in sector ministries .....	51
<b>Institutional case 4:</b> Using Budget Call Circulars for poverty, climate and environment, Rwanda .....	53
<b>Institutional case 5:</b> Tracking public expenditure, Mozambique .....	54
<b>Institutional case 6:</b> Integrated institutions at local level – Rwanda’s green villages .....	59
<b>Institutional case 7:</b> Integrating pro-poor environmental indicators in Tanzania’s National Monitoring System....	62
<b>Text box 1.</b> The Poverty-Environment Initiative .....	16
<b>Text box 2.</b> Integrated evidence catches the eye of the media .....	31
<b>Text box 3.</b> What does an ‘integrated approach’ look like?.....	41
<b>Text box 4.</b> Mozambique explores the connections among national priorities and key SDGs.....	47
<b>Text box 5.</b> Guidelines for integrating environmental sustainability and natural resource management in Malawi’s Guide to Executive Decision-Making.....	50
<b>Text box 6.</b> Rwanda’s Environment and Climate Change Budget Checklist.....	53
<b>Text box 7.</b> Rwanda’s Green Fund (FONERWA) .....	57
<b>Text box 8.</b> The need to influence private-sector investments for sustainable development.....	58

**LIST OF FIGURES:**

- Figure 1.** The Sustainable Development Goals
- Figure 2.** The Poverty-Environment Initiative's Programmatic Approach
- Figure 3.** Key points to create policy-relevant evidence
- Figure 4.** Cost of the gender gap in agricultural productivity
- Figure 5.** Catalysing progress on the SDGs through inclusive and sustainable agriculture
- Figure 6.** Infographic on forest-energy-poverty nexus
- Figure 7.** Catalysing progress on the SDGs through inclusive and sustainable forestry
- Figure 8.** Infographic on sustainable fisheries and poverty
- Figure 9.** Catalysing progress on the SDGs through inclusive and sustainable fisheries
- Figure 10.** Catalysing progress on the SDGs through sustainable production of extractive resources
- Figure 11.** Strengthen the means of implementation and revitalize the global partnership for sustainable development
- Figure 12.** Mainstreaming tools and approaches applied in Burkina Faso
- Figure 13.** The top four SDGs identified for Burkina Faso through the national prioritization exercise
- Figure 14.** Links between national development priority areas and SDGs in Mozambique
- Figure 15.** Environmental costs and investments in Mozambique
- Figure 16.** Budget allocation trends for environment and climate in Mozambique
- Figure 17.** Breakdown of allocations per environment and climate code.
- Figure 18.** Rubaya Green Village

**LIST OF TABLES:**

- Table 1.** Estimated costs of environmental and natural resource degradation in Africa by the Poverty-Environment Initiative
- Table 2.** Connections between Agenda 2063 and the SDGs
- Table 3.** Poverty-environment indicators in Tanzania's poverty strategy
- Table 4.** Overview of tools used by the Poverty-Environment Initiative in Africa that can contribute to the achievement of SDGs and Agenda 2063 Goals

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# FOREWORD

Livelihoods, poverty reduction efforts and economic growth in Africa are highly dependent on the quality and availability of natural resources, and are thus extremely vulnerable to degradation of those resources and to climate change. Development efforts hence need to equally embrace economic, social and environmental sustainability as emphasized in the recently adopted '2030 Agenda for Sustainable Development' as well as 'Agenda 2063 – The Africa We Want'.

These high-level, future-facing consensus documents are great opportunities to work together across sectors and disciplines in new ways towards sustainable development. The good news is that the importance of natural capital to Africa's development and poverty reduction efforts has increasingly been recognized at the highest political levels, that businesses are looking at natural capital potential and risk, that there is increasing innovation to draw on, and that there is growing public interest and concern.

In fact, many countries in Africa have already made important gains towards breaking down the silos among sectors, stakeholders, hierarchies and disciplines – by fostering more coordinated and integrated approaches to development policymaking, planning, monitoring, budgeting and implementation. Several countries have made notable progress since 2005 through their partnership with the Poverty-Environment Initiative of the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UN Environment).

The work that African governments and the Initiative have done together offers many lessons on how to achieve real-world sustainable development and the pieces of the puzzle that must be put in place to achieve the Sustainable Development Goals (SDGs) and Africa 2063 goals within national contexts. We believe that now is the time to pull together that learning from the Initiative and country partners in Africa. There is much to share with policymakers and development professionals to scale up, and speed up, achievement of the SDGs and Africa 2063 goals.

The examples provided in this publication illustrate how to start putting in place what the former UN Secretary General, Ban Ki-moon, called "a practical twenty-first century development model that connects the dots among the key issues of our time: poverty reduction; job generation; inequality; climate change; environmental stress; water energy and food security."

As countries move forward, there is a need to step up a gear to move from the current situation to more integrated and inclusive approaches: that is, from pioneer programmes, such as the Poverty-Environment Initiative, to getting sustainable development to the heart of development efforts and a systematic approach with people's jobs and systems becoming more integrated and efficient. From a recent focus on plans and budgets to public and private investment strategies and standards, capacities and resources to implement plans, and institutional reforms for sustainable development.



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Grace is a farmer from Kipilat village and a leading member of the forest community in Ainabkoi. Grace works on a voluntary basis to support efforts to protect the forest.





# EXECUTIVE SUMMARY

Good descriptions of economies and livelihoods in Africa often illustrate a thread linking economic activities, environment and natural resource use, and the distribution of benefits for poverty and social equity. The picture is complex, but important to explore.

Land and soils, forests, fisheries, water and biomass fuels are the principal sources of development for many men and women living in Africa: they provide income, social protection and employment creation. Furthermore, unsustainable use of natural resources and climate change are undermining these socio-economic benefits, as well as the environment itself, and are costing African countries up to 22 percent of total annual GDP. In contrast, investing in environmental and natural resource sustainability can yield high rates of social and economic returns and have a direct or indirect positive impact on poverty. The relationship among environment, poverty and development is often termed the 'poverty-environment-development nexus'.

The world recently adopted the '2030 Agenda for Sustainable Development'. African countries also adopted a vision with an even longer view of the future: 'Agenda 2063 – The Africa We Want'. These high-level frameworks are great opportunities to work together across sectors and disciplines in new ways to address this nexus and reconfigure towards sustainable development.

To help with this endeavour, this paper shares several exciting African experiences of putting in place new and innovative ways of 'doing business' that enables socially inclusive, environmentally sustainable economic development for all the people in Africa. The paper highlights recent evidence showing the intimate linkages among social, environmental and economic

objectives in Africa. It demonstrates how *good and integrated evidence plus changes in policy, budgeting and monitoring frameworks*, in ways that *engage and empower* the diverse actors involved, have begun to shape the institutions necessary to achieve the Sustainable Development Goals (SDG) and the goals of Agenda 2063.

The publication draws on documented evidence and on the experiences of policymakers, government officials and other stakeholders in Africa. It explores several new case studies from Burkina Faso, Malawi, Mozambique, Tanzania and Rwanda – countries that have pioneered many innovations, notably those supported by the joint Poverty-Environment Initiative of the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UN Environment).

From analysing the case studies, we propose five key pathways that can speed up and scale up integrated and participatory approaches to sustainable development – **better evidence, breaking down institutional silos, involvement and empowerment, new finance and progress monitoring**. These offer good opportunities to support achievement of the SDGs, Agenda 2063 goals and related national development goals and re-affirm and complement many of the lessons learned from implementing the Millennium Development Goals (MDGs). The main contribution of the paper is its demonstration of how countries in Africa have already started to overcome information and institutional barriers that have been constraining an integrated approach to sustainable development, and how to accelerate change.

## Chapter 1. Introduction

Chapter 1 introduces the poverty-environment-development nexus in Africa. It describes the potential of the '2030 Agenda for Sustainable Development' and 'Agenda 2063 – The Africa We Want' to catalyse political, professional and public change. The chapter emphasizes how integrated approaches are needed to achieve the SDGs and Agenda 2063. The key message is that it is imperative that the SDGs be treated together – not in silos – for efficiency and mutually beneficial synergies.

## Chapter 2. Weaving Together the Three Dimensions of Sustainable Development in Natural Resource Sectors

Chapter 2 presents evidence on the linkages among economic, social and environmental dimensions for sectors important for livelihoods and growth in Africa. The chapter focuses on agriculture, fisheries, forestry, energy and extractive industries. In each case, we show how an integrated approach to the poverty-environment-development nexus can achieve sector goals in efficient, sustainable and equitable ways. The evidence of the interlinkages clearly shows that it makes macro- and micro-economic and social sense to invest in equitable and sustainable use of natural resources.

## Chapter 3. Wiring Organizations Together and Breaking Down Silos

In Chapter 3, policymakers from Africa tell us about their countries' successes and challenges with integrated approaches to development policy, planning and budgeting for sustainable development, covering national, sectoral and local levels. The experience highlights several simple and practical tools to modify budget and planning processes in several countries and showcases how African countries have used them to make the case for investments in climate change and environmental sustainability for poverty reduction. These promising case studies can inform the scaling-up and speeding-up of the methodological tools, approaches and many institutional changes needed for sustainable development. The experiences underline how the directions provided by Agenda 2030 and Agenda 2063 can help countries to deliver on national priorities, goals and targets. Yet the SDGs and Agenda 2063 goals will not be fully achieved until they are localized in national and subnational plans and budgets.

## Chapter 4. Prospects and Recommendations

Through the experience of policymakers from five African countries and the Poverty-Environment Initiative, Chapter 4 identifies five key pathways – better evidence, breaking down institutional silos, stakeholder involvement and empowerment, new finance and progress monitoring – that can speed up and scale up integrated and participatory approaches to sustainable development and help achieve the SDGs and Agenda 2063 goals.

**Pathway 1. Better evidence:** This links the three dimensions of sustainable development – economic, social and environmental – and can motivate policymakers to act in today's context where the SDGs are receiving high-level attention. That evidence needs to be produced in an interdisciplinary manner, including through the machinery of government, and to be presented and discussed in ways that engage the main target audiences: government decision makers and affected stakeholders, with special emphasis on marginalized groups.

**Pathway 2. Breaking down institutional silos:** Today's complex and multi-level policy challenges demand that historical sector silos be dismantled in favour of a vertically and horizontally integrated approach to policymaking, budgeting, implementation and monitoring that balances the three dimensions of sustainable development. This is an ambitious institutional reform task. Ministries of finance/ planning and ministries of environment should be able to 'reciprocally mainstream' each other's priority issues in their plans and budgets. Sector ministries should be able to take responsibility for integrating poverty and environmental objectives within their sectors. There is a need to enable existing government planning and budgeting processes as well as government staff to better manage the three interconnected dimensions of sustainable development through the application of integrated tools and approaches. The success of tools and approaches pioneered by African countries with the Poverty-Environment Initiative that are discussed in the paper – such as public expenditure reviews and economic studies of environmental stocks and flows – offer some of the 'software' needed to do this.

**Pathway 3. Involvement and empowerment of local actors:**

Stakeholder participation needs much more attention if policy decisions are to improve livelihoods and power local inclusive green economies. Local government, businesses and communities need to be involved in creating the societal demand for poverty and environment to be improved together – complementing the recent more ‘top-down’ policy decisions in favour of this with special provision made for marginalized groups.

**Pathway 4. New finance:** Huge progress has recently been made in creating poverty-environment-friendly plans and budgets. But, if not financed, they will not catalyse sustainable development. Increasing flows of public enabling investment, as well as private commercial investment, are needed into key natural resource sectors in Africa – and success here will encourage community-level investments in sustainable practices. Screening mechanisms, investment codes and investment incentives are needed to influence private investments to be more socially inclusive and environmentally sustainable. Public environmental and climate expenditure reviews and budget codes can be used to make the case for such investments and to hold governments accountable for public investments. Specific proposals are made in the

paper on global environment and climate funds and on national funds that address poverty and environment issues.

**Pathway 5. Progress metrics and monitoring:** Building on the preliminary SDG 2030 indicators, national bureaus of statistics and sector institutions now have a mandate and opportunity to include poverty-environment issues in national monitoring systems – including issues of inclusion, the environmental and social costs and true benefits of economic growth, and natural resource access, use and control. This will be core to monitoring integrated progress. It will need to be supported by broadening current national metrics to more precisely reflect interactions among the economy, the environment and people’s well-being.

We conclude that Burkina Faso, Malawi, Mozambique, Tanzania and Rwanda offer examples of institutions that are better equipped – in terms of capacities, tools, norms, rules and leadership – to put in place key building blocks for new and alternative ways for governments and their partners for ‘doing business’. It is hoped that this paper will help to share their experience within Africa with the increasing numbers of other countries that are ‘aiming high’ in achieving all of the SDGs and Agenda 2063 Goals.



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A local woman hoes a field near Timbuktu, Mali. Soils, forests, fisheries, water and biomass fuels are the principal sources of income and social protection for many men and women living in poverty.

# 1. INTRODUCTION

## 1.1. How poverty and environmental links affect development prospects in Africa

If development entails the growth and management of different kinds of capital, then the fact that natural capital accounts for up to 36 percent of total wealth in less-developed countries is going to be very significant from an economic perspective (Patil, 2012). Moreover, soils, forests, fisheries, water and biomass fuels are the principal sources of income, social protection, employment creation and human capital development for many men and women living in poverty (UNDP-UN Environment PEI, 2015a). In fact, among poor rural households worldwide, these and other non-market goods make up between 50 percent and 90 percent of the total source of livelihood – the so-called ‘GDP of the poor’ (TEEB, 2010).

Livelihoods, poverty reduction efforts and economic growth in Africa are highly dependent on the quality and availability of natural resources, and are thus extremely vulnerable to degradation of those resources and to climate change. Unsustainable use of natural resources, along with climate change, is not only undermining the environment and natural resource base that social benefits depend on, but also costing African countries up to 22 percent of total annual GDP (Table 1). It is therefore not surprising that African governments are increasingly interested in investing in sustainable natural resource use where it can yield high rates of return and help reduce poverty.

For example, in Malawi, the cost of environmental degradation and inefficient natural resource use is more than the national budget allocated to education and health. A one-percent (US\$300,000) increase in public expenditure on the sustainable management of natural resources, such as soil conservation, could, on the other hand, increase GDP by US\$17 million every year (UNDP-UN Environment PEI, 2017). At the same time, addressing the issue of soil erosion

alone in a 10-year period could have lifted 1.88 million people out of poverty through increased agricultural yields (UNDP-UN Environment PEI, 2011a). Such evidence shows that it makes macro-economic sense to invest in sustainable natural resource use and that such investment is essential to ending poverty as well as achieving social goals.

The term ‘poverty-environment-development nexus’ refers to the mutually inclusive linkages among environment, natural resources, human and economic development. The many linkages mean not only that the sustainable use of the environment and natural resources can contribute to achieving development objectives – *but also* that unsustainable use of these resources can make it impossible, especially for the poor, to develop beyond subsistence.

For example, land degradation reduces agricultural productivity and makes it harder to achieve food security and poverty reduction targets and, in turn, poor people become obliged to further overuse land to survive – ‘vicious downward cycles’. Where countries’ economies are heavily dependent on environment and natural resources in this way, the poverty-environment-development nexus deserves a lot more attention than it has received so far. This is especially the case because the ‘vicious cycles’ can ultimately be replaced by a ‘virtuous circle’, such as by investing in soil and water conservation, which can raise agricultural yields and generate income that can pay for environmental management. Doing so in different sectors, localities and livelihood systems is not easy or automatic: it is a major policy challenge that demands leadership and societal determination. The first step is good evidence on the costs and benefits of alternative pathways. The next is to use the evidence to inform policy, planning and budget decisions. This is where the Poverty-Environment Initiative has made major progress in Africa with its national partners. A further step, which countries are now facing, is to ‘rewire’ institutions to deliver on the new intentions.

**TABLE 1. COSTS OF ENVIRONMENTAL AND NATURAL RESOURCE DEGRADATION IN AFRICA ESTIMATED BY THE POVERTY-ENVIRONMENT INITIATIVE**

Country & sources	Cost of environmental and natural resource degradation	Importance
<b>Burkina Faso</b> (UNDP-UN Environment PEI, 2011b)	<ul style="list-style-type: none"> <li>• 18%-22% of GDP</li> <li>• Equivalent to US\$1.7 billion per year</li> </ul>	<ul style="list-style-type: none"> <li>• This loss is equivalent of half of the budget needed to implement the entire national development agenda.</li> <li>• Every 1 CFA franc spent on natural resource and environmental management would prevent more than 2 CFA francs in damages and inefficiencies.</li> </ul>
<b>Mauritania</b> (UNDP-UN Environment PEI, 2008a)	<ul style="list-style-type: none"> <li>• 14% of GDP</li> <li>• US\$192.2 million per year</li> </ul>	<ul style="list-style-type: none"> <li>• The costs could be reduced by integrating environmental sustainability in key sectoral policies (water and sanitation, fisheries, agriculture, forests and mining).</li> </ul>
<b>Mali</b> (UNDP-UN Environment PEI, 2009a)	<ul style="list-style-type: none"> <li>• 21.3% of GDP</li> <li>• Equivalent to US\$1.3 billion</li> </ul>	<ul style="list-style-type: none"> <li>• Investment return rates could be positive for projects designed to tackle these costs.</li> </ul>
<b>Mozambique</b> (UNDP-UN Environment PEI, 2012a)	<ul style="list-style-type: none"> <li>• 17% of GDP</li> <li>• Equivalent to US\$370 million</li> </ul>	<ul style="list-style-type: none"> <li>• The estimated cost to remediate these damages is 9% of GDP, implying a positive rate of return.</li> </ul>
<b>Malawi</b> (UNDP-UN Environment PEI, 2011a and 2016)	<ul style="list-style-type: none"> <li>• 5.3% of GDP</li> <li>• Equivalent to US\$191 million</li> </ul>	<ul style="list-style-type: none"> <li>• Costs are more than GDP allocated to education and health in 2009.</li> <li>• Just a one-percent (US\$300,000) increase in public expenditure on the environment and natural resources can increase GDP by US\$17 million annually.</li> </ul>
<p>In order to inform and facilitate development decision-making in support of pro-poor environmental sustainability, governments have commissioned these type of studies to: 1) determine the contribution of the environment to national wealth; 2) assess the costs of environmental damage and inefficiencies; and 3) demonstrate the contribution of the environment and natural resources to poverty reduction. In Chapters 2 and 3, we look at how decision makers, the media and the public have responded to these astonishing findings and how they are influencing policies and budgets as well as everyday practices.</p> <p>The economic studies cited have in general applied two complementary analytical frameworks, namely, assessing the contribution of the environment to the economy and estimating the costs of environmental damage and inefficiencies at the national level. The analysis of the contribution of the environment to the economy not only quantifies the importance of economic activities that are strongly linked to the environment, but also estimates the value of those contributing to livelihoods. The analysis of the cost of environmental degradation and the cost of inefficiencies aims to quantify the economic consequences of environmental damage, whether man-made or natural, in order to determine the welfare losses caused by the unsustainable use of the environment.</p> <p>Analysing the cost of environmental degradation and the cost of inefficiencies can complement the analysis of the contribution of the environment to the economy by examining the impacts of environmental degradation.</p>		

## 1.2. Ambitious global and African commitments: 2030 Agenda for Sustainable Development and Agenda 2063 – The Africa We Want

The last few years have seen agreement on some very high-level and far-reaching intentions for sustainable development. In 2015, the African Union adopted the 'Agenda 2063 – The Africa We Want'. A few months later,

almost all countries through the UN General Assembly adopted the '2030 Agenda for Sustainable Development'. These are ground-breaking development commitments that bring together the three dimensions of sustainable development – economic growth, social inclusion and environmental sustainability. Both agendas call for radical changes to reduce poverty and inequality and promote human rights while tackling the degradation of environmental and natural resources that undermines

these social goals. The three 'dimensions' are intimately interwoven, requiring an 'integrated, indivisible and transformative approach' to embrace them equally. The new agendas represent a considerable advance from the MDGs partly in response to the lessons learned from implementing the MDGs (UNDP, 2016a).

The 2030 Agenda and Agenda 2063 offer great political opportunities to work together in new ways to achieve sustainable development. The two agendas open the door to political intentions to break down the prevailing silos among people, institutions, knowledge and disciplines within and across government, business and civil society that have constrained the social and environmental benefits of development to date. Countries are now working out how to localize the agendas and their corresponding goals – the SDGs and Agenda 2063 goals – whilst still pursuing their global and regional intentions. An early requirement is to understand how current environment, social and economic goals are linked in local and national contexts. Very often, progress on one goal has been elusive if there was no progress on linked goals. For example, land degradation and climate change (SDGs 13-15/Agenda 2063 Goals 6 & 7) reduce agricultural productivity and make it harder to achieve food security (SDG 2/Agenda 2063 5) and poverty reduction goals (SDG 1/Agenda 2063).

The new agendas embody the contributions of environmental and natural resource sustainability to socially inclusive growth, employment and livelihoods for women and men. Yet the poverty-environment-development nexus, only implied in the 2030 Agenda

and Agenda 2063, has rarely been handled in the policy debates, analysis, planning and budget processes of many countries – or indeed in education, research and business. Achieving the SDGs will therefore require doing things differently: the challenge now is to re-orient institutional priorities and mechanisms to ensure that there is an integrated approach.

Determined implementation of the new agendas also provides a great opportunity to tackle the institutional weaknesses that, for decades, have been seriously inhibiting African countries' efforts to address combined problems of poverty, social exclusion, environmental deterioration and natural resource scarcity. These weaknesses include poor environment and natural resource governance, and inadequate institutional coordination and coherence – between sectors, between national plans and sector and subnational plans and between plans and budgets. Improving policy coherence (a need recognized strongly in SDG 17) can improve social and economic benefits from the environment and natural resources over the long term. Better coordination offers the opportunity to make new gains in effectiveness, efficiency and equity. In practice, however, integration is tough and many governments are already dividing up the SDGs between ministerial and other 'silos' (or they are simply describing what they are already doing within the context of the SDGs rather than changing the way things are actually done).

The needs and capacities of marginalized men and women who suffer environmental hazards and limited access to a productive natural resource base – people

**FIGURE 1. THE SUSTAINABLE DEVELOPMENT GOALS**



**TABLE 2. CONNECTIONS BETWEEN AGENDA 2063 AND THE SDGs**

Agenda 2063 Goals & Priority Areas and Links to the SDGs	
<p><b>1. A high standard of living, quality of life and well-being for all citizens</b></p> <ul style="list-style-type: none"> <li>• Incomes, jobs and decent work</li> <li>• Poverty, inequality and hunger</li> <li>• Social security and protection</li> <li>• Modern, affordable and livable habitats</li> </ul>	
<p><b>2. Well-educated citizens and skills revolution underpinned by science, technology and innovation</b></p> <ul style="list-style-type: none"> <li>• Education and science, technology and innovation-driven skill revolution</li> </ul>	
<p><b>3. Healthy and well-nourished citizens</b></p>	
<p><b>4. Transformed economies</b></p> <ul style="list-style-type: none"> <li>• Sustainable and inclusive growth</li> <li>• STI-driven manufacturing</li> </ul>	
<p><b>5. Modern agriculture for increase productivity</b></p>	
<p><b>6. Blue ocean economy for accelerated economic growth</b></p> <ul style="list-style-type: none"> <li>• Marine resources and energy</li> <li>• Port operations and marine transport</li> </ul>	
<p><b>7. Environmentally sustainable and climate-resilient economies and communities</b></p> <ul style="list-style-type: none"> <li>• Bio-diversity, conservation and sustainable natural resource management</li> <li>• Water security</li> <li>• Climate resilience and natural disaster preparedness</li> </ul>	
<p><b>8. A united Africa</b></p> <ul style="list-style-type: none"> <li>• Frameworks and institutions for a united Africa</li> </ul>	
<p><b>9. Continental financial and monetary institutions established and functional</b></p>	
<p><b>10. World-class Infrastructure criss-crosses Africa</b></p> <ul style="list-style-type: none"> <li>• Communications and infrastructure connectivity</li> </ul>	
<p><b>11. Democratic values, practices, universal principles of human rights, justice and the rule of law entrenched</b></p> <ul style="list-style-type: none"> <li>• Democracy and good governance</li> <li>• Human rights, justice and the rule of law</li> </ul>	
<p><b>12. Capable institutions and transformative leadership in place</b></p> <ul style="list-style-type: none"> <li>• Institutions and leadership</li> <li>• Participatory development and local governance</li> </ul>	
<p><b>13. Peace, security and stability are preserved</b></p>	
<p><b>14. A stable and peaceful Africa</b></p> <ul style="list-style-type: none"> <li>• Institutional structure for AU instruments on peace and security</li> <li>• Defence, security and peace</li> </ul>	



Agenda 2063 Goals & Priority Areas and Links to the SDGs	
<p><b>15. A fully functional and operational APSA</b></p>	
<p><b>16. African cultural renaissance is pre-eminent</b></p> <ul style="list-style-type: none"> <li>• Values and ideas of pan-Africanism</li> <li>• Cultural values and African renaissance</li> <li>• Cultural heritage, creative arts and business</li> </ul>	
<p><b>17. Transformed economies</b></p> <ul style="list-style-type: none"> <li>• Empowerment of women and girls</li> <li>• Violence and discrimination against women and girls</li> </ul>	
<p><b>18. Engaged and empowered youth and children</b></p>	 
<p><b>19. Africa as a major partner in global affairs and peaceful coexistence</b></p>	
<p><b>20. Africa takes full responsibility for financing her development goals</b></p> <ul style="list-style-type: none"> <li>• African capital markets</li> <li>• Fiscal system and public sector revenue</li> </ul>	 

Source: African Union, March 2016.

who have the weakest voice in decision-making – need to be better understood and acted on. We believe that, for the SDGs to engage with development drivers, evidence and guidance are especially needed from the ‘bottom up’, i.e., from local communities and the machinery of local government and business. There is a need to better understand the incentives and disincentives for sustainable development that face local people, from small-holder farmers to decision makers.

Clearer understanding and planning for the poverty-environment-development nexus could help us to break away from ‘vicious downward cycles’ of poverty that drive unsustainable resource use, erode the environmental

Many countries in Africa have already made important gains towards sustainable development

asset base and cause yet more poverty. And it opens up new possibilities of ‘virtuous circles’ where new and traditional technology, access to finance and governance reforms could enable poor people to manage resources more productively and sustainably, improving environmental health and benefits and sustaining many of the public and private benefits envisaged by the 2030 Agenda and Agenda 2063.

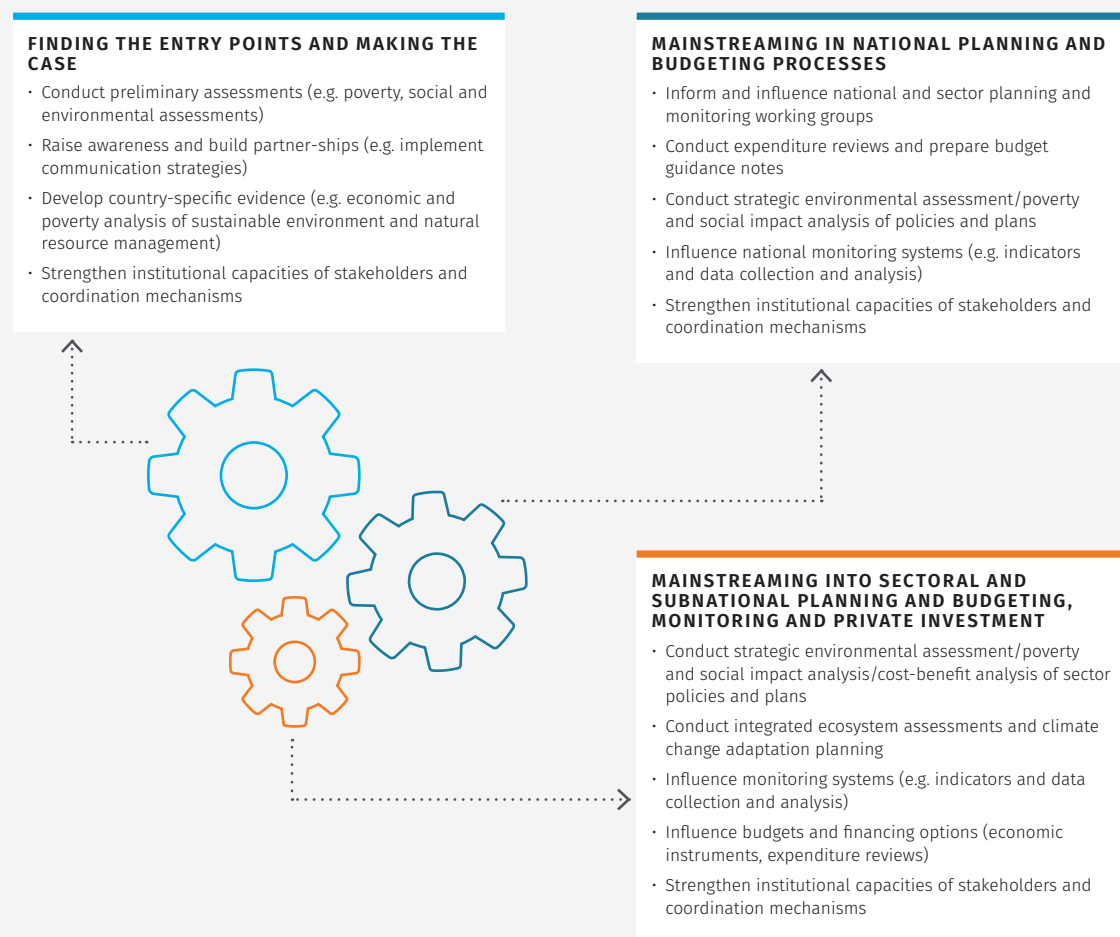
### 1.3. Aim of this paper – Lessons to scale up and speed up sustainable development in Africa

The good news is that the importance of natural capital to Africa’s development and poverty reduction efforts has increasingly been recognized at the highest political levels, that businesses are looking at natural capital potential and risk, that there is increasing innovation to draw on and that there is growing public interest and concern. Africa is now in search of innovative policy and practice in inclusive and sustainable natural resource use, in benefit-sharing mechanisms for poverty reduction, in value-addition and in halting illegality and leakage in environment and natural resource benefit streams (Africa

### TEXT BOX 1. THE UNDP-UN ENVIRONMENT POVERTY-ENVIRONMENT INITIATIVE

The key aim of poverty-environment mainstreaming is to reduce poverty and achieve other development goals through integrating pro-poor environment and natural resource sustainability objectives into the core policies and activities of government – in particular, into national development, sector and subnational planning and budgeting for public and private investments. An example of such an objective would be to increase the percentage of agricultural land covered by a country's soil erosion control programmes from 20 percent to 50 percent.

### FIGURE 2. THE POVERTY-ENVIRONMENT INITIATIVE'S PROGRAMMATIC APPROACH



▶▶ The Poverty-Environment Initiative therefore supports country efforts to integrate poverty-environment linkages into national development planning and budgeting. The Initiative, together with its partner countries, has been recognized as a pioneer in demonstrating the kinds of institutional modalities needed to support countries to localize the SDGs.<sup>1</sup> It has demonstrated how understanding political-economy realities and incentives at the national level, plus empowerment and relationship-building, play key roles in successfully addressing the poverty-environment-development nexus.

To achieve this, the Initiative has also become a pioneer in analysing the complexity of poverty-environment-development issues and their institutional links as well as working out how organizations can collaborate on them. Its innovations are now of high interest for the similarly complex challenge of achieving the environmental, social and economic dimension of the SDGs and Agenda 2063 goals.

The initiative applies a highly flexible programmatic approach to mainstreaming (a simplified illustration of the programmatic approach is provided in Figure 2), offering practitioners a broad choice of activities, tactics, methodologies and tools in a particular country situation. Its approach and the results will be illustrated through various country examples throughout this publication.

The Poverty-Environment Initiative's programmatic approach is in line with the United Nations Development Group's (UNDG) and the UNDP strategy for effective and coherent implementation support of the new sustainable development agenda called 'MAPS' (Mainstreaming, Acceleration, and Policy Support) building on the experiences and lessons learned of the MDG acceleration framework (UNDP, 2016a). The mainstreaming component of MAPS aims to generate awareness amongst all relevant actors, to help governments land the agenda at national and local levels and ultimately to mainstream the agenda into their national plans, strategies and budgets. The acceleration component focuses on helping governments accelerate progress on SDG targets by identifying critical constraints to faster progress and focusing on those development objectives that are more relevant to the country context. The policy support component aims to provide coordinated and pooled policy support to countries working to meet their SDG targets (UNDP, 2016b and UNGD 2016).

Progress Panel, 2015). The potential benefits from the continent's huge natural resource base have yet to be realized, but there is often new political will to turn the development trajectory around.

In fact, many countries in Africa have already made important gains towards breaking down the silos among sectors, stakeholders, hierarchies and disciplines by fostering more coordinated and integrated approaches to development policymaking, planning, monitoring, budgeting and implementation. Several countries have made notable progress since 2005 through their partnership with the Poverty-Environment Initiative of UNDP and UN Environment (Text box 1).

We believe that now is the time to pull together that learning from the Poverty-Environment Initiative and

country partners in Africa. There is much to share with policymakers and development professionals to scale up and speed up achievement of the SDGs. Achievement of the SDGs and Agenda 2063 Goals poses institutional capacity demands and it is here that the experiences of the Poverty-Environment Initiative and its government partners in Africa offer encouraging case studies, lessons and ideas that will build the confidence to adopt integrated approaches.

The cases we describe in this paper cover ways to deal with the linkages in the poverty-environment nexus: linking environment and development institutions; linking local and national institutions; linking knowledge of poverty with knowledge of environment, plus their interactions; building partnerships; and breaking down barriers between disciplines, mandates and objectives.

From these, we propose the factors of success: leadership and societal demand; empowerment; evidence generation; improving commitment; and the policy instruments and integrated process management that help. This puts us in a good position to identify the new opportunities to support implementation of the SDGs and related regional and national goals.

This paper re-affirms and complements the lessons learned from the experience of implementing the MDGs (UNDP 2016a) and the approach and guidance for achieving the SDGs as advocated by the United Nations Development Group (2016), United Nations Development Programme (2016), UN Environment (2015a) and the United Nations Sustainable Development Solutions Network (2015).



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The links among environmental sustainability, economic development and poverty reduction affect most livelihoods in Africa. The more we know about these links, the better we will be able to tackle sustainable development.

## INTRODUCTION



## 2. WEAVING TOGETHER THE THREE DIMENSIONS OF SUSTAINABLE DEVELOPMENT IN NATURAL RESOURCE SECTORS

The links among environmental sustainability, economic development and poverty reduction affect most livelihoods in Africa as well as the major sectors that drive African growth. The more we know about these links, the better we will be able to tackle the connected SDGs and Agenda 2063 goals. National development agendas – which will soon include Agenda 2030 and 2063 priorities – tend to be organized through sector strategies and implemented through their respective budgets and incentives. Recognizing that a majority of people and businesses in sub-Saharan Africa operate through the informal economy (ILO, 2013), the challenge is to routinely obtain resource- and location-specific evidence to answer burning policy questions around resource use, poverty reduction and growth in and across sectors.

SDG 17 (strengthening the means of implementation) and Agenda 2063 Goal 12 rightly call for enhanced access to evidence to understand and respond to the complex sustainability challenges in each sector, with a coherent approach across sectors.<sup>2</sup> This kind of evidence should be generated through interdisciplinary science and economics in ways that better engage with policy and society (UNDESA, 2014). Recent interdisciplinary research in Africa has begun to build a body of concrete evidence of the interconnections, although

such information is project-based and not yet part of the government machinery (e.g., papers from the UK Government's Ecosystem Services for Poverty Alleviation research programme, ESPA).<sup>3</sup> New technologies also offer opportunities for a data revolution where real-time data collection and data quality are improved and made more accessible to people and policymakers at a lower cost (IEAG, 2014). The SDGs are premised on the need for leaving no one behind, which will require data that are disaggregated by a range of social factors, including gender and age. How to obtain this data in diverse local contexts can be a real challenge.

When precise linkages and their causes are understood, policy and practice can become more integrated, innovative and coherent (SDG 17.14 and Agenda 2063 Goals 12, 19-20). The 'design challenge' is to shift poverty-environment linkages from the negative to the positive, i.e., from 'vicious downward cycles' between poverty and environment to 'virtuous circles' of mutual and continuous improvement, as highlighted in the Introduction.

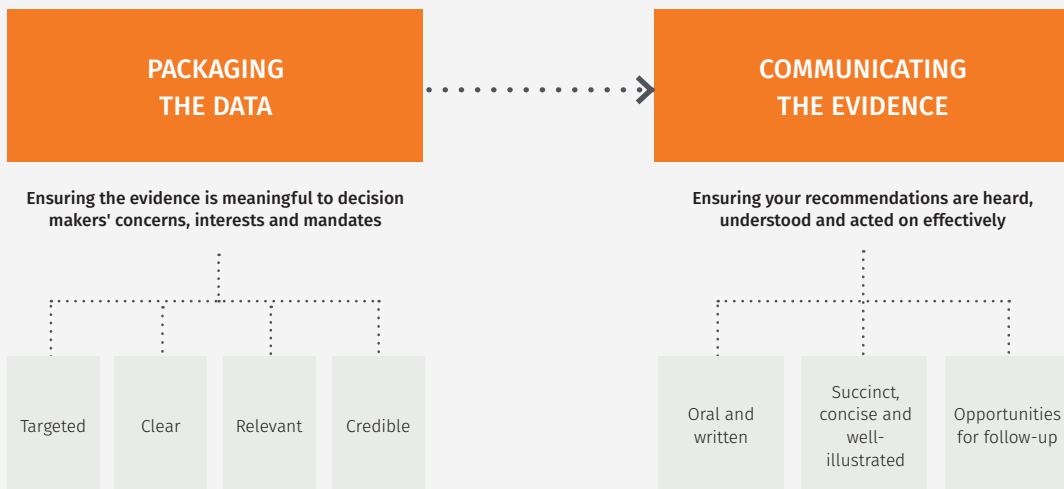
This chapter highlights evidence from the Poverty-Environment Initiative and elsewhere on the linkages among economic, social and environmental dimensions

for a number of sectors important for African livelihoods and growth. We focus on agriculture, fisheries, forestry, energy and extractive industries. In each case, we show how sector goals can be achieved efficiently, sustainably and equitably.

However good the data and evidence are, they will have little impact or influence over decision makers unless they are packaged carefully and communicated effectively. The effect on policymaking will greatly depend on evidence being ‘useful, useable and used’ (UNDESA, 2014), i.e., targeted, clear and relevant to decision makers’ concerns, interests and mandates. Credible evidence draws from real-world experiences and data, preferably from the specific national and sector context and from the stakeholders involved, be they corporations or small-holder groups (UNDP-UN Environment PEI, 2009b). Figure 3 illustrates the key points to consider when creating evidence that can influence change.

The experience of the Poverty-Environment Initiative suggests that policymakers and civil society actors are more ready to use evidence that comes from studies that were either requested by them or in which they were engaged. An inclusive and consultative research process creates stakeholder ownership and ensures that findings are contextualized within local realities and policies. A consultative research process may be time-consuming, but it facilitates the acceptance of findings that challenge the current policy discourse or practices. There tends to be a science<sup>4</sup>-policy gap in many developing countries; often, neither national research institutes nor local scientists have been adequately involved in policy debates, their findings and recommendations have not reached policymakers, or they have been ignored. Supporting policymakers to understand and trust science and to use resulting evidence in decision-making can accelerate sustainable development (UNDESA, 2014).

**FIGURE 3. KEY POINTS TO CREATE POLICY-RELEVANT EVIDENCE**



## 2.1. Sustainable, inclusive and climate-smart agriculture – integrated evidence

*In so much of Africa, agriculture is life itself, with over half of the population deriving their livelihoods from it. The need for agriculture in Africa to be sustainable, respectful of gender equality and responsive to changing ecosystems is thus utterly critical.*

Here, we offer evidence from Africa of how ending hunger, achieving food security and promoting sustainable agriculture (i.e., SDG 2/Agenda 2063 Goal 5) depend upon an integrated approach to environmental sustainability, poverty reduction and social equality, and economic growth (SDGs 1, 5, 8, 13 and 15/Agenda 2063 Goals 1, 4, 6 and 7).

**Economic issues:** In Africa, agriculture contributes nearly 14.3 percent of GDP, with agricultural exports valued at more than US\$20 billion per year (FAO, 2014a). Agriculture

can be a key driver for economic development in Africa if productivity is sustainably increased. Labour is not the constraint: 54 percent of Africa's population is engaged in agriculture (FAO, 2014a) and almost half of the agricultural workers in sub-Saharan Africa are women (World Bank, 2014).

**Social issues:** Poor households in Africa tend to disproportionately rely on agriculture. An indication of this is that 90 percent of Africa's rural population has agriculture as its main source of income (AFDB, 2014) and 80 percent of all farms in sub-Saharan Africa are small-holder farms (IFAD, 2011). Yet a high proportion of the population below the poverty line also suffers from food insecurity and undernourishment: 24.8 percent of Africa's population was undernourished in 2011-2013 and stunting among children under five years of age is common (FAO, 2014a). While women form a large proportion of the agriculture labour force, gender-based inequalities in access to and control of productive



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INITIATIVE

When good soil and land management practices have been adopted, positive effects are seen. If soil erosion in Malawi had been significantly reduced and lost agriculture yields due to soil erosion recovered, approximately 1.88 million people would have been lifted out of poverty between 2005 and 2015.



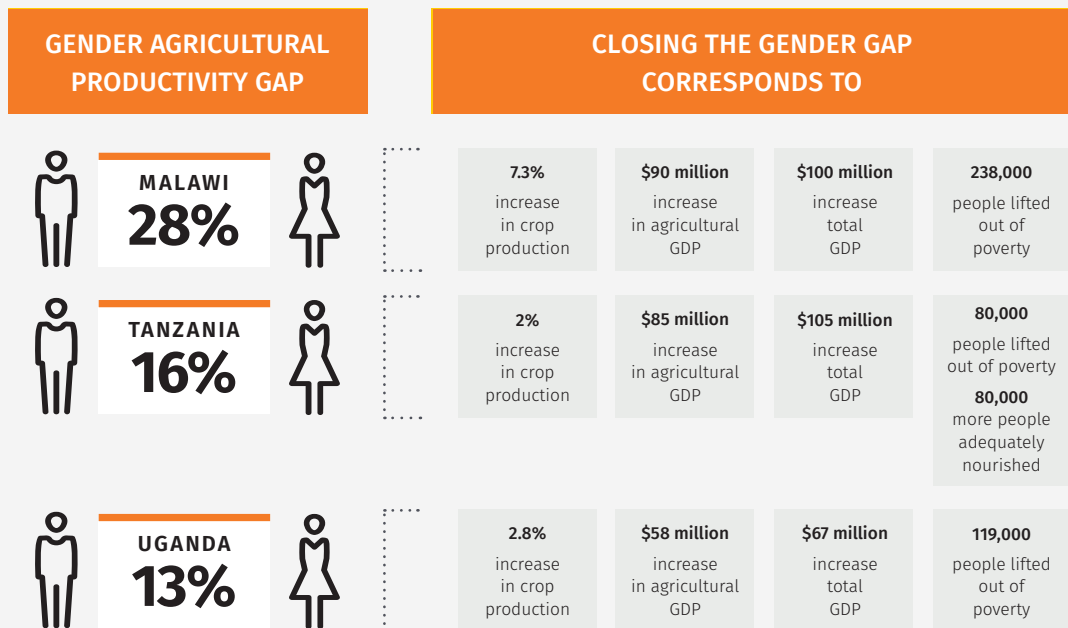
and financial resources inhibit women’s agricultural productivity and exacerbate inequalities (UN Women, UNDP-UN Environment PEI, World Bank, 2015).

**Environmental issues:** 43.6 percent of Africa’s land is dedicated to agriculture (FAO, 2014a). In many African countries, productivity of major crops is significantly below potential due to reduced soil fertility and soil erosion driven by unsustainable and changing land use practices – notably, clearing forests for small-scale agricultural expansion (FAO, 2016a). Agricultural productivity is, in turn, challenged by environmental hazards, especially climatic variability. Additionally, unsustainable and inefficient use of chemical fertilizers and pesticides causes water and land pollution. The agriculture sector can play an important role in climate mitigation and adaptation, but environmentally sustainable and climate-smart approaches to agriculture are not yet mainstream (FAO, 2013).

**How the environmental, economic and social issues interact in agriculture in Africa**

Examining agriculture from an economic, social and environmental lens, as above, indicates that there are some potential tensions and trade-offs: between increasing agricultural productivity and expanding agricultural area and between social goals such as food security and environmental goals. Such tensions and trade-offs tend to be high in the short term and for the individual farmer, as access to knowledge and more sustainable technologies might be difficult to access, costly and aimed primarily at larger producers, while insecure land tenure offers little incentive for long-term investment (FAO, 2010). However, in the long term and at an aggregated level, it becomes clear that vicious cycles of natural resource unsustainability and social inequalities significantly undermine agricultural growth, food security and poverty reduction. There is thus an

**FIGURE 4. COST OF THE GENDER GAP IN AGRICULTURAL PRODUCTIVITY**



Source figure: UN Women, UNDP-UN Environment PEI, World Bank, 2015

## **EVIDENCE CASE 1. LOOKING TO REVERSE SOIL EROSION AND PROMOTE GENDER EQUALITY IN AGRICULTURE? START WITH INTEGRATED EVIDENCE.**

Dopa village in northern Malawi exemplifies the complex relationships between poverty and environmental factors. Crops are the major source of livelihood in the village, but yields are below potential, due partly to soil erosion and corresponding loss in soil fertility. Deforestation on the hills surrounding the village is a related problem. On the one hand, the wood provides an alternative source of income and helps to meet energy needs. On the other hand, deforestation has led to landslides during the rainy season, exacerbating soil erosion and its vicious cycle of reduced productivity, food insecurity, poverty and environmental degradation.

“I believe that the recent Malawi Soil Loss Assessment<sup>5</sup> can inform how we design more sustainable land management interventions to combat soil erosion,” says John Mussa, Director of Land Resources and Conservation Department, from the Ministry of Agriculture and Food Security.<sup>6</sup> Such interventions can help to address soil erosion in places like Dopa village. The updated soil loss baseline is very important, as the Government of Malawi in 2015 temporarily dropped its indicator on soil loss and nutrient use. The indicator was dropped because of insufficient information on baselines and department staff did not have enough capacity to monitor soil loss trends. Low capacity to monitor environmental trends and its poverty and economic implications is a real challenge in many countries across the continent and will be an important barrier to monitoring progress across the SDGs and mapping the linkages between various SDGs.

The 2015 UN Women, Poverty-Environment Initiative, World Bank report on the cost of the gender gap in agricultural productivity has also helped the Government of Malawi to better see the cross-linkages among agriculture, gender equality and the economy. “I see this report as a strong tool to use to inform policy and strategies that can enhance productivity in Malawi. It is also an important tool for us as a ministry to begin to translate the Sustainable Development Goals, and more specifically Goal 1 on eradicating extreme poverty for all people,” said Mr. Allan Chiyembekeza, then-Minister of Agriculture, Irrigation and Water.<sup>7</sup>

Inspired by the integrated evidence, Malawi’s new national agriculture policy (2016) has a strong focus on women’s empowerment and sustainable agriculture. The policy aims to enhance investments in climate-smart agriculture and to strengthen sustainable land, soil and water management, including integrated soil fertility management, irrigation and sustainable use of agrobiodiversity. The policy states, “Closing the gender gap and addressing the socio-economic barriers faced by women and the youth has the potential to boost annual agricultural GDP.” This will be achieved by promoting women’s access to, ownership of and control over productive and financial resources and enhanced opportunities for entrepreneurship and participation in agriculture value addition. These types of policies when implemented will help to achieve the SDGs in an integrated manner.

**The key message** from the Malawi and Rwanda experience is that, when an individual sector – in this case, agriculture – understands how the unsustainable use of the environment has a negative impact on its own sector targets and broader social equality and economic goals, the motivation to adopt an integrated approach to environmental, social and economic development can be high. Practical challenges to do this may still exist, but integrated evidence is a good starting point to motivate action and collaboration.

urgent need to move towards virtuous circles where social inclusion, sustainable land management and climate-smart practices reinforce productivity goals.

**Vicious cycles:** Low productivity levels lead to more intensive land use, perpetuating a vicious cycle of environmental and natural resource degradation and reduced productivity. For example, in Malawi, the

deforestation rate is one of the highest in southern Africa, with the average annual soil loss rate increasing from 20 tonnes per hectare per year in 1992 (World Bank, 1992) to 29 tonnes in 2016 (UNDP-UN Environment PEI and FAO, 2016). This soil loss has reduced agricultural productivity by an estimated 6 percent, with negative impacts on the national economy and food security (UNDP-UN Environment PEI, 2011a). Social factors also have a major impact on productivity levels: in Malawi, Tanzania and Uganda, women-headed farms are found to be 13 percent to 28 percent less productive than those headed by men, which has serious economic and social implications (UN Women, World Bank, UNDP-UN Environment PEI, 2015). In Mali, the inefficient use of energy, plus negative environmental impacts due to the extensive use of chemical fertilizers and pesticides for rice cultivation, are costing the country an annual equivalent of US\$100.7 million. This is 22 percent of the total value added by the sector, or 1 percent of annual GDP (UNDP-UN Environment PEI, 2009a).

**Virtuous circles:** When better soil and land management practices have been adopted, much more positive effects are seen. If soil erosion in Malawi had been significantly reduced and lost agriculture yields due to soil erosion recovered, approximately 1.88 million people would have been lifted out of poverty between 2005 and 2015 (UNDP-UN Environment PEI, 2011a). Closing the gender gap in agricultural productivity, i.e., empowering women farmers to be as productive as men, would further increase crop production between 2 percent and 7.3 percent, enhancing food security in Malawi, Tanzania and Uganda. The estimated gross gains to annual GDP from closing the gender gap are USD\$100 million in Malawi, US\$105 million for Tanzania and USD\$7 million for Uganda. Annually, this could lift as many as 238,000 people out of poverty in Malawi, 119,000 people in Uganda and 80,000 people in Tanzania (UN Women, World Bank, UNDP-UN Environment PEI, 2015). In Mali, shifting to more sustainable rice practices and increasing energy efficiency would render a return of US\$2.4 per dollar invested, making environmental and economic sense (UNDP-UN Environment PEI, 2009a).

### Implications for implementing the SDGs

These findings and experiences clearly demonstrate that reducing hunger and achieving food security are a matter

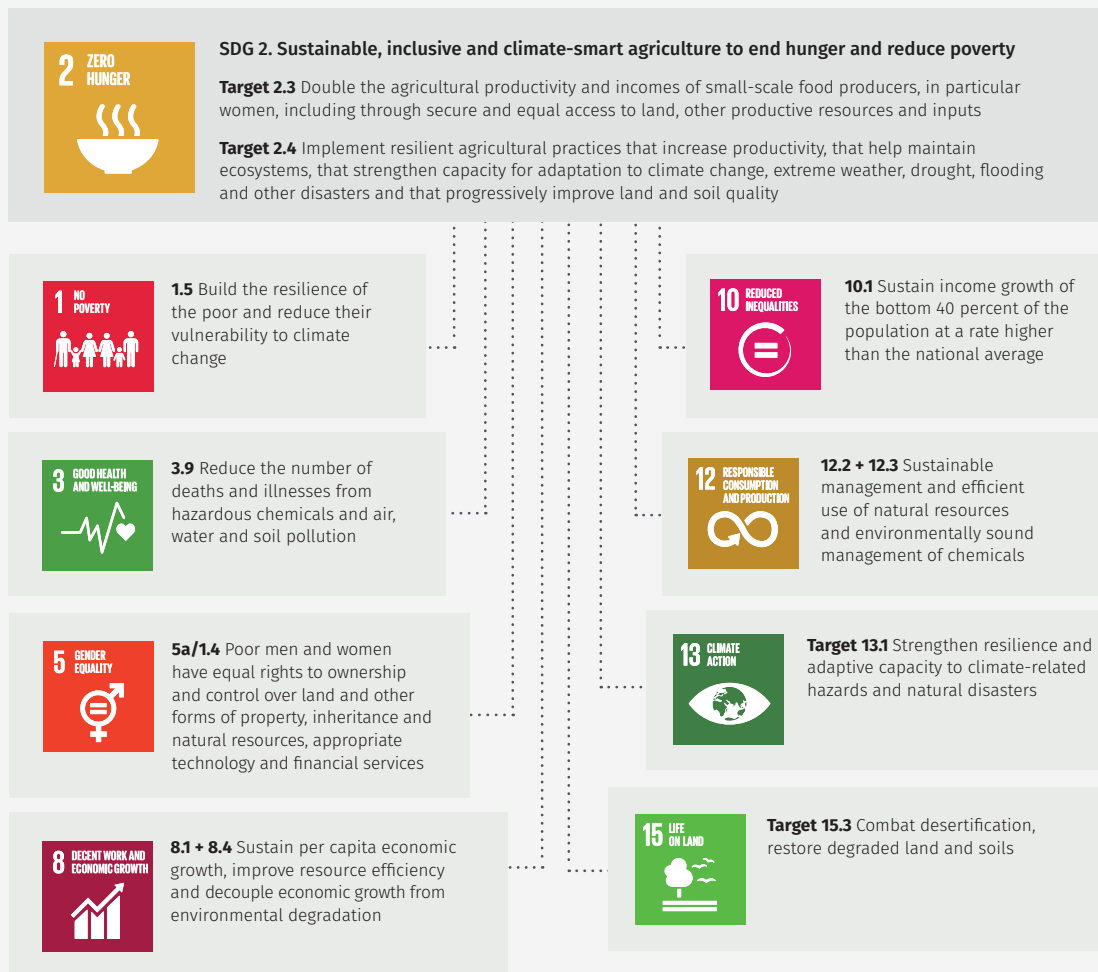
not only of increasing agricultural productivity, but also of ensuring sustainable and productive natural resource management, effective ecosystem functioning and gender equality as laid out in SDG 2/Agenda 2063 Goal 5. It also highlights that, in Africa, an inclusive and sustainable agriculture sector is key to achieving poverty reduction and economic growth. FAO has shown that countries that perform best in reducing poverty and hunger also have achieved higher net investment rates per agricultural worker (FAO, 2014a). A changing climate means that there is a shrinking window of opportunity for action. But climate-smart approaches to agriculture can help to close the poverty and gender gaps and promote societal



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Closing the gender gap in agricultural productivity could increase crop production between 2 percent and 7.3 percent in Malawi, Uganda and Tanzania.

**FIGURE 5. CATALYSING PROGRESS ON THE SDGS THROUGH INCLUSIVE AND SUSTAINABLE AGRICULTURE**



resilience to shocks. This requires foresight, policy change and investment. Such interventions need to be targeted; for agriculture, this especially means targeting women farmers. The integrated evidence helps us to better understand the interconnectedness between

the SDGs and the importance of finding integrated solutions and to balance tensions and trade-offs to achieve optimal progress for a socially inclusive, environmentally sustainable agriculture, as illustrated in Figure 5.

## 2.2. Sustainable forestry, wood fuel energy and poverty – Integrated evidence

Precious forests: once gone, always gone. So how to master the paradox of preserving what so many people constantly use for the basics of life such as work and livelihoods, energy, food and shelter?

Here, we offer evidence from Africa of how sustainable management of all types of forests (SDG 15/Agenda 2063 Goal 7) depends upon an integrated approach with a focus on poverty, equality, energy, economic and climate-related issues (SDGs 1, 5, 7, 8 and 13/Agenda 2063 Goals 1 and 4).

**Economic issues:** Worldwide, around 1.6 billion people depend on forests for their livelihoods (UN Sustainable Development Platform). On average, forests formally contribute 1.8 percent of GDP and 1.9 percent of exports in sub-Saharan Africa (Agrawal, 2011). However, this varies significantly among countries: in Malawi, for example, forest resources contribute to 6.1 percent of the GDP (UNDP-UN Environment PEI, 2011a) and, in some African countries, it contributes from 10 percent to 20 percent (Gondo, 2012). In addition, many forest-related economic activities take place in the informal sector and are hence not accounted for in formal GDP terms. In western Africa, for example, over 4 million women earn about 80 percent of their income from the collection, processing and marketing of oil-rich tree nuts (UN Environment, 2014).

**Social issues:** Across Africa, forests provide jobs, incomes, food and shelter for forest-dependent communities. In southern Ethiopia, forest income keeps one fifth of the population above the poverty line, reducing income inequality some 15 percent (UNDP, 2011). Forest resources are essential for meeting energy needs, with over 600 million people in Africa not having access to modern and clean energy sources. Use of wood fuel for energy is potentially renewable, but is mostly inefficient and toxic, with about 600,000 people in Africa dying each year as a result of indoor air pollution (WHO, 2012; Africa Progress Panel, 2015). Women are mainly responsible for firewood collection and energy production at the household level. The time spent on firewood collection – an average of 2.1 hours per day (Lambe et al., 2015) – keeps women from more productive or educational activities.<sup>8</sup>

**Environmental issues:** The 20 percent of Africa's land that is covered by forest (FAO, 2016a) plays a significant role in mitigating climate change, ensuring healthy

soils for agriculture and reducing the effects of extreme weather events such as floods, droughts and landslides (UN Environment, 2014; UN Sustainable Development Platform, 2017). Deforestation and forest degradation are the second largest human contributor to climate change (IPCCC, 2007) and reduce the benefits that forests provide to people, as described above. Between 1990 and 2015, 33 African countries indicated losses in forest cover. However, positive trends are also emerging: in the same period, 12 countries – Algeria, Cabo Verde, Côte d'Ivoire, Egypt, Gabon, Gambia, Ghana, Lesotho, Morocco, Rwanda, Swaziland and Tunisia – saw an increase in forest cover and another six countries noted no changes (FAO, 2015).

### How the environmental, economic and social issues interact in African forestry

Examining forestry from an economic, social and environmental lens makes it clear how various economic sectors intersect in the forest. The drivers of deforestation are often factors outside of the forest sector itself (OECD, 2016), as in the case of Africa, where agriculture expansion, timber extraction and logging as well as continued dependence on wood fuel for energy are key drivers. A challenge is that, in the short term, unsustainable practices related to timber extraction and agricultural expansion may appear to be more profitable and lead to quick food security gains as compared to more sustainable practices. However, in the long run, forest degradation often turns out to be very costly and socially detrimental, as it degrades ecosystem services underpinning livelihoods and well-being as well as energy and agriculture production. Understanding the co-benefits of sustainable forest management across sectors and how to move from vicious cycles of degradation to virtuous circles of development is essential.

**Vicious cycles:** In Rwanda, an environmental economic analysis showed that the degradation of the Gishwati Forest and the Rugezi wetland increased electricity costs by up to 167 percent per unit. Siltation from soil erosion (which also affects agricultural productivity) and reduced water inflows to the hydropower reservoirs decreased electricity generation; this had a direct cost of US\$65,000 per day when fossil fuel-generated electricity was needed to replace hydro-electricity.

In Tanzania and Malawi, deforestation has significant negative impacts on the national economy and

## EVIDENCE CASE 2. WOMEN IN BURKINA FASO AND TANZANIA LEAD ON SUSTAINABLE FORESTRY AND ENERGY PRACTICES

The Yanta Union in Bobo Dioulasso promotes the social and economic advancement of women and has 940 members, most of whom are refugees or widows. The women used to earn their livelihoods from cutting and selling wood for fuel, which contributed to deforestation and desertification.

After forming the Union with the support of several organizations, the women became more aware of the negative effects of cutting the forest. To change their practices, Union members participated in a capacity-building programme for generating income from processing non-timber products like cashew nuts.

*"Before, I went into the forest to cut wood to be able to buy supplies for my children. Now I work with hulling cashews and my life conditions have changed. Now I can pay for school fees and clothes for my children,"* says Ms. Elisianne, a member of the Union.<sup>9</sup>

Local leaders have also taken action. Ms. Assita Ouattara, Member of Parliament, launched a reforestation campaign in Bobo Dioulasso together with Bishop Sanou in 2013. *"If women are not involved, we cannot have a sustainable and equitable development. Women have roles to play in sustainable development [... and their] traditional knowledge should be valued,"*<sup>10</sup> explains Ouattara, emphasizing the important role of women for sustainable development.

In Sengerema district in Northern Tanzania and in many other places (see institutional case 6), more efficient and environmentally friendly cooking options have empowered women and reduced pressure on the forest. In Sengerema, the installation of biogas plants and modern cook stoves has brought significant changes. The biogas plants run on animal and human waste, providing energy for cooking, heating and lighting. The women have seen their health improve, with eye infections and coughs caused by conventional cook stoves' smoke disappearing.

Women and girls say the stoves save them more than three hours a day that they used to spend gathering fuel wood, which they can now devote to income-generating activities, such as agriculture, or to community work, recreation and going to school. The reason for this was partly due to a surprising change in gender roles, too, because the new devices made cooking easier. *"Boys are now participating in cooking, unlike in the past, which has given me ample time to participate in women group initiatives,"*<sup>11</sup> said 60-year-old Bibi from Nyampande village.

The by-product from the biogas, bio-slurry, is in turn applied to the fields, increasing soil fertility and agricultural outputs and decreasing the application of chemical fertilizers. *"I use the waste from the biogas to grow crops around the homesteads, which has led to increased agricultural productivity and enhanced income generation"*<sup>12</sup>, says Maama, an elderly lady from Nyampande village.

This is good news for the environment and boosts food security and income for poor households. Recognizing the positive impacts of renewable energy, the country's new National Five-Year Development Plan (NFYDP II) aims to promote renewable green energy technologies, including biogas.

These inspiring examples show how poverty and economic opportunities are intrinsically linked to natural resources and how unsustainable patterns can be reversed. The key message is the importance of involving marginalized groups in natural resource management – in this case, women – and of valuing their traditional knowledge in order to find sustainable pathways.



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In western Africa over 4 million women earn about 80 percent of their income from the collection, processing and marketing of oil-rich tree nuts.

**FIGURE 6. FORESTS-POVERTY-ENERGY**

## AFRICA

**1.6 billion**  
people depend  
on forests for their  
livelihoods worldwide

**TOXIC WOOD FUEL**  
**600,000**  
people in Africa dying  
each year



**FOREST INCOME**  
Forests contribute to 1.8 percent of Africa's GDP and, worldwide, 1.6 billion people depend on forests for their livelihoods.



**CLEAN ENERGY SOURCES**  
600 million people in Africa do not have access to clean energy sources.



**WOOD FUEL**  
Use of wood fuel for energy is mostly inefficient and toxic, with about 600,000 people in Africa dying each year from indoor air pollution.

## RWANDA

**ELECTRICITY COSTS**  
**↑ 167%**  
per unit cost

**DECREASED ELECTRICITY GENERATION**  
**\$65,000**  
per day



**FOREST DEGRADATION**  
In Rwanda, the degradation of the Gishwati Forest and the Rugezi wetland caused electricity costs to increase by up to 167 percent per unit cost.



**SOIL EROSION**  
Siltation from soil erosion and reduced water inflows to the hydropower reservoirs decreased hydro-electricity generation, which had to be replaced with expensive fossil fuel-generated electricity.  
Rehabilitation of the forest and wetland restored energy production and promoted income generation.

## MALAWI

**LOSS OF FOREST**  
**↓ US\$24 million**  
loss in national income  
per year

**18%**  
**OF HOUSEHOLD INCOME COMES FROM THE FOREST PRODUCTS**



**LOSS OF FOREST / LOSS IN NATIONAL INCOME**  
In Malawi, a 1% (317 sq km) loss of forest cover translates into a loss in national income of nearly US\$24 million per year.



**RURAL AND PERI-URBAN HOUSEHOLDS**  
For rural and peri-urban households in Malawi, 18% of the income comes from the sale of environmental products that are mostly derived from the forest (charcoal, fuelwood, wild honey, fruits and mushrooms, amongst others).

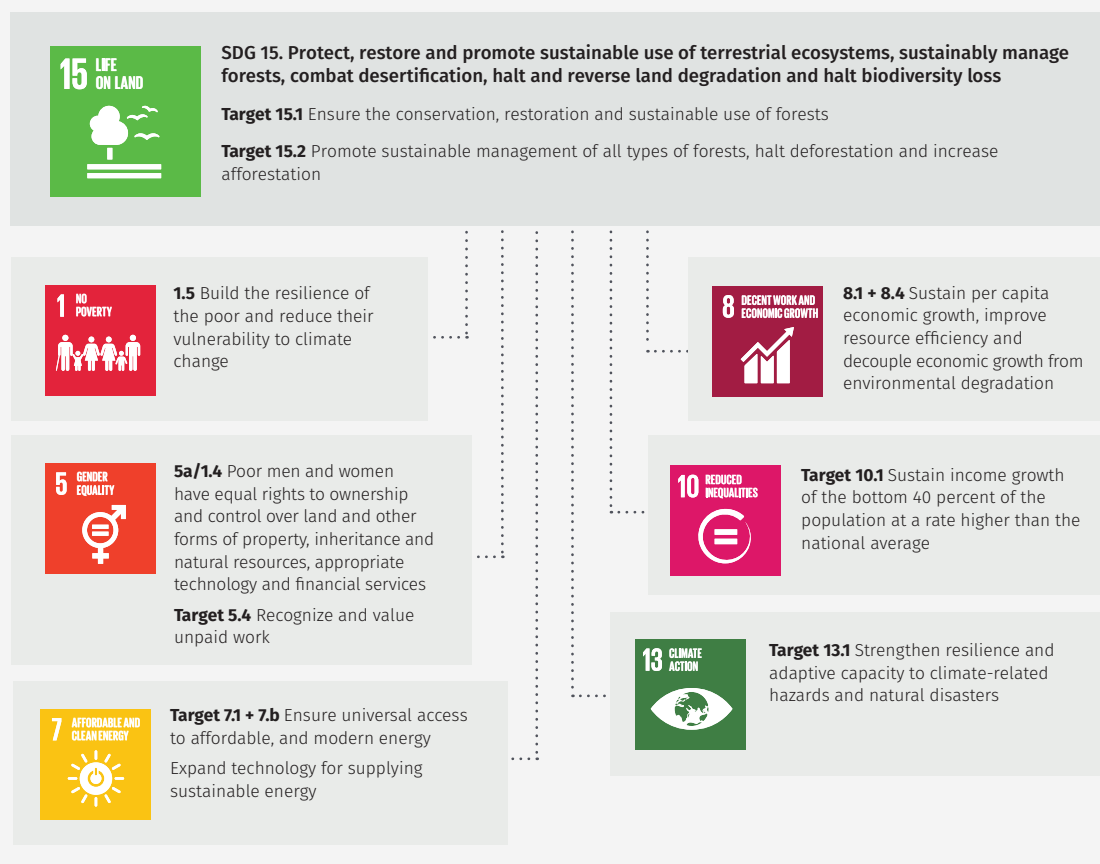
Source figure: UN Sustainable Development Platform; WHO, 2012; Agrawal, 2011; Africa Progress Panel, 2015; UNDP-UN Environment PEI, 2006; UNDP-UN Environment PEI, 2016

livelihoods. Scenario analysis shows that net losses from deforestation to the Tanzanian economy in the period 2013–2033 amount to US\$3.5 billion at current deforestation rates (UNEP, 2015). Similarly, in Malawi, a one-percent (317 sq. km) loss of forest cover translates into a loss in national income of nearly US\$24 million per year (UNDP-UN Environment PEI, 2016).

**Virtuous circles:** Informed by the environmental economic analysis, Rwanda’s Environment Management Authority rehabilitated the wetland. “Rehabilitation efforts restored water levels and power levels to original power production,” explains the coordinator for Rwanda’s Green Fund, Mr. Alex Mulisa. Alongside wetland rehabilitation, a large-scale programme resettled farmers and introduced

more sustainable farming techniques and other income-generating activities. This case has also influenced other national policies, such as those on energy and agriculture, to integrate more sustainable environmental practices, including sustainable watershed management. The economic analysis was “essential in order to understand not only the relationship between economic development and the environment, but also for individual sectors to understand how unsustainable use of the environment can have a negative influence on their own sector’s targets,” explains a Rwandan government representative. In Tanzania, investments in the forestry sector have been estimated to lead to comparatively higher income for rural populations than the same investments in the agricultural sector (UNEP, 2015). The reason for this is that rural populations derive significant

**FIGURE 7. CATALYSING PROGRESS ON THE SDGS THROUGH INCLUSIVE AND SUSTAINABLE FORESTRY**





proportions of their income from the forest: in Malawi, for example, 18 percent of rural and peri-urban household income comes from the sale of environmental products mainly from the forest (charcoal, fuelwood, wild honey, fruits and mushrooms, amongst others) (PEI, 2016). Hence, investments in sustainable forestry will also be beneficial from the perspective of poverty alleviation and the economy.

### Implications for implementing the SDGs

The evidence shows that forests are an important contributor to national economies, are a source for local energy generation and provide important livelihood opportunities for the poor. Sustainable management of forests can thus sustain livelihoods of the poor and protect hydro-electricity generation while producing wider public benefits. If sustainable energy can be

provided for all, the pressure on forests for wood fuel and deforestation can be reduced; this, in turn, will help to mitigate climate change. At the same time, women's unpaid work related to wood collection can be reduced, allowing for women's wider participation in productive work. If agricultural expansion takes place at the expense of forests, agricultural productivity will in the long term be undermined due to reduced soil fertility and climatic variations. Similarly, quick economic gains from timber production and logging risk undermining local livelihoods derived from forest products and forest ecosystems. The integrated evidence helps us to better understand the interconnectedness among the SDGs and the importance of finding integrated solutions and balance tensions and trade-offs to achieve optimal progress for pro-poor, socially inclusive and environmentally sustainable forestry and energy use, as illustrated in Figure 7.

#### **TEXT BOX 2. INTEGRATED EVIDENCE CATCHES THE EYE OF THE MEDIA AND HELPS TO RAISE AWARENESS AMONG PARLIAMENTARIANS**

Through the strategic dissemination of findings from an environmental economic valuation (UNDP-UN Environment PEI, 2011b) showing that the cost of environmental degradation ranged from 18 percent to 22 percent of GDP, pro-poor environmental sustainability was put high on the political and public agendas in Burkina Faso.

The issues have been discussed in one of the most-watched TV programmes in Burkina Faso, *Eco Finance*, and highlighted in media. Public figures including politicians, journalists, artists, religious leaders, traditional chiefs, activists and academics are now spreading the message and significantly influencing development pathways. A parliamentary network on environment, biodiversity, green-economy and climate change has also been established. The parliamentary network uses the findings from studies bringing environment, economic and social issues together and has, for example, examined the social responsibility of mining companies (see section 2.4).

In Malawi, national media have picked up on the integrated evidence described in this chapter, with headlines such as: "Malawi loses billions to poor environment use", "Gender gaps cost Malawi K64 Bn yearly", "[Malawi loses millions in unsustainable fisheries](#)",<sup>13</sup> "Fishing empowers communities"<sup>14</sup> and "[What is the government's main environment agenda?](#)". The findings from the studies have further been highlighted in TV and radio programmes on Malawi Broadcasting Corporation Television and community radio stations.

The interest of the media has contributed to the emergence of an increasingly vibrant civil society, with some 20 civil society organizations and 12 local chiefs that advocate for pro-poor environmental sustainability, pressuring policymakers to take action. Presentation of the integrated evidence to the Parliamentary Committee on Environment and Climate Change Management has further spurred the committee to press for the approval of four new sectoral policies (agriculture, forestry, fisheries and climate) with enhanced poverty-environment linkages to promote sustainable development.

As demonstrated, integrated evidence is a good basis to engage various stakeholders – from local communities to civil society and the private sector to parliamentarians – in dialogue about the poverty-environment nexus to ensure that the national debate and policies hear the voices of all citizens.

### 2.3. Sustainable fisheries and poverty reduction – Integrated evidence

*The vast and magnificent seas, so generously giving of life and once seemingly endless, have begun to groan and creak under the ever-accumulating weight of human demands, revealing the fragile unity of the natural and human worlds.*

Here, we offer African evidence of how the sustainable use of the oceans, seas and marine resources (SDG 14/Agenda 2063 Goal 6) depends upon an integrated approach, with a focus on poverty, equality, economic and climate goals (SDGs 1, 5, 8 and 13/Goals 1 and 4).

**Economic issues:** Fisheries and aquaculture directly contribute US\$24 billion to the African economy, representing 1.3 percent of the total African GDP (World Bank, n.d.a). However, this varies greatly among countries depending on the geographical location. For example, in coastal countries such as Libya, Madagascar, Mauritania and Sierra Leone, fisheries contribute between 7 percent and 12 percent of GDP; in 11 other countries with access to oceans or lakes, the contribution is above 3 percent (FAO, n.d.). Fishery exports in Africa are valued at around US\$5 billion per year (FAO, 2014b) and represent a significant source of foreign currency earnings. Playing an important role in income generation and employment, the fisheries sector engages 5.6 million Africans, one fourth of whom are women (FAO, 2016b & 2014b).

In Malawi fisheries contribute 4 percent to GDP, generate livelihoods for 2 million Malawians and provide up to 40 percent of the protein consumed in the whole country.

**Social issues:** Poor people who live in coastal areas, lake regions and along rivers tend to depend on fisheries for their livelihoods. A significant proportion of fish catches in Africa is for subsistence and is thus crucial for food security (Ronnback, 1999). About 20 percent of animal protein intake comes from fish in developing countries (FAO, 2016b), with some African populations, like Malawians, getting up to 40 percent of their protein intake from fish (UNDP-UN Environment PEI, 2011a). Poor fishermen's limited access to infrastructure in Africa, combined with tropical temperatures, results in a deterioration of the quality of the fish, along with post-harvest losses of 20 percent to 25 percent – even up to 50 percent (FAO, 2016b). Post-harvest losses among poor fishermen seriously undermine food security and income opportunities. While women make up a significant part of the work force in the sector, their work there is often low or unpaid (FAO, 2016b). Furthermore, as fish become scarce locally and prices rise, women fish traders in some African countries (e.g., Zambia, Sierra Leone and Kenya) have turned to transactional sex to bridge the scarcity gap. As a result, women in fishing communities frequently have higher rates of HIV infection than men (UN Environment, 2016).

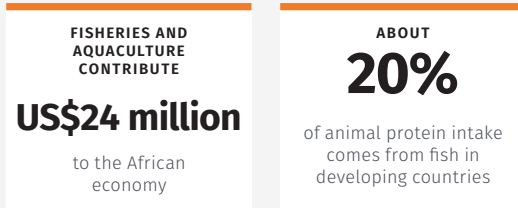
**Environmental issues:** Oceans, seas and coastal areas cover more than two thirds of the earth's surface. In some of the major fishing countries in Africa, inland catches are being reduced due to pollution, environmental degradation and overfishing (FAO, 2016b). Mangroves provide important ecosystem services, including nutrient recycling and shelter for marine life, but the degradation of mangroves and of other marine and coastal landscapes reduces the quality of the ecosystem services, undermining the long-term sustainability of fisheries. The pressures of overfishing in some countries, such as Malawi, are exacerbated by shorter rainy seasons as a result of climate change. This makes the level of water in lakes drop and disrupts fish breeding and nursery sites.

#### How environmental, economic and social issues interact in African fisheries

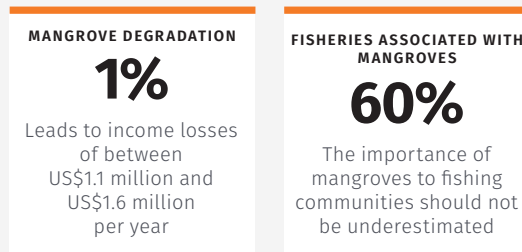
While livelihoods, food security and significant parts of the economy in ocean and lake countries depend upon fish catches, the depletion of fish stocks caused by overfishing and the degradation of ecosystems undermine these benefits. Short-term economic interest, pressing food security needs and illicit fishing threaten the long-

**FIGURE 8. SUSTAINABLE FISHERIES AND POVERTY**

## AFRICA



## MOZAMBIQUE



Source figure: World Bank, n.d; FAO 2016a & 2014b; UNDP-UN Environment PEI, 2012a.

term sustainability of the sector (FAO, 2016b). These tensions and trade-offs between quick gains and long-term wins need to be overcome. The economic benefits from sustainable management of fisheries and related ecosystems need to increase and regulatory systems need

to be strengthened (FAO, 2016b) to turn vicious cycles into virtuous circles. As a starting point, it is important to underline the interlinkages among environmentally, socially and economically sustainable fisheries to motivate action in the first place.

### **EVIDENCE CASE 3. RIDING A HIGHER TIDE: MALAWI'S FISHERIES SECTOR GUIDED BY THE LIGHT OF INTEGRATED ENVIRONMENTAL, SOCIAL AND ECONOMIC DEVELOPMENT**

From the shoreline of Malawi's great lakes each evening, you can see lights flickering on the lake surface as fishermen hang lamps to attract fish to their boats. It is from here that the famous 'Chambo' comes, a white bream fish and a much-cherished national dish. As locals say, "You have not visited Malawi until you have tasted Chambo." But, in recent years, fish stocks in Lake Malawi have been declining. Fishermen have been forced to move farther into the deep waters of the lake to find their catch, requiring new equipment that most can ill afford (PEI, 2014).

Maurice Makuwira, who manages extension services in the fisheries sector in Malawi, describes how a study providing integrated evidence on the importance of environmentally sustainable fisheries and other natural resources to GDP and to poverty reduction (PEI, 2011) helped galvanize government and broader stakeholder support. "I've sat in meetings where everyone is referring to the analysis that was done, where they're saying, 'Look at these figures!'" says Mr. Makuwira.

The study showed that fisheries contribute 4 percent to GDP, generate livelihoods for 2 million Malawians and provide up to 40 percent of the protein consumed in the whole country (PEI, 2010). For Maurice, the economic analysis not only demonstrated the macro-economic contribution of fisheries to GDP, but also showed the links between investing in sustainability and reducing poverty. The study has marked a shift in how government institutions and the public understand interconnectedness within environmental, social and economic development.

So, in June 2016, the Government of Malawi adopted a new fisheries and aquaculture policy that takes an integrated approach to fisheries development. The policy highlights decent work as well as an ecosystem approach to fisheries and aquaculture, ensuring that the loss of biodiversity is minimized while communities derive economic and nutritive benefits from the waters. With the implementation of the policy, the government forecasts a revamp in fish consumption, which has declined from 14 kilogrammes per person to 3.8 kilogrammes. At the same time, it "will help lessen harsh impacts of climate change in the sector," explains George Chaponda, Minister of Agriculture, Irrigation and Water Development.<sup>16</sup> "The implementation of these policies will be part of our victory in achieving the Sustainable Development Goals,"<sup>17</sup> says President Peter Mutharika, as it brings together issues of sustainable natural resource use, food security and poverty reduction goals.

The key message from the Malawi experience is that evidence that brings together the three dimensions of sustainable development can help galvanize cross-sector support for integrated policymaking, especially if it recognizes the realities of an informal sector structure and a sector ministry champions it.

**Vicious cycles:** In Mozambique, the contribution of artisanal and subsistence fisheries lies between 1.1 percent and 1.6 percent of GDP (UNDP-UN Environment PEI, 2012a). With about 60 percent of artisanal and subsistence fisheries associated with mangroves, the importance of mangroves to fishing communities is enormous. A 1-percent degradation of mangroves<sup>15</sup> nationally leads to income losses of between US\$1.1 million and US\$1.6 million per year (UNDP-UN Environment PEI, 2012a). Most affected by this degradation are the people living along the coast and relying on subsistence fishing for their livelihoods. At the same time in some countries, e.g., Sierra Leone, mangroves

are degraded by local communities using mangrove wood for smoking or curing the fish to minimize post-harvest losses. The estimated income loss from mangrove degradation for artisanal and subsistence fishermen is \$US150 per hectare per year (UNDP-UN Environment PEI, 2012a).

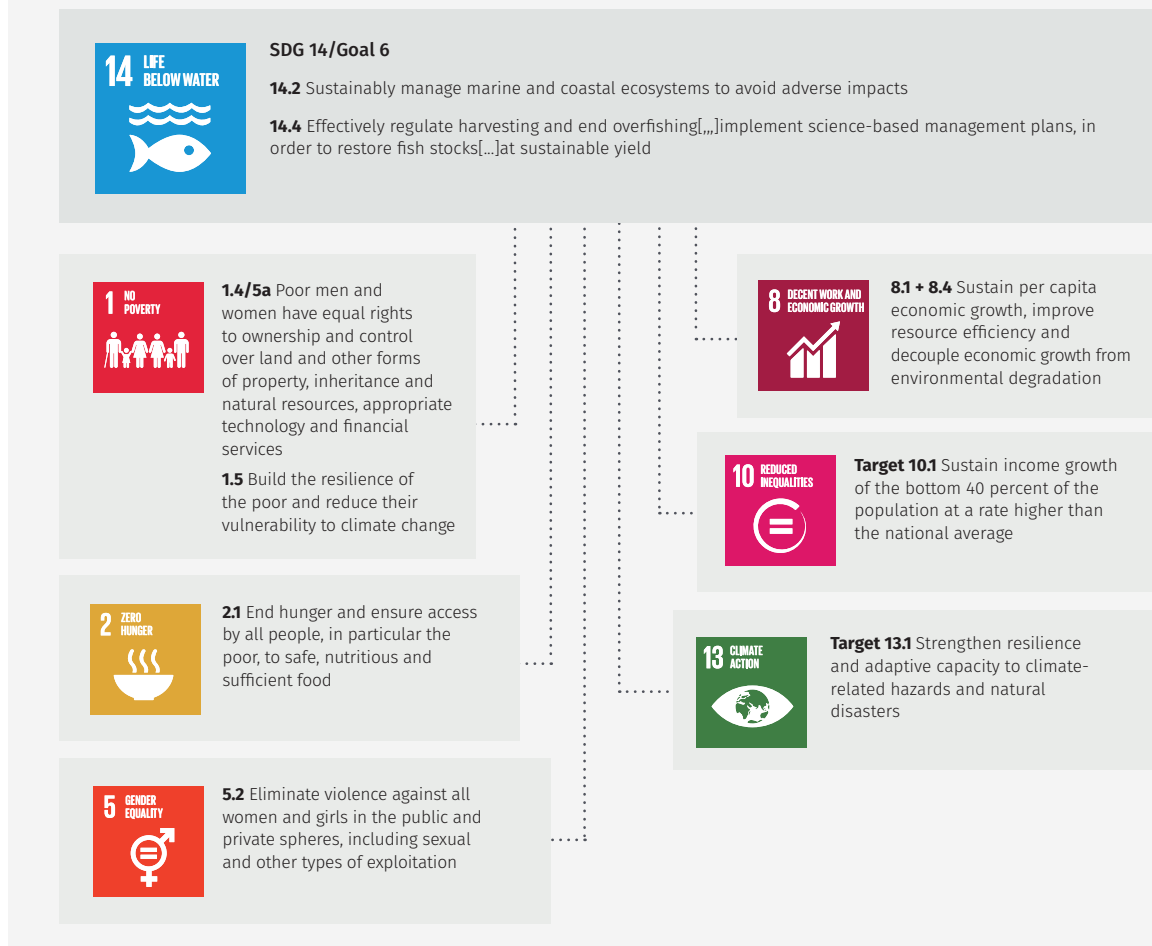
**Virtuous circles:** The need for sustainable management of mangrove areas and fishing habitats in Mozambique is clear. One hectare of mangroves generates fishing incomes of US\$855 per year (UNDP-UN Environment PEI, 2012a) and, as shown above, its degradation affects national and local economies.

Globally, FAO (2016b) estimates that “rebuilding overfished stocks could increase fishery production by 16.5 million tonnes and annual rent by US\$32 billion, which would certainly increase the contribution of marine fisheries to the food security, economies and well-being of the coastal communities.” This would clearly be the case in a country like Mozambique, where 75 percent of the population lives along the coast, 10 percent depends on fishing and at least 350,000 individuals are employed in the sector (UNDP-UN Environment PEI, 2012a).

### Implications for implementing the SDGs

The evidence clearly shows that more sustainable use of the oceans, seas and marine resources in Africa can catalyse progress towards ending poverty and sustainably growing African economies. The evidence also underlines how climate action is essential for healthy oceans and seas that can provide the ecosystem services needed for good fishing stocks. Good governance and policy measures to control illicit and unsustainable practices are essential for this. Figure 9 illustrates the value of this.

**FIGURE 9. CATALYSING PROGRESS ON THE SDGS THROUGH INCLUSIVE AND SUSTAINABLE FISHERIES**



## 2.4. Sustainable production in the extractives sector – Integrated evidence

*Sleeping deep within the earth, Africa's natural treasures – its inheritance – are the envy of the rest of a covetous world. How to uphold respect for human dignity and a delicate environment amidst a rush for individual gain?*

Here, we offer African evidence of how sustainable consumption and production – in the extractives sector (achievement of SDG 12) – are linked to the achievement of goals related to poverty, health, social equality, inclusive and sustainable economic growth and environmental sustainability (SDGs 1, 5, 8, 10, 16 and 15/ Agenda 2063 Goals 1, 4 and 7). Unsustainable production in the extractives sector can undermine progress on social and environmental dimensions of the development agenda. Hence, an integrated approach is needed.

**Economic issues:** Extraction of natural resources, particularly of minerals, gas and oil, contributes around 30 percent of Africa's GDP (AFDB and the African Union, 2009). In 2011, Africa contributed 6.5 percent of the world's mineral exports (KPMG, 2013). Demand for mineral commodities has increased dramatically since the turn of the century. Minerals, gas and oil account for the largest investments on the continent and are expected to contribute US\$30 billion annually to public revenue over the next 20 years (AFDB, 2016). Commercial extractive industries are limited in their capacity to create large-scale formal employment. However, artisanal mining in the informal sector is increasingly widespread in Africa and

creates over 8 million direct jobs and indirectly supports over 45 million people (UNCTAD, 2015). Women make up between 40 percent and 60 percent of the workforce in artisanal and small-scale mining (UN Women, 2015).

**Social issues:** The management of extractive sectors is a major challenge and opportunity for poverty reduction. The exploitation of non-renewable natural resources tends to benefit only a few and has often triggered violent conflicts, worsened gender and other inequalities, displaced communities and undermined democratic governance. Dependence on oil and minerals has been linked with unusually high poverty rates, HIV/AIDS and sexually transmitted diseases linked to prostitution (World Bank, 2009), poor health care and reduced expenditures on education (Pegg, 2003). In contrast, there are plenty of cases where the effective management of natural resources has unleashed sustainable and equitable human development (UNDP, 2012).

**Environmental issues:** Africa is home to about 30 percent of the world's mineral reserves, 10 percent of the world's oil and 8 percent of the world's natural gas (World Bank, n.d.b). If these are not managed properly, the negative environmental impact of extractive industries can be substantial and counteract the benefits derived from the industry. Extractive industries can drive biodiversity loss, land degradation and soil erosion while poisoning water sources and land. In the case of gas, drilling and construction of coastal and seabed infrastructure can displace fish, limit fishing and decrease catch by artisanal fisheries.



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Better management of chemicals in Burkina Faso's mining sector could recover 0.35 percent of the country's annual GDP and reduce health problems for 850,000 people.

#### EVIDENCE CASE 4: TURNING RED FOR GOLD: THE BURIBA RIVER – AND HOW A COMMUNITY FOUGHT BACK

“When the Buriba River, an important local source of water for domestic and agriculture use, turned red and animal mortality rapidly increased, local people suspected that chemical use in gold panning was starting to pose a danger to the environment, the economy and people’s health,” says Mr. Mathias Manti Hien, the former president of Burkina Faso’s Regional Council of the Southwest Region.<sup>18</sup>

Confronted with these changes and presented with integrated evidence, parliamentarians were alerted to the importance of sustainable chemical management. In response, the environmental framework law was strengthened and a manual outlining legal enforcement measures to safeguard people’s livelihoods and health was developed. The parliamentarians opened an inquiry into the social responsibility of mining companies. Local development plans also placed more emphasis on sustainable chemical management and steps are being taken to make the chemical use in the artisanal mining sector more sustainable.

“Our country is provided with immense gold resources, which, in order to operate responsibly, should not use cyanide or mercury,” says Mr. Hien.<sup>19</sup> The findings from the studies have further supported local leaders in their discussions with companies on the control of chemicals. However, convincing the private sector is challenging, as some companies, which do not suffer the consequences of the unsustainable use of chemicals, dispute the findings.

The key message from the story of the Buriba River is that community action, backed by credible and compelling evidence, can greatly influence parliamentarians to push for more sustainable and socially inclusive policymaking. While the evidence has supported local leaders as they open a dialogue with the private sector, it also demonstrates that local communities need government support when they do so.

*Source:* UNDP-UN Environment PEI, 2014a

#### How environmental, economic and social issues interact in African extractives

Covering a spectrum from dirty and exploitative illegal activity on the one side, to low-energy, low-impact and inclusive small businesses that contribute to local economies on the other (IIED, 2016a), it is important to have a holistic approach that considers trade-offs and tensions between the economic, environmental and social dimensions in the extractives sector. There is a real potential to shift towards more holistic approaches through inclusive formalization processes (IIED, 2016a) and decent employment and by involving local firms in the value chains (CCSI, 2016). A better appreciation of how environmental unsustainability in the sector undermines long-term economic and social progress is important, as the case of Burkina Faso demonstrates below.

**Vicious cycles:** Small-scale mining is an important source of livelihoods in Burkina Faso. However, inappropriate use of hazardous chemicals in mining and minerals processing

detrimentally affects the environment and in particular water sources, undermines economic growth and poses health risks. Unsustainable chemical use in the artisanal mining sector is costing the government US\$24.2 million per year. Much of the cost is related to deteriorating human health from contaminated drinking water and from prolonged exposure to chemicals (UNDP-UN Environment PEI, 2011b & 2013b).

**Virtuous circles:** Productive and sustainable mining can generate significant investment in local development, but it needs to avoid negative social and environmental impacts. Better management of chemicals could recover 0.35 percent of Burkina Faso’s annual GDP and reduce health problems for 850,000 people (UNDP-UN Environment PEI, 2011b & 2013b). Turning vicious cycles into virtuous circles requires, among other things, the involvement of women and men from local communities in the negotiations around concession agreements. Involving environmental, social and gender experts to provide impact analyses of proposals is also crucial (UN Environment, UN Women, PBSO and UNDP, 2013).

**FIGURE 10. CATALYSING PROGRESS ON THE SDGs THROUGH SUSTAINABLE PRODUCTION OF EXTRACTIVE RESOURCES**



### Implications for implementing the SDGs

The evidence clearly demonstrates that socially inclusive and environmentally sustainable production in the extractives sector affects future economic returns for governments, private companies and local populations as well as human health and peace and security. The economic importance and potential of the sector in Africa and the challenges currently faced in terms of balancing quick economic returns with environmental sustainability and social inclusiveness makes it an important sector for poverty-environment

development. Shifting from vicious cycles to virtuous circles will require political will and good regulatory frameworks.

The integrated evidence helps us to better understand the interconnectedness between the SDGs and the importance of finding integrated solutions. It also helps us to balance tensions and trade-offs to ensure sustainable production in the extractives sector that will also contribute to poverty reduction and not undermine the natural resource base, as illustrated in Figure 10.



## 2.5. Lessons learned for better evidence

The evidence of the interlinkages among social, economic and environmental dimensions of sustainable development presented in this chapter points to the macro- and micro-economic, social and poverty-reduction benefits of investing in equitable and sustainable use of the environment and natural resources. Such investments are essential to break vicious cycles of poverty and environmental degradation to enhance gender equality, social inclusion and well-being and to generate long-term economic growth. From the experiences presented in the chapter, we draw some important lessons learned about the importance of creating and using good integrated evidence for policymaking.

**Integrated, credible and sector-specific evidence can motivate policymakers to take action.** Sector-specific evidence linking the three dimensions of sustainable development with sector goals and targets is particularly effective. When a sector ministry has concrete evidence about how sustainability in the sector affects macro-economic and social indicators, it can galvanize cross-sector support for integrated policymaking – all the way to powerful ministries of development planning and finance. Similarly, when a key economic sector such as agriculture understands the negative effects of the unsustainable use of natural resources and of gender inequalities on its own sector targets, there is motivation to adopt an integrated approach to policymaking and budgeting. Good evidence will be integrated, targeted, clear, relevant and credible for policymaking.

**Consultative and inclusive research that engages various spheres of society can generate change.** Not all countries apply evidence-based policy: this might be a barrier to achieving the SDGs and Agenda 2063 goals, which are inherently information-intensive and challenging to the status quo. In the experience of the Poverty-Environment Initiative, integrated evidence is more likely to be used for policymaking if it is the result of a consultative process that involves the target audience and in particular government officials. This facilitates the acceptance of evidence even if it challenges current policy discourse and/or practices. Having local practitioners, scientists

and research institutes lead in the policy dialogue can produce credible and relevant evidence and its interpretation for policymaking. Strategic dissemination of evidence through, for example, the media can help to accelerate the use of integrated evidence, as it can engage different stakeholders, from local communities to civil society and the private sector.

### **Embedding evidence-generating tools and integrated analysis in the machinery of government is important.**

The work of the Poverty-Environment Initiative in Africa has proven the value of certain tools in creating integrated evidence that helps policymaking. They include: economic assessments of natural resource use and ecosystems, strategic environmental and social assessments, poverty and social impact assessments, gender gap analysis, public environment and climate expenditure reviews (see Table 5). Regular application of these tools is important – and not only through project-based interventions – so that trends positive and negative can be identified and managed. Staffing capacity and inadequate financial resources will currently be impediments, but can be overcome through partnerships with local research institutes.

Our conclusion is that, if the SDGs and Agenda 2063 Goals are treated together and not in silos, many synergies (or ‘co-benefits’) and efficiencies can result. When linkages and their causes are better understood and the motivation to design policy and practice in more innovative and integrated ways is greater, this reveals ways to shift from ‘vicious downward cycles’ between poverty and environment to ‘virtuous circles’ and continuous improvement. This is true sustainable development – and it is within reach. The challenge is to change institutions – the machinery of government, business and civil society – not only in sectors, but also at more fundamental levels. This calls for agricultural, environmental, gender, poverty and economic experts and ministries to come together to act on the evidence and to find integrated solutions that successfully balance tensions and trade-offs. The institutional opportunities and challenges of an integrated approach to sustainable development are explored in Chapter 3.



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The new development agendas calls on governments to ensure that economic development is inclusive, improves well-being for boys and girls, women and men and is sustained within environmental limits.

# 3. 'WIRING' ORGANIZATIONS TOGETHER AND BREAKING DOWN SILOS

Agenda 2063 – The Africa We Want and the global community's 2030 Agenda for Sustainable Development call on governments to adopt integrated approaches (Text box 3)<sup>20</sup> that will ensure that economic development is inclusive, improves well-being and is sustained within environmental

limits. This can include reconfiguring institutional processes to better promote, coordinate and oversee integrated, cross-sector approaches for achieving the SDGs and Agenda 2063 goals. These approaches will build on what works in country contexts across the whole 'policy cycle' of analysis,

## TEXT BOX 3. WHAT DOES AN 'INTEGRATED APPROACH' LOOK LIKE?

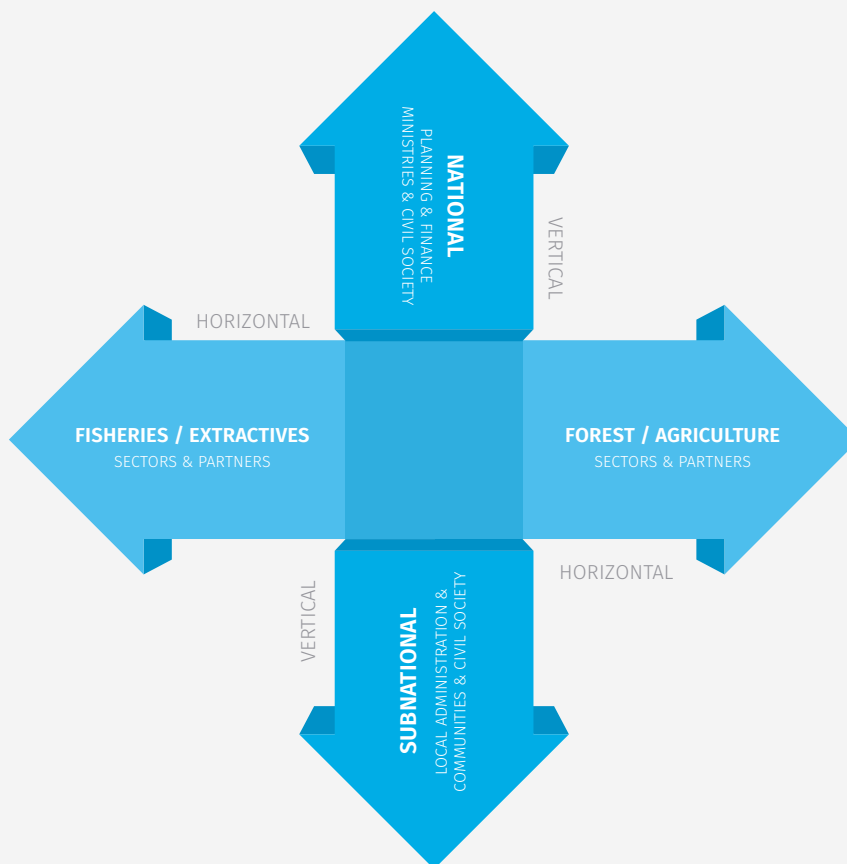
An integrated approach to sustainable development enables countries to understand, assess and make decisions on the interdependent social, economic and environmental dimensions of sustainable development. It does this by bringing together various disciplines and sectors to improve net total benefits to society. An 'upstream' test of integration is policy coherence. A 'downstream' test is improved well-being of people and natural systems.

We can look at the kinds of integration called for by sustainable development in three ways:

- 'Horizontal' integration: Multisector and interdisciplinary processes transcend sectoral silos, facilitate coherent policies and programmes and optimize benefits across sectors or resources
- 'Vertical' integration: Inclusive and multilevel strategies link relevant global, regional, national and local interests, facilitate coherent policies and programmes especially for public goods, facilitate coherence between plans and budgets and optimize benefits across these 'hierarchies'
- 'Stakeholder' integration: Identifying relevant stakeholders and bringing them together – linking capacities, values and motivations in the common pursuit of sustainable development

Too many institutions have been built around separate and ostensibly 'competing' sectors, where, in today's reality, they should be complementing and cooperating. Yet progress towards sustainable development will be very difficult without substantive changes to government institutions and the way they operate. Yet, in every country, elements of the new institutional 'wiring' are often already in place, perhaps informally or at pilot scale, driven variously by invention or necessity. We need to find these and weave them together more robustly, informed by a good analysis of what will deliver the SDGs most effectively, efficiently, equitably and sustainably. This chapter provides practical examples of how countries in Africa have applied integrated approaches.

## VERTICAL AND HORIZONTAL INTEGRATION

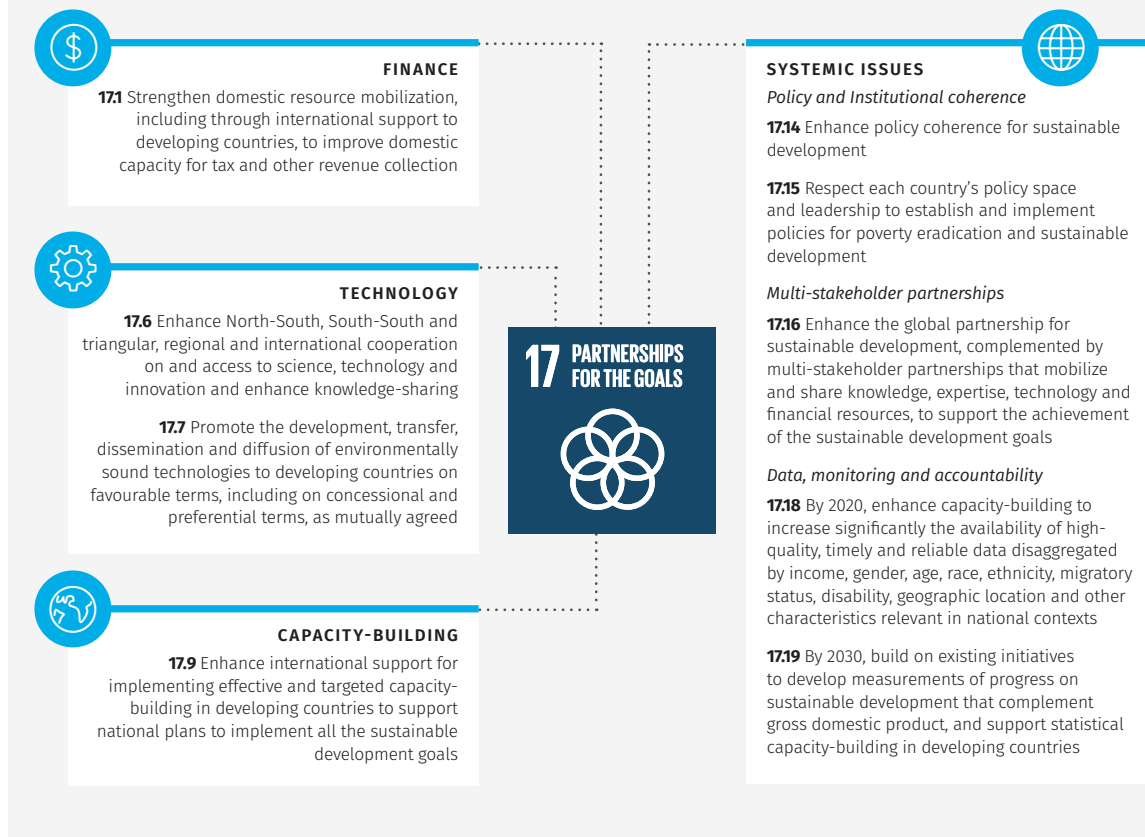


debate, prioritization, planning, budgeting, implementation and review. The new approaches will ensure policy and institutional coherence and cross-government efficiency, as called for under SDG 17 (Figure 11). But they will also need to be transformative: in terms of know-how, new evidence and stakeholder engagement, as emphasized in Chapter 2, and in terms of how resources are deployed.

The Poverty-Environment Initiative's programmatic approach (Text box 1) was built on the observation that central governments tend to be the 'gatekeepers' for enabling change. At their best, they can provide the vision and leadership needed to coordinate their sector institutions and other partners so that routine operations (as well as

special programmes and projects) work together to achieve sustainable development. The Initiative also recognized that engagement at local levels with local government and community groups as well as with the breadth of civil society and private sector (big and small, formal and informal) complements central government's function by generating societal demand for change and for changing economic activity and behaviour. Moreover, interaction among public, business and civil society actors is needed to map and rehearse the kinds of institutions needed in the future.

Besides integration across key sectors and partners (horizontal integration) integration among the national, subnational and local levels (vertical integration) within a

**FIGURE 11. STRENGTHEN THE MEANS OF IMPLEMENTATION AND REVITALIZE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT**

country is also required to achieve the SDGs and Agenda 2063 goals (Text box 3). This makes sure that there are working connections between top-down and bottom-up processes, helping to create a consensus picture of the *status quo* and future needs. But vertical integration is also needed to ensure that decentralization works: improved public financial management and effective delivery of services, resources and public benefits to local people.

A number of African countries have had tangible and measurable successes in applying an integrated and coordinated approach for development policy, planning

and budgeting. In this chapter, we offer seven promising case studies from national, sectoral and local levels that can inform the increasingly urgent need to accelerate sustainable development. They provide perspectives and tools for delivering on the interconnectedness of the SDGs and Agenda 2063 goals, in particular those related to poverty, through those related to environment and natural resource management, to economy and society goals and to institutional strengthening and coordination. They involve several tools and approaches that have broken down silos and supported more integrated and coordinated evidence generation, planning, budgeting and monitoring.

### 3.1. Integrated national development planning

Governments respond to people's development needs by defining priority policies, programmes and projects that support national development plans and budgets. They are implemented by government institutions, usually in collaboration with civil society, private sector institutions and local organizations. The development needs tend to be identified through consultative processes and the knowledge and experience from various stakeholders at local, subnational and national levels. However, engagement with actors in informal sectors is usually inadequate to gain a good understanding of how the sector works in its entirety and what its true potential is.

For many African countries, ministries of planning and/or economic development are the custodians and drivers of national development. To deliver on the 2030 Agenda and Agenda 2063 and achieve their goals, however, most will need to more energetically embrace and apply innovative planning processes that equally integrate economic, environmental and social dimensions within and across all sectors. The central planning ministries should guide sectors and other government institutions (e.g., parastatals, commissions, etc.) and their civil and private sector partners on how to integrate economic, environmental and social variables across sector priorities and plans.

Five-year national development plans, coordinated by ministries of planning (or their equivalents), are usually the core macro-economic planning instruments. They are prepared by groups of technicians who are organized in sector working groups and coordinated by a core secretariat of the ministry responsible for national planning. The plans reflect the priority political economy development objectives of the government at one level and the sector strategies at another level. They normally set macro-level targets for a range of economic and other social indicators. They are the main reference document for prioritizing programmes for inclusion in the national public budget and for which government will seek co-financing from international and private sector partners.

For the many African countries where government leads major development decisions, the cyclical national development plan process is an institutional and robust planning vehicle for achieving the SDGs and Agenda 2063 Goals. As our experience confirms,

it is mandated at high levels; its preparation engages the highest-level professionals and stakeholders and expect it to have bold ambitions. But the political and institutional landscape around it can resist the kinds of major change that might be needed to ensure a more integrated and inclusive approach to sustainable development. However, the Poverty-Environment Initiative has worked with a number of countries to make significant strides towards coherence and coordination of environmental and natural resource sustainability<sup>21</sup> and poverty-linked issues within their five-year national development plans. This has not only strengthened the environmental sector itself – an essential foundation for sustainable development – but also increasingly integrated environmental and natural resource sustainability and poverty reduction across key sectors of the economy. Institutional case 1 shows how social and environmental sustainability has become more mainstreamed into national planning processes in Burkina Faso.

#### **Institutional case 1: Burkina Faso adopts a sustainable development pathway**

**The drivers of change:** Eighty-five percent of Burkina Faso's population depends on natural resources for their livelihood and natural resources contribute 31.5 percent of GDP, fuelling key growth sectors such as mining and agriculture (Government of Burkina Faso, 2011). Yet environmental degradation is widespread, costing the country 21 percent of GDP, equivalent to half of the budget needed to implement the entire national development strategy (UNDP-UN Environment PEI, 2011b). Clearly, how natural resources can be better managed, and used for development, is a top development question for the country.

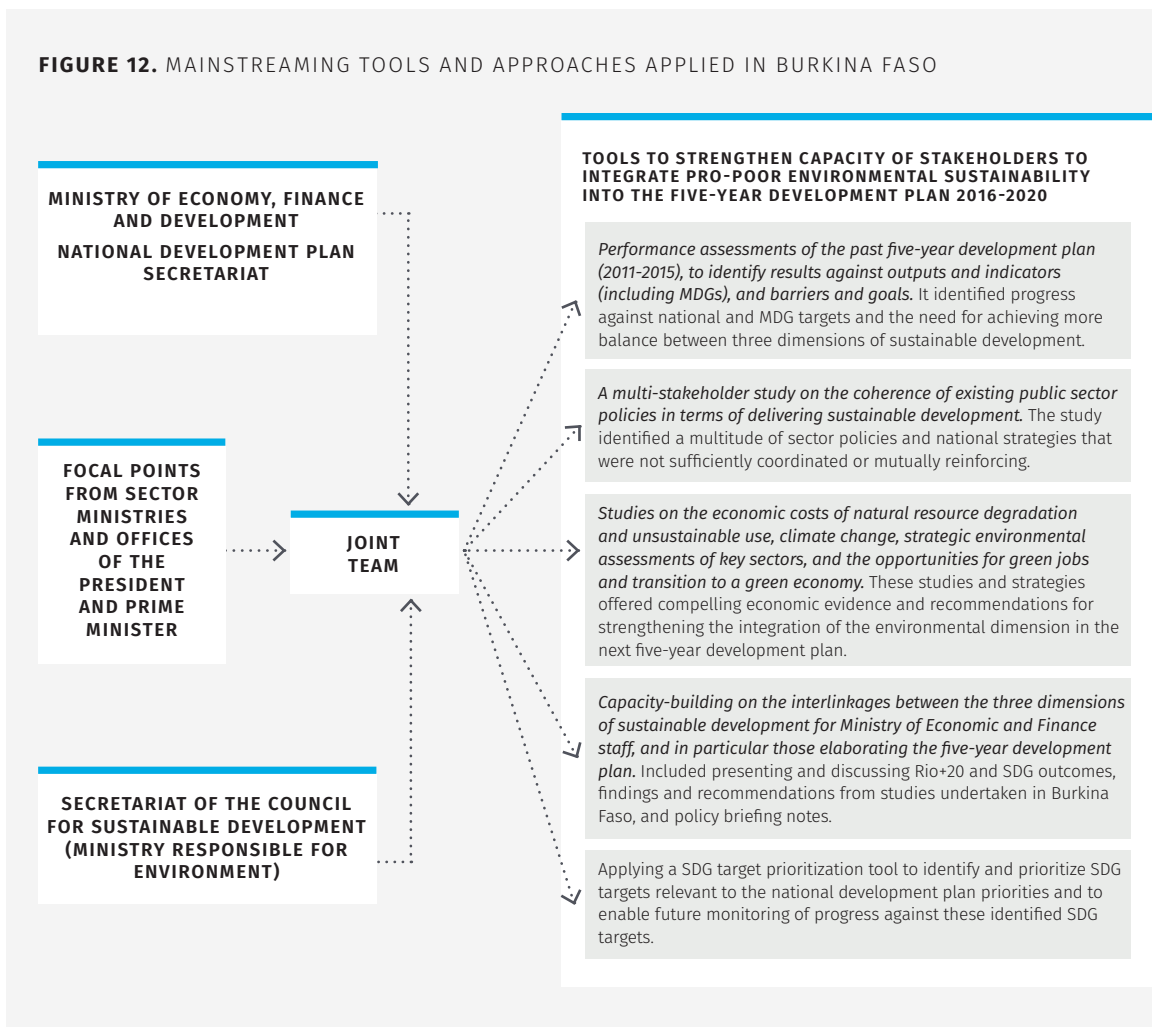
*“The Government of Burkina Faso, having recognized the ‘vicious circle’ linking environmental degradation, poverty, the persistence of social inequalities and high population growth, has resolutely turned in the last two decades towards the quest for a sustainable development. This requires the advancement and strengthening of the three interrelated and mutually reinforcing pillars of economic development, environmental protection and social development,”* explains Mr. Seglaro Abel Some, former Executive Secretary of the Secretariat for the Five-Year Development Plan of the Ministry of Economy and

Finance and now Permanent Secretary of the Ministry of Economy, Finance and Development.<sup>22</sup>

**The institutional tools for change:** Starting in mid-2015, the Secretariat for the Five-Year Development Plan of the Ministry of Economy, Finance and Development, together with the Council for Sustainable Development hosted by the Ministry of Environment Green Economy and Climate Change, used analytical tools and approaches to integrate pro-poor environmental sustainability into the next five-year development plan. Assessment studies and planning tools to better integrate pro-poor environmental

sustainability across the main development priorities were applied to establish development priorities, including priority SDG objectives (see Figure 12). One of the tools consists of a matrix for assessing each of the SDG goals against the criteria of relevance to the socio-economic and environmental context of Burkina Faso and its level of performance in the country’s context. Where an SDG target is judged to be relevant but its performance to date is poor, it is prioritized for action either in the short term or long term.<sup>23</sup> The matrix tool was originally developed by the International Organisation for the Francophonie.

**FIGURE 12. MAINSTREAMING TOOLS AND APPROACHES APPLIED IN BURKINA FASO**



**The results – a more integrated approach:** The new Five-Year Development for Economic and Social Development (PNDES 2016-2022) effectively integrates pro-poor environmental sustainability in its overall vision for Burkina Faso. The plan envisions Burkina Faso “a democratic, unified and united nation, transforming the structure of its economy and achieving a strong and inclusive growth, through patterns of sustainable consumption and production” and in its objective to “reverse the trend of environmental degradation and ensure sustainable management of natural resources”. The plan further puts a strong cross-cutting emphasis on “strengthening environmental governance and integration of the green economy in development policies towards achieving sustainable development”. The top four SDGs identified for Burkina Faso (those goals that scored 75 percent or more using the prioritization tool) were SDG 9 – Industry, Innovation and Infrastructure; SDG 7 – Affordable and Clean

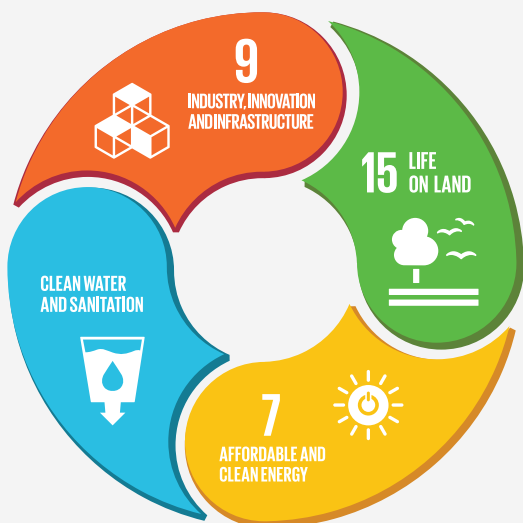
Energy; SDG 6 – Clean Water and Sanitation; and SDG 15 – Environmentally Sustainable Life on land.

**Lessons:** One key ingredient of Burkina Faso’s achievements lies in applying an integrated cross-sectoral approach to sustainable development and high-level political leadership. “The success of [environmental] mainstreaming is due to the good collaboration between the Ministry of Environment and the Ministry of Finance as well as the close collaboration with other key sector ministries such as agriculture and livestock,” explains Mr. Batio Bassiere, Minister for Environment, Green Economy and Climate Change.<sup>24</sup> In the Burkina Faso case, it also sought and encouraged the participation of local authorities, civil society and private sector institutions at all levels in the elaboration of the Five-Year Development Plan.

At a technical working level, the Burkina Faso experience also highlights the importance of providing sustained support and relevant information on environment and development linkages to senior economist and planners. “Our appreciation of environment and development issues has evolved over time as we get good answers to our questions [...]. We are reconciling environmental and economic objectives, prioritizing the well-being of present and future populations. Tools and approaches such as green economy frameworks, environmental economic evidence, and strategic environmental assessments [...] have assisted us in our analysis and decision-making,” observes Mr. Segalaro Abel Some.<sup>25</sup>

Looking forward, successful implementation of the Five-Year Development Plan will be partially dependent on the effectiveness of the three-tiered institutional coordination structure. The coordination structure is comprised of a high-level interministerial committee at national level, a inter-sector technical committee with national and subnational membership, and finally subnational coordination committees led by local authorities. All coordination structures include representatives from the public and private sectors and civil society organizations. A major task for all will be to strengthen the policy and programmatic coherence across sectors and between national and subnational levels to deliver the plan objectives and linked SDGs and targets.

**FIGURE 13.** THE TOP FOUR SDGs IDENTIFIED FOR BURKINA FASO THROUGH THE NATIONAL PRIORITIZATION EXERCISE





### 3.2 Cross-sector coordination for pro-poor environmental mainstreaming

Achieving the many SDGs and Agenda 2063 Goals will require effective and diverse coalitions of the various ministries, civil society and private sector institutions, communities and the public at large. This

will entail changes in practice by decision makers and practitioners to embrace two-way vertical (national to subnational) and horizontal (cross-sectoral) planning and coordination horizons; such an approach would also enable the policy coherence required by SDG target 17.14.

#### TEXT BOX 4. MOZAMBIQUE EXPLORES THE CONNECTIONS BETWEEN NATIONAL PRIORITIES AND KEY SDGS

In April 2015, prior to the adoption of Agenda 2030, Mozambique adopted a new Government Five-Year Development Plan (República de Moçambique *Plano Quinquenal do Governo*, PQG) 2015-2019. The plan focuses on inclusive growth and establishes five priority areas and two main pillars that cut across the economic, social and environmental dimensions of sustainable development:

Mr. Elisio Nhantumbo from the Directorate of Economic and Finance Studies at the Ministry of Economy and Finance explains that the directions provided by Agenda 2030 and the SDGs can help the country to deliver on its national priorities, goals and targets set out in the Five-Year Development Plan.

Seizing the opportunity of a forthcoming mid-term review of the Five-Year Plan, the Directorate of Economic and Finance Studies, in fulfilment of its 'advisory role', is spearheading a cross-sector team to undertake an assessment of how SDGs can be integrated into national priorities (MEF, forthcoming). It is particularly looking at inclusive growth and environmental sustainability, considering the increasing opportunities and risks in natural resources management. Hence, the focus of the assessment is on how the national priority to promote job creation, productivity and competitiveness (priority number 3) that is well aligned with the spirit of SDG 8 – decent work and economic growth, can be achieved in an environmentally sustainable manner (as per national priority area 5 – sustainable and transparent use of the environment and natural resources) - and SDGs 14 – life below water - and 15 – life on land) and to reduce poverty (SDGs 1 – no poverty - and 10 – reduced inequalities). The study will provide a methodology for how the SDGs can be aligned with sector annual economic and social plans and budgets.

To ensure that the assessment is grounded in local realities, a cross-sector team with representatives from the mineral resources, fisheries, forestry, environment and agricultural sectors as well as the Ministry of Economy and Finance visited three provinces (Cabo Delgado, Sofala and Manica) to explore the links between economic development, environmental sustainability and poverty reduction as well as the challenges of applying an integrated approach in the provinces. This approach will help to ensure horizontal and vertical integration of SDGs and related monitoring.

The provincial consultations underlined the need to address issues related to illegal mining, fisheries and forestry if economic growth is to be environmentally sustainable and inclusive. This requires human and financial resources to strengthen oversight capacity in a decentralized context, which might be costly for local governments. It also highlighted how awareness of global development agendas among provincial and district planners varies – and hence the importance of embedding the SDGs and targets within the context of the national development plan and subnational plans and monitoring.

It is envisaged that the assessment will inform the mid-term review of the Five-Year Plan and help key stakeholders to put in place an integrated approach to implement and monitor the Plan and achieve SDGs at national and subnational levels.

**FIGURE 14.** LINKS BETWEEN NATIONAL DEVELOPMENT PRIORITY AREAS AND SDGS IN MOZAMBIQUE

Increasingly, the ministries responsible for environment are not only strengthening their articulation of environmental sustainability as an integral contributor to economic and social development objectives, but are also mobilizing staff to engage with, and influence, key sectors such as agriculture, extractives, land and water, among others. The examples from Malawi and Rwanda on the social and economic costs of soil degradation and gender inequalities on agricultural productivity and energy generation in Chapter 2 illustrate this approach.

In most countries, the ministry of environment has limited financial and human resource capacities and often has

to prioritize protecting key ecosystems and implementing environmental protection policies and regulations. This is the reason for the ministries' growing interest in the complementary tactic of mainstreaming environmental issues into productive sectors – how sustainable environmental and natural resources management can be harnessed to sustain sector economic growth and poverty reduction.

In Malawi, Mozambique and Rwanda, cross-sector partnerships to integrate pro-poor and socially inclusive environmental sustainability into national and sector planning cycles have been put in place. In Malawi, this

has been done through the central guide to executive decision-making; in Rwanda and Mozambique, this has been done by establishing environmental units within sector ministries. These cases are further explored in institutional cases 2 and 3.

### **Institutional case 2: Guide to executive decision-making integrates inclusive and sustainable environment management in Malawi**

The drivers of change: “The Government of Malawi’s understanding of how environmental degradation and climate change lead to floods, dry spells and other natural disasters that negatively impact the natural resources needed to sustain the livelihoods of Malawians, has motivated the Government to take action;”<sup>26</sup> says Ms. Marjorie Chisambo, Malawi’s Director of Cabinet Services. Back in 2006, the Office of the President and Cabinet undertook a review that indicated that Malawi’s policy formulation processes was somewhat haphazard, resulting in policies that were neither thorough, comprehensive, nor mutually supportive. This created

several implementation challenges, including for actions related to environmental sustainability and poverty reduction.

**The institutional tools for change:** In order for Malawi to redress past shortcomings in public policy formulation and to adopt an integrated planning and budgeting process, the Office of the President and Cabinet, in collaboration with the central agencies of Ministry of Finance and Economic Development Planning<sup>27</sup> and the Ministry of Justice and Constitutional Affairs, prepared the *Guide to Executive Decision-Making Handbook* (Office of the President and Cabinet, 2015). The Handbook includes a detailed annex ‘Guidelines for Integrating Environmental Sustainability and Natural Resource Management in Policy-Making and Planning in Malawi’ that shows how decision makers and policymakers can better integrate inclusive and sustainable environmental management into all stages of the public planning cycle.<sup>28</sup>

The *Handbook* is the main reference document for senior managers in public service on government processes



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Members of a farmers' cooperative harvest vegetables in Mauritania. Achieving the many SDGs and Agenda 2063 Goals will require effective and diverse coalitions of the various ministries, civil society and private sector institutions, communities and the public at large.

**TEXT BOX 5. GUIDELINES FOR INTEGRATING ENVIRONMENTAL SUSTAINABILITY AND NATURAL RESOURCE MANAGEMENT INTO MALAWI'S *GUIDE TO EXECUTIVE DECISION-MAKING***

The guidelines for integrating environmental sustainability and natural resource management into policymaking and planning provide guidance on integration into the eight key steps of policy development: (a) identification of issues and policy agenda setting; (b) development of concept papers; (c) review of concept papers; (d) policy analysis, including policy impact assessment; consultations; (e) review of policy analysis document; (f) cabinet decision; (g) policy implementation; and (h) policy monitoring and evaluation.

The guidelines call for: the involvement of the Environmental Affairs Department and civil society in policy development and consultation; institutionalization of strategic environment and economic assessments, including cost and benefits, in policymaking; Cabinet use of the guidelines to review draft policies prior to approval; and allocation of sufficient resources for implementation and environmental audits, among other things.

The guidelines include a practical checklist with 24 questions that can help policymakers to assess the environment and poverty impacts of various policy options. Questions include:

- What are the likely impacts (negative and positive) of the policy option on the environment and natural resource management?
- What are the costs and financial benefits on the natural resources and the environment?
- How will the financial benefits be used for improved livelihoods, environment conservation and management?
- Will the policy affect the gender balance in terms of access, ownership and control over natural resources and benefits realized from them?
- Does the option respect the provisions of the Environmental Management Act?
- Does the option unnecessarily expose the environment to abuse and therefore the need for more controls and enforcement?

and procedures for elaborating a sector or national development policy. Training modules have been developed and included in the Government of Malawi's curricula for policymakers, which should ensure continued use of the *Handbook*.

The results – policy coherence: In 2016, the Ministries/ Departments of Wildlife, Irrigation, Mining and Agriculture used the *Handbook* in formulating their respective sector policies. In turn, the Office of the President used the *Handbook* and in particular the 'Guidelines for Environmental Mainstreaming' to review compliance of the draft forestry, fisheries, climate change and agriculture policies submitted to the Office for approval. This has, for example, helped to ensure a balance between agriculture production, which is key for poverty reduction, and environmental sustainability in the national agriculture policy. "**Integrated sector**

**policies will help Malawi to achieve the SDGs, particularly the SGDs related to energy, climate and sustainable environmental management – SDGs 7 [affordable and clean energy], 13 [climate action], 14 [life below water] and 15 [life on land],"** notes Ms. Chisambo.<sup>29</sup> Malawi's *Guide to Executive Decision-Making* and its inclusion of pro-poor environmental sustainability guidelines offer an opportunity for an integrated, cross-sectoral approach being applied throughout the policy development cycle and during implementation.

**Lessons:** Building on existing processes and resource materials can be more effective than creating new systems. The opportunity to influence and contribute to the main reference document in regular use by senior managers in Malawi's public service and to introduce specialized training modules into the training curricula significantly advanced poverty-environment

mainstreaming efforts. It has already strengthened the capacity of current and future senior officers in applying tools and approaches for integrating pro-poor environmental sustainability within their institutions and programmes. In the future, further efforts to strengthen social inclusion aspects of environmental sustainability guidelines need to be made to ensure a fully integrated approach.

### **Institutional case 3: Institutionalizing environment ‘focal points’ in sector ministries**

In Rwanda and Mozambique, sector ministries have established environmental units with responsibilities to inform and influence the integration of environmental and natural resource sustainability into sector policies, programmes and projects, budgets and monitoring frameworks. The institutions responsible for environment, in collaboration with ministries of planning and finance, have provided a range of integration tools, notably mainstreaming matrices and checklists, that can inform the analysis of the sector in terms of pro-poor and socially inclusive environmental sustainability and identify improvements needed in sector policies, programmes and projects. Adopting such tools and embedding environmental staff in sector ministries have helped to integrate the environmental dimension into key sectors and enable a more integrated and coherent approach (Target 17.14) to achieving the SDGs and Agenda 2063 Goals.

**Drivers of change:** As illustrated in Chapter 2, forest and wetland degradation in Rwanda has led to a number of linked problems related to reduced electricity generation, increased costs and poverty. The valuation of ecosystem services, along with other evidence of how these problems are linked, helped to galvanize support for government to take a more integrated, cross-sectoral approach to its programmes. *“It is the role of institutions like ours, to conduct assessments to bring facts on the table, share the policy recommendations, and advise on how to take proper actions,”*<sup>30</sup> emphasized Dr. Rose Mukankomeje, then-Director-General of Rwanda’s Environment Management Authority (hereafter the Environment Authority).

**The institutional tools for change:** To strengthen the internal capacity of key sector ministries to apply the recommendations for sustainable environment management arising from impact assessments and other

The sector assessments “revealed that remarkable achievements have been made, even if there is still a long way to go. I hope that the recommendations made [...] will prove useful to all those concerned sectors to better plan for further achievements,” says Dr. Rose Mukankomeje.<sup>31</sup>

studies, the Environment Authority, together with support from its partners, deployed environmental graduates as interns in sector ministries. Experiencing the usefulness of the interns within their institutions, Rwanda’s Ministries of Trade and Industry, Infrastructure, Agriculture and the Auditor-General’s Office, among others, recruited their own environmental experts to replace the interns at the end of their mandate. Moreover, in 2015, Rwanda’s national police established an environmental unit to investigate environmental crimes.

The Environment Authority, in collaboration with the sector environmental experts and key ministry staff, conducts annual [sector performance assessments](#) (REMA, 2016 & 2015) that analyse the extent to which sectors and districts have integrated poverty-environment-linked issues into their annual plans and budgets.

**The results – cross-sector coordination:** As a result of these efforts, Rwanda’s Ministries of Agriculture and Trade, Industry and Infrastructure now conduct strategic environmental assessments for their planned sector programmes and environmental impact assessments of projects. Furthermore, they adopt measures in their designs in response to the assessment recommendations.



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Planting the seeds for financing sustainable development through national budgets is crucial to achieve development goals.

For instance, the Ministry of Agriculture has increased soil conservation efforts and expanded crop varieties in support of local farmers and is now looking at achieving a more balanced policy on inorganic and organic fertilizer use as a result of assessment recommendations. The Ministry has established an internal working group on environment and climate change to monitor and review progress of the sector's environment management plan.

**Lessons:** Rwanda's experience of providing graduate environmental interns in sector ministries to help integrate environmental sustainability into sector policies, plans and budgets demonstrates an innovative, affordable and fruitful approach. At one level, it strengthens the capacity of individuals (i.e., interns) to gain professional experience, particularly in practicing integrated cross-sectoral approaches for environment and development. At another level, it strengthens the capacity of the sector ministry to effectively respond to requirements of the Ministry of Finance and Planning and the Environment Authority to apply pro-poor environmental sustainability in the host ministry's policy, planning and budgeting processes. The decision to recruit full-time environment staff to continue the work of the interns after their departure is a clear demonstration by the sector ministry that such technical inputs of an environmental focal point are seen as a worthwhile investment for the ministry. This is clear evidence of the sector ministries' commitment to comply with environmental guidelines and regulations.

### 3.3 Bridging plans and budgets to ensure implementation

Integrating pro-poor and socially inclusive environmental sustainability and/or the SDGs and Agenda 2063 Goals into national development plans and sector strategies can be impotent without the complementary step of securing the necessary financing for their implementation. At country level, an important source of financing is the national public sector budget, prepared by the Ministry of Finance on the basis of anticipated domestic revenues and external financial assistance to the national budget – 'on-budget' contributions. Domestic public resources are central to the achievement of sustainable development and their mobilization and effective use are increasingly a priority, as reflected by the global commitments made in the Addis Ababa Action Agenda for Financing Development (United Nations, 2015).

External 'on-budget' financial contributions can be in the form of international multilateral or bilateral development assistance (grants or loans) and grants from international funds (e.g., the Global Climate Fund, etc.), among others. These on-budget financial contributions are normally either channelled through the country's system of national accounts or through government-sanctioned mechanisms such as sector-wide programmes. The Ministry of Finance typically issues annual Budget Call Circulars to heads of all publicly financed institutions that will: indicate their financial ceiling; set government priorities, as reflected by

the national development plan; and issue instructions on elaborating the annual budget submission. Institutional cases 4 and 5 further explore the experiences of Rwanda and Mozambique in using budget call circulars and budget codes to promote public investments in poverty-, climate- and environment-linked objectives.

#### **Institutional case 4: Using Budget Call Circulars for poverty, climate and environment, Rwanda**

**Drivers of change:** Mr. Jonathan Nzayikorera, Rwanda's Acting Director General for National Budget in the Ministry of Finance and Economic Planning, remarks that environment has been a cross-cutting issue in Rwanda's two successive Five-Year Development Plans (EDPRS I 2008-2012 and EDPRS II 2013-2018). He adds at a personal level that, "as years go by, new information, new ideas and new trends made me understand fully why environment is inseparable from development, with a clear example being the money and jobs that Rwanda gets from gorilla-based tourism."<sup>32</sup>

A mid-term performance review of the development plan for 2008 to 2012, conducted by the Environment Authority, concluded that, for the government to deliver on its future commitments, sector ministries needed to strengthen the inclusion of programmes and projects that address pro-poor environmental sustainability in their annual and three-year rolling medium-term expenditure reviews. The Environment Authority shared its findings with the Ministry of Finance and Economic Planning and

the two agencies jointly elaborated a tool to strengthen the integration of environment and climate in the public sector planning and budgeting processes.

**The Institutional Tools for Integration:** In 2011, the Environment Authority, with the participation of three sectors – agriculture, energy, and trade and industry – developed checklists and guidelines for mainstreaming cross-cutting issues, such as poverty, environment and climate adaptation, into their sectoral planning and budget process. These checklists formed an annex in the Ministry of Finance and Economic Planning's Budget Call Circular for the first time in 2011/2012 and, since then, the annual Budget Call Circular requires all sectors and districts to plan and budget for implementing environmentally sustainable and climate change-resilient programmes and projects (Text box 6).

"Investing in environmental issues is a necessity; if we do not address environmental issues, people will struggle," said Mr. Caleb Rwamuganza, then-Director General-National Budget with Rwanda's Ministry of Finance and Economic Planning 2015. He further emphasized the importance of having tools that are easily used by sector specialists (e.g., budget and planning checklists, and environment and climate change budget statements) and of building capacities of sector and district staff for applying such tools. Having the Ministry of Finance and Economic Planning to lead and guide the process, with support from environmental specialists, was significant in its success.

#### **TEXT BOX 6. RWANDA'S ENVIRONMENT AND CLIMATE CHANGE BUDGET CHECKLIST**

Extract from Rwanda's Guidelines for preparation of budget estimates for the 2015/16 financial year and Medium-Term Expenditure Framework for the period 2015/16–2017/18, issued by the Ministry of Finance and Economic Development, 6 February 2015: "The contribution from prudent use of natural resources, environmental management and climate resilience has immense potential to provide significant benefits from sustainable resource use and management and climate proofing of national economy for improved livelihoods of present and future generations of Rwandans. For the 2015-2016 budget preparation, it is imperative that budget agencies ensure that environment and climate change priorities are appropriately reflected in the budget submissions in accordance with the environment and climate change mainstreaming guidelines provided in Annex 25. Additionally, all new capital-intensive projects will be required to conduct an environmental impact assessment as part of their planning and ensure that budgets are allocated for mitigation measures in the Environmental Management Plan."

**A summary of the checklist is provided in Annex 1.**

**The results – policy and budget coherence:** The continuity of this work is bearing fruit and showing signs of sustainability, as reflected by cyclic application of the checklist. 14 sector policies and 30 district development plans have included poverty-environment-related objectives as a result of using the guidelines and checklists. 50 percent of the environment and climate-change-activities planned to achieve the objectives have been implemented in 2015/16 according to an assessment by the Environment Authority. This is also reflected in overall budget allocations, where environment-related budgets totalled approximately 12.7 billion Rwandan Francs in 2012/2013 and increased to 39.4 billion Rwandan Francs, corresponding to an increase from 0.4 percent of the total government budget to 2.5 percent of the total government budget for the same period.

**Lessons:** Rwanda’s repeated annual inclusion of the environment and climate change mainstreaming annex in the Budget Call Circular – and its effective use – testify to the commitment to include pro-poor environmental programmes and projects as national and sector priorities. The Ministry’s senior staff recognize that this integrated budgeting approach strengthens Rwanda’s ability to set aside funds for programmes and projects across many sectors that link strongly to all dimensions of sustainable development, such as SDGs 1 – no poverty, 2 – no hunger, 6 – clean water, 8 – decent economic growth, 13 – climate action and 15 – life on land. It also demonstrates Rwanda’s commitments to harness and effectively use domestic public resources for financing sustainable development in the spirit of the Addis Ababa Action Agenda.

A key ingredient of success has been the development of a simple and practical tool along with relevant and timely technical support from the staff of the Rwanda Environment Management Authority for Ministry of Economy and Finance senior staff over four years. The initial focus on the costs to Rwanda’s economy from unsustainable natural resource management and climate change and on the benefits of investing public sector funds for programmes and projects to mitigate and adapt (as discussed in Chapter 1) helped integrate pro-poor environmental sustainability into planning and budgeting. However, the Environment Authority acknowledges that, whilst progress is positive, more work is required to strengthen capacity in sectors and districts to improve planning, implementation and reporting (REMA, 2017).

“If the Budget Call Circular does not consider environment and climate change, then most probably environment and climate change are not going to be taken into consideration by any sector or district. But now, since it is a requirement, it is therefore the role and responsibility of everyone,” says Mr. Jonathan Nzaikorera.

#### **Institutional case 5: Tracking public expenditure, Mozambique**

Budgeting for pro-poor environmental sustainability is one thing, and spending another. How government spends its funds invariably excites the interest of stakeholders. Many checks and balances in the machinery of government can be deployed if such expenditure needs scrutiny or encouragement. According to our experience over the past 10 years, public funds allocated to ‘up-stream’ environmental sustainability and climate change planning activities that do not have external project support are often the first items to get cut when calls for budget prioritizations are made to reduce the budget. This prevents the implementation of activities that could help enhance sustainability and reduce poverty. It also implies that budget prioritization is one of the key barriers to the acceleration of change.

Periodic public reviews of environment and climate change expenditure are potentially powerful tools – improving the evidence and levels of awareness on what



public funds are used for and how effective and efficient (and sometimes how equitable) the results are. The findings of such reviews often show how low funding has been – in relation to the national importance of environmental assets or threat of climate change – and can justify increasing public funds for environmental sustainability and climate change resilience across sectors, districts and institutions. For example, a public environmental expenditure review in Malawi showed that only 1 percent of the country's environment and climate funds were allocated to the districts where people are most impacted by environmental degradation and climate change. Highlighting this information has spurred the Government of Malawi to explore how more funds can be allocated to the overlooked districts and the major barriers to this. And, as we have found in the case of Mozambique, expenditure reviews can encourage better tracking of specific expenditure across sectors and so strengthen public finance management systems.

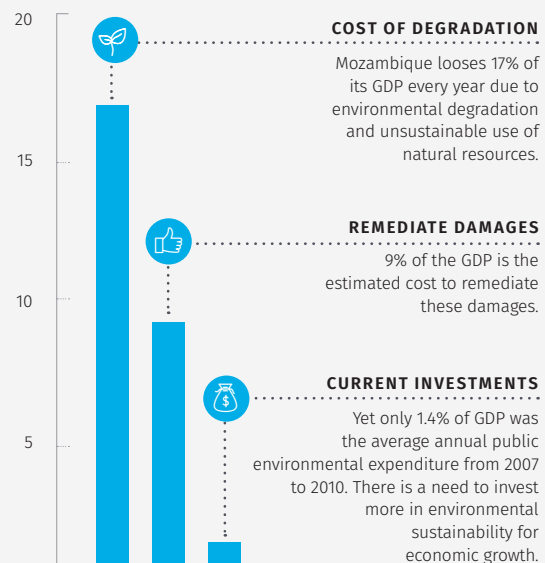
**Drivers of change:** The welfare of Mozambique's population, the country's economic growth and the achievement of national development and poverty reduction goals are intimately bound to the sustainable use of natural resources. About 80 percent of the country's 26 million people<sup>33</sup> live and work in rural areas, with their livelihoods heavily dependent on natural resources and environmental services. Yet environmental degradation and climatic change have become serious barriers to achieving the main national policy goal of improving the living conditions of Mozambicans by generating wealth and fostering equitable and inclusive development.

**The institutional tools for integration:** In 2012, Mozambique's former Ministry of Environmental Coordination Affairs<sup>34</sup> took a close look at how the economy was treating natural resources. It carried out two studies: an environmental economic analysis of natural resource management and a public environment expenditure review. The assessments found that a huge amount – the equivalent of 17 percent of GDP – is lost each year to environmental degradation and the inefficient use of natural resources. And while only 9 percent of GDP is the estimated cost needed to remediate these damages, the average environmental expenditure for the period 2007-2010 was just 1.4 percent of GDP.

“While the expenditure level shows that Mozambique is investing in sustainability, it also shows that more effort is needed. Enhanced information on environmental expenditure is a first step towards improving investments in sustainability, as it will allow for more precise analysis. We are currently working with the sectors to design a strategy to improve the level of budgeting for sustainable development in Mozambique,”<sup>35</sup> said Reinaldo Mendiate, then-Director of Planning, former Ministry of Environmental Coordination Affairs, Mozambique, 2014.

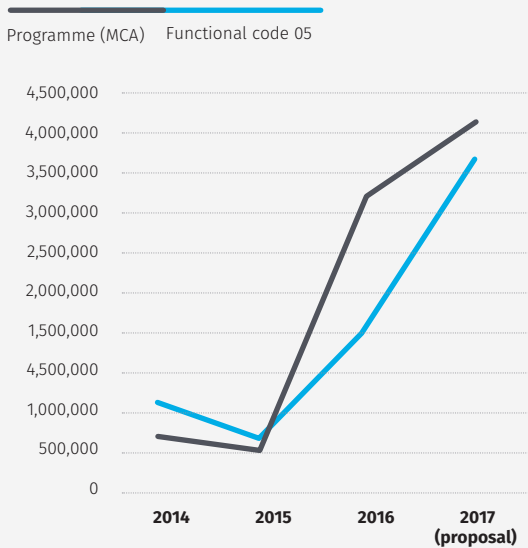
**The results – increasing environment and climate budget allocations:** The public environment expenditure review findings dialogue between finance and environment that prompted a budget classification sub-code in the Ministry of Economy and Finance's financial management system. The code enables the tracking of expenditure on climate-change-related programmes and projects. Significantly, the sub-code is built within the existing system of function codes (following the COFOG classification system)<sup>36</sup>

**FIGURE 15. ENVIRONMENTAL COSTS AND INVESTMENTS IN MOZAMBIQUE**



Source figure: UNDP-UN Environment PEI, 2012a & b.

**FIGURE 16. BUDGET ALLOCATION TRENDS FOR ENVIRONMENT AND CLIMATE IN MOZAMBIQUE**



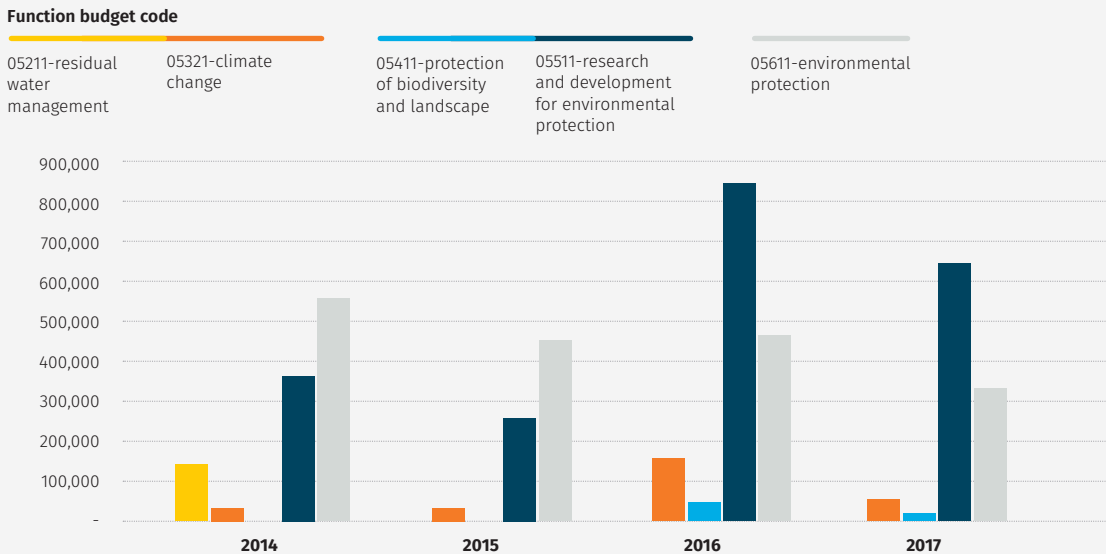
Source figure: Government of Mozambique, 2016.

and does not create any parallel or additional system. The Ministry of Economy and Finance appointed two environmental focal points in its Budget Department to lead on introducing and operationalizing the new budget code. The former Ministry of Coordination of Environment Affairs also decided to test the feasibility of a wider range of environmental budget codes, including those related to land management and environment planning, to facilitate measuring progress towards development goals.

“I believe that the introduction of budget codes for cross-cutting issues (like climate) was very brilliant – transparently responding to the new PQG 2015-2019 priorities. With a single ‘click’, it is possible to verify allocated resources and who specifically responded to environmental and climate change objectives,” explains Mr. Alcino Araujo of the National Directorate for Planning and Budget.<sup>37</sup> The importance of the budget codes to ensure policy and budget coherence across sectors is clear.

Today, 21 government institutions are using the environment and climate budget codes. By using the codes more systematically, the Government of

**FIGURE 17. BREAKDOWN OF ALLOCATIONS PER ENVIRONMENT AND CLIMATE CODE**



Source figure: Government of Mozambique, 2016.

Mozambique can, for the first time, easily assess its budget allocations and expenditure on climate change and improve the analysis of public environmental expenditure (Figure 15). Over the period 2014-2017, budget allocations coded with the environment and climate budget codes ranged from 0.4 percent to 2.2 percent of the total government budget, with a significant and steady increase every year, as indicated in Figures 16 and 17.

#### Lessons:

The overriding lesson from Mozambique is that detailed economic and budget evidence, when strategically disseminated, can convince ministries of finance to act. Another is the importance of the ministries of finance and

environment coming together to promote budgeting for environmental sustainability within existing government frameworks and systems, rather than creating parallel processes. Systematic and long-term capacity-building efforts for sector budget and planning officers are also essential to operationalize and fine-tune the system.

The improved budget coding for environment and climate in Mozambique is ground-breaking, but it is also facing challenges. The new Ministry of Land, Environment and Rural Development has highlighted how the new climate budget code does not separate adaptation and mitigation costs and environmental function codes are not always clear or appropriately allocated. However, the introduction of the new climate budget code and the extended use of environmental budget codes can help to close the funding

#### TEXT BOX 7. RWANDA'S GREEN FUND

Rwanda's Green Fund (locally known as FONERWA) aims to increase investments in pro-poor sustainable environmental and climate management and funds projects to improve people's livelihoods and the environment.

The design and establishment of the Fund was led by Rwanda's Environment Management Authority, in coordination with other ministries and with technical support from the Poverty-Environment Initiative. The fund was operationalized in 2012, with the United Kingdom's Department for International Development granting US\$37 million to the fund and the Government of Rwanda committing to provide US\$1 for every US\$4 of donor contributions. Today, the fund is supported by several development partners, including UNDP, the Climate and Development Knowledge Network, the United Kingdom Centre for International Development Training, the Development Bank of Rwanda and the German Development Cooperation as well as other external partners. US\$87 million has been received from these partners, including US\$4 million in capitalization commitments from the Government of Rwanda.<sup>38</sup> In 2016, the fund was also accredited as an implementing agent for the Green Climate Fund, opening up numerous opportunities to attract investments into pro-poor sustainability projects.

Alex Mulisa, the manager of the Fund, explains, "Since its operationalization, it [the Fund] has demonstrated that it is indeed a conducive vehicle to mobilize, harmonize and coordinate resources at the national level. And for these resources to be used for climate resilience, environmental sustainability and green growth."<sup>39</sup>

For example, since 2012, the Fund has financed 33 projects to improve people's livelihoods and the environment. Results from the implementation of these projects include: 21,847 hectares of land reforested; 17,449 families connected to off-grid electricity; 12,998 hectares of watersheds and water bodies restored; and 89,694 green jobs created (Green Fund, n.d). The Fund has also granted around US\$700,000 in funding to three districts so that they can replicate the green village model illustrated in institutional case study 6.

The point of the Rwanda experience is that nationally led funds that are carefully designed and set out can address interlinked social, environmental and economic issues. The Government of Rwanda's commitment, including its financial contributions, to establish the Fund and to make it its own institution rather than part of an existing ministry, helped to bring credibility to the Fund and to attract support from development partners. It also indicates that there are various options for governments to attract investments in sustainable development.

### **TEXT BOX 8. THE NEED TO INFLUENCE PRIVATE-SECTOR INVESTMENTS FOR SUSTAINABLE DEVELOPMENT**

There is an increasing flow of private-sector investments, including foreign direct investments, into key natural resource sectors in Africa – agriculture, mining, forestry and fisheries. In this context, it is increasingly important to also engage with the private sector, ranging from small and medium-sized companies to large international firms, to influence their investments and business conduct to be more socially inclusive and environmentally sustainable while maintaining a friendly investment climate for economic growth.

The Poverty-Environment Initiative was established around central governments as the major ‘gatekeepers’ for enabling change – and so government was its starting point for mainstreaming poverty-environment issues into decision-making. There is consequently limited experience of supporting government partners to engage with and influence the private sector.

However, this will be an important area to pay more attention to as countries increasingly seek to accelerate investment in achieving sustainable development goals. At the national level, from a poverty-environment-development perspective, it will be important to pay particular attention to putting in place “a strategic approach for foreign direct investment within a country’s overall development strategy; establishing economic and institutional settings and implementing policies to attract and successfully manage foreign direct investment; scrutinizing individual investment proposals and negotiating investment contracts; and monitoring investor compliance with relevant laws and project contracts” (UNDP-UN Environment PEI, 2015a).

The Initiative’s *Handbook for Mainstreaming Environment and Climate for Poverty Reduction and Sustainable Development* provides some useful guidance, as does the experiences of the UN Partnership for Green Economy (PAGE), the work of the UN Global Compact and UNDP’s Business Call for Action, among others.

gap as well as the coherence gap among policies, budgets and expenditures. They also promise – once a time series is built up – to improve the efficiency of expenditure allocation to different institutions and projects (according to their respective environmental performance).

The new Ministry of Land, Environment and Rural Development and the Ministry of Economy and Finance recognize that more detailed codes and routine and accurate coding should be mainstreamed within environmental institutions at all levels and further extended to other sectors that intersect with environmental sustainability matters, such as agriculture and mining. This will require substantial capacity-building of the staff responsible for budget preparation as well as sector environment units/focal points so that they can identify and correctly assign environmental and climate budget codes.

Moreover, it is not currently possible to assign two functional budget codes for a single action, which

prevents analysis of actions that contribute towards several purposes. For example, an action that relates to gender and climate change can be coded with only either the gender or the climate code, preventing users from seeing the cross-linkages. Mozambique is exploring the possible use of sub(auxiliary)-codes, so that an action and its related expenditure can be coded for multiple purposes rather than for just one. This will help the government to better understand the linkages among various issues and its expenditures such as poverty and environment, climate change and gender. This area has potential for investment, as it opens up possibilities to better understand the interactions among various development goals and to track expenditures across SDG-related targets.

### **3.4 Effective decentralization for sustainable development**

A number of countries are demonstrating innovative integrated approaches to subnational development

planning, financing, implementation and monitoring that are promoting decentralization. These are of real interest in the context of the SDGs and Agenda 2063 goals. In Rwanda, pro-poor environmental sustainability has been integrated across sector policies at local levels, driven on the one hand by increased capacity of local administration officers and on the other hand by the achievements and results of community-based institutions' successful livelihood, environmental and resource management initiatives.

Sustainable development will take off not only when governments commit to it (and here the recent agreement of the 2030 Agenda and Agenda 2063 is encouraging), but also when its benefits are evident to the many farmers, small businesses and communities struggling to make a living across a country's diverse landscapes. In such contexts, poverty and degradation of natural resources are inevitably among the lead sustainable development issues: it is at local levels where they are experienced most intensely and where the stakeholders have the strongest views and the most relevant experience. In circumstances of rapid change and high pressure

on resources and people, local institutions need to understand and deal effectively with the poverty-environment-development nexus.

#### **Institutional case 6: Integrated institutions at local level – Rwanda's green villages**

**Drivers of change:** To reverse degradation of key natural resources and improve livelihoods, a green village project was embarked on in the Gicumbi District of northern Rwanda. In 2011, the management of the project was successfully handed over to a cooperative led by local women after having been initiated and led by Rwanda's Environment Management Authority (hereafter the Environment Authority) and supported by a range of government agencies including the Ministry of Local Government, the Ministry of Agriculture, the Ministry of Natural Resources, the Ministry of Infrastructure and the Rwanda Housing Authority as well as the Poverty-Environment Initiative.

**The institutional tools for integration:** The Environment Authority, together with its partners including the Ministry



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Key to the success of the green village has been the focus on local capacity to manage and sustain the village's green activities. The female-led cooperative has been successfully managing the initiative since 2010.

of Local Government, engaged in participatory planning with Gicumbi District staff and members of the Rubaya community to identify their development aspirations, challenges and opportunities. They formulated an integrated local development initiative that was centred on improved environmental management. Its key features include improved land management (terracing) and agriculture practices to reduce soil erosion and improve soils and yields; water harvesting and sanitation facilities; biogas energy generation and organic manure; animal husbandry and zero grazing; value addition to agriculture products; and strengthening community governance and organizational capacities. The Environment Authority, in collaboration with a range of sector ministries, supports the community to access technical support from sector agencies through district authorities, such as agricultural extension workers and engineers from the water ministries.

**Results – communities take the lead on sustainable development:** “Since the start of the ‘green village’ project, we are getting more crops, yields are bigger and we live in better houses,” says Ms. Muhawenimana Solange, the cooperative’s leader.<sup>40</sup> This demonstration village not only has halted soil erosion and deforestation, but has now also empowered the community members – women, in particular – to take the lead in community development. Their activities have reduced women’s time spent on unpaid work such as water and firewood collection by nearly five hours per day and household (UNDP-UN Environment PEI, 2017) and increased the social and economic benefits from the use of natural resources. “Kids stopped going to school because they were looking for firewood. We had to go far away to pick up firewood,” says a mother in the village. Her daughter Sandrine adds, “Since we have had biogas, many of our problems are solved. Now with biogas and water nearby, I have time to go to school.”<sup>41</sup>

A cost-benefit analysis of the project (PEI, 2017) has proven that the green village project is very cost-effective. The village cost about US\$636,000 to construct and costs about US\$22,000 per year to run. Using conservative figures, the project demonstrates an internal rate of return of 5.8 percent, 7.7 percent and 8.9 percent over 15, 20 and 30 years, respectively. The study also estimated the benefits of investing in an additional 30 villages of 100 households each – a total of 3,000 beneficiaries, which would cost about US\$48 million. It is estimated this would generate net benefits

of about US\$21million at a 6 percent discount rate over 30 years, generate further indirect economic benefits equivalent to 0.8 percent of GDP and lead to a 0.71 percent decrease in the extreme poverty rate of 16.3 percent (in 2015).

Excited by what Rubaya’s green village has demonstrated, the Environment Authority has worked with the Ministry of Local Government, the Ministry of Economy and Finance and other government partners to promote the replication of green villages and green practices. Since 2016, all 30 district development plans in Rwanda have included the setting up of at least one green village. As of 31 December 2016, there were seven green villages countrywide. Indicators and a monitoring and evaluation framework to track implementation and impact have been put in place and the level of progress on implementation will form a part of the district mayors’ performance contracts.

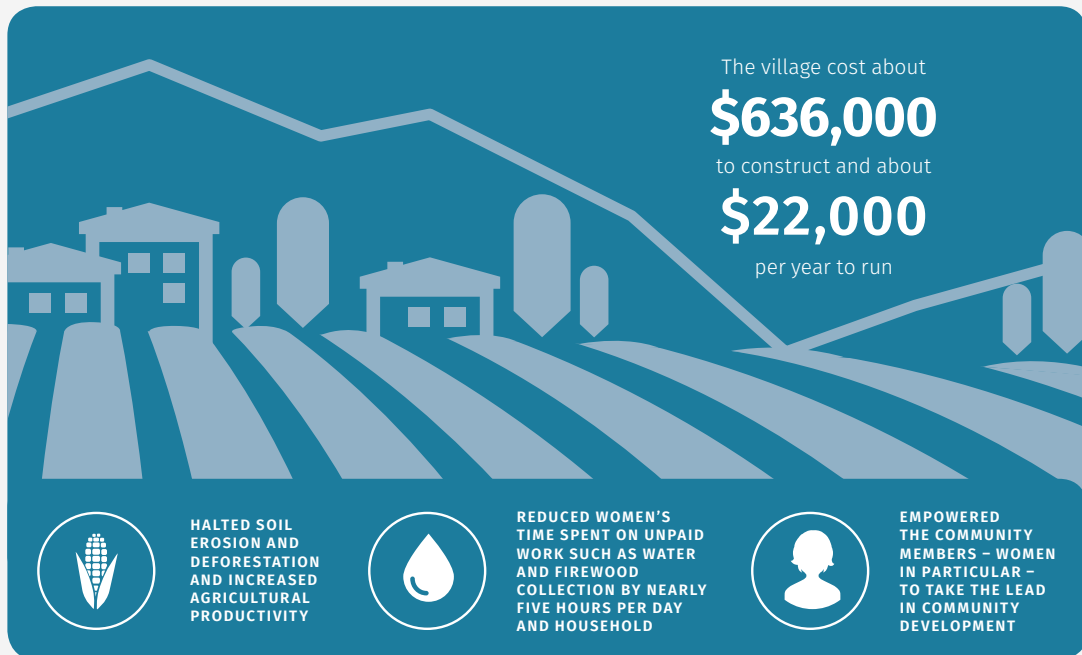
To facilitate such replication across districts and local organizations, the Ministry of Local Government and the Environment Authority developed a toolkit for guiding the establishment of green villages (REMA, 2015). The toolkit highlights the economic, social and environmental benefits to Rubaya beneficiaries and provides step-by-step guidance on how to plan and establish a green village, whom to involve (including leadership and governance structures) and how to set up integrated systems covering smart agriculture and animal husbandry activities, sanitation and hygiene measures, bio-digesters, water harvesting, value addition to products, and knowledge hubs. Financing for replication across districts remains a challenge.

**Lessons:** Key to the success of the green village has been the focus on local capacity to manage and sustain the village’s green activities. The female-led cooperative has been successfully managing the initiative since 2010, demonstrating the project’s sustainability and highlighting how the 200 community members have been empowered to take the lead on local sustainable development planning and implementation.

By empowering the inhabitants to plan and execute the village activities and through the provision of skills to organize themselves to sustain their initiatives, the Environment Authority has demonstrated how

FIGURE 18. RUBAYA GREEN VILLAGE

## GREEN VILLAGE



The project demonstrates an internal rate of return of

**8.9%**

over 30 years

It is estimated this would generate net benefits of about

**\$21 million**

at a 6% discount rate over 30 years, generate a further indirect economic benefits equivalent to 0.8% of GDP and lead to a

**0.71% decrease**

in the extreme poverty rate of 16.3%

Source figure: UNDP-UN Environment PEI, 2017.

integrated investments in pro-poor environment and natural resource management can help reduce poverty and improve food security, health and sanitation at the local level. Another essential aspect was the ability and commitment of the Environment Authority to draw on the expertise and resources of partner institutions to support the village, as in the case of the local administration in Gicumbi District.

It will be interesting to see how village-level integrated initiatives centred on sustainable development principles, such as this example from Rwanda, can achieve the interconnectedness needed for the SDGs. The Rubaya example indicates how action and results towards SDG 15 – Life on Land, SDG 2 – Zero Hunger and SDG 7 – Affordable and Clean Energy- can also generate benefits towards other SDGs, for instance SDG 1 – No Poverty-, SDG 5 – Gender Equality and SDG 12 – Responsible Consumption and Production. Replication and up-scaling of integrated projects at the village level are more likely: if the real economic, social and environmental benefits can be demonstrated at the household level and within landscapes; if they can be communicated locally and beyond; and if the integrated approach can be mainstreamed in local-level development plans and budgets.

### 3.5 Measuring multi-dimensional change in poverty and environment

The 2030 Agenda and the SDGs set out 169 targets against which progress and achievements will be monitored and reported. There is a considerable challenge in collecting the data that will inform a large number of indicators.<sup>42</sup> The UN Conference on Sustainable Development (2012) outcome document ‘The Future We Want’ emphasized the “need to support developing countries in their efforts to collect environmental data”, particularly in Africa.

African countries regularly collect macro-level data, including for key sectors such as health and education, for national reporting against five-year national development plans, some key sector strategies and their corresponding targets and indicators. Ministries responsible for environment collect data for a range of asset indicators, including forest cover and protected area coverage as well as pollutant data, whilst other sector ministries collect data on specific natural resources. However, national bureaus of statistics and sector ministries face

staffing and resourcing challenges to cover the kinds of data collection exercises (e.g., household surveys and ecological surveys) that could reveal integrated outcomes at local levels.

Reflecting the interconnectedness of the 17 SDGs and increasing appreciation of the interlinkages between environment, economy and social well-being, some countries have piloted integrated indicators of change in their national development plans and sector strategies. This has been supplemented by global initiatives that aim to combine various economic, social and environmental variables, such as UN Environment’s Integrated Wealth Index and the Oxford Poverty and Human Development Initiative’s (OPHI) Multidimensional Poverty Index (MPI), which draw on available national data. Looking forward, a ‘data revolution’ will be required globally to measure progress against all 169 SDG targets, particularly at national level. The good news is that there are new technologies available in ‘big data’, with potentials from social media, geographic information systems and data processing that can be exploited.

#### **Institutional case 7: Integrating pro-poor environmental indicators in Tanzania’s National Monitoring System**

**Drivers of change:** Motivated to provide evidence of progress and achievements in the implementation of Tanzania’s National Strategy for Growth and Reduction of Poverty (known as MKUKUTA), the Government of Tanzania established a monitoring plan. Adopting a multisectoral approach, the Ministry of Finance and National Bureau of Statistics worked with sector working groups to formulate indicators and data collection methods that would help in assessing the progress toward the poverty strategy’s objectives and targets.<sup>43</sup>

**The institutional tools for integration:** In 2005, multisectoral working groups with resource persons from the Tanzania National Bureau of Statistics elaborated linked poverty-environment indicators for inclusion in the first National Strategy for Growth and Reduction of Poverty 2005 to 2010 (Table 3). The subsequent Strategy (2010-2015) maintained most of these poverty-environment indicators, yet modified some and introduced five new indicators, particularly on the effects of climate change and urbanization.



With the formulation of the new National Five-Year Development Plan (2016/2017-2020/2021), the Ministry of Finance and Planning has been formulating a revised monitoring plan in collaboration with the National Bureau of Statistics and sector ministries. For instance, the Poverty Eradication Department of the Ministry of Finance and Planning uses the Bureau's statistical information to undertake, among other things, poverty monitoring analysis and reporting and to inform the design and implementation of its programmes. Drawing from national experience and with the anticipated national 'localization' of global SDG indicators, the Ministry of Finance and Planning and the National Bureau of Statistics want to strengthen their monitoring systems to more effectively track and report progress in national development, including for priority SDGs.

### Results mixed progress and challenges for monitoring linked issues:

A 2014 review of the relevance and

**TABLE 3. POVERTY-ENVIRONMENT INDICATORS IN TANZANIA'S POVERTY STRATEGY**

1.	Proportion of enterprises undertaking EIAs complying with environmental regulations
2.	Proportion of households whose main income is derived from the harvesting, processing and marketing of natural resource products
3.	Proportion of households in rural and urban areas using alternative sources of energy to wood fuel (including charcoal) as their main source of energy for cooking
4.	Population with access to piped or protected water as their main drinking water source (30 minutes maximum collection time for walking and filling)
5.	Proportion of households with basic sanitation facilities
6.	Proportion of schools with adequate sanitation facilities
7.	Number of reported cholera cases
8.	Total area managed by mandated local institutions for community-based natural resource management
9.	Proportion of females from small-holder households with land ownership or customary land rights
10.	Total value of revenue received from concessions and licenses for natural resources (forestry, fishing, wildlife, mining)

effectiveness of poverty- and environment-linked indicators in the first and second National Strategy for Growth and Reduction of Poverty showed that their results have been mixed (UNDP-UN Environment PEI, 2014b). It reported that, of the 15 poverty- and environment-linked indicators, seven are reported on but demand a greater poverty-environment lens of analysis or require complementary indicators to improve their effectiveness; five proved difficult to operationalize by the responsible sector institutions and therefore no data was collected; and two should be abandoned, as they are poorly formulated and therefore could not be measured. Furthermore, the review highlighted a systematic institutional problem: several national monitoring tools and systems at the national and local levels are insufficiently linked together. It also pointed out disconnects between national and subnational institutions in collecting, analysing and using data.

**Lessons:** Tanzania's efforts at formulating indicators to measure progress against national development objectives and targets have been pragmatic, reflecting learning and review in response to the complex challenge of measuring interlinked dimensions of sustainable development. This experience should assist the Government of Tanzania to 'localize' SDG indicators at the national and subnational levels, assisted by new standardized indicators for measuring change as the SDG indicators and data collection methodology are being agreed upon. While this might offer a guide to setting national indicators, it is no substitute for local agreement about what is important. It is generally recognized that increased capacity of the National Bureau of Statistics and sector institutions will be required.

Lastly, as in most countries, the institution mandated with production of official statistics, based on periodic surveys, is the National Bureau of Statistics, which consequently also becomes a key guardian of defining 'what matters' to the nation. Tanzania has demonstrated positive learning experiences between the Bureau and statistics users such as the Poverty Eradication Department of the Ministry of Finance and Planning. If national development aspirations are to change substantially and to reflect more interdependent outcomes, the partnerships between statistics bureaus and key 'user' institutions need to be at the forefront of describing the changes: plans, budgets, monitoring and the whole raft of institutional incentives and prerequisites can then follow.

### 3.6 Lessons learned for weaving institutions together

The pioneering experience of the Poverty-Environment Initiative and its partner governments proves the usefulness of a number of poverty-environment mainstreaming approaches and tools. This chapter concludes that the SDGs and Agenda 2063 goals will not be fully achieved until they are localized in national plans and budgets. We identify five key lessons learned that require attention to further this:

**First, innovative and practical integration tools in the mainstream machinery of government can be effective:**

The most effective way to promote integrated approaches will usually be by targeting existing planning, budgeting and institutional coordination mechanisms and tools and enabling them to better respond to the three dimensions of sustainable development, especially where they are open to innovation and aim at high-profile policy topics. Creating parallel processes or mechanisms outside routine national systems would not normally be the best course of action.

Many approaches and tools highlighted in this publication, and summarized in Table 4 have proven effective and can be replicated to enable integrated

development planning, policy coherence, budgeting and monitoring that is 'fit' for the SDGs and Agenda 2063 goals. A variety of assessment frameworks, checklists and matrices (as well as the analytical tools summarized in Chapter 2) prompt inclusion of linked environment and poverty dimensions in plans and budgets.

Institutionalizing these tools and approaches in the machinery of government as well as systematic capacity-building for their application – for example, the Government of Malawi's curricula for policymakers – are good ways to start. This will help to strengthen institutional capacity and overcome barriers related to high staff turnover and political changes common in public institutions in the region.

**Second, political will is essential to break down sector silos and to 'wire' institutions more closely together:**

Political leadership across government institutions is essential if an integrated approach to the three dimensions of sustainable development is to take off. Coordination, coherence and collaboration are important political watchwords. The global SDGs and associated targets need to be integrated 'horizontally' (i.e., across sectors) and 'vertically' (i.e., across national, provincial and district levels).



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To achieve the SDGs and Agenda 2063 goals, they need to be localized in national plans and budgets. Achieving the goals will require practical integration tools, political will, empowerment of local actors, financing and new progress metrics.

To accelerate change, there needs to be a shift in the region from seeing ministries of environment as mainly an implementing agency responsible for all matters related to the environment sector, to an institution that coordinates and regulates environmental matters across sectors and focuses more systematically on poverty and equality and economic growth issues as they relate to the use, extraction and management of natural resources and ecosystems.

However, integration clearly cannot be fully achieved by ministries of environment acting alone, even if some countries are still pursuing this path. Our experience shows what can be achieved when ministries of finance and planning and other central ministries come together with ministries of environment to promote planning and budgeting for inclusive environmental sustainability across sectors. Central ministries have their own cross-cutting mandates that can be mobilized – ministries of planning for the national plan, ministries of finance for the budget, statistical bureaus for monitoring priority indicators of success and civil service authorities for executive decision-making rules.

Key sector ministries have important roles, too. Where they adopt and lead on sustainability and ‘inclusive environmental’ objectives – such as agriculture taking on gender-responsive climate change adaptation and environmentally friendly equitable land management and agricultural inputs, or industries adopting sustainable consumption and production – this can lead to successful integration.

These new ways of viewing the roles and mandates of various ministries can help to overcome interministerial politics and power relations that entrench silos and make policy coherence for environment-development more difficult (IIED, 2016b). But it must also reach into the details of organizational reform: officers’ job descriptions, skills bases, performance incentives and assessment.

**Third, involvement and empowerment of local government, local communities and stakeholders representing the poor can catalyse bottom-up change:**






Because sustainable development is locally rooted, much more attention is needed to empower district officials and local communities to work in integrated ways. There is a need to close the gap between local and national policymaking as well as between communities and local






policymakers. Marginalized groups, in particular poor women, need to be empowered and traditional knowledge valued as sources of inclusive and sustainable pathways that could be scaled up. The experiences also highlight the support that local governments and communities need in order to compel the private sector to view ‘business success’ in a holistic way and to become more environmentally and socially responsible. This is particularly so in light of increasing flows of private sector investments into key natural resource sectors in Africa



**Fourth, financing for sustainable development is needed for implementation.** Plans and budgets that are not financed and implemented will not catalyse change – they remain words in a document. Public expenditure reviews and budget codes have proven to be particularly useful to highlight the discrepancy between investments required for securing pro-poor environmental sustainability, the actual investments made and the resulting costs to the economy and livelihoods. More needs to be done to ensure that environment- and climate-related interventions are prioritized during budget shortfalls and that sufficient resource are directed to implementation. The Rwanda experience has shown the power of carefully designed, nationally established funds set out to achieve linked social, environmental and economic outcomes and to use further funds for concrete action on the ground.

**Finally, there is more to do to make progress metrics and monitoring reflect the three dimensions of sustainable development.** Our understanding of economic, environmental and social performance must be broader and holistic, more precisely reflect the purpose of the economy and provide for human well-being and ensure sustainable ecosystems and natural resource use. At the national and global levels, there are well-established economic and social metrics on the state of economies (e.g., GDP, agriculture outputs, pricing, etc.), health and sanitation, and education, among others. Because sustainable development is complex and information-intensive, decisions need to be evidence-based and cover more dimensions: enhanced statistical and analytical capacities will be fundamental to setting that national agenda and to monitoring progress. The issues of inclusion and exclusion, environmental and social benefits and costs and true benefits of economic growth, and natural resource access and control that have so often been brushed aside, all need to enter debate, decision-making and reporting processes.

**TABLE 4.** OVERVIEW OF TOOLS USED BY THE POVERTY-ENVIRONMENT INITIATIVE IN AFRICA THAT CAN CONTRIBUTE TO THE ACHIEVEMENT OF SDGS AND AGENDA 2063 GOALS

Type	Specific Tool	Examples of how the tools have been used and brought about change
Poverty, Environment & Institutional Context-related Tools	Institutional Context Analysis	<p>Tanzania undertook a bottleneck study for poverty-environment mainstreaming at the district level identifying key barriers for the implementation of sustainable development-related activities. The findings from the analysis informed the development of Tanzania's national development plan. The plan takes an integrated approach to sustainable and inclusive economic growth. It identifies key interventions to strengthen natural resource, environment and climate management for poverty reduction and has a roadmap for harmonized implementation and policy coherence across sectors and districts.</p> 
	Poverty-Social Impact Analysis (PSIA)	<p>Botswana undertook a <a href="#">poverty-social impact assessment of a government agriculture development programme</a> (UNDP-UN Environment PEI, 2012d). Among other things, the assessment revealed which groups of the population were benefitting from the programme. The analysis proposed modifications to the programme to improve farmers' access to the right type of seeds in accordance with their individual farming conditions.</p> 
	Vulnerability Assessments	<p>Mauritania developed climate vulnerability maps to assess the climate vulnerability of agriculture, livestock, water and inland fisheries in two regions, <a href="#">Asabba</a> and <a href="#">Brakna</a>. The vulnerability maps will inform concrete projects to increase the climate resilience of the local population as well as a European Commission-funded capacity-building programme for local planners.</p> 
	Strategic Environment Assessment/ Integrated Socio-economic and Environmental Assessment	<p>Mali undertook a strategic environmental assessment of the energy and <a href="#">agriculture</a> sectors. Following the recommendations of the assessment, the Ministry of Environment is elaborating a strategic environment assessment policy and regulation. The assessment also recommended strengthening the capacity of the Ministry of Energy to address environmental issues in the sectors through an enhanced policy and proposed modifications to the agriculture policy to mitigate against negative environmental and social impacts and enhance policy coherence.</p> 
Economic Tools	Economic Assessments, e.g., cost and benefits of un/sustainable environment and natural resource use, with a focus on poverty; cost of the gender gap in natural resource sectors	<p>Malawi used the findings from an <a href="#">economic assessment</a> (UNDP-UN Environment PEI, 2011a), a cost of the gender gap in agriculture report (UN Women, UNDP-UN Environment PEI, World Bank, 2015) and a detailed poverty-environment economic assessment (UNDP-UN Environment PEI, 2016) to influence three key sectoral policies – fisheries, forestry and agriculture – to include poverty-environment objectives. The agriculture policy now includes a strong focus on the adoption of climate-smart agriculture and the empowerment of women and youth. The fisheries policy aims to minimize the loss of biodiversity while ensuring that communities derive economic and nutritive benefits from the use of waters. The forestry policy includes targets to enhance community benefit-sharing mechanisms in the sector. Read more about the use of these tools in Chapter 2.</p> 

Type	Specific Tool	Examples of how the tools have been used and brought about change
Economic Tools	Public Environmental and Climate Expenditure Reviews	<p>In Mozambique, the Ministry of Finance, inspired by the findings of a <a href="#">Public Environmental Expenditure Review (UNDP-UN Environment PEI, 2012b)</a> and an <a href="#">economic assessment on the value of national resources (UNDP-UN Environment PEI, 2012a)</a>, appointed environmental focal points and introduced a new budget code related to climate change. The Ministry is further building the capacity of sector budget officers for the application of environment and climate budget codes to improve tracking of related expenditure. Read more about the use and result of the application of this tool in institutional case 4.</p> 
	Environmental Economic Instrument Reviews	<p>Mozambique reviewed the application of three <a href="#">environmental economic instruments (UNDP-UN Environment PEI, 2014c)</a>, including a 20-percent benefit-sharing mechanism in the forest and wildlife sector. Informed by the study findings, the Ministry of Environment is looking at addressing the challenges with the implementation of the instrument as identified by the study.</p> 
Capacity-Building and Integration Tools	Poverty-Environment Annexes/Checklists Integrated into Government Documents	<p>Rwanda – Supported the government to include an environment and climate checklist to the annual budget guidelines issued by the Ministry of Finance. Because of use of the Checklist, all sectors and districts now include poverty-environment objectives in their annual plans and budgets. It has also enhanced expenditure and financing for environment and climate-related objectives and projects. Read more about the use and result of the application of poverty-environment annexes and checklists tool for Rwanda in institutional case 4 and for Malawi in institutional case 2.</p> 
	Environmental Focal Points Across Sectors	<p>In Mozambique – Collaboration with the Ministry of Environment to strengthen sectoral environmental focal points has resulted in nine annual social economic plans and budgets to include poverty-environment objectives. Building on the Poverty-Environment Initiative supported the internship programme in Rwanda, the Ministry of Trade and Industry, Infrastructure, Agriculture and the Auditor General's office have recruited environmental experts, using their own resources, to further mainstreaming efforts. Read more about the use and result of environmental focal points in Institutional Case 3.</p> 
Capacity-Building and Integration Tools	Poverty-Environment Indicator Studies	<p>Tanzania commissioned a number of studies on poverty-environment indicators (2005, 2012 and 2014) relevant for Tanzania. Informed by the studies, the government has included poverty-environment indicators in the monitoring and evaluation framework for the national development plan as well as in the national budget household survey. Read more about the use and result from Poverty-Environment Indicator studies in Tanzania in institutional case 7.</p> 

Type	Specific Tool	Examples of how the tools have been used and brought about change
Participation and Outreach	Participatory diagnosis and policy dialogue with local communities, scientists and civil society	<p>In Mauritania, the Poverty-Environment Initiative, together with the Ministry of Fisheries, organized a participatory diagnosis of the status and use of lakes involving scientists, local communities and fisheries experts. The diagnosis has informed where to target government interventions to cost-effectively reduce poverty. Closed data gaps provided the needed information for a valuation of inland fisheries. The diagnosis will be used to inform the future national strategy for the management of lakes and recovery plan for artisanal fishery products. In Rwanda, local communities played a leadership role in the design and management of the country's first green village, a model that is now being replicated across the country. Read more about the experience of Rwanda and participatory processes in institutional case 6.</p> 
	Outreach through parliamentary committees, local champions and media	<p>In Burkina Faso, a network of poverty-environment champions and a parliamentary committee on poverty-environment and green economy-related matters have been established. The champions have further used various types of media (newspapers, TV and radio) to raise awareness about the poverty-environment nexus. This has contributed to the integration of poverty-environment objectives into national development and sector plans. Read more about lessons learned on outreach in Chapter 2 and the Burkina Faso example in Text box 3.</p> 



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Five pathways - better evidence, breaking down institutional silos, involvement and empowerment, new finance and progress monitoring - can help speed up sustainable development.

**'WIRING' ORGANIZATIONS TOGETHER AND BREAKING DOWN SILOS**

## 4. PROSPECTS AND RECOMMENDATIONS

Successful implementation of the 2030 Agenda and Agenda 2063 will require countries in Africa and elsewhere to do things differently. Aspirations for sustainable development are becoming more ambitious. There is a need to establish new and innovative institutional coordination processes for ‘doing business’ that enable inclusive and environmentally sustainable economic development for all. Business as usual will not work.

Tackling the poverty-environment development nexus offers an opportunity to move from ‘vicious downward cycles’ exacerbating poverty and environmental damage to ‘virtuous circles of continuous improvement’ for sustainable development. The paper has shown that the links between environmental sustainability, poverty reduction and economic development are real and affect people’s livelihoods, economies and the natural environment’s ability to sustain itself. It has demonstrated that investing in environmental sustainability can yield high rates of social and economic returns.

Through the experience of policymakers from five African countries – Burkina Faso, Malawi, Mozambique, Rwanda and Tanzania – and the Poverty-Environment Initiative, the paper has highlighted experiences of working with integrated approaches to sustainable development – putting in place building blocks for a new way of doing business. Many of the tools highlighted in this paper have proven effective and can be replicated to enable integrated development planning, budgeting and monitoring that are fit for achieving the SDGs and Agenda 2063 goals.

Drawing on these experiences, five key pathways are identified – better evidence, breaking down institutional

silos, stakeholder involvement and empowerment, new finance and progress monitoring – that can speed up and scale up integrated and participatory approaches to sustainable development.<sup>44</sup> By exploring these five pathways and by being aware of potential barriers and the corresponding recommendations to address these, countries in Africa and across the world can accelerate change towards sustainable development.

### Pathway 1: Better evidence

The experiences illustrated in this paper, and particularly in Chapter 2, show that credible and sector-specific evidence linking the three dimensions of sustainable development – economic, social and environmental – with sector goals and targets is particularly effective to motivate policymakers and other stakeholders to adopt an integrated approach.

However, the paper also notes some barriers to the creation and use of integrated evidence, including the fact that not all countries in the region apply evidence-based policymaking. Those countries lack effective and interdisciplinary research teams and working groups to convene all spheres of society; their staffing capacity and financial resources within ministries also fall short.

To overcome these barriers and accelerate progress towards making better evidence that is relevant for policymaking, we recommend the following actions:

- **Generating evidence through the machinery of government:** Government to apply tools and approaches that generate integrated evidence to inform policymaking within the machinery of government. This



can be done through partnerships with local research institutes, which can undertake assessments or train ministry staff in the application of assessment tools. Having local practitioners, scientists and research institutes lead in the policy dialogue can produce solid, concise national evidence and recommendations for policymaking.

- **Consultative and interdisciplinary research:**

Development practitioners who commission research and researchers aiming to influence policymaking should ensure that research is interdisciplinary. Researchers should engage with the target audience, in particular with government officials and marginalized groups, during the design and throughout the research processes. This approach strengthens stakeholder ownership and facilitates the acceptance of evidence, even if it challenges current policy discourse and/or practices.

- **Strategic dissemination and engagement:** Strategic interpretation and dissemination of evidence, along with engagement with the media (e.g., training of journalists), can accelerate the use of integrated evidence through diverse channels and embrace various stakeholders, from local communities to civil society and the private sector, more closely in dialogue.

## Pathway 2. Breaking down institutional silos

To achieve the SDGs and Agenda 2063 goals, countries must continue to break down sector silos and ensure that there is a vertically and horizontally integrated approach to policymaking, budgeting and implementation that balances the three dimensions of sustainable development. The application of such an approach will help ensure policy coherence and avoid policies that work at cross purposes, e.g., so that agricultural growth does not contribute to ecosystem degradation. In the same way, it will help to ensure alignment between national and local levels.

However, there are *barriers*: insufficient incentive structures for coordination; high staff turnover; political changes linked to staffing capacity; and inadequate financial resources within ministries. In addition, there is still a common view that the environment is the business only of the ministry of environment and that social issues



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Involvement and empowerment of local communities and marginalized groups – particularly marginalized women – are needed to catalyse bottom-up change.

are the concern mainly of social ministries. Properly, though, one would see these sectors as handling facets of an integrated whole: sustainable development.

The experiences presented in the paper identify three ways to overcome these barriers while breaking down institutional silos and adopting an integrated approach:

- **Modification of the machinery of government:**

Enable existing government planning, budgeting and institutional coordination to better manage the three dimensions of sustainable development. Many approaches and tools highlighted in this paper, summarized in Table 4, have been effective and can inspire modifications to existing government tools and approaches. This will enable policy and budget coherence that is 'fit' for achieving the SDGs and Agenda 2063 goals.

- **Capacity-building:** Institutionalized capacity-building through the procedures of civil service and local

authority staff training for sector, planning and budget officers on the application of integrated tools and approaches, can ensure not only institutional capacity-building, but also the sustained application of the tools and approaches and the acceleration of change.

- **Political will:** Ministries of finance/planning need to work with ministries of environment to promote inclusive approaches to environmental sustainability across all sectors and districts. It would also require sector ministries, such as those of mining and agriculture, and their district offices to take responsibility for integrating poverty and environmental objectives within their sectors. For this to happen, better incentive structures for coordination need to be put in place; this can be done by including related targets in ministers' and officers' job descriptions, skill bases and performance incentives and reviews.

### **Pathway 3. Involvement and empowerment of local actors**

Experience shows the importance of providing the right support to communities and local governments to deal with natural resource degradation and to ensure food, water and energy security. Involvement and empowerment of local communities and marginalized groups – particularly of marginalized women – are needed not only in field-level work, but critically also in evidence creation, policymaking, budgeting and influencing the private sector to catalyse bottom-up change.

Most local-level barriers involve power imbalances related, but not limited, to access to information and decision-making at the local level. The gaps between communities, especially marginalized communities, and policymaking are a particular challenge.

The recommendations in Pathway 2 touched upon the need to build the capacity of district officials to apply integrated approaches and the need for local government capacity-building to ensure vertical integration. However, in the context of empowering local communities, it is further important to pay attention to:

- **Involvement of communities:** Government and development practitioners to involve marginalized

groups and value traditional knowledge, to identify inclusive and sustainable pathways that can be scaled up. Similarly, government, development practitioners and the media should provide local communities and marginalized groups with integrated evidence on the link between sustainable natural resource use, incomes and well-being.

- **Empowerment to screen public and private investments:** To help local governments and communities counter power imbalances, there must be well-applied screening mechanisms to examine the three dimensions of sustainable development for any public and private investments that impact local conditions.

### **Pathway 4. New finance**

Financing for sustainable development is needed for implementation – plans and budgets that are not financed will not catalyse the intended change. Nevertheless, more private investments in key natural resource sectors in Africa can actually cause harm if those investments are not socially inclusive and environmentally sustainable.

One *barrier* is that, during times of budget shortfalls and financial crisis that are common in the region, environment- and climate-related interventions and non-traditional expenditures, e.g., integrated interventions, may not be prioritized even if they originally were planned for in the budget. Another barrier is that insufficient resources maybe transferred to the districts where social problems and environmental degradation are most problematic. To accelerate change:

- **Expenditure reviews:** Public environmental and climate expenditure reviews and budget codes can help hold governments accountable for public investment. Integrated evidence demonstrating the importance of the three dimensions of sustainable development makes the case for public and private investments in sustainable development in the first place.
- **National funds for inclusive sustainability:** Countries should study the factors of success in Rwanda for successfully establishing a national fund to address interlinked social, environmental and economic issues. This has catalysed millions of dollars for real change.

Countries should consider establishing nationally appropriate models.

- **Accessing international funds:** Global and national environment and climate funds and investment instruments (e.g., public or private green bonds) can partially cover budget shortfalls if proposals and implementation are aligned with national priorities.
- **Influencing the private sector:** A poverty-environment perspective needs to have greater influence on private-sector investments. Pathways to explore include: establishment of a strategic approach to attract and manage private and foreign direct investment; scrutiny of individual investment proposals and negotiation of investment contracts; and monitoring of investor compliance with relevant social and environmental laws and project contracts.

#### Pathway 5. Progress metrics and monitoring

To monitor and report progress toward the multiple targets of SDGs and Agenda 2063 will surely demand the ‘data revolution’ called for in Rio+20 Outcome Document and SDG 17 – more integrated data and analysis to inform reporting and decision-making. Building on the global SDG 2030 preliminary indicators, national bureaus of statistics and sector institutions can include social, economic and environmental linked indicators in national monitoring systems. Efforts to strengthen interlinkages in national monitoring systems should enable national institutions to enhance policy coherence for sustainable development.

One *barrier* is weak institutional capacities that limit monitoring to bare-minimum economic and social indicators; another barrier is the high costs of conducting household surveys. There are also methodological challenges regarding environmental indicators (e.g., ecosystem service values) and analysis (e.g., cost-benefit analysis with environmental and social variables).

However, innovative data standards can be adopted that distinguish between environmental and social values and between costs and benefits and that account for equity and distribution of costs and benefits (Report of the UN Secretary-General, 2014). Three activities can overcome the barriers and accelerate progress in monitoring the SDGs:

- **Strengthening statistical capacities:** Strengthening integrated statistical and analytical capacities of staff in many sector agencies and bolstering the institutional capacity of national bureaus of statistics and sector monitoring teams.
- **Broadening metrics and applying methodologies for ecosystem accounting:** To more precisely reflect the interlinkages among the economic, environmental and social dimensions of a particular country’s economy. For example, this is possible by applying methodologies for ecosystem accounting and valuation and including the resulting information in economic and social cost-benefit analyses.
- **Country-level reporting on the SDGs:** National bureaus of statistics and sector working groups can review national-level monitoring indicators and consider the 230 preliminary indicators for the SDGs identified by the UN Inter-agency and Expert Group on SDG Indicators (IAEG-SDG) (UN, 2016). Exploring options for establishing a methodology for country-level reporting on SDG indicator 17.14.1 – “mechanisms in place to enhance policy coherence of sustainable development” – will further be important.

While much progress has been made, our case studies suggest that there is more to do to make African economies inclusive and sustainable. In essence, our understanding of economic performance, and the metrics for it, must be broader and deeper and more precisely reflect the purpose of the economy to provide for human well-being and to sustain the environment and natural resources. The experiences of the Poverty-Environment Initiative and its country partners have provided valuable lessons for governments. Now they are better equipped to take on the challenge to build the institutions – their capacities and tools, norms and rules, leadership and societal support – that can manage the necessary integration, empowerment, financing and monitoring for the journey to 2030 and further to Africa’s own vision for 2063.

## Annex 1. Rwanda checklist for intergrating environment and climate change in sector plans and budgets

Sector	Strategic Program	Climate change and Environmental Outcome	Indicators	Outputs/ Activities	Stakeholders	Budget	Baseline	Targets (annual)	Align-ment with national develop-ment plan outcome
Agriculture	Intensification and development of sustainable production systems	Mainstreamed Agroecology: Land husbandry, Water harvesting, Hillside irrigation Project, Integrated Water Resources Management and One Cow per Poor family.	Area under radical terracing and progressive terracing	1. Joint planning for soil erosion control at District level 2. Design and implement Land husbandry works in different watersheds	[sector identifies relevant stakeholders e.g. ministries, local administration, private sector and civil society]	[sector indicates proposed annual budget]	[sector indicates baselines]	[sector indicates annual targets]	
			Number of cows distributed to poor families	Implement one cow per poor family program					
Forestry	Sustainable forestry, agroforestry and biomass	Improved Forest Management for degraded forest resources	% of land area forest cover	Promotion of Afforestation/ Reforestation through enhanced germplasm and technical practices in the planting and post-planting process					
			% degraded forests rehabilitated	Rehabilitation of degraded forest plantations in order to increase biomass supply without converting additional land.					
			% Dissemination and use of Improved Cook stoves	Improve cook stoves promotion and charcoal licensing					

Sector	Strategic Program	Climate change and Environmental Outcome	Indicators	Outputs/ Activities	Stakeholders	Budget	Baseline	Targets (annual)	Alignment with national development plan outcome
<b>Extractives</b>	Climate compatible mining	Pilot green technologies established	Number of green technologies established in the mining sector	Pilot a model mine that encourages green technologies	[sector identifies relevant stakeholders e.g. ministries, local administration, private sector and civil society]	[sector indicates proposed annual budget]	[sector indicates baselines]	[sector indicates annual targets]	
		Environmental Impact Assessments included in mining projects	Number of Environmental Impact Assessments conducted for mining projects	Conduct Environmental Impact Assessments for mining projects					
<b>Tourism</b>	Ecotourism, conservation and payment for ecosystem services	Promote community-based ecotourism	% lower income quintiles households reached	Increase the proportion of tourism revenues flowing in to the community fund from 5% to 10%, and review application procedures and awareness to ensure participation in communities adjacent to parks.					
<b>Energy</b>	Sustainable small-scale energy installations in rural areas	Improved energy efficient technologies	Number of households using improved energy efficient technologies (cook stoves, biogas, peat) and rural household using off-grid lighting products	Extend loan guarantees through the Green Fund (FONERWA) to support renewable energy enterprises such as micro hydro engineering companies, mini-grid operators, and solar and biogas retailers					
<b>Health</b>		Improved control and prevention of respiratory diseases for workers exposed to air pollution	% of environmental related respiratory diseases for workers exposed to air pollution	1) Prevent environmental pollution and negative impacts on human health 2) Increase awareness on safeguards for workers exposed to air pollution					

Sector	Strategic Program	Climate change and Environmental Outcome	Indicators	Outputs/ Activities	Stakeholders	Budget	Baseline	Targets (annual)	Alignment with national development plan outcome
Finance	National economic development and stability	Environment and climate change contribution to national growth	Proportion of natural capital as a % of GDP	Track the cost of climate change and environmental degradation as % of GDP	[sector identifies relevant stakeholders e.g. ministries, local administration, private sector and civil society]	[sector indicates proposed annual budget]	[sector indicates baselines]	[sector indicates annual targets]	
			% cost of climate change and environmental degradation on GDP						
Private sector	Green industry and private sector development	Promote green technologies	Number of new green technologies employed	1.Build a regulatory environment that incentivizes green technologies and innovation 2.Promote green technology industries through the Private Sector Federation to establish SME and private sector support programmes for technology awareness					
		Promotion of off-farm SMEs	Number of off-farm SMEs created around protected and degraded	Support to small and medium enterprise development					



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Woman in Chimolo Mozambique.

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# ENDNOTES

- 1 As highlighted in the Secretary-General's reports in preparation of the post-2015 Agenda (Report of the Secretary-General on mainstreaming of the three dimensions of sustainable development throughout the United Nations system, May 2013)
- 2 SDGs 17.6, 17.14/Agenda 2063 Goals 19-20
- 3 <http://www.espa.ac.uk/results/publications>
- 4 References in this paper to 'science' include social science, economics and evidence produced following natural or social science methodologies.
- 5 UNDP-UN Environment Poverty-Environment Initiative & FAO. 2016. Malawi Soil Loss Assessment.
- 6 At the Malawi national validation workshop of the soil loss assessment in February 2016.
- 7 At the country launch of the cost of the gender gap report in March 2016.
- 8 The disproportionate effects of energy poverty on women's life are well documented, e.g., by Y. Glemarec, F. Bayat-Renoux and O. Waissbein, 2016; PEI and UN Women, 2015.
- 9 Interview by UNDP-UN Environment Poverty-Environment Initiative 2014.
- 10 Interview by UNDP-UN Environment Poverty-Environment Initiative 2014.
- 11 Interview by Tanzania Economic and Social Research Foundation 2016
- 12 Interview by Tanzania Economic and Social Research Foundation 2016
- 13 BAIRD Maritime, May 2014.
- 14 The Nation, June 2014.
- 15 Based on the estimation that Mozambique in 2010 had 390,000 ha of mangroves
- 16 The Nation, 25 August 2016.
- 17 President's opening speech at the 46th Session of Parliament. November 2015.
- 18 UNDP-UN Environment Interview, 2014.
- 19 UNDP-UN Environment Interview 2014.
- 20 Para. 13 of 'Transforming our World: The 2030 Agenda for Sustainable Development'. Outcome document of the UN Summit for the adoption of Agenda 2030. August 2015.
- 21 Environmental sustainability encompasses sustainable natural resource management, ecosystems management and conservation.
- 22 UNDP-UN Environment Interview 2016.
- 23 More information on the SDG target prioritization tool is at <http://www.ifdd.francophonie.org/>
- 24 Speech at United Nations Environment Assembly, May 2016.
- 25 UNDP-UN Environment Poverty-Environment Initiative Interview 2016.
- 26 UNDP-UN Environment Poverty-Environment Initiative Interview 2016.

- 27 Department of Economic Planning and Development and Department of Human Resource Management and Development
- 28 These annexed Guidelines were elaborated by the Office of the President and Cabinet, with technical support from the UNDP-UNEP Poverty-Environment Initiative.
- 29 UNDP-UN Environment Poverty-Environment Initiative Interview 2016.
- 30 UNDP-UN Environment Poverty-Environment Initiative Interview, 2014.
- 31 Rwanda Environment Management Authority. 2016. Foreword Sectors Assessment Report for Environment and Climate Change Mainstreaming.
- 32 UNDP-UN Environment PEI Interview, 2016.
- 33 Mozambique Institute of Statistics <http://www.ine.gov.mz/>
- 34 In 2014, the Ministry of Coordination of Environment Affairs was transformed into the Ministry of Land, Environment and Rural Development.
- 35 UNDP-UN Environment Interview 2014.
- 36 Developed by the OECD, the Classification of the Functions of Government (COFOG) classifies government expenditure data from the System of National Accounts by the purpose for which the funds are used. The first-level COFOG splits expenditure data into 10 functional groups or sectors of expenditures (such as defence, education and environmental protection). The second-level COFOG further splits each first-level group into up to nine sub-groups. The group "05 Environmental Protection" is split into six sub-groups, one of which is pollution abatement used for activities relating to, among others, climate protection (<http://unstats.un.org/unsd/cr/registry/regcs.asp?Cl=4&Lg=1&Co=05.3>). The reference to climate protection for the pollution abatement function in this international system allowed the Government of Mozambique to open a sub-group within the pollution abatement function specifically for activities relating to climate change.
- 37 UNDP-UN Environment Poverty-Environment Initiative Interview 2016.
- 38 US\$37 million has been received from DIFID; US\$8 million from KFW; US\$5 million from UNDP; US\$18 million in external financing; US\$15 million has been leveraged as co-financing; and there is US\$4 million in capitalization commitments from the government. (Source: <http://www.fonerwa.org/?q=about>)
- 39 UNDP-UN Environment Poverty-Environment Initiative Interview, 2014
- 40 UNDP-UN Environment Poverty-Environment Initiative, 2014c.
- 41 UNDP-UN Environment Poverty-Environment Initiative, Interview 2015.
- 42 Agenda 2030 underscored that a "robust follow-up and review mechanism for the implementation of the new 2030 Agenda for Sustainable Development will require a solid framework of indicators and statistical data to monitor progress, inform policy and ensure accountability of all stakeholders." <http://unstats.un.org/sdgs/>
- 43 <http://www.devinfo.org/tanzania/> and <http://www.povertymonitoring.go.tz/>
- 44 These pathways largely confirm the approach and guidance for SDG implementation advocated by the United Nations Development Group (2016), UNDP (2016), UN Environment (2015a) and the United Nations Sustainable Development Solutions Network (2015).

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