



GLOBAL  
CENTER ON  
ADAPTATION



# Strategy and Planning to Redouble Adaptation in Africa

A Review

CONFERENCE VERSION

This work is a product of the staff of the Global Center on Adaptation (GCA). The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of GCA, its Executive Board, Supervisory Board, Advisory Board, or any of its donors. GCA has taken all reasonable precautions to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. GCA does not guarantee the accuracy of the data included in this work. The responsibility for the interpretation and use of the material lies with the reader. In no event shall GCA be liable for damages arising from its use. References to specific companies does not imply that they are endorsed or recommended by GCA, or that those companies are referred to in preference to others not mentioned. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of the GCA concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

**© Global Center on Adaptation (GCA) 2022 CC-BY 4.0**

Suggested citation: Global Center on Adaptation. 2023. Strategy and Planning to Redouble Adaptation in Africa: A Review (Conference version). Rotterdam, Abidjan, and Nairobi

Cover photo: The Systemic Integrated Adaptation (SIA) team welcomed decision makers in climate change adaptation from multiple levels (village, district, regional, and national) to the Multi-Level Integrated Adaptation Governance Workshop, Accra, Ghana (Photo: CGIAR/E. van de Grift)

---

# Key Findings and Messages

- Finance for adaptation is critical but it is not enough to protect the continent. Knowing what to do first, and having the institutions with the capacity to take adaptation actions at scale, is equally important.
- Africa has made good progress in developing national strategies for adaptation embedded in the Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs). All but one country have completed their NDCs, and close to one-third have finished their NAPs.
- The breadth and depth of these strategic documents and the quality of the enabling environment to support adaptation investments varies across the continent. About half of African nations have a good or better environment for adaptation investments.
- Seven countries in Africa have all the key strategic and planning elements for adaptation action in place: clear institutional mandates, priority sectors identified, adaptation costs estimated, and specific adaptation goals stated. These countries are ready to absorb financing and implement adaptation programs at scale.
- Notably, low-income countries in Africa are more likely to have a favorable environment for adaptation investments. Many of them have done the homework needed to attract global and regional public and private investors in adaptation.
- There is much work ahead to analyze the adaptation needs of economic sectors and calculate financing needs. A total of 31 African countries have not undertaken this calculation.
- Agriculture, water, and health are priority sectors for most African countries. However, some important economic sectors that are vulnerable to climate change have not yet received sufficient attention and prioritization. One-third of African coastal nations have not prioritized adaptation actions in their blue economies. Only 15 countries in the region identify tourism as a priority sector in adaptation actions. Youth, jobs, and locally led adaptation are themes that need more attention in Africa's adaptation strategies.
- Disaster risk reduction and climate adaptation must work hand in hand. Less than 40 percent of countries make this important connection in adaptation strategies. The institutional arrangements and priority investments are rarely integrated.
- The GCA report offers four key recommendations. First, the ministries of finance and planning need to play a central role in the strategic directions and priorities for adaptation action at scale. Second, adaptation is not only the government's responsibility—choices and priorities for adaptation action require involvement from all stakeholders in African societies. Third, adaptation plans need to be more specific, with clear goals, financing plans, and monitoring systems. Fourth, adaptation plans need to be continuously improved by considering all key vulnerable economic sectors—such as tourism and the blue economy—and by strengthening the linkages with disaster risk reduction.
- New tools—such as the Resilience and Sustainability Trust of the IMF, the Country Climate and Development Reports of the World Bank, and the recommendations of this GCA report—provide deep analysis, recommendations, and financial resources to support institutional and policy reforms and strengthen the capacities of African countries to make their economies more resilient and adapted to a changing climate.

# Acronyms

<b>AFD</b>	Agence Française de Développement	<b>NAP</b>	National Adaptation Plans
<b>AfDB</b>	African Development Bank	<b>NAPA</b>	National Adaptation Programmes of Action
<b>BRD</b>	Development Bank of Rwanda	<b>NDA</b>	National Designated Authority
<b>CAEP</b>	Climate Action Enhancement Package	<b>NDC</b>	Nationally Determined Contribution
<b>CCA</b>	climate change adaptation	<b>NDCP</b>	Nationally Determined Contributions Partnership
<b>CCDR</b>	Country Climate and Development Report	<b>ND-GAIN</b>	Notre Dame Global Adaptation Initiative
<b>CGE</b>	computable general equilibrium	<b>PFM</b>	Public Finance Management
<b>CMP</b>	Coastal Management Plan	<b>PRGT</b>	Poverty Reduction and Growth Trust
<b>COP</b>	Conference of the Parties	<b>RCP</b>	Representative Concentration Pathway
<b>CRM</b>	Climate Risk Management	<b>RSF</b>	Resilience and Sustainability Facility
<b>DRM</b>	disaster risk management	<b>RST</b>	Resilience and Sustainability Trust
<b>DRR</b>	disaster risk reduction	<b>SDGs</b>	Sustainable Development Goals
<b>EIB</b>	European Investment Bank	<b>SDR</b>	Special Drawing Right
<b>FAO</b>	Food and Agriculture Organization of the United Nations	<b>SMSP</b>	Seychelles' Marine Spatial Plan
<b>FONERWA</b>	Rwanda Green Fund	<b>SSA</b>	Sub-Saharan Africa
<b>GCA</b>	Global Center on Adaptation	<b>SSP</b>	Shared Socioeconomic Pathway
<b>GCF</b>	Green Climate Fund	<b>STA21</b>	State and Trends in Adaptation 2021
<b>GDP</b>	gross domestic product	<b>STA22</b>	State and Trends in Adaptation 2022
<b>GHG</b>	greenhouse gas	<b>UNDP</b>	United Nations Development Programme
<b>IFC</b>	International Finance Corporation	<b>UNDRR</b>	United Nations Office for Disaster Risk Reduction
<b>IMF</b>	International Monetary Fund	<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>IT</b>	information technology	<b>UNWTO</b>	United Nations World Tourism Organization
<b>IWRM</b>	Integrated Water Resources Management	<b>WASH</b>	water, sanitation and hygiene
<b>L&amp;D</b>	loss and damage	<b>WRI</b>	World Resources Institute
<b>LDCs</b>	Least Developed Countries		
<b>LTS</b>	Long-Term Strategy		
<b>MRV</b>	Measuring, Reporting, and Verification		

# Contents

Key Findings and Messages	i
Acronyms	ii
Executive Summary	1
<b>1 Introduction</b>	<b>6</b>
1.1 The Urgency of Climate Adaptation Action in Africa	6
1.2 The Need for Strong Planning and Institutions	7
1.3 The Objectives and Approach of this Paper	7
<b>2 Strategic Adaption Documents</b>	<b>9</b>
2.1 A Brief History of Strategic Adaptation Documents: NDCs, NAPs, and LTSs	9
2.1.1 Nationally Determined Contributions	10
2.1.2 National Adaptation Plans	10
2.1.3 Long-Term Strategies	10
2.2 A Snapshot of Previous Research and Findings	10
<b>3 Current State of Strategic Adaptation Plans in Africa: GCA Analysis</b>	<b>14</b>
3.1 Continental Coverage	14
3.2 Analysis Methodology	15
<b>4 Results</b>	<b>16</b>
4.1 General Findings	16
4.1.1 ND-GAIN Index Scores Analysis	18
4.1.2 Income Level Groups Analysis	19
4.2 Findings by Indicator	21
4.2.1 Institutional Arrangements	21
4.2.2 Development of Sectoral Plans	23
4.2.3 Monitoring and Evaluation for Adaptation Goals	25
4.2.4 Finance Needs Estimates	27
4.2.5 Linking Adaptation with Disaster Risk Reduction	29
4.3 Linkages Between the Disaster Risk Reduction Agenda and the Paris Agreement	30
4.3.1 The Sendai Framework and National Disaster Risk Management Strategies	30
4.3.2 Integration of Disaster Risk Reduction into Adaptation Priority Sectors	32
4.3.3 Disaster Risk Reduction as an Adaptation Priority Sector	32
<b>5 Adaptation Priorities Across Sectors</b>	<b>35</b>
5.1 Key Priority Sectors	35
5.1.1 Agriculture and Livestock	36
5.1.2 Water	37
5.1.3 Health	38
5.2 Highlighting Less Discussed Priority Adaptation Sectors and Themes	40
5.2.1 Coastal Zones and the Blue Economy	40
5.2.2 Tourism	43
5.2.3 Infrastructure and Human Settlements	43
5.2.4 The Importance of Inclusion	44
<b>6 Recent Strategic Documents, Policy and Institutional Actions Supported by the World Bank and the IMF</b>	<b>45</b>
6.1 Country Climate and Development Reports (CCDRs)	45
6.1.1 Climate Policy Recommendations for Priority Action	47
6.2 IMF's Resiliency and Sustainability Trust	51
<b>7 Recommendations</b>	<b>54</b>
<b>Endnotes</b>	<b>56</b>



---

# Executive Summary

Mounting evidence continues to show that Africa is the most vulnerable continent to the adverse impacts of climate change. According to the ND-GAIN vulnerability ratings Index, out of the world's top 10 most vulnerable countries worldwide, eight are in Africa.

Increased temperature has already contributed to an estimated 34 percent reduction in agricultural productivity in Africa since 1961—more than any other region in the world. According to the World Meteorological Organization, Africa has been losing between US\$7 billion and US\$15 billion every year since 2020 due to the devastating effects of climate change—predicted to rise to about US\$50 billion per year by 2030. Extreme weather conditions are exacerbating existing inequalities in health, income, employment, and gender—affecting millions of people.

Ramping up climate finance flows for adaptation is critical to addressing the irreversible impacts of climate change, but this alone will not be enough to protect the continent. Having a clear set of priorities, with institutions that have the capacity to plan properly and take adaptation actions at scale, is equally important.

Planning is crucial when making strategic choices for policies and programs for climate adaptation, particularly in the face of constrained budgets. Climate change is a complex and multifaceted challenge that affects various sectors and all of society. Developing effective adaptation strategies requires careful consideration of these interconnections and potential trade-offs. Adaptation action likewise involves multiple levels of government and stakeholder engagement. Planning provides a structured approach to ensure that different policies are consistent and complementary, avoiding conflicts or duplication of efforts and ensuring coordination among actors.

For these reasons, the Global Center on Adaptation (GCA) completed a thorough review of all the national strategic adaptation documents prepared by governments in the African continent. This study provides a detailed review of the main characteristics of these strategic adaptation plans, their depth and coverage, and the degree to which these documents demonstrate a supportive environment (including policies, institutions, and programs) to implement the most critical adaptation programs at scale for each country.

This report has been prepared as an input to the Africa Climate Summit (Nairobi, September 2023). A parallel report reviews the adaptation finance flows to Africa and calculates the gap to meet the needs identified by countries in their strategic adaptation documents. These two reports will serve as input to the preparation of the Country Climate Adaptation Compacts that will build on each country's strategic adaptation documents and specify priority investment programs and projects ready for financing and scaling-up. All these activities are connected to the Africa Adaptation Acceleration Program, which is mobilizing US\$25 billion for adaptation investments in the region.

This report reviews the adaptation components of: Nationally Determined Contributions (NDCs), the key documents that emerged from the Paris climate agreement; National Adaptation Plans (NAPs), a UNFCCC-led instrument to drive and coordinate national adaptation actions; and long-term strategies (LTSs), that help countries articulate a national vision for a climate-resilient society.

Many organizations have reviewed different aspects of these documents. For example, in 2018, the Africa NDC Hub in the Africa Development Bank released their NDC Gap Analysis Report of the 44 African NDCs submitted at that time. The World Resources Institute undertook an analysis of the

adaptation components of all countries' updated NDCs for the 2020–2021 submission cycle. The analysis highlights the need for improved guidance on including an adaptation component in NDCs, increased clarity of adaptation goals and objectives, and support for both investment and implementation plans for prioritized adaptation actions. The NDC Partnership's Climate Action Enhancement Package (CAEP) published a report summarizing lessons in developing implementation ready NDCs, across pillars of ambition, quality, and process. The United Nations Development Programme (UNDP) launched the Climate Promise Initiative in 2019, pledging to support at least 100 developing countries to enhance their NDCs. As of August 2023, over 120 countries are affiliated with the Climate Promise. In 2021, UNDP released a Global Outlook Report, "The State of Climate Ambition", which assessed global progression on climate ambition. Finally, the UNFCCC prepared an update on the progress of NAP formulation and implementation as of 2021. This GCA study builds on the excellent analysis of partner organizations in the climate area and focuses on complementary areas of review.

## HOW PREPARED IS AFRICA WHEN IT COMES TO ADAPTATION PLANNING?

Africa has made good progress in developing national strategies for adaptation embedded in the NDCs and NAPs. All but one country have completed their NDCs, and close to one-third have finished their NAPs.

The breadth and depth of these strategic documents and the quality of the enabling environment to support adaptation investments varies. To analyze this variation and identify good practices, this study used five areas of analysis: institutional arrangements; development of sectoral plans; finance needs estimates; links between adaptation with disaster risk and reduction efforts; and monitoring and evaluation for adaptation goals. These are priority areas of governance and planning in forming an effective enabling environment for investment.

The analysis shows that African nations have done a good job in the preparation of their adaptation strategy. About half of African nations have a good or better environment for adaptation investments. Furthermore, seven of the 53 African countries included in the study can be classified as having best

practices in the continent including: clear institutional mandates; priority sectors identified; adaptation costs estimated; timelines indicated; and specific adaptation goals stated. These countries are ready to absorb financing and implement adaptation programs at scale. Many other countries have good practices in some of the above elements. There are enough examples to support every country in the region in upgrading their adaptation strategies and planning.

Our analysis shows that low-income countries in Africa are more likely to have a favorable environment for adaptation investments. Close to half of them have higher-quality adaptation strategy documents. Many of them have the strategies and planning to absorb more resources.

## UNPACKING THE ENVIRONMENT FOR ADAPTATION INVESTMENTS IN STRATEGIC PLANNING DOCUMENTS

The "Institutional Arrangements for Adaptation" chapter in the GCA's 2022 State and Trends in Adaptation report gave an overview of the importance of setting up an institutional framework for climate governance to plan, legislate, and manage the implementation of adaptation actions in a country. Close to one-third of African countries have a relatively mature institutional framework for climate adaptation action, that involves other ministries and branches of government. Another 11 countries have taken the initial step to designate a clear ministry or agency responsible for leading their climate-related initiatives.

For example, in Tanzania the Vice President's Office holds the responsibility for monitoring and evaluation of environmental aspects relating to NDC implementation. Additionally, the National Climate Change Steering Committee and Zanzibar Climate Change Steering Committee play a pivotal role in guiding the coordination and execution of the NDC. Their functions encompass providing policy guidance, ensuring action coordination, and facilitating cross-sectoral participation. Cameroon has incorporated religious and tribal chiefs into its climate institutional framework. This approach not only ensures the reach of adaptation readiness to the community level but also provides a more effective means of doing so.



One key finding is that countries should clearly outline their priority sectors in their strategic adaptation documents. By prioritizing specific sectors, countries can develop targeted adaptation strategies and measures that address specific vulnerabilities. Such tailored approaches ensure that adaptation investments are effectively utilized, maximizing their impact and promoting resilience in the areas that need it the most. Well-developed adaptation sectoral goals, which include financial estimates for implementing adaptation measures, provide a clear roadmap for action and effective utilization of resources.

Among the 50 countries with identified priority sectors in their strategic adaptation documents, 18 provide measurable goals to be achieved within their respective sectors. For example, Kenya and Madagascar have well-defined priority sectors and goals that are time-bound, demonstrate ownership, and include financial requirements. Senegal has adopted an interesting approach with flexible and adaptable goals based on a short-term warming horizon of 2°C and a long-term, more challenging 4°C temperature rise. With comprehensive plans for both scenarios, Senegal has mainstreamed these into short-, middle-, and long-term plans for adaptation and development.

Another critical finding is that the full power of adaptation goals and measures requires a well-functioning monitoring and evaluation system, but only 17 countries in Africa have a basic one. Kenya has successfully developed an integrated Measuring, Reporting, and Verification (MRV) system along with integrated MRV tools for adaptation actions, and a good alignment with the institutions and actors involved in adaptation efforts. Most importantly, the report generated for the MRV system is a collaborative effort, involving both state and non-state actors.

Including financial needs in NDCs and NAPs allows countries to strategically plan and prioritize their adaptation actions. This information is crucial for attracting support and mobilizing resources from international donors, development agencies, and financial institutions. In our analysis, 22 African countries excelled in providing detailed information regarding the financial resources needed to implement their specific adaptation goals. For example, Angola has outlined specific strategies

for mobilizing the necessary resources, including domestic funding mechanisms and potential avenues for international cooperation.

## **LINKING ADAPTATION WITH DISASTER RISK REDUCTION**

Climate and disaster risks are growing faster than our collective efforts to build resilience. The consequences of not anticipating, reducing, and managing disaster risks before they manifest as shocks can be dire for societies, livelihoods, and the ecosystems on which we depend. The climate change adaptation (CCA) and disaster risk reduction (DRR) agendas overlap in several ways. Risk reduction cannot occur without the use of climate data; equally, successful CCA depends on risk reduction. For this reason, it is crucial for countries to integrate DRR into their adaptation planning documents. Combining resources and efforts, rather than addressing disasters and climate change separately, can lead to greater efficiency and impact. Despite this, less than 40 percent of African countries in the study had tangible links between their DRR initiatives and their adaptation strategies.

Some good practices include South Sudan, which has outlined a strong institutional framework for DRR across its strategic adaptation documents, with an appointed ministerial focal point for the sector that is embedded within the greater institutional arrangements for adaptation. Lines of communication and coordination between stakeholders are outlined clearly. The NAP includes nine priority sectors, within which adaptation programs are outlined. These programs are expected to be linked to a monitoring and evaluation framework, as well as a budgeting plan to identify sources of funding for implementation.

## **PRIORITIZING SECTORS AND THEMES**

Agriculture, water, and health are priority sectors for most African countries. However, some important economic sectors that are vulnerable to climate change have not yet received sufficient attention. For example, one-third of African coastal nations have not prioritized adaptation actions in their blue economies. Only 15 countries in the region identify tourism as a priority sector, even though it is an important economic sector for the region and it

is highly vulnerable to climate change. There is also a need to incorporate human settlements and infrastructure into adaptation planning.

Some good examples among the sectors that have received less attention include Mauritius, which has a mature institutional approach to the blue economy. Seychelles has a comprehensive coastal management plan with an integrated blue economy approach and incorporates Resilience to Blue Carbon Ecosystems as a priority sector in the NDC. Kenya has a specific goal of conducting risk and vulnerability assessments for its tourism sector. Lesotho has expressed its intention to increase the preparedness of tourism and recreational operations to tackle extreme weather conditions. Malawi takes a step further by actively working on the development of a comprehensive tourism crisis management strategy and plan.

Key cross-sectoral themes also require prioritization, such as youth, jobs, and inclusion. The study found that NDCs and NAPs generally included consultation processes with local communities for the formulation of documents but lacked clarity regarding participation in the planning and implementation phases of adaptation measures. Research shows that adaptation measures are more successful and sustainable in the long term if there is a sense of ownership among local communities and vulnerable populations.

## NEW TOOLS TO HELP POLICYMAKERS

Alongside the recommendations in the GCA report, the World Bank and the IMF have developed new instruments that can support policymakers to strengthen institutions and policies on climate change.

The World Bank has developed a new core analytical tool called the Country Climate and Development Report (CCDR) that analyzes the macroeconomic and sectoral impacts of climate change on countries and provides specific recommendations on programs, policy reforms, and institutional strengthening measures to deal with climate change.

Thirteen African countries are currently covered by CCDRs, and 10 are forthcoming. The macroeconomic and sectoral assessments in CCDRs show that the direct impacts of climate-related shocks on African

economies are context-specific but tend to be large and increasing over time. The first set of CCDRs provides country-specific recommendations for adaptation that are economy-wide or relate to the agriculture, water, health, and environment sectors. In terms of interventions and investments, the CCDRs focus on climate-smart agriculture, climate finance, governance, and urban planning as key policy issues for adaptation.

The IMF has developed the Resilience and Sustainability Trust to support policy reforms that reduce macro-critical risks associated with climate change and pandemic preparedness, and to augment the policy space and offer financial buffers to mitigate the risks arising from such longer-term structural challenges.

For example, in December 2022 the IMF Executive Board approved an arrangement for the Government of Rwanda to access US\$319 million through the Resilience and Sustainability Facility (RSF), the first for an African country. The first review of Rwanda's program under the RSF was completed in May 2023, allowing for an immediate disbursement equivalent to about US\$98.6 million for budget support. The reform areas for Rwanda include: strengthening and institutionalizing monitoring and reporting of climate-related spending; integrating climate risks into fiscal planning; improving the sensitivity of public investment management to climate-related issues; strengthening climate-related risk management for financial institutions; and strengthening the disaster risk reduction and management strategy and operations.

## RECOMMENDATIONS

This report offers four main recommendations:

- **First, ministries of finance and planning need to play a central role in the strategic directions and priorities for adaptation action at scale.** While sectoral ministries and agencies have a critical policy and implementation role in adaptation, and the Ministry of Environment and/or Climate Change plays a principal role, it is essential to ensure that adaptation is a core theme in the deliberations and choices of the ministries of finance and planning.
- **Second, adaptation is not only the government's responsibility—choices and priorities for adaptation action require all stakeholders**

**in African societies.** The government plays a fundamental role in encouraging, supporting, and directing adaptation actions among all stakeholders—from households to communities, to the private sector and civil society. Planning and policies are at the core of an effective mobilization of all of society for adaptation action at scale. Conversely, a truly participatory process during the planning and policy formulation is indispensable to ensure all stakeholders take ownership of these changes toward more adapted societies.

- **Third, adaptation plans need to be more specific, with clear goals, financing plans, and monitoring systems.** The NDCs, NAPs, and LTSs provide helpful directions and priorities. Still, there is a gap between these strategic documents and specific sectoral investment programs, well-defined adaptation policies, and bankable adaptation investments.
- **Fourth, adaptation plans need to be continuously improved by considering all key vulnerable economic sectors and by strengthening the linkages with DRR.** This report offers specific areas for consideration by African governments in this continuous improvement process.

Other more detailed recommendations that African countries may consider in their strategic adaptation planning processes include the following.

- Assess how well-established the enabling environment is for adaptation investments in the country's planning process. This study offers a six-level scale that may be used for such assessment and for an improvement program using good practices from other African countries rated higher in this metric. Countries with higher income levels may learn from the excellent strategic work that several low-income, vulnerable countries have done in this area.
- In general, the institutional framework to plan, legislate, and manage the implementation of adaptation actions requires strengthening. This need is not uncommon, even in high-income countries. Having well-defined arrangements for leadership, coordination, prioritization, and funding of adaptation actions is key to success.
- While national cross-sectoral adaptation policies and programs are needed in most countries, achieving effective change in the resilience

and adaptation capacities of communities, regions, businesses, and sectors requires more specific and targeted plans and programs at the sectoral and subnational levels. These plans and programs need well-defined goals, financial need estimates, implementation arrangements, and a comprehensive implementation roadmap.

- The monitoring and evaluation systems for adaptation policies and priorities are generally weak in Africa and require strengthening. This is an area of active research and learning in other regions, so there are no ready-made solutions to copy. African countries need to develop systems linked to their national institutions and processes instead of parallel approaches focused on adaptation.
- An effective implementation of the priorities and directions defined by national strategic adaptation documents requires a detailed estimate of funding needs. These estimates vary in quality and depth among the strategic documents reviewed. It is crucial to continuously improve these estimates and link them to the national budget and investment prioritization process.
- It is critical for the African region to enhance coordination between strategic adaptation documents and national disaster risk reduction policies. This could be done by merging initiatives and finding inter-agency coordination mechanisms to ensure the strongest possible leverage between these two areas of work that are, sometimes, not as integrated as they could be.
- African countries should consider gradually expanding the priority sectors for adaptation action to include the blue economy, tourism, infrastructure, and human settlements. Cross-sectoral issues such as inclusion, youth, and jobs should also be incorporated into future versions of adaptation strategies and plans.
- Finally, African countries could leverage further new tools developed by the World Bank and the IMF, such as the Country Climate and Development Reports and the Resilience and Sustainability Trust, respectively. These new instruments provide a robust analysis of policy and institutional reforms needed to strengthen the capacity of African nations to deal with the rapidly increasing impacts of climate change.

# 1 Introduction

## 1.1 The Urgency of Climate Adaptation Action in Africa

As worldwide impacts of climate change intensify, it has never been more urgent to scale up adaptation action. Over the past year there has been record-breaking extreme weather globally, with catastrophic floods, wildfires, heatwaves, and droughts on every continent. More frequent and intense extreme weather and climate-related events are creating new and increasing risks everywhere, but Africa is especially vulnerable.

Mounting evidence continues to show that Africa is the most vulnerable continent to the adverse impacts of climate change. According to one of the most credible vulnerability ratings (the ND-GAIN Index), out of the world's top 10 most vulnerable countries worldwide (Somalia, Chad, Niger, Guinea-Bissau, Micronesia, Tonga, Eritrea, the Sudan, Liberia, and Solomon Islands), eight are in Africa.<sup>1</sup> The most recent 2022 Climate Change Report of the Intergovernmental Panel on Climate Change on "Impacts, Adaptation, and Vulnerability"<sup>2</sup> confirmed that West Africa, East Africa, and Central Africa are among the global hotspots of human vulnerability to climate change.

Increased temperature has already contributed to an estimated 34 percent reduction in agricultural productivity in Africa since 1961—more than any other region in the world.<sup>3</sup> By 2030, some 108–116 million people are expected to be exposed to sea-level rise risks.<sup>4</sup> Droughts and floods are also a concern. Since 2020, Africa has been losing between US\$7 billion and US\$15 billion every year due to the devastating effects of climate change—predicted to rise to about US\$50 billion per year by 2030.<sup>5</sup>

Extreme weather conditions are exacerbating existing inequalities in health, income, employment, and gender, particularly in Africa which is affecting millions of people.

Ramping up climate finance flows for adaptation is critical to addressing the irreversible impacts of climate change. Adaptation makes eminent economic and investment sense. Evidence shows that every US\$1 invested in adaptation is estimated to generate a return between US\$2 and US\$10.<sup>6</sup> Yet, adaptation finance in Africa is nowhere close to the needs. In 2019–2020, Africa received US\$11.4 billion on annual average in adaptation finance. In 2021–2022, this finance is likely to see a double-digit increase but will remain far below the annual financing need of US\$52.7 billion or 2.5 percent of Africa's GDP.<sup>7</sup>

In addition, the fulfillment of climate finance commitments made by developed countries, which involve providing US\$100 billion annually as climate finance and doubling their adaptation finance to developing countries from US\$20 billion to US\$40 billion by 2025, is yet to be fully realized.

With diverse investment conditions across the continent, the ability of African countries to attract climate finance is hugely disparate, with the least developed countries less likely to have the institutional and political infrastructure needed to attract climate financing. Countries receiving greater levels of financing, on the other hand, tend to have established well-defined national policies, investment regulations, national climate finance funds, multiple national accredited entities, coordinating authorities for the climate agenda, and green bonds, among various other initiatives.<sup>8</sup>

The strong political will of African Heads of State shows that the time is right for a global coalition of efforts around Africa to upscale adaptation investments. Through tailored support, there are huge opportunities for countries to increase their ability to mobilize and diversify financing by unlocking private finance in collaboration with Africa's real economy. Achieving this entails strengthening international, regional, and local institutions and engaging the private sector through the establishment of regional, subregional, national, and local technical programs that are tailored and adapted to the specific country's needs and circumstances.

In preparation for the Africa Climate Adaptation Summit to take place in September 2023 in Nairobi, African countries have been invited to prepare Climate Adaptation Country Compacts to strengthen their climate change adaptation agenda and allow them to meet their financial needs, as well as fill their adaptation funding gaps. The Compacts will give individual African countries a solid foundation for decision-making, resource allocation, and greater investments in their adaptation projects and programs. The main objective of the Climate Adaptation Country Compacts is to increase adaptation investments in Africa, in the current context of frequent and intense adverse impacts of climate change on national economies.

## **1.2 The Need for Strong Planning and Institutions**

Planning is crucial for governments when making strategic choices for policies and programs for climate adaptation. Climate change is a complex and multifaceted challenge that affects various sectors and all of society. Developing effective adaptation strategies requires careful consideration of these interconnections and potential trade-offs. Adaptation action likewise involves multiple levels of government and stakeholder engagement. Planning provides a structured approach to ensure that different policies are consistent and complementary, avoiding conflicts or duplication of efforts, and ensuring coordination among actors.

By identifying priority areas and allocating resources based on the most pressing adaptation needs, governments can maximize the impact of their efforts and ensure the allocation of resources

is efficient. This is particularly important when resources are limited.

Climate impacts can have significant economic consequences. Planning for adaptation allows governments to help prioritize the most important adaptation actions considering budget constraints and the multiple priorities countries face. Planning also allows countries to define and implement the preferred climate-adapted growth trajectory that reduces the negative economic effects of climate-related shocks.

Planning helps identify vulnerable areas, populations, and sectors that are most at risk from the impacts of climate change. By understanding these vulnerabilities, governments can develop targeted policies and programs to reduce risks and enhance resilience. Developing targeting adaptation action includes defining clear goals and indicators for measuring the effectiveness of efforts. This enables governments to track progress, identify areas where adjustments are needed, and demonstrate accountability to the public and to donors.

Strategic adaptation documents are a key planning tool used by governments to address the impacts of climate change. Africa has made significant progress in developing strategic adaptation documents, but challenges remain in attracting investment and translating these plans into action.

To understand the state of adaptation planning in Africa, the Global Center on Adaptation (GCA) has prepared this regional study.

## **1.3 The Objectives and Approach of this Paper**

The Global Center on Adaptation analyzed the current state of strategic adaptation plans (National Adaptation Plans [NAPs], NDCs, and Long-Term Strategies [LTSS]) to identify the readiness of African countries to identify and implement priority adaptation investments. This study provides a detailed review of the main features of these strategic adaptation plans, their depth and coverage, and the degree to which these documents demonstrate a supportive environment (including policies, institutions, and programs) to implement the most critical adaptation programs at scale for each country.

The objectives of this report are to:

- Understand the progress of adaptation planning in Africa
- Highlight opportunities and ways to improve investment readiness
- Showcase best practice
- Highlight adaptation gaps and priorities in sectors
- Highlight the importance of the connection between disaster risk reduction and the Paris Agreement
- Showcase policies and approaches that are supported by the World Bank and the International Monetary Fund (IMF)
- Provide a list of recommendations.

The report begins by providing a summary of the history of strategic adaptation documents globally and in Africa. It follows with a brief overview of related work and analysis of these strategic adaptation documents to date by other institutions. The report then presents an original analysis of the current state of strategic adaptation plans in Africa—providing statistics of continental coverage and an in-depth discussion of findings. The report then analyzes in detail the depth and quality of sectoral adaptation programs in these plans and identifies

gaps in sector prioritization. An important analysis in this report is the level of integration between climate change adaptation and disaster risk reduction management strategies at the country level, to understand whether and how countries leverage the synergies between these two agendas for resource and planning optimization. Finally, the paper reviews two new instruments by the World Bank and the IMF designed to support the institutional and policy reforms of countries in their fight against climate change. The findings are then synthesized to provide recommendations for improved planning and investment readiness at the national level.

This report is an essential first step in understanding the landscape of strategic adaptation documents and investment readiness in Africa. The Country Compacts will provide the next critical step. Meaningful engagement with ministries and other important stakeholders is essential to gain a true understanding of a country's vulnerabilities, priorities, governance structures, and enabling environment. Participatory discussion allows the integration of invaluable insights from leaders themselves into the analysis. The process of Country Compacts facilitates the co-development of optimal investment plans and pathways tailored to a country's specific context and needs.

# 2 Strategic Adaptation Documents

This section provides an overview of the history of strategic adaptation documents, in the context of the Paris Agreement and the Sendai Framework. It then highlights the various assistance programs set up over the years to help countries enhance their NDCs.

## 2.1 A Brief History of Strategic Adaptation Documents: NDCs, NAPs, and LTSs

The year 2015 marked a historical moment when 196 countries signed the Paris Agreement, with the aim to hold global warming well below 2°C and limit it to 1.5°C above pre-industrial levels. The Paris Agreement also set out a global goal on adaptation—enhancing adaptive capacity, strengthening resilience, and reducing vulnerability to climate change—with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the global temperature goal.

It is important to note that climate documents were also produced prior to the Paris Agreement. The adoption of the Kyoto Protocol in 1997 was one of the earliest events that set the stage for addressing climate change on a global scale. Recognizing the impacts on Least Developed Countries (LDCs) led to the introduction of the National Adaptation Programmes of Action (NAPA) concept. The formal adoption of the NAPA framework in 2001 during the Seventh Conference of the Parties (COP7) in Marrakech solidified its role as a crucial mechanism to assist vulnerable countries in identifying and prioritizing their adaptation needs. The NAPA continues to play an essential role in supporting LDCs in their efforts to cope with the adverse impacts of climate change and build resilience for a more sustainable future.

Parallel to the Paris Agreement, the Sendai Framework was adopted in 2015 at the third UN World Conference on Disaster Risk Reduction—with

the objective to reduce the risk of anthropogenic and natural hazards and designed to substantially reduce losses in lives, livelihoods, and health by 2030. The framework presents a universal vision for how societies may collaborate to identify, prevent, and reduce risks before they manifest as shocks or disasters, and to build resilience in the face of climate shocks and disasters. The disaster risk reduction (DRR) and climate change adaptation (CCA) agendas overlap in several ways. They both seek to reduce vulnerabilities to hazards and operate in the context of sustainable development and poverty reduction.

### Box 1. Definitions Relating to Adaptation

**Adaptive Capacity:** The ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences.

**Resilience:** The capacity of social, economic, and environmental systems to cope with a hazardous event, trend, or disturbance—responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation.

**Sustainable Development:** Development that meets the needs of the present—without compromising the ability of future generations to meet their own needs—and balances social, economic, and environmental concerns.

**Vulnerability:** The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including susceptibility to harm and lack of capacity to cope and adapt.

Source: IPCC, 2022<sup>9</sup>

### 2.1.1 Nationally Determined Contributions

Nationally Determined Contributions (NDCs), submitted to the United Nations Framework Climate Change Convention (UNFCCC), are at the center of the Paris Agreement. NDCs embody each country's ambition and goals to reduce its national greenhouse gas emissions and adapt to the impacts of climate change, based on individual national circumstances and development priorities. Together, these documents indicate global progress on the long-term goals of the Paris Agreement.<sup>10</sup>

Under Article 4, paragraph 2, of the Paris Agreement, countries are obliged to submit NDCs every five years, and each successive NDC is expected to represent a progression beyond the previous one and reflect its highest possible ambition. Countries may opt to make additional submissions reflecting enhanced ambitions (Article 4, paragraph 11).

Under Article 7 of the Paris Agreement, Parties are invited to submit and periodically update adaptation communications which could describe adaptation priorities, plans, and actions, as well as implementation and support needs. These may be communicated through NDCs or any other document, including national adaptation plans (NAPs) or national communications.<sup>11</sup>

### 2.1.2 National Adaptation Plans

The process to formulate and implement National Adaptation Plans (NAPs) was established in 2010 under the UNFCCC. It is the main UNFCCC-led instrument for driving and coordinating national adaptation actions. The NAP process is continuous, progressive, and iterative, following a transparent country-driven, gender-sensitive, and participatory approach. See Boxes 2 and 3 for more on funding and support of the NAP process. The NAP facilitates the coordination of national and sectoral adaptation efforts among all actors and stakeholders, as well as the integration of climate change adaptation into relevant policies, programs, and activities. As a plan and document, the NAP (to be produced periodically) is to identify medium- and long-term adaptation needs and to develop and implement prioritized actions to address those needs. As such, NAPs are officially endorsed at the national level.<sup>12</sup>

### 2.1.3 Long-Term Strategies

Long-term strategies (LTSs) can help countries articulate a national vision for a climate-resilient society and discuss the opportunities for a more sustainable economic growth model that is cleaner, dynamic, and less carbon-intensive. This aligns with Article 4 of the Paris Agreement, which states that "Parties should strive to formulate and communicate long-term low greenhouse gas emission development strategies, mindful of Article 2 considering their common but differentiated responsibilities and respective capabilities, in the light of different national circumstances".

## 2.2 A Snapshot of Previous Research and Findings

In this section we provide a brief overview of the work of partners and institutions which has offered valuable insights into the state and trends of strategic adaptation documents—both globally and in Africa—through original analysis and/or provision of support for the development and implementation of these plans.

A repeated point throughout this body of work is the funding gap for adaptation, highlighting the widespread and recognized need for accelerated financial flows. Findings also point to the benefit of a comprehensive planning process in order to produce high-quality documents that can be aligned, leveraged, and built upon in future strategic documents.

Further, consensus is that while strides have been made in the inclusion of prioritized actions in planning documents, there is a need for increased clarity and detail of objectives and goals—especially cost estimates of actions—to increase implementation and investment readiness.

Many of the institutions that have conducted research and studies in this field agree that transformative change requires a whole-of-society approach and that marginalized and vulnerable groups such as women, youth, the elderly, indigenous peoples, and people with disabilities must be included in the process to facilitate ownership of NDC actions.



The World Resources Institute (WRI) undertook an analysis of the adaptation components of all countries' updated NDCs for the 2020–2021 submission cycle.<sup>13</sup> The report presents a qualitative assessment framework through which updated NDCs are examined and compared to the first round of submissions. The analysis highlights the need for improved guidance on including an adaptation component in NDCs, increased clarity of adaptation goals and objectives, and support for both investment and implementation plans for prioritized adaptation actions.

Further, this analysis highlighted that despite the inclusion of more prioritized actions in updated NDCs overall, most of these actions are neither ready for investment nor implementation. Suggested areas for improvement are clarifying indications, estimating costs, and referencing the timeframe for actions. Improving links with related instruments, such as NDC implementation plans and the NAP process, could help countries advance implementation.

## Box 2. NDC and NAP Assistance Programs

The NDC Partnership (NDCP), through their Climate Action Enhancement Package (CAEP) launched in 2019, supported countries in enhancing their Nationally Determined Contributions (NDCs) and in fast-tracking the implementation of these as part of the 2020 update process. By March 2022, NDCP support was delivered through the technical and financial contributions of 46 partners to enhance NDCs through the pillars of ambition, quality, and process. Forty-five countries globally enhanced their qualitative targets and measures and enhanced their long-term adaptation plans. For instance, NDCP supported the Sudan to revise and enhance its first NDC, including efforts to map hazards and climate change vulnerability through geospatial analysis, develop a country-specific dashboard to monitor and manage impacts, and assess groups vulnerable to climate risks, including identification of priority measures and capacity-building.<sup>14</sup> African member countries include Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, the Congo, Côte d'Ivoire, Democratic Republic of the Congo, Equatorial Guinea, Eswatini, Ethiopia,

Gabon, the Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, the Sudan, Tanzania, Togo, Uganda, Zambia, and Zimbabwe. Members gain access to a global network of knowledge and resources to support their work in climate action.

Similarly, the NAP Global Network provides long-term technical support that helps countries advance their NAP processes. The Network helps to strengthen institutions by embedding technical advisors, developing adaptation plans for individual sectors, and fostering stakeholder collaboration through national assemblies and other forums. The Network was established in 2014 at COP20 in Peru, initiated by adaptation practitioners from 11 developing and developed countries, and has delivered direct support to more than 60 countries.<sup>15</sup> For Africa, the NAP Global Network has in-country programs in Burkina Faso, Côte d'Ivoire, Ethiopia, Ghana, Guinea, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Togo, and Uganda.

The United Nations Development Programme (UNDP) launched the Climate Promise Initiative in 2019, pledging to support at least 100 developing countries to enhance their NDCs. As of August 2023, over 120 countries are affiliated with the Climate Promise. In 2021, UNDP released a Global Outlook Report, "The State of Climate Ambition", which assessed global progression on climate ambition.<sup>16</sup>

UNDP has since released Regional Snapshots which explore global and regional trends using an updated analysis (as of June 2022) on NDC quality and NDC implementation readiness.<sup>17</sup> Across all regions, the implementation of adaptation actions (79 percent of countries) is less advanced than the implementation of mitigation actions (87 percent of countries).

The analysis showed that 40 percent of countries had successfully mobilized domestic public finance for NDC implementation. For mobilizing domestic private finance, this number is just 17 percent. While some countries are developing NDC finance strategies or investment plans, large gaps in finance planning across regions remain. Globally, only 15 percent of countries have a finance strategy or investment plan in place.

Based on experience and lessons learned through supporting the NDC cycle of developing countries, UNDP identified seven “building blocks” that facilitate effective implementation: coordination,

implementation strategy, mainstreaming of targets, financing strategy, finance mobilization, implementation of actions, and transparency.

UNFCCC has reported on the progress of NAP formulation and implementation, as of 2021.<sup>18</sup> The report presents official data on the current state of NAPs and identifies four gaps: access to funding for formulating and implementing NAPs for many LDCs; a lack of timeframes for actions within some; a need to build capacity of national institutions to address climate change; and the absence of latest available science.

### Box 3. National Adaptation Plans Support Through the Green Climate Fund (GCF)

The concept for the Green Climate Fund (GCF) as an institution dedicated to providing climate financing for developing countries was proposed at COP15 in Copenhagen, Denmark. A year later, GCF was established under the Cancún Agreements in 2010 and is currently serving as the Financial Mechanism of the UNFCCC and the Paris Agreement. GCF's project portfolio consists of 216 projects amounting to US\$12 billion in committed funding. The nominal funding provided is 40 percent for adaptation and 60 percent for mitigation, for which different instruments are used (e.g., grants, loans, equity, results-based payments, and guarantees).

Through their Readiness Programme, the GCF supports the formulation of National Adaptation Plans (NAPs) and other adaptation processes. The support is given to developing countries,

to strengthen their institutional capacities, governance mechanisms, and planning and programming frameworks toward a transformational long-term climate action agenda. The program grants funding up to US\$3 million to support country-driven initiatives.

Using funding from the Readiness Programme, the United Nations Development Programme (UNDP) has engaged 35 countries in multi-year projects to advance their NAP processes. The African countries with current projects under implementation or completed are: Côte d'Ivoire, the Democratic Republic of the Congo, Guinea, Guinea-Bissau, Egypt, Morocco, Somalia, and Tanzania (in process); and Liberia, Madagascar, and the Niger (submitted to the UNFCCC).

Source: UNDP Climate Change Adaptation (2023) & Green Climate Fund (2023)<sup>19</sup>

A number of organizations have undertaken an analysis of strategic adaptation documents at the sectoral level. The Food and Agriculture Organization of the United Nations (FAO), for example, released an NDC global report providing a deep dive into agriculture and land-use sectoral plans, within both mitigation and adaptation contributions, of countries' second NDCs.<sup>20</sup> The Global Water Partnership undertook an in-depth analysis of adaptation components in 80 NDCs in 2018.<sup>21</sup>

The African Development Bank (AfDB) has established the Africa NDC Hub to foster long-term climate action, mobilize means for implementation, and promote coordination, advocacy, and partnerships.<sup>22</sup>

In 2018, The Africa NDC Hub released its African NDC Gap Analysis Report of the 44 African NDCs submitted at that time, capturing what countries had started doing well and identifying gaps.<sup>23</sup> The top three needs or constraints to successful

implementation of NDCs identified were external finance resources (mentioned in 100 percent of NDCs), technology (69 percent), and capacity building (58 percent). In 2019, the NDC Hub undertook an analysis of adaptation contributions across the 53 African NDCs submitted to date and the analysis reflected similar needs.<sup>24</sup> Six recommendations were given for improved implementation of African NDCs: build institutional capacity for adaptation action; align climate adaptation policies and strategies with

mitigation and sustainable development goals; create policies aimed at generating and sharing high-quality climate data and information within and between governments; increase synergies and reduce silos between sectors, in both climate adaptation-related institutions and policies; channel international support toward translating NDCs into effective plans and projects; and enhance access to climate adaptation finance through various sources.

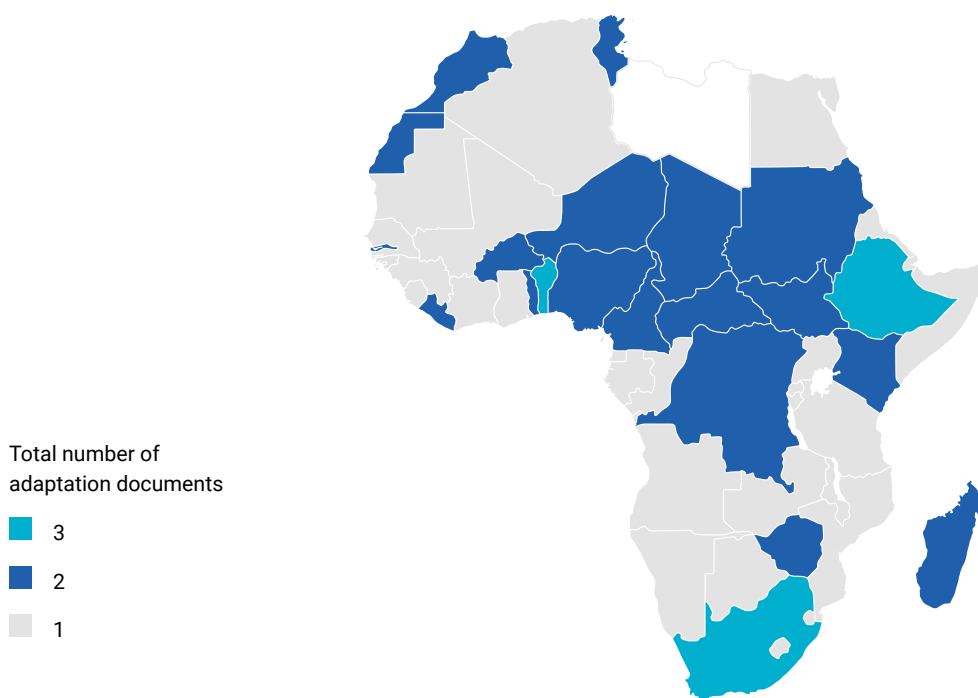
# 3 Current State of Strategic Adaptation Plans in Africa: GCA Analysis

## 3.1 Continental Coverage

As of July 2023, all but one African country has submitted at least the first version of their NDC, underscoring the continent’s commitment to global climate action in response to the climate crisis and in accordance with the Paris Agreement. The majority of these submissions were completed in 2021. Of these,

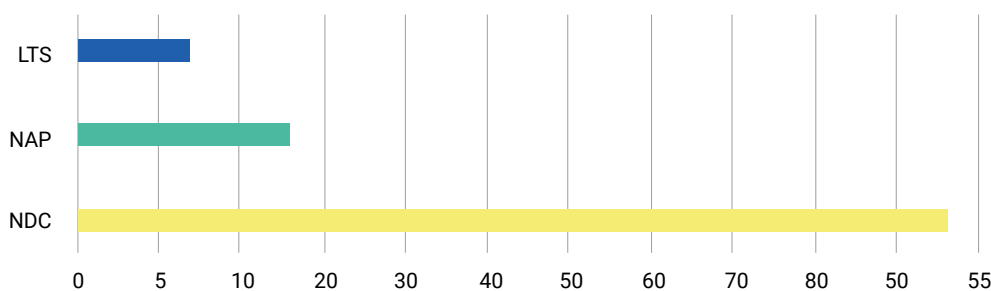
six submissions are first NDCs and 47 are enhanced/updated versions. Thirty-five African countries have submitted a NAPA, 16 African countries have submitted a NAP, and seven have submitted LTSs (Figure 1b). The countries that have submitted LTSs are: Benin, Ethiopia, the Gambia, Morocco, Nigeria, South Africa, and Zimbabwe.

**Figure 1a. Number of Strategic Adaptation Documents (NDCs, NAPs, or LTSs) Prepared by Each Country**



\* Libya has submitted zero adaptation documents. Of the African islands, Cabo Verde has submitted two plans and Comoros, Mauritius, and Seychelles have each submitted one plan.

**Figure 1b. Number of Strategic Adaptation Documents by Type in Africa**



Source: Authors

### 3.2 Analysis Methodology

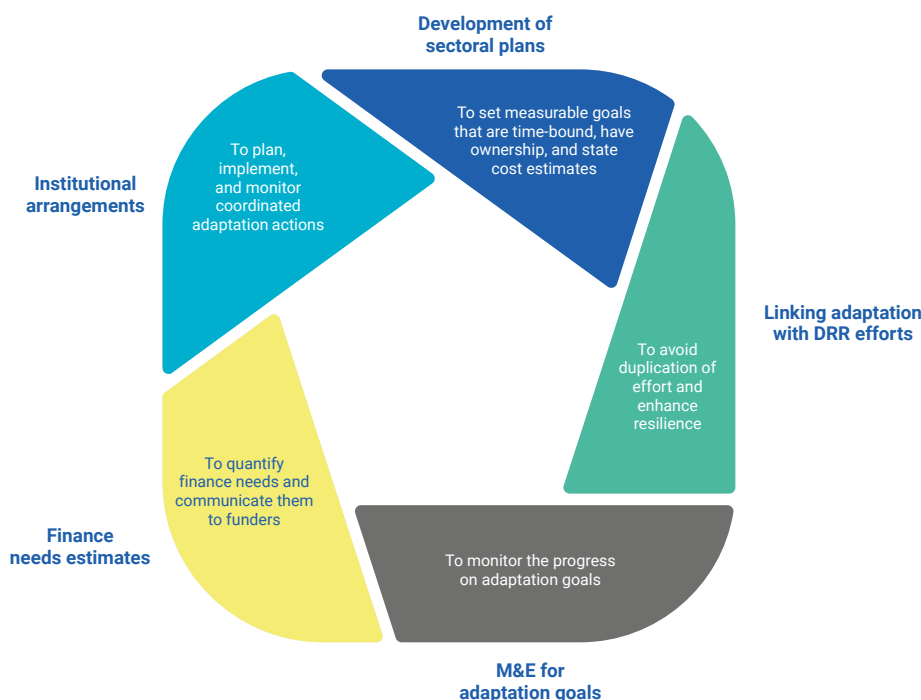
The study's analysis of the status of **strategic adaptation plans** consisted of a critical literature review of the main UNFCCC-led instruments for driving and coordinating national climate actions, focusing on NAPs, NDCs, and LTSs.<sup>25</sup>

A methodological framework was developed for this study and used for evaluating the status of strategic adaptation plans across five main

indicators: institutional arrangements; development of sectoral plans; finance needs estimates; linking adaptation with disaster risk and reduction efforts; monitoring and evaluation for adaptation goals. The indicators were identified as being top priority areas of governance and planning in forming an effective enabling environment for investment (Figure 2).

Based on the findings, a six-level scale was created to understand where the areas of opportunity might lie (Table 1).

**Figure 2. The Five Indicators of Analysis of African Countries' NDCs, NAPs, and LTSs**



Source: Authors

# 4 Results

## 4.1 General Findings

Results of the analysis revealed a wide variation in level of specificity provided across the chosen strategic adaptation documents. However, six

clusters of countries with similar levels of enabling environments for adaptation investment emerged. These are presented in Table 1. Figure 3 presents the number of African countries that fell within each cluster.

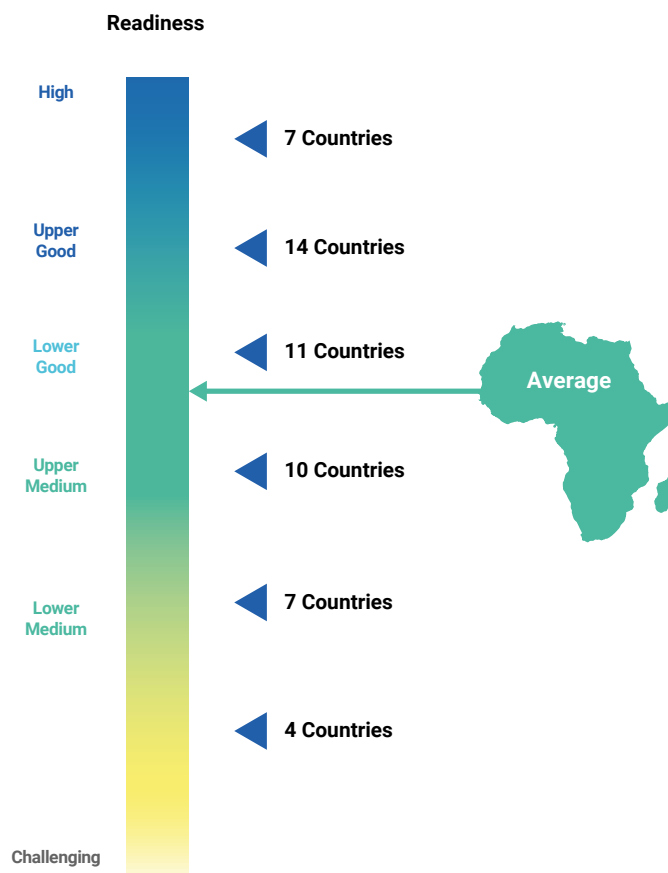
**Table 1. Six-Level Rating Scale of the Enabling Environment for Investments in Strategic Adaptation Documents in Africa**

Enabling Environment for Adaptation Investment	Description
High	<ul style="list-style-type: none"> <li>■ All countries have specialized institutions with branches in place to coordinate the climate agenda.</li> <li>■ DRR connections have been identified, with some countries making DRR a sector on its own and others identifying DRR measures within other sectors.</li> <li>■ Priority sectors have been identified, with all countries providing qualitative and quantitative goals, providing timeframes, and naming the responsible institutions to carry out the adaptation measures.</li> <li>■ Most countries calculated the conditional adaptation cost of their NDC or NAP measures or at least the total costs of implementing the NDC or NAP.</li> <li>■ All countries provided information on developing basic plans to implement a monitoring system for adaptation, with one signaling having a system already in place.</li> </ul>
Upper Good	<ul style="list-style-type: none"> <li>■ Most countries have specialized institutions with branches in place to coordinate the climate agenda.</li> <li>■ DRR connections have been mostly identified, with some countries making it a sector on its own and others identifying DRR measures within other sectors.</li> <li>■ Priority sectors have been identified, with all countries providing qualitative goals and most providing quantitative goals. Most countries provided a timeframe for their sectoral adaptation measures, along with naming the responsible institutions.</li> <li>■ All countries calculated the total costs of implementing the NDC or NAP with some calculating the conditional adaptation cost of their NDC or NAP measures.</li> <li>■ All countries either provided information on developing basic plans to implement their monitoring systems or signaled the intention of developing it.</li> </ul>
Lower Good	<ul style="list-style-type: none"> <li>■ Countries have at least some assigned specialized institutions or information on specialized institutions with branches in place to coordinate the climate agenda.</li> <li>■ DRR connections were usually identified, with some countries making it a sector on its own and others identifying DRR measures within other sectors.</li> <li>■ Priority sectors have been identified, with all countries providing qualitative or quantitative goals and some providing a timeframe.</li> <li>■ Most countries calculated the conditional adaptation cost of their NDC or NAP measures.</li> <li>■ Some countries signaled the intention of developing a monitoring system for adaptation and others have basic plans to develop them.</li> </ul>

DRR, disaster risk reduction; NAP, National Adaptation Plan; NDC, Nationally Determined Contribution.

Enabling Environment for Adaptation Investment	Description
Upper Medium	<ul style="list-style-type: none"> <li>Most countries have specialized institutions with branches in place to coordinate the climate agenda.</li> <li>DRR has been made a sector within adaptation with clear goals.</li> <li>Priority sectors have been identified. All countries provided qualitative goals but few provided timeframes.</li> <li>Countries signaled a general need for finance, with few providing finance need estimates to implement the NDC or NAP.</li> <li>Few countries signaled an intention of developing a monitoring system for adaptation.</li> </ul>
Lower Medium	<ul style="list-style-type: none"> <li>Some countries assigned specialized institutions to coordinate the climate agenda.</li> <li>Few countries identified synergies with DRR.</li> <li>Priority sectors have been identified by some countries, with qualitative goals that were not time-bound.</li> <li>Countries signaled a general need for finance.</li> <li>Countries showed an intention of developing a monitoring system for adaptation.</li> </ul>
Challenging	<ul style="list-style-type: none"> <li>Institutional arrangements were generally not in place.</li> <li>No synergies with DRR identified.</li> <li>No sectoral goals given.</li> <li>Few countries signaled finance needs.</li> <li>No monitoring systems for adaptation were in place.</li> </ul>

**Figure 3. Countries' Level of Enabling Environment for Investment Readiness\***



Source: Authors

\*This showcases the level of enabling environment for adaptation investment that the countries reached based on the chosen indicators. On the left, a progress bar is shown indicating the number of countries in each rating category and Africa's average.

The assessment focused on evaluating the environment for adaptation investment in various African countries. To achieve this, the extent of detail presented in the adaptation plans outlined within a country's climate documents (NDCs, NAPs, and LTSs) was scrutinized. Countries were differentiated based on the planning and environment for successful adaptation investment (Table 1).

The study's comprehensive evaluation of 53 African countries' readiness for climate adaptation investment has yielded valuable insights. Seven countries stand out for creating a highly supportive environment that promotes successful adaptation investments ("high"); 14 countries are in the "upper good" category in terms of adaptation investment; 11 are in the "lower good" category; 10 are in the "upper medium" tier; and seven fall into the "lower medium" bracket. Notably, four countries face more significant challenges in creating an enabling environment for adaptation investment ("challenging").

These findings point to some promising takeaways. The majority of African nations show strong potential for successful adaptation investments. They demonstrate a strong commitment to taking ownership of adaptation strategies. However, it is important to recognize that substantial financial resources are required to implement these strategies effectively. While African countries have the potential to make the most of adaptation investments, securing adequate funding is a parallel priority. By leveraging their strengths and addressing financial needs, the global community can collaboratively contribute to enhancing climate adaptation in Africa.

By comparing the results of the study's framework with the University of Notre Dame's ND-GAIN Index and vulnerability scores and the World Bank's income level classification, we were able to establish a relationship between climate vulnerability, income level, and the status of adaptation planning in Africa.

The overall trend indicates that higher vulnerability and lower income often correspond with increased efforts in formulating comprehensive climate documents. These findings suggest that countries experiencing higher climate vulnerability are more motivated to develop robust climate documents, while those with lower vulnerability

may face fewer immediate pressures to address adaptation challenges.

#### 4.1.1 ND-GAIN Index Scores Analysis

The ND-GAIN Index<sup>26</sup> summarizes a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience. The higher the score is, the less vulnerable a country is to the effects of climate change and the more ready it is to enhance its resilience.

The ND-GAIN Index is composed of the ND-GAIN vulnerability score, which measures a country's exposure, sensitivity, and ability to adapt to the negative impacts of climate change (lower scores mean lower vulnerability), and the ND-GAIN readiness score, which is a country's ability to leverage investments and convert them to adaptation actions considering three components—economic readiness, governance readiness, and social readiness (higher scores mean more readiness).

To put the scores into context, for Africa, the average ND-GAIN Index is 39.5, which indicates that the continent has a high vulnerability to climate change and other global challenges and low readiness to improve its resilience to them. Africa's average ND-GAIN Index indicates the importance of attracting adaptation finance flows into the continent to reduce vulnerability and increase resilience to climate change impacts. By enhancing countries' planning of adaptation actions and communicating through their NDCs, NAPs, and LTSs, countries can build a stronger foundation for adaptation action and attract more investment opportunities.

For this analysis, we can see that 24 (46 percent) of the 52 countries with a low ND-GAIN Index are between the lower good and high categories when it comes to their enabling environment for adaptation investment. This means that despite their high ND-GAIN vulnerability and low ND-GAIN readiness they have managed to set strong planning bases for adaptation action (Table 2a and 2b).

On the other hand, 13 (25 percent) of the 52 countries with a low ND-GAIN Index are between the upper medium and challenging status of their enabling environment for adaptation investment. Therefore, enhancing their NDCs, NAPs, and LTSs is crucial to start building a strong base for adaptation action and attracting investment.



The seven countries with a higher ND-GAIN Index (13 percent) rank between the lower good and high categories and eight countries rank in the upper medium to challenging categories when it comes to the status of their enabling environment for adaptation investment.

#### 4.1.2 Income Level Groups Analysis

Overall, the study reveals a notable trend where low-income countries are more likely to have a favorable enabling environment for attracting adaptation investments. Five of the seven countries with the highest adaptation enabling environment were low-income countries. Additionally, out of the 14 countries

**Table 2a. ND-GAIN Index Scores by Adaptation Investment Readiness Analysis Categories\***

Investment Readiness Level	ND-GAIN Index Scores			
	57–49.25	49.25–41.50	41.50–33.75	33.75–26
High		2	4	1
Upper Good	2		8	3
Lower Good		3	6	2
Upper Medium	3		6	1
Lower Medium		2	4	1
Challenging		3	1	

Source: Authors

**Table 2b. ND-GAIN Vulnerability Scores by Adaptation Investment Readiness Analysis Categories\***

Investment Readiness Level	ND-GAIN Vulnerability Scores			
	0.39–0.46	0.46–0.53	0.53–0.60	0.60–0.68
High		3	4	
Upper Good	2	1	7	3
Lower Good	2	3	4	1
Upper Medium	2	5	2	1
Lower Medium		5	1	1
Challenging	3	1		

Source: Authors

\*The table on top shows the data of 52 African countries and their ND-GAIN Country Index. It summarizes the countries' vulnerability to climate change and other global challenges in combination with its readiness to improve resilience (the lower the score, the higher the vulnerability). The table on the bottom shows the data of 52 African countries and their ND-GAIN vulnerability scores. It summarizes the countries' exposure, sensitivity, and ability to adapt to the negative impacts of climate change (lower scores mean lower vulnerability).

with an upper good adaptation enabling environment, 10 were low-income countries. Conversely, three out of the four countries facing challenging environments for adaptation were upper-middle-income countries. This relation between low-income countries scoring higher on the enabling environment for adaptation investment suggests that low-income countries may exert more effort in developing comprehensive climate documents to attract increased climate investments (Table 3).

The findings indicate that the range of adaptation documents, from lower good to high enabling environment for adaptation investment, encompasses 79 percent of low-income countries, 55 percent of lower-middle-income countries, and 29 percent of upper-middle and high-income countries. This means that most of these countries have provided at least basic information in all of the five indicators (Table 3). Among these 32 countries, seven present NDCs and/or NAPs with highly detailed information across the five indicators, of which five are from the low-income level, one from the upper, and one from lower-medium.

According to the analysis, 21 percent of low, 45 percent of lower-medium, and 29 percent of upper-medium and high-income countries are between the upper medium and low medium category. For these countries, institutional arrangements seem to be at least basic priority sectors identified with qualitative or quantitative goals, but with limited details provided relating to the estimated timeframe, costs, or institutions responsible for the adaptation actions.

Four countries have a challenging enabling environment for adaptation investment based on the status of their adaptation plans, of which three are upper-middle-income countries (50 percent), and one is a lower-middle-income country (4 percent).

The discussion, however, goes beyond the relationship of income levels and vulnerabilities. The findings shed light on a critical aspect; countries with both high vulnerability and low-income levels, where adaptation investments are most urgently required, also exhibit the highest potential for successful adaptation investments.

**Table 3. Income Level Groups by Investment Readiness Analysis Categories**

Investment Readiness Level	Income Level Groups			
	High	Upper Middle	Lower Middle	Low
High		1	1	5
Upper Good			5	10
Lower Good		1	6	4
Upper Medium	1	1	5	3
Lower Medium			5	2
Challenging		3	1	

Source: Authors

## 4.2 Findings by Indicator

This section discusses the results of the indicators we have identified (Figure 2). Firstly, the institutional arrangements of African countries are examined, followed by an assessment of the level of detail of their sectoral plans. Monitoring and evaluation efforts within African countries are then highlighted. The section then examines the financial aspects of fulfilling adaptation commitments and countries' identification of costs for implementing their adaptation actions or goals.

### 4.2.1 Institutional Arrangements

The "Institutional Arrangements for Adaptation" chapter in the State and Trends in Adaptation Report 2022 (STA22) gave an overview of the importance of setting up an institutional framework for climate governance to plan, legislate, and manage the implementation of adaptation actions in a country. Institutional arrangements can support the anticipation and preparation for climate change risks through the implementation of adaptive strategies and measures. A crucial aspect of adaptation readiness is the presence of a lead ministry or dedicated institution to serve as the driving force behind the country's adaptation efforts—coordinating and implementing strategies to address climate change impacts.

Furthermore, if subsidiary branches of this primary institution exist, they can provide crucial support. These branches act as key arms of the lead ministry, working in tandem to ensure the smooth execution of adaptation initiatives across various regions.

The involvement of other relevant ministries and institutions in the overarching institutional arrangements for climate adaptation is also imperative. Collaborative engagement among ministries—such as those responsible for the environment, agriculture, water resources, finance, and disaster management—enables a comprehensive and coordinated approach to adaptation planning and implementation.<sup>27</sup>

Such measures are crucial because climate adaptation inherently transcends boundaries and cuts across various sectors and areas. Its impact is far-reaching and interconnected, affecting multiple aspects simultaneously. Therefore, to effectively advance climate adaptation and be fully prepared to implement and attract adaptation investment,

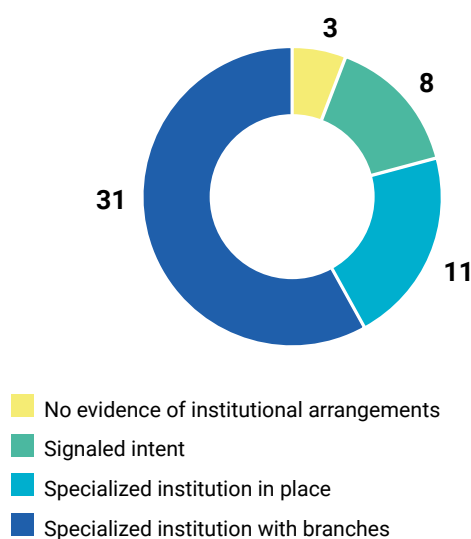
a country must possess a mature and comprehensive institutional framework.

### Analysis of Institutional Arrangements

The study divided the countries into three groups for the analysis. The first group consisted of countries that have not set up a separate ministry or institution specifically for dealing with climate issues, but have indicated that there are efforts underway to establish one. The second covered countries where a dedicated climate-focused institution or ministry is already up and running. The third focused on countries where there is a climate ministry that works alongside other related ministries and at different levels of government. This categorization helped to assess the level of planning provided in NDCs and NAPs regarding institutional arrangements that were planned or in place to carry out climate action in Africa.

Thirty-one (58 percent) countries have established a mature institutional framework that involves other ministries and branches of government to effectively implement adaptation goals. Additionally, 11 countries have set up a dedicated ministry to lead their climate-related initiatives. Currently, eight countries are actively working on establishing their institutional framework to tackle climate challenges. Three countries have not mentioned any specific institution responsible for overseeing the execution of NDCs, NAPs, or LTSs (Figure 4).

**Figure 4. Status of the Institutional Arrangements in Africa by Number of Countries**



Source: Authors

#### Box 4. Togo and Tanzania: Heightening the Impact of Adaptation Investment Through Institutional Collaboration

In Togo, climate governance is led by the Ministry of Environment and Forestry. Furthermore, various other ministries, including the Ministry of Electricity and Dams, Ministry of Water Resources and Irrigation, Ministry of Transport, Ministry of Finance and Economic Planning, and Ministry of Humanitarian Affairs, among others, actively participate. The National Commission for Sustainable Development and the National Committee on Climate Change also play crucial roles in implementing adaptation investments, fostering a national climate paradigm, and monitoring the execution of adaptation projects. Through effective collaboration among these pertinent institutions, adaptation investments can achieve heightened impact and profitability.

In its NDC, Togo conducts a comprehensive assessment of the strengths and weaknesses within its institutional structure for NDC implementation. It sheds light on the coordination challenges encountered among its various ministries. This demonstrates the country's commitment to

enhancing an already robust institutional structure, setting an example that all countries should strive to emulate.

Similarly, in Tanzania the Vice President's Office holds the responsibility for monitoring and evaluation of environmental aspects relating to NDC implementation. Additionally, the National Climate Change Steering Committee (NCCSC) and Zanzibar Climate Change Steering Committee (ZCCSC) play a pivotal role in guiding the coordination and execution of the NDC. Their functions encompass providing policy guidance, ensuring action coordination, and facilitating cross-sectoral participation. Complementing these efforts, the National Climate Change Technical Committee (NCCTC) and Zanzibar Climate Change Technical Committee (ZCCTC) assume the responsibility of offering technical advice to the National Designated Authority (NDA). This comprehensive framework of offices and committees collectively drives the effective execution of climate-related initiatives.

Despite the generally strong institutional arrangements displayed by most African countries to address adaptation investments, there is room for improvement in several countries (Figure 4). Twenty-two countries still need to commit to and enhance their institutional frameworks to increase the likelihood of successful adaptation investments. Among them, three countries must prioritize discussing their lead institution in their NDCs. Eight countries should enhance their NDCs by providing comprehensive explanations of the institutional measures they intend to undertake in developing their lead climate institution and its aiding branches. Furthermore, 11 countries should expand their institutional frameworks by adopting a decentralized approach for enhanced effectiveness. This can be achieved by clearly defining and distributing roles among departments for adaptation finance coordination.

By establishing a robust institutional framework, countries can harness greater donor confidence, leading to increased mobilization of financial resources. Concurrently, the investments made in adaptation also stand a greater chance of success.

Furthermore, an institutional structure that permeates to the grassroots level not only fosters confidence but also bolsters local growth and involvement.

#### **Spotlighting Good Practices**

The institutional measures taken by most African countries reflect a serious commitment to addressing the climate crisis through the creation of advanced institutional frameworks. Our analysis uncovered interesting cases that are worth highlighting.

One such example is Cameroon, which has incorporated religious and tribal chiefs into its institutional framework. This approach not only ensures the reach of adaptation readiness at the community level but also provides a more effective means of doing so. In many African cultures, religion holds significant importance, and local religious leaders often wield influence. Incorporating them into the institutional framework creates a sense of ownership and adds legitimacy to the implementation of adaptation measures.

Similarly, the Niger has also incorporated the tribal chieftain system and its elders into its institutional

framework, aiming to foster greater trust. In Cabo Verde, an institutional setup has been established that extends to the municipal level, ensuring local engagement and participation in climate adaptation efforts. Uganda has developed an institutional framework that extends to the district level, recognizing the importance of localized decision-making and implementation in addressing climate challenges. Furthermore, in addition to incorporating various ministries, South Africa has established provincial units specifically tasked with leading the climate change response, thereby ensuring a coordinated and effective approach at the regional level.

#### 4.2.2 Development of Sectoral Plans

It is crucial for countries to clearly outline their priority sectors in their NDCs and NAPs, as it serves as a strong signal of their commitment to efficiently allocate adaptation investments and allows them to identify roles and responsibilities across all levels of government.

By prioritizing specific sectors, countries gain a deeper understanding of the unique challenges and risks associated with each sector in the face of climate change—enabling them to develop targeted adaptation strategies and measures that address specific vulnerabilities. Such tailored approaches ensure that adaptation investments are utilized effectively—maximizing their impact and promoting resilience in the areas that need it the most.

Furthermore, laying out sectoral priorities in NDCs and NAPs encourages collaboration and coordination among various stakeholders. The involvement of relevant government agencies, private sector entities, civil society organizations, and local communities becomes essential for implementing effective climate actions within these priority sectors. The prioritization of sectors and involvement of various entities also contribute to fostering ownership.

Mature and well-developed sectoral goals, that include financial estimates for implementing adaptation measures, not only clarify the financial

requirements of countries but also provide a clear roadmap for the effective utilization of resources. By clearly identifying the priorities, it becomes easier to determine what actions need to be taken and how external support can be leveraged for maximum impact.

Finally, grounding NDCs and NAPs in long-term, time-bound sectoral adaptation goals or visions is essential to signal a clear direction of the country's adaptation efforts.

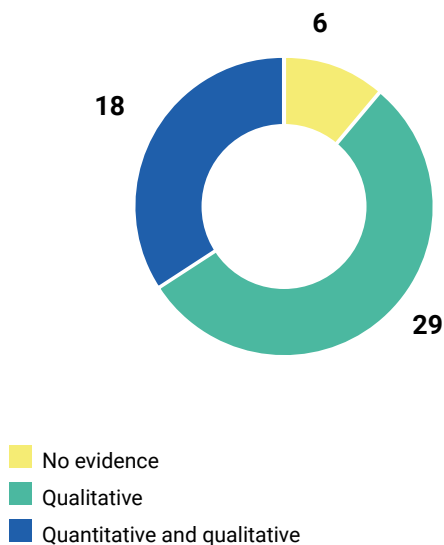
#### **Analysis of Sectoral Priorities**

The analysis of sectoral priorities involved searching for evidence of whether a country had identified any key priority sectors for adaptation, and then examining whether a country had established goals within these priority sectors. The types of goals (qualitative and quantitative) were then evaluated to assess their level of detail based on whether they were time-bound, had clear ownership, and provided financial estimates of adaptation investments.

Among the 50 countries with identified priority sectors, three do not set any goals for the priority sectors, while 29 mention goals that are non-measurable, consisting of general statements and trajectories. Encouragingly, 18 countries provide measurable goals to be achieved within their respective sectors (Figure 5a). For example, Ghana plans to implement integrated water resource management, as per the country's NDC. The document also mentions the number of beneficiaries and the number of job prospects to be created, thus making the goals more measurable.

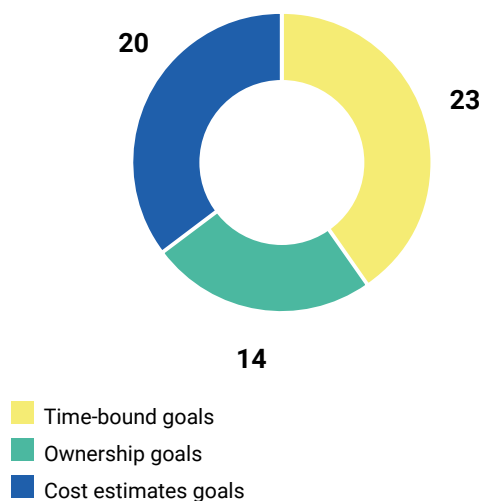
Among the analyzed countries, Kenya and Madagascar have stood out for having well-defined priority sectors and goals that are time-bound, demonstrate ownership, and include financial requirements. Similarly, Mali and the Sudan exhibit ownership-oriented goals and specify financial needs to achieve their objectives, yet there is an absence of timelines for the goals. Four countries have time-bound goals and elements of ownership, but they lack clear timelines (Figure 5b).

Figure 5a. Sectoral Adaptation Plans by Type of Goal



Source: Authors

Figure 5b. Sectoral Plans by Detail of Goal



Source: Authors

### Box 5. Kenya, Madagascar, and Senegal: Clearly Defined Priority Sectors and Goals

Kenya and Madagascar have well-defined priority sectors and goals that are time-bound, demonstrate ownership, and include financial requirements. Others, like Senegal, provided a level of detail in their priority sectors that many countries did not consider by adding warming scenarios and proposed adaptation actions based on them.

Kenya sets goals for various sectors, such as infrastructure. In the short term, Kenya conducts risk and vulnerability studies, while in the long term, it aims to upgrade infrastructure to withstand climate shocks and utilize the latest technology. Moreover, Kenya allocates US\$20 billion to achieve these goals and involves local governments, academia, civil society, and the private sector in the process.

Similarly, Madagascar has developed well-articulated plans for its agricultural sector that include comprehensive research into various climate-resilient crop varieties in order to address the issue of recurrent droughts. Furthermore, their approach includes the implementation of efficient irrigation

practices. The plans not only outline a clear timeline for achieving these goals and the necessary financial resources, but also incorporate specific indicators such as “Number of households benefiting from improved self-organization and learning capacities”, as well as the funding sources earmarked for the completion of goals.

On the other hand, Senegal has adopted an interesting approach in terms of establishing flexible and adaptable goals. The country has developed two distinct scenarios within its NDC. In the short term, with a horizon of 2025–2030, Senegal envisions a temperature increase of 2°C, while in the long term, with a horizon of 2040–2050, it envisions a more challenging 4°C temperature rise. Impressively, Senegal has provided comprehensive plans for both scenarios, mainstreaming them into short-, middle-, and long-term plans for adaptation and development. This underscores the country’s commitment to robust and well-prepared strategies for a range of potential climate outcomes.

Setting clear quantitative goals in climate documents is essential for creating a roadmap to combat climate change effectively. These goals provide specific and quantifiable targets that offer insights into the trajectory a country is aiming to achieve in its efforts to combat climate change. Therefore, it is imperative for the 35 countries that are missing this level of detail to outline quantitative targets to combat climate change. Additionally, the analysis identified gaps in the maturity of the sectoral goals. To address these gaps effectively, countries should specify the institutions responsible for implementing these sectoral goals. By clearly designating the implementing institutions, international stakeholders and donors can easily engage and communicate with the appropriate entities.

A deeper dive into sectoral plans, to gain meaningful insights into their quality and uncover areas for opportunity, is presented in Section 5.

### Spotlighting Good Practices

Countries like Rwanda, Burundi, and the Democratic Republic of the Congo take additional steps to enhance the measurability of their goals by introducing progress indicators or means of measuring progress for each adaptation intervention planned within their sectors. For example, Burundi

adds “Number of WASH [water, sanitation, and hygiene] projects that consider climate risks” as an indicator for its irrigation plan in water resource goals (Table 4). This inclusion of progress indicators provides valuable insights into the success and effectiveness of adaptation investments.

### 4.2.3 Monitoring and Evaluation for Adaptation Goals

Addressing monitoring and evaluation in NAPs and NDCs is an important way that countries can meet their global reporting requirements under international agreements, such as the Paris Agreement.

The inclusion of monitoring and evaluation in NAPs and NDCs enhances the effectiveness of adaptation efforts because it enables transparent reporting, enhances trust among nations, and facilitates collaboration by allowing stakeholders to understand the efforts made and the outcomes achieved. By systematically collecting and analyzing data, countries can gain valuable insights into the outcomes of their adaptation strategies and policies. This process helps identify which actions are working well and which may need improvement. Monitoring and evaluation provides a transparent and credible way to assess the effectiveness of a country’s climate change actions.

**Table 4. Examples of Indicators Used by Country Per Sector**

Country	Sector	Adaptation Measures	Indicators to Assess Progress
Rwanda	Agriculture	Develop climate resilient crops and promote climate resilient livestock.	Number of climate-resilient crop varieties developed. Percentage of farmers adopting resilient crop varieties. Percentage of crossbreed livestock at national herd by species.
Burundi	Water	Improve access to water through the development of water collection systems and enhance the resilience of water, sanitation, and hygiene (WASH) projects.	Percentage of communities or households that have access to an effective rainwater collection system. Number of WASH projects that consider climate risks.
Democratic Republic of the Congo	Coastal Areas	Strengthening of early warning systems for vulnerable coastal areas and hydro-climatic risk areas (floods, drought, soil erosion, [urban and agricultural] landslides, volcanic eruption, etc.).	Number of devices installed to alert vulnerable zones and hydro-climatic risk areas.

**Analysis of Monitoring and Evaluation Frameworks**

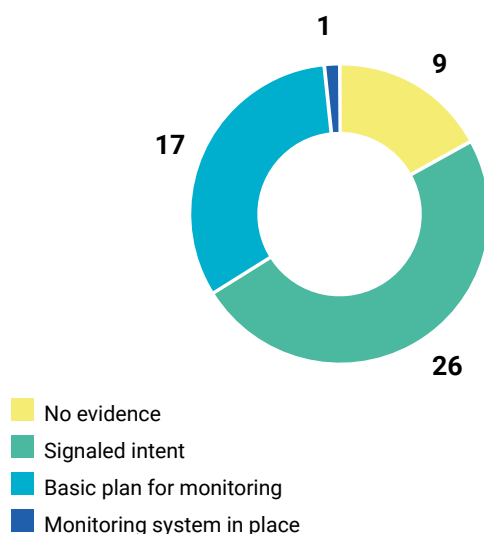
Three categories were identified for the analysis. The first comprised countries that do not currently have a monitoring and evaluation framework but have expressed an intention to plan one. The second comprised countries that have a basic plan for monitoring and evaluation. The third consisted of countries that have a highly developed and mature monitoring and evaluation framework in place or have integrated an adaptation component into an already established (primarily set up for monitoring and evaluating climate mitigation targets) Monitoring, Reporting, and Verification (MRV) system.

The analysis indicates that many countries need to prioritize plans to develop, strengthen, and implement their monitoring and evaluation frameworks (Figure 6). Nine African countries did not mention monitoring and evaluation in their climate documents and 26 countries expressed their intention to develop a monitoring and evaluation framework in the future. These countries recognize the importance of robust monitoring and evaluation mechanisms and intend to implement them; however, they currently lack a proper plan.

Seventeen countries had a basic plan for monitoring and evaluating adaptation measures. Within this category, some developing monitoring and evaluation system plans were highly detailed. For instance,

some countries (the Democratic Republic of the Congo, Eritrea, and Madagascar) have included indicators in their NDCs and NAPs to measure progress, some countries have already established roles within the institutional arrangements with clear timelines, and some have even been close to implementing their monitoring and evaluation systems.

**Figure 6. Status of the Monitoring and Evaluations Systems Stated on the NDCs, NAPs, and LTSs by Number of Countries**



Source: Authors

**Box 6. Kenya: Leading the Way with Measuring, Reporting, and Verification**

Kenya has successfully developed an integrated Measuring, Reporting, and Verification (MRV) system along with integrated MRV tools for adaptation actions.

An MRV system is designed to track and assess the progress of climate adaptation measures. The purpose of an MRV system for climate adaptation is to support evidence-based decision-making, enhance accountability, and facilitate learning and knowledge-sharing among stakeholders.

Kenya’s MRV system has been seamlessly connected with existing monitoring and reporting systems.

Moreover, the integrated MRV system is well-aligned with the institutions and actors involved in adaptation efforts, who are obligated to report on their respective activities.

Most importantly, the report generated for the MRV system is a collaborative effort, involving both state and non-state actors. This promotes transparency, reduces the potential for bias, and ensures a more inclusive and balanced approach to assessing and reporting on climate adaptation efforts.



### Spotlighting Good Practices

Despite not having implemented a monitoring and evaluation framework, several countries have notable plans that deserve recognition. For instance, Malawi is integrating IT-based solutions to establish a stronger and more transparent monitoring and evaluation system. In the case of Burundi, indicators have been included in their framework for the NAP's monitoring and evaluation system, which can provide a quantitative perspective on the achieved results.

Madagascar has implemented a program aimed at improving access to clean drinking water in both urban and rural areas. To measure the effectiveness of this program, an indicator they have chosen is the "Number of water use conflicts". Tracking these conflicts provides valuable insights into the effectiveness of the program and helps to identify areas where interventions may be required to ensure equitable access to clean drinking water.

Eritrea, on the other hand, takes a collaborative approach by involving local communities, researchers, policymakers, and government institutions to develop a comprehensive monitoring and evaluation plan.

### 4.2.4 Finance Needs Estimates

Outlining the financial requirements of the NDCs and NAPs allows countries to effectively communicate the resources needed to implement their adaptation goals. This information is crucial for attracting support and mobilizing resources from international donors, development agencies, and financial institutions. Clearly stating the financial needs helps to bridge the gap between the available resources and the required funding, ensuring that countries can access the necessary financial support to implement their adaptation actions.

Adding conditional and unconditional financial needs in climate documents not only helps align funding priorities but can also encourage domestic resource mobilization. Conditional financial needs refer to the financial resources that a country requires to implement its climate change mitigation and adaptation actions—contingent upon receiving external support. Unconditional financial needs, on the other hand, represent the financial resources that a country requires to implement its climate change actions regardless of external support.

#### Box 7. Angola: MRV System Planning

A good example of how to set up an MRV system for adaptation can be given by looking at the case of Angola. Angola aims to establish an MRV system consisting of four subsystems: a greenhouse gas (GHG) inventory, mitigation measures, adaptation measures, and financial, technical, and technological support. This will allow the country to meet all of its transparency commitments to UNFCCC and serve as a tool to ensure an efficient implementation of climate policy in the country.

The Ministerial Department responsible for the environment will develop the MRV system and coordinate its implementation. This will include:

- A plan of methodologies and a database that defines the methodologies to be applied in the four subsystems.
- A knowledge management system that aggregates all the information collected by the various subsystems, allowing simple and systematic data entry and consultation.

- A capacity development plan that identifies the training needs for the implementation of the MRV system at different levels.
- A quality control and assurance system that ensures the effectiveness and credibility of the system.
- A legal and institutional framework that formalizes the implementation of the MRV system, and defines responsibilities and deadlines.

For the short term (up to 2025), it is planned that Angola will develop and implement an MRV system as part of the tracking process of the NDC. Finally, adaptation efforts will be assessed through indicators of resilience based on the implementation process and results and international indexes, such as the vulnerability to climate change and climate-related risk reduction.

Source: Angola's Updated NDC

Including financial needs in NDCs and NAPs allows countries to strategically plan and prioritize their adaptation actions. It provides a comprehensive understanding of the financial resources required for each goal and activity, enabling countries to allocate resources effectively. By aligning financial needs with specific adaptation goals, countries can ensure that they focus on securing the necessary financial support for priority interventions, maximizing the impact of their adaptation efforts.

**Analysis of Financial Needs**

For financial needs, the study grouped countries into three levels. The first level pertains to countries that have signaled a general need for financial investments to expedite their adaptation programs. These countries expressed a general acknowledgment of the importance of financial resources to carry out their adaptation activities without specifying detailed costs.

On the second level, countries outlined general financial needs to implement their NDC or NAP. At this level, countries identified general costs for mitigation and adaptation activities in their NDC or NAP commitments, without making a distinction between them.

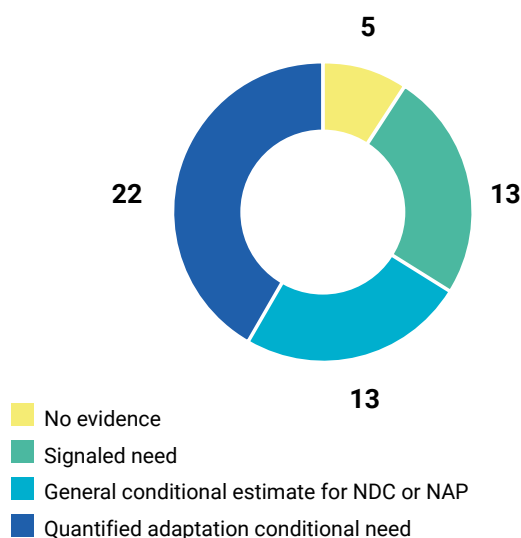
The third level encompasses countries that articulated conditional and unconditional financial needs specific to adaptation requirements. These countries provided a comprehensive breakdown of the financial resources required to support their adaptation efforts, specifying the costs they are planning to cover and the ones they need international help with.

Out of the total number of countries assessed, only five countries did not mention any financial assistance or need in their documents (Figure 7). Thirteen countries provided a general statement acknowledging the requirement for financial

assistance to implement their adaptation goals. While these countries acknowledged the need for funding, they did not specify the exact amounts or details. Thirteen countries went a step further and explicitly outlined the amount of funding they require to implement their NDC or NAP commitments. This includes financial needs for both mitigation and adaptation actions.

Notably, 22 countries excelled in providing detailed information regarding the financial resources needed to implement their specific adaptation goals. Within this indicator, some countries took the extra step of outlining the unconditional and conditional funds needed per sector or per adaptation activity. Providing conditional and unconditional finance needs per activity or sector can give investors more certainty about the country’s commitments to advance the adaptation agenda.

**Figure 7. Status of the Finance Needs Stated in the NDCs and NAPs by Number of Countries**



Source: Authors

## Box 8. Angola: Highlighting Conditional and Unconditional Funding Needs

Angola provides information on how they intend to fulfill financial needs, highlighting both conditional and unconditional ambitions. Angola has specified the need for US\$76 million in unconditional financial support to implement adaptation measures, along with an additional US\$67 million in conditional funding. The country outlines strategies for

mobilizing the necessary resources, including domestic funding mechanisms and potential avenues for international cooperation. This not only demonstrates a stronger commitment to addressing the climate crisis, but also exemplifies country ownership by proactively taking measures without relying solely on international funding.

### Spotlighting Good Practices

Many African countries provide a comprehensive justification for their specified financial needs by presenting a sectoral analysis, outlining the requirements for each specific sector. Examples include Angola, Burkina Faso, the Central African Republic, the Congo, Eritrea, Mauritania, Senegal, Sierra Leone, South Sudan, and Tunisia.

However, some countries go a step beyond and try to categorize the amount of financing between conditional and unconditional funding. Sierra Leone, for example, divides the financial needs of each of its projects into percentages of conditional and unconditional funding. Similarly, Mauritius also adopts a strategy asserting that 35 percent of the overall financial requirement will be met unconditionally through contributions from both the government and the private sector. This strategy demonstrates ownership of projects by allocating high percentages of unconditional financing to each project, showcasing these countries' dedication to building a more resilient future.

Several other noteworthy cases involve strategic approaches to bridge climate adaptation finances. For instance, Chad is actively pursuing the integration of adaptation planning within their fiscal framework. In Nigeria, a comprehensive assessment has been conducted to estimate potential GDP losses and sectoral impacts in the absence of adaptation measures. Meanwhile, Tunisia is exploring innovative avenues such as leveraging carbon markets to bridge financial

gaps and facilitate the implementation of effective adaptation strategies.

### 4.2.5 Linking Adaptation with Disaster Risk Reduction

Climate and disaster risks are growing faster than our collective efforts to build resilience. The consequences of not anticipating, reducing, and managing disaster risks before they manifest as shocks can be dire for societies, livelihoods, and the ecosystems on which we depend. For this reason, it is crucial for countries to integrate disaster risk reduction (DRR) into their adaptation planning documents.

The study identified evidence of three main types of DRR integration within the NDCs, NAPs, and LTSs, with different levels of detail. The first type of DRR integration is characterized by countries that simply mention the Sendai Framework or a national plan (connected to disaster risk reduction) or disaster risk management strategy to inform processes when developing adaptation planning documents.

The second type is characterized by the integration of DRR considerations within the different adaptation priority sectors. For instance, countries mentioned performing a multi-hazard risk assessment to improve and develop early warning systems for particular or multiple priority sectors.

The third type of integration is characterized by countries that made DRR a priority sector with adaptation measures or goals. This type of integration can be very detailed, including time-bound goals, assigned roles, and finance estimates.

The study revealed a gap in the level of integration of climate adaptation and DRR efforts in strategic adaptation plans. The importance of a comprehensive approach to adaptation and DRR cannot be understated. This warranted a deep dive into the current level of integration of DRR into strategic adaptation plans, which is presented below.

### 4.3 Linkages Between the Disaster Risk Reduction Agenda and the Paris Agreement

The Hyogo Framework for Action is the key international agreement setting out goals to reduce disaster risks. It was adopted at the United Nations World Conference on Disaster Risk Reduction in 2005. It identifies priorities and offers guiding principles for reducing disaster risks through national efforts.

The Sendai Framework for Disaster Risk Reduction was adopted in 2015 at the third United Nations World Conference on Disaster Risk Reduction. It was a call to action to reduce the risk of anthropogenic and natural hazards, designed to substantially reduce losses in lives, livelihoods, and health by 2030. The framework presents a universal vision for how societies may collaborate to identify, prevent, and reduce risks before they manifest as shocks or disasters, and to build resilience.

Increasing hazards and natural disasters are directly linked to climate change and the CCA and DRR agendas overlap in several ways. They both seek to reduce vulnerabilities to hazards, and both operate in the context of sustainable development and poverty reduction. Risk reduction cannot occur without the use of climate information; equally, successful CCA depends on risk reduction. On the ground, most actions that can help adapt to a changing climate also reduce disaster impacts.

Despite the alignment opportunity between CCA and DRR agendas, the United Nations Office for Disaster Risk Reduction (UNDRR) 2020 analysis, “Pathways for Policy Coherence in Sub-Saharan Africa”, argues that policy coherence is more incidental than structural. Furthermore, CCA and DRR have been historically managed by different political processes and communities.<sup>28</sup> At a country

level, different ministries, agencies, and committees might be responsible for developing, implementing, and reporting on progress in adaptation action, while other national actors and bodies report on progress on the Sendai Framework indicators.

There is a need for a concerted effort to improve alignment of DRR strategies and national strategic adaptation documents to develop a comprehensive risk management approach. Using joint analysis and integrated planning can help streamline actions and avoid duplication of efforts. When DRR and CCA efforts are aligned, there is often greater sharing of data, information, and best practices, which can lead to better decision-making and more informed strategies. Combining resources and efforts, rather than addressing disasters and climate change separately, can lead to resource efficiency. That is, instead of duplicating efforts, governments and organizations can pool resources to address multiple challenges simultaneously.

DRR interventions and CCA strategies should no longer be managed independently. For this reason, the study extended its analysis to assess the degree to which DRR strategies and plans were included in strategic adaptation documents.

#### 4.3.1 The Sendai Framework and National Disaster Risk Management Strategies

A total of 24 countries mentioned the Sendai Framework or a national strategy with a DRR focus in their NDC, NAP, or LTS. Some of these countries also mentioned the intent of integrating CCA and DRR into local policies and plans. Of the 24 countries, 18 listed a National Disaster Risk Management strategy to inform the elaboration of their NDC, NAP, or LTS. Considering disaster risk strategies in the development of adaptation goals and measures is a first step in lining up both agendas and optimizing resources and efforts. Nevertheless, the level of integration is difficult to assess in these cases without stakeholder consultation activities and therefore is a limitation to this analysis. Table 5 highlights disaster-related strategies for each country.

**Table 5. DRM Strategy Linkages in NDCs, NAPs, and/or LTSs**

Country	Mentioned DRM Strategy in NDC/NAP/LTS
Angola	Disaster Preparedness, Contingency, Response and Recovery Plan for the period 2014–2019 Strategic Plan for Disaster Risk Prevention and Reduction
Cabo Verde	National Strategy for Disaster Risk Reduction (ENRRD) 2018–2030
Central African Republic	The National Disaster Risk Reduction Strategy and an Action Plan 2020
Chad	National Action Plan for Capacity-building for Disaster Risk Reduction, Preparedness and Emergency Response (2015–2021) Action Plan to Implement the National Climate Services Framework (2016–2020) National Disaster Risk Reduction Strategy and Action Plan of Chad National Disaster Risk Management Strategy and Action Plan of Chad (2020)
Democratic Republic of the Congo	National Strategy and Action Plan 2017–2023 for the Reduction of Natural Risks and Disasters in the DRC
Egypt	National Strategy for Disaster Risk Reduction 2030
Liberia	National Disaster Risk Reduction and Resilience Strategy of Liberia (2020–2030) National Policy and Response Strategy on Climate Change (2018) National Disaster Management Policy (2012)
Lesotho	National Disaster Risk Reduction Policy 2007
Madagascar	National Disaster Management Policy (PNGRC) 2015 and the National Risk and Disaster Management Strategy (SNGRC)
Mauritania	National Action Plan for Disaster Risk Management National Action Plan for Capacity Building in Disaster Risk Reduction and Preparedness and Response to Emergencies National Plan for the Prevention of Risks and Disasters (PNPRC)
Mauritius	National Disaster Risk Reduction and Management Policy, Strategic Framework and Action Plan 2020–2030
Nigeria	The National Disaster Risk Management Policy 2019
Niger	The West Africa and Sahel Disaster Risk Management Strategy (2011)
Seychelles	National Integrated Emergency Management Plan (NIEMP)
Somalia	The Somali National Disaster Management Policy 2018
Gambia	The National Disaster Management Policy
Togo	National Strategy for Natural Disaster Risk Reduction National (SNRRC)
Uganda	National Disaster Preparedness and Management Policy 2010

### 4.3.2 Integration of Disaster Risk Reduction into Adaptation Priority Sectors

Nine countries identified adaptation measures or goals that are synergetic with DRR within their priority sectors. Some of these measures were geared toward creating Early Warning Systems and strengthening the capacity of monitoring, forecasting, and analysis to minimize damages in sectors like agriculture, water, coastal systems, vulnerable populations, health, and tourism, among others. Other activities focused on developing plans and strategies to reduce the risk of and vulnerability to climate change impacts and disseminate information. Other measures focused on post-disaster impacts by delineating the importance of setting up social protection tools (e.g., a national solidarity fund to support those impacted). Furthermore, some measures focused on public education and awareness-raising concerning security and resilience to natural disasters and humanitarian crises. On the other hand, there seemed to be few mentions of developing climate-resilient infrastructure services to adapt sectors to the impacts of disasters.

### 4.3.3 Disaster Risk Reduction as an Adaptation Priority Sector

Less than half of the countries (21) communicated DRR as a separate priority sector within their adaptation contributions. Of these, 18 countries expressed qualitative actions and goals, with various levels of details, for example, “Promoting integrated disaster risk management” (Tanzania), “Enhanced coordination and information-sharing between relevant ministries and stakeholders” (Somalia), and “Improved early warning dissemination system at local level” (Mozambique). Some qualitative goals are provided with indicators, thus are measurable, though without a target.

Sierra Leone presents MRV indicators for adaptation with relevance to DRR, but these indicators are not clearly connected to specific goals. They include:

- Change in predictable losses of lives and economic assets due to the impact of extreme climate-related disasters in the geographic area.
- Number of climate change vulnerability studies and maps of coastal zones developed.
- Uptake of early warning systems.

- Percentage of companies/industries assessing risks and opportunities from extreme weather and reduced water availability to their production and supply chains.
- Percentage of households at reduced risk of floods.
- Percentage reduction of flood damage and disaster relief costs in cities due to increased standards for flood protection and improved flood emergency preparedness.

Rwanda presents DRR as a priority cross-cutting sector, with two related interventions and corresponding indicators: Disaster risk monitoring (with the indicators “Population covered by DRR programs” and “Number of effective city contingency plans developed”); and Establish an integrated early warning system and disaster response plans (with the indicator “Percentage of extreme weather events for which warning was provided at least 30 minutes in advance”).

Only three countries included measurable goals with a quantified target within their DRR priority sector. Ethiopia, for example, aims to increase the number of modern weather monitoring stations from 325 (baseline 2018) to 806 by 2030. South Sudan outlines a strategy focusing on strengthening early warning systems, with a goal to rehabilitate five national disaster risk management centers in the medium term. Uganda aims to increase automation of their weather and climate network from 62 percent (baseline) to 82 percent by 2025, to help build more effective warning systems.

### Spotlighting Good Practices

South Sudan has outlined a strong institutional framework for DRR across its strategic adaptation documents, with an appointed ministerial focal point for the sector that is embedded within the greater institutional arrangements for adaptation. Lines of communication and coordination between stakeholders are outlined clearly. South Sudan’s Ministry of Humanitarian Affairs and Disaster Management is responsible for developing policy and decision-making on DRR at the national level. The department is responsible for improving early warning systems (with the support of the South

Sudan Meteorological Department which operates under the Ministry of Transport), raising awareness among various stakeholders, and capacity building on community response measures. As an implementing entity, it is tasked with developing sectoral policies and regulations for DRR in coordination with the Ministry of Environment and Forestry (the national NDC Focal Point), ensuring proper disbursement of funds to executing entities, and providing and/or facilitating technical support and training.

South Sudan also showcases good alignment of DRR actions across planning documents. The NAP includes nine priority sectors within which adaptation programs are outlined. The specific actions included in these programs were drawn from the country's NDC and NAPA, among other sources. This illustrates

how actions across planning documents can be built upon one another and existing resources can be utilized for implementation. South Sudan articulates the development of implementation plans for each of the priority sectors as the next step of its NAP process. The plans would then be linked to a monitoring and evaluation framework, as well as a budgeting plan to identify sources of funding for implementation. It is envisaged that the Climate Change Finance Inter-Ministerial Steering Committee will play a strong role in coordinating financial support for priorities. This is a significant step toward embedding country finance bodies and mechanisms into institutional arrangements for climate adaptation, moving to a more integrated and coordinated adaptation planning approach.

### **Box 9. UNDRR's Comprehensive Disaster and Climate Risk Management Program**

The United Nations Office for Disaster Risk Reduction (UNDRR) launched a flagship initiative: Comprehensive Disaster and Climate Risk Management (CRM), which seeks to integrate risk-centered approaches into NAPs, and climate forecast information into national and subnational disaster risk reduction strategies. This is aligned with Target E of the Sendai Framework for Disaster Risk Reduction, which aims to increase the number of countries with national and local disaster risk reduction strategies, in part through the promotion of policy coherence.

This comprehensive approach takes multiple factors into consideration, with the intention of strengthening synergies between disaster risk reduction and climate change adaptation. The process of this approach includes identifying mutually beneficial

opportunities across policies and programs, while developing capacities of governments for cross-sectoral planning and ensuring vertical alignment. The CRM program focuses on risks across short-, medium-, and long-term timescales using information from weather, seasonal and climate forecasts, and predictions. This information is then translated into meaningful messages and recommendations to enable more comprehensive planning and implementation.

Currently four African countries are receiving technical assistance from UNDRR regional offices in relation to the application of the CRM tools: Benin, Malawi, the Niger, and Uganda.

### **Analysis of DRR Integration**

Of the 21 countries with a DRR priority sector, only three provided measurable goals with a quantified target, illustrating the need for efforts in planning. Some qualitative goals are provided with indicators, thus are measurable, though without a target—

this is a positive step in the right direction. Across strategic adaptation documents, very little evidence was shown of coordination with DRR strategies at the planning and institutional levels. A more comprehensive and intentional approach to DRR and CCA alignment and planning is needed.

### Box 10. Loss and Damage

Climate change poses an existential threat with far-reaching and unprecedented effects on people's lives worldwide. The frequency and intensity of climate disasters are escalating, resulting in devastating impacts on communities and ecosystems.

Developing countries are disproportionately affected by these calamities, as they often face challenges in rapidly rebuilding infrastructure or providing sufficient relief to affected communities due to limited financial resources.

As highlighted in recent State and Trends in Adaptation Reports (STA21 and STA22), African countries are not the primary contributors to climate change, yet they often bear the brunt of its impacts, especially during climate shocks and disasters, as do other regions with developing countries. The occurrence of contemporary climate shocks, ranging from devastating floods in Pakistan to prolonged droughts in the Horn of Africa, has served as a stark wake-up call. Countries argued that these disparities in responsibility and resilience call for a deeper commitment from the international community to provide support and solidarity to those most affected.

To address these issues, at COP27, held in Sharm El Sheikh in 2022, there was a notable turning point in the efforts to establish a loss and damage fund. The

Loss and Damage (L&D) mechanism was created to address the impairment caused by the impacts of climate change in vulnerable countries. It recognizes that even with adaptation and mitigation efforts, some adverse effects are inevitable. This fund aims to provide financial support to assist these countries in dealing with the aftermath of climate-induced disasters and to support their efforts in coping with the challenges posed by climate change. However, due to the novelty of the fund, the exact execution mechanism has not been finalized and will be subject to discussion during COP28 in Dubai in December.

The loss and damage fund is a significant step toward climate justice.<sup>29</sup> By addressing climate justice through this fund, industrialized countries take responsibility for their historical contributions to climate change and aid the most vulnerable countries that lack the capacity to cope with the consequences, particularly after climate disasters.

According to the study's analysis, 14 countries have acknowledged the adverse effects of climate change in the form of L&D across the analyzed NDCs, NAPs, and LTSS. Some countries mentioned the importance of the L&D agenda and signaled intent to develop plans in the future, while others calculated the impacts of climate change while also alluding to the L&D agenda.



# 5 Adaptation Priorities Across Sectors

It is crucial for countries to identify quantitative and qualitative goals, across key sectors, that are time-bound, have defined roles, and cost estimates. This provides funders with the certainty of the country's direction in adaptation, enhances in-country planning and transparency, and allows countries to measure their progress and iterate to strengthen their adaptation plans.

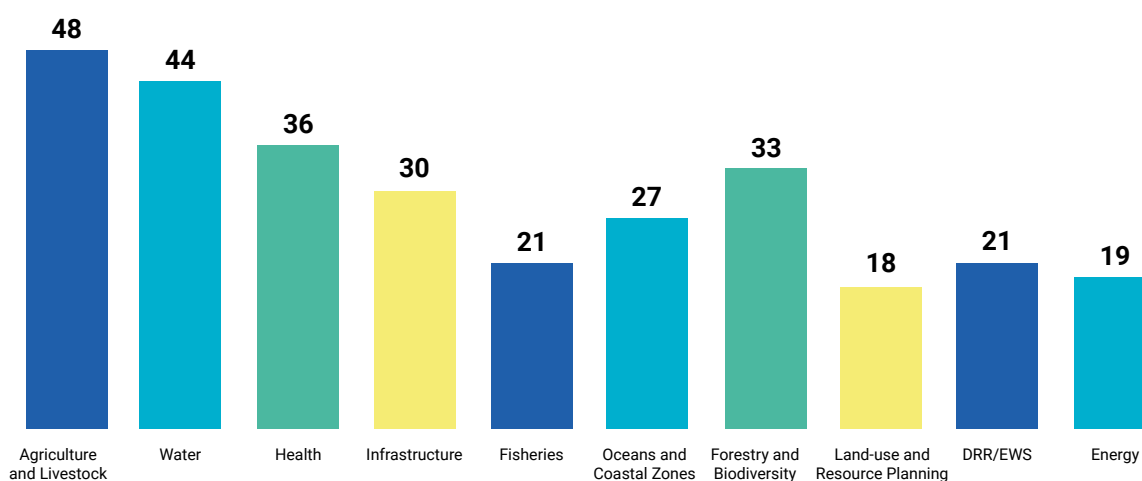
This part of the report takes a deep dive into the top three sectors (agriculture, water, and health) and provides examples of countries that give more

detailed information on their planned adaptation measures for each. It then highlights priority gaps relating to sectors such as the blue economy and tourism, where greater prioritization is needed in Africa.

## 5.1 Key Priority Sectors

Across NDCs and NAPs, the three most frequently identified prioritized sectors, areas, or pillars for adaptation were Agriculture and Livestock (48), Water (44), and Health (36) (Figure 8).

Figure 8. Key Adaptation Priority Sectors Mentioned Across NDCs and NAPs for Africa



Source: Authors

DRR, disaster risk reduction; EWS, early warning systems.

### 5.1.1 Agriculture and Livestock

The study grouped the following stated key sectors under the umbrella of Agriculture and Livestock:

Agriculture, Livestock, Rural Resilience, Agriculture

Landscapes, Food Systems, Food Security, and Rural Development. Table 6 highlights examples of various African countries' adaptation measures and goals in relation to agriculture and livestock.

**Table 6. Examples of Common Adaptation Measures and Good Practices in the Agriculture and Livestock Sector**

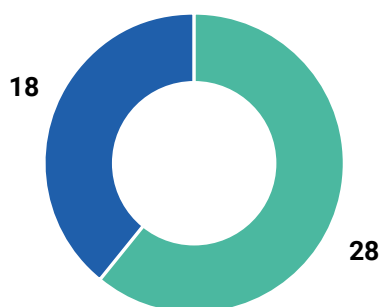
Adaptation Measure, Goal, or Activity	Example of Countries' Goals
Integrate early warning systems for preventing food loss and crises associated with climate change impacts and diseases by disseminating weather reports and seasonal forecasts for minimizing the loss of crops and livestock.	Democratic Republic of the Congo: Establishment of an early warning system and implementation of response measures in the case of natural disasters to manage the risks of farmers between 2021 and 2030 with estimated costs of US\$0.58 billion and US\$2.88 billion, respectively.
Improve agro-pastoral water use through efficient irrigation systems, using techniques like micro-irrigation, the rehabilitation of irrigation canals, or the development of smart hydroponic systems.	Egypt: Rehabilitation of 20,000 km of irrigation canals for agricultural climate resilience (to benefit 60 million people). Morocco: Extension of irrigation to new agricultural perimeters, over an area of 60,000 ha, for a total investment of US\$3.5 billion by 2030. Eritrea: Development and promotion of 170,000 ha of irrigation schemes.
Increase training and capacity building of farmers and agricultural extension agents to implement climate adaptation actions in the agriculture and livestock sectors, by increasing support for education and training on agricultural climate risks and adaptation solutions for vulnerable groups.	Liberia: Establish 100 farmer field schools and train 5,000 farmers in climate-resilient agricultural and livestock practices by 2025. Roll out a "Women in Agriculture" program with four training sessions per year (with at least 45 women trained per year) to support the implementation of climate-resilient agricultural and livestock practices and to increase women's access to agricultural inputs and labor-saving devices by 2025.
Build the resilience of agriculture systems through sustainable land management, conservation practices, agroforestry, and restoration and rehabilitation of degraded land.	Eritrea: Implement sustainable land management practices across 15 percent of Eritrea and an afforestation program covering over 36,000 ha by 2030.
Preserve and expand the biodiversity (genetics, species, or ecosystems) of crops and livestock varieties as well as introducing new traits through the application of a national collection of local seeds program. This will improve and create adapted local varieties, which will help change crop patterns and provide access to more drought- and heat-tolerant crop species and livestock feeds.	Liberia: Establish a national research institution focusing on new climate-smart seed varieties and improving livestock breeding by 2030. Malawi: Improve community participation in seed selection, storage, and management, and the establishment of community and multiplication seed banks (US\$11 million unconditional target).
Develop subsidy mechanisms for farmers through safety nets, crop and livestock insurance systems, risk financing, and investment.	Malawi: Establish risk financing and investment including weather index insurance and other solutions at national and subnational levels, inclusive of microfinance and insurance products for smallholder and commercial farmers (US\$37 million unconditional and US\$40 million conditional targets).

The degree of specificity provided, and therefore their readiness for implementation, varied greatly. The study found 28 sectoral plans with qualitative descriptions of goals related to agriculture and/or livestock. Eighteen sectoral plans outlined goals with quantitative measures of progress (Figure 9a).

In relation to the level of detail of the goals: 23 were time-bound, 13 had ownership, and 19 had cost estimates (Figure 9b). Furthermore, adaptation measures in the agriculture and land-use sectors presented in the NDCs were characterized by mainly focusing on the production phase of agriculture—meaning in the pre-sowing and sowing stages. For instance, according to the Food and Agriculture

Organization of the United Nations (FAO) 2022,<sup>30</sup> in the Sub-Saharan Africa region almost all NDCs (89 percent) focus on the production phase of agriculture and food systems, while only a small share focus on post-harvest operations (Seychelles, Lesotho, the Congo, and Côte d'Ivoire, Ghana, and Guinea), processing and packaging (Rwanda, the Gambia, Cameroon, and Côte d'Ivoire), transport, storage and distribution (Ethiopia, Guinea Bissau, Liberia, and Côte d'Ivoire), and retail (Cabo Verde and the Gambia). Focusing on adapting all the phases of production, from pre-sowing to retail of the food system, and creating time-bound goals, with clear roles and cost estimates, are recommended to enhance the readiness for investment in the sector.

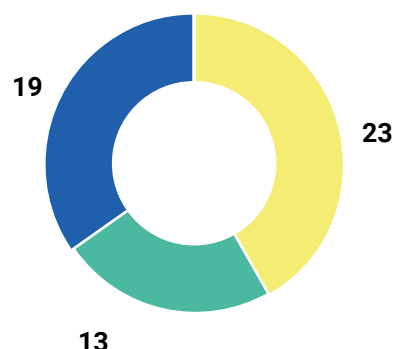
**Figure 9a. Adaptation Goals for the Agriculture Sector by Type of Goal**



■ Qualitative goals ■ Quantitative goals

Source: Authors

**Figure 9b. Adaptation Goals for the Agriculture Sector by Detail of Goal**



■ Time-bound ■ Ownership ■ Cost estimates

Source: Authors

### 5.1.2 Water

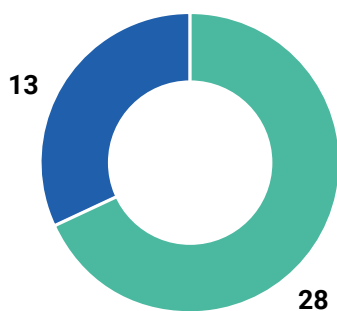
The study grouped the following stated key sectors under the umbrella of Water: Water; Water Resources; Water Supply; and Hygiene and Sanitation. Table 7 highlights examples of various African countries' adaptation measures and goals in relation to water.

**Table 7. Examples of Common Adaptation Measures and Good Practices in the Water Sector**

Adaptation Measure, Goal, or Activity	Example of Countries' Goals
Increase the number of meteorological and hydrometric stations to improve monitoring of rainfall and watersheds to ensure the security of water usage in the context of climate variability and climate change.	Central African Republic: By 2025, develop a ground and surface water resources monitoring system and establish a water quality monitoring system (SQE). Morocco: Reinforcement of the network of meteorological observation stations (currently numbering 200) by acquiring new stations and setting up a national meteorological network by integrating the stations of other partners, to reach a single network of 1,000 stations.
Improve existing wastewater collection and treatment systems and build new systems in underserved areas focusing on urban areas with a high concentration of people.	Cabo Verde: By 2030, provide 100 percent waste disposal coverage such as septic tanks for households outside the network. Morocco: Reuse of wastewater, to reach a capacity of 275 million <sup>3</sup> main urban areas and 16 million <sup>3</sup> main rural areas within the framework of the Shared Liquid Sanitation Program (PNAM) by 2030.
Achieve access and sustainable utilization of water resources by implementing water collection and storage systems in drought-prone areas to ensure continuity of human supply and watering of livestock.	Malawi: Water supply, storage, and harvesting in drought-prone areas, including water point rehabilitation coordinated by the Ministry of Forestry and Natural Resources (Department of Water Supply). Estimated Cost: US\$108 million (Conditional: US\$54 million/Unconditional: US\$54 million). From 2020 to 2040. Eritrea: Safe drinking water supply will increase from 75 percent to 100 percent by 2030.
Increase the planning, construction, and improvement of flood management structures such as upstream dams, storm drains, dikes, and bunds.	Kenya: Build and improve the resilience infrastructure of dams, dikes, and river lines (within the 2030 goals). Morocco: Construction of 50 large dams by 2050 covering the entire Moroccan territory with an additional storage capacity of 11 billion m <sup>3</sup> by 2050.
Develop and strengthen water policies including integrated water resource management policies, plans, and approaches in priority watersheds and reservoirs.	Malawi: Integrate the climatic, biophysical, and economic limits to increasing water supply into the revisions of National Strategic Plan for Water and Sanitation (PLENAS) and National Action Plan for Integrated Water Resources Management (PAGIRE). Start by reducing water losses before increasing water supply and ensure a fair share of clean water to all consumers by 2030. Sao Tome and Principe: Elaboration and implementation of the integrated watershed management plan and water security and water security.

The study found 28 sectoral plans with qualitative descriptions of goals related to water. Thirteen sectoral plans outlined goals with quantitative measures of progress (Figure 10a). In relation to the level of detail of the goals: 19 were time-bound, 11 had ownership, and 16 had cost estimates (Figure 10b).

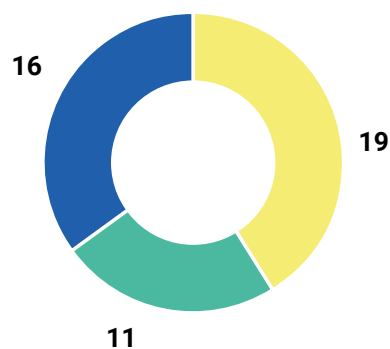
**Figure 10a. Adaptation Goals for the Water Sector by Type of Goal**



■ Qualitative goals ■ Quantitative goals

Source: Authors

**Figure 10b. Adaptation Goals for the Water Sector by Detail of Goal**



■ Time-bound ■ Ownership ■ Cost estimates

Source: Authors

Water adaptation measures are cross-sectoral, and can be mentioned as part of other sectors such as infrastructure (strengthening; planning; constructing dams, flood management structures, storm drains, etc.); health (managing wastewater and provision of clean water, etc.); agriculture (climate-smart irrigation, groundwater resources extraction for irrigation, etc.); forestry (improving the infiltration and replenishment of water resources through nature-based solutions, etc.); and disaster risk reduction (developing or enhancing early warning systems for drought and floods, integrated water resources management, etc.), among others. The cross-sectoral nature of the water sector makes it crucial that countries strengthen the institutional coordination mechanisms

across sectors to avoid duplication of efforts and enhance the impact of adaptation actions. For instance, strengthening and developing goals on the implementation of Integrated Water Resources Management (IWRM) as a holistic framework used to address the diverse demands and pressures on water resources across sectors and at different scales can also help address multiple challenges and enhance cross-sectoral coordination.

### 5.1.3 Health

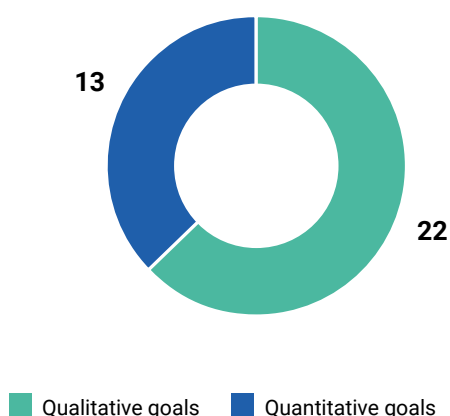
The study grouped the following stated key sectors under the umbrella of Health: Health, Wellbeing, and Public Health. Table 8 highlights examples of various African countries' adaptation measures and goals in relation to health.

**Table 8. Examples of Common Adaptation Measures and Good Practices in the Health Sector**

Adaptation Measure, Goal, or Activity	Example of Countries' Goals
Strengthen preventive measures to address health issues that are likely to be negatively impacted by climate change, such as disease transmission (outbreak), malnutrition, diarrhea, and malaria prevalence.	Liberia: Ensure that 80 percent of the rural population is within 5 km of health service points and reduce malaria prevalence by 45 percent, both by 2030. Eritrea: Prevalence of climate change related public health problems and diseases will be prevented and reduced by 90 percent by 2030. Ethiopia: Reduce malaria incidence from 26/1,000 (baseline) to 8/1,000 by 2030.
Strengthen human and institutional capacities as well as the dissemination of information on changing health risks, enhancing the response to climate-related diseases and facility access.	Liberia: Establish 425 community health clubs to improve community-level health care and disseminate information on changing health risks. Kenya: Develop a public awareness and social mobilization strategy on climate change and health impacts (within the 2030 goals).
Integrate potential impacts of climate change into development policies and plans.	Somalia: Set up municipal capacity to integrate climate-derived health issues into municipalities' sustainable development plans, leading to municipal climate change action plans with health prevention, treatment, and monitoring programs. DRC: Integrate potential impacts of climate change into development policies and plans by 2030. (Cost estimate: US\$0.06 billion – Indicator: Number of plans or programs/Sustainable Development Goal links: 1 and 3).

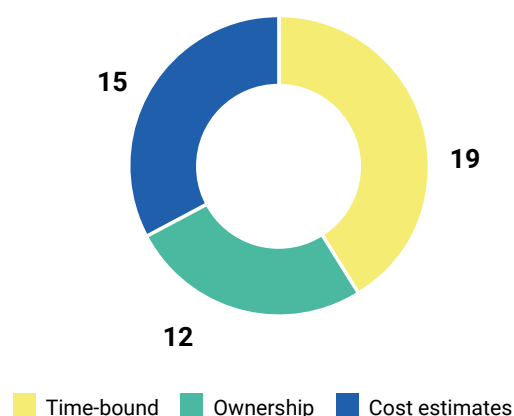
The degree of specificity provided, and therefore their readiness for implementation, varied greatly. The study found 22 sectoral plans with qualitative descriptions of goals related to health; 13 sectoral plans outlined goals with quantitative measures of progress (Figure 11a). In relation to the level of detail of the goals: 19 were time-bound, 12 had ownership, and 15 had cost estimates (Figure 11b).

**Figure 11a. Adaptation Goals for the Health Sector by Type of Goal**



Source: Authors

**Figure 11b. Adaptation Goals for the Health Sector by Detail of Goal**



Source: Authors

Adaptation activities and goals for the health sector are less quantitative than sectors such as agriculture and water. There is strong interest in strengthening the capacity-building programs of persons and institutions, disease prevention, as well as incorporating the impacts of climate change into public health development policies and plans (Table 8).

On the other hand, a range of crucial measures were barely mentioned and were identified as gaps, such as: improving research to understand the climate–health nexus; strengthening social protection tools to reduce vulnerability; mapping climate health hazards and area-based scenario planning for responding to climate health hazards; identifying vulnerabilities, and climate-proofing healthcare facilities and infrastructures.

Malawi, for instance, included social protection tools as a measure to strengthen the resilience of its health sector. The country plans to establish a Social Support Fund for predictable, timely response, linking inclusive social support systems to risk financing options, and increasing social cash transfer, among other measures. Morocco mentions increasing the resilience of health infrastructure and services through developing codes and design standards for health facilities and developing community training programs for health personnel on the risks.

As the 2021 State and Trends in Adaptation Report (STA21) points out, Africa is presently confronted with huge and complex healthcare challenges. The looming impacts of climate change are expected to have a very disruptive impact on the health sector. Climate change can exacerbate diseases linked to warmer climates and extreme weather events, disproportionately affecting the poorest and most vulnerable sections of the population. Additionally, extreme weather events exacerbated by climate change can have stark impacts on healthcare system infrastructure, adding challenges to the sector. Therefore, it is crucial to enhance efforts to apply the insights and strategies of well-planned and systematic climate adaptation strategies that address the health gap to create a strong line of defense against the impacts in the sector that will almost inevitably accompany a warming climate.

## 5.2 Highlighting Less Discussed Priority Adaptation Sectors and Themes

### 5.2.1 Coastal Zones and the Blue Economy

Coastal erosion is severely impacting coastal cities and populations in Africa. Coastal erosion mechanisms are significantly aggravated by anthropogenic climate change, such as changing wave patterns, sea-level rise and subsidence, and the increasing frequency of coastal flooding events. Densely populated low-lying coastal areas, with limited protection across the continent, render Africa’s coastal zones highly vulnerable to these changes. North and West Africa are especially vulnerable, with coastal erosion rates among the fastest in the world.<sup>31</sup>

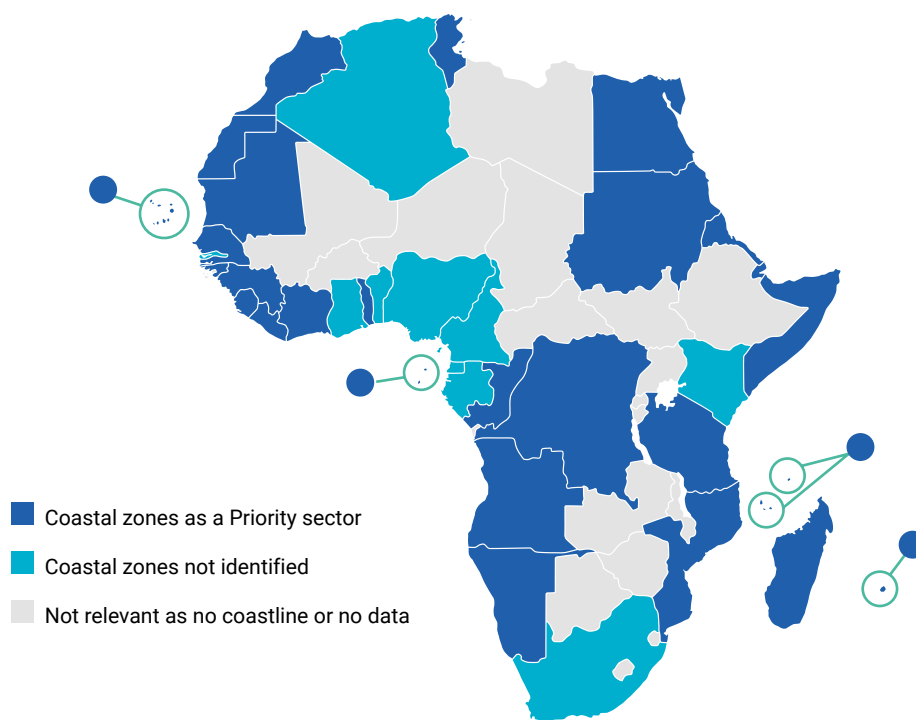
Major planning and adaptation efforts are therefore crucial for the protection of African marine and coastal ecosystems. The study, however, revealed that many gaps exist in coastal zone adaptation planning in Africa’s coastal countries.

Of the 37 UNFCCC-affiliated coastal countries across the continent, 11 did not communicate blue economy or coastal erosion adaptation actions in any of their NDCs, NAPs, or LTSs (Figure 12). Three countries in West Africa, and one country in North Africa, did not have coastal zones as a priority adaptation area.

Coastal ecosystems hold great potential for nature-based solutions that, when integrated with a blue economy approach, can contribute to: mitigating climate change; increasing coastal resilience; and boosting the African economy. As a starting point, it is critical to implement efficient and cost-effective no-regret measures (such as nature-based solutions) which can catalyze further adaptation action. Nature-based solutions can protect coastlines by preventing erosion, absorbing incoming wave energy, and providing storm surge protection.

Blue economy sectors, like tourism and fisheries, rely on rich coastal ecosystems and the services they provide, such as protection from floods and erosion, fish nurseries, and recreation. Their healthy functioning not only provides great economic opportunity but is also intrinsically tied to the wellbeing and livelihoods of local communities. Blue Carbon Ecosystems—such as mangroves, seagrass, and salt marsh ecosystems—help buffer against

**Figure 12. Adaption Prioritization of Coastal Zones**



Source: Authors

climate impacts and protect a wealth of biodiversity. They also play an important role as blue carbon sinks due to their potential for carbon sequestration. The protection of these ecosystems is critical for both adaptation and mitigation.

While policies and programs for marine resources, such as fisheries and tourism, are under development in many African countries, without cross-sectoral coordination these actions cannot be equated to blue economy development. Adaptation planning, with an integrated blue economy approach, can serve huge benefits for coastal African countries.

**Spotlighting Good Practices**

Kenya is a good example of a country with a high enabling environment for investment in coastal zone management and the blue economy. Although the country does not have coastal zones as a prioritized area for adaptation, its NDC mentions the following adaptation programs within the Environment priority sector.

- Conduct blue carbon readiness assessment for full integration of blue carbon/ocean climate actions into NDCs.

- Promote and expand opportunities for nature-based enterprises including seaweed farming and mangrove ecotourism.
- Integrate the use of nature-based solutions, including the implementation of a national mangrove management plan, into national and county development plans.

Namibia prioritizes coastal zones and fisheries and outlines actions, a responsible ministry (Ministry of Fisheries and Marine Resources), and cost estimates in its NDC. Seven activities are outlined within the sector. All actions are conditional upon external finance, except for one unconditional action to collaborate with the insurance market to guide investment in coastal areas. Each action is accompanied by mitigation, environmental, and social co-benefits, as well as gender and private sector agendas. The NDC has a section dedicated to blue carbon opportunities and proposes future blue economy adaptation activities. Twenty-two adaptation objectives are listed across nine industries: Renewable Energy, Engineering and Built Environment; Coastal Land Use Planning; Services (technology, weather, health, research);

Ecotourism and Wildlife; Marine Fisheries and Aquaculture; Marine Mining; Value-Addition and Food Manufacturing; Coastal Agriculture; and Water Use Efficiency and Management. Further, Namibia intends to develop a blue economy strategy or policy.

Mauritius has a mature institutional approach to the blue economy. As communicated in their NDC, the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping is responsible for activities related to: marine pollution from vessels; ports; fisheries and marine ecosystem management and protection; restoration of coral reefs; and marine parks. The Ministry of Environment, Solid Waste Management and Climate Change is responsible

for integrated coastal zone management and the development of beaches and shoreline. Two priority sectors within the adaptation contribution are Climate Smart Fisheries and Blue Economy, and Tourism and Coastal Zone Management. Examples of adaptation measures include: Develop and implement an integrated approach aligned with coastal zone and biodiversity/forestry sectors; Enhance the knowledge regarding the risks of climate change for coastal ecosystems and communities; Development and implementation of sustainable fishing management plans and Foster an integrated approach that combines the goals and targets for the fisheries sector with the coastal zone management sector.

### Box 11. Seychelles: An Integrated Blue Economy Approach to Coastal Zone Management

Seychelles has a comprehensive coastal management plan with an integrated blue economy approach. The Coastal Management Plan (CMP) 2019–2024 is currently the country’s main adaptation strategy against coastal erosion, flooding, cyclones, and tidal variations. The CMP emphasizes nature-based and hybrid engineering solutions for the restoration of beaches and dunes, coral reefs, and wetlands. Several nature-based solutions projects have been implemented, focusing on dune/mangrove restoration and reconnecting coastal wetlands to improve drainage and reduce flooding.

Seychelles’ Marine Spatial Plan (SMSP) focuses on planning for, and management of, the sustainable use and health of the country’s Exclusive Economic Zone (EEZ). Key challenges covered in the SMSP include climate change adaptation, marine protection, and supporting the blue economy.

In 2018, Seychelles adopted a Blue Economy Strategic Framework and Roadmap, which centers around reducing vulnerability to economic and environmental shocks and planning for resilience.

Seychelles incorporates Resilience to Blue Carbon Ecosystems as a priority sector in their NDC. The

country intends to map the extent of carbon storage capacity within blue carbon (seagrass and mangrove) habitats, through cutting-edge technologies and partnerships that aim to strengthen local, scientific, methodological, and governance capacities. Part of its commitment to blue carbon ecosystems involves protecting at least 50 percent of its seagrass and mangrove ecosystems by 2025 and 100 percent by 2030. The realization of this goal, however, is subject to external support and the identification of financing mechanisms, such as multilateral and bilateral funds, insurance products, debt-for-nature swaps, private investment, blue carbon credits and bonds, and other innovative conservation financing mechanisms.

The country is committed to integrating climate change considerations across all key sectors by 2030. One critical priority action is the adoption of an integrated Ridge to Reef approach to coastal management that brings together the Seychelles Marine Spatial Plan, the Coastal Management Plan, the Blue Economy Roadmap, the National Biodiversity Strategy and Action Plan, and other initiatives with the vision of guiding the development in sectors such as fisheries and aquaculture, tourism, agriculture, waste management, water resources, biodiversity conservation, and urban development.



### 5.2.2 Tourism

Tourism is one of the primary industries driving growth and job creation in many of the world's emerging economies.<sup>32</sup> According to the United Nations World Tourism Organization (UNWTO), before the Covid-19 pandemic, the sector contributed 10.4 percent to the global GDP and about 7 percent of Africa's GDP.<sup>33</sup> In Africa alone, tourism supported 8.8 million jobs in 2018; however, the sector is still recovering from the impacts of the pandemic.

Tourism is highly vulnerable to climate change. Temperature increases can impact humans and put pressure on terrestrial and marine ecosystems. Coastal tourism can be impacted by sea-level rise, floods, and other natural phenomena. Hydrological variability and water scarcity can have cascading effects on tourism.<sup>34</sup> For instance, in Cape Town, South Africa, droughts and water restrictions reduced arrivals and impacted jobs.<sup>35</sup> Therefore, it is crucial that adaptation is mainstreamed into the sector's plans, and that they are complementary to the sustainable development and mitigation agenda ambitions.

Despite this, only 15 countries mentioned tourism as a key sector for adaptation in the study. Of the countries with a prioritized tourism sector plan, some only offered broad goals and general statements for their sectoral plans, while a few took a step further and presented concrete ideas for adapting their tourism sector. For instance, the Congo expressed interest in preserving and fostering the handicraft sector by ensuring a steady supply of sustainable raw materials and organizing competitions to encourage local artisans.

#### **Spotlighting Good Practices**

Kenya has a specific goal of conducting risk and vulnerability assessments for its tourism sector. This initiative aims to identify potential challenges and vulnerabilities in the sector, paving the way for targeted adaptation measures.

Lesotho has expressed its intention to increase the preparedness of tourism and recreational operations to tackle extreme weather conditions.

Malawi has taken a step further by actively working on the development of a comprehensive tourism crisis management strategy and plan, which includes provisions for handling emergency situations. Notably, the document also highlights the responsible ministry tasked with achieving this plan, the estimated financial requirements, and a well-defined timeline for implementation. Additionally, it emphasizes the alignment of this strategy with the Sustainable Development Goals (SDGs). Malawi's proactive approach demonstrates its commitment to safeguarding its tourism industry against potential crises and ensuring resilience in the face of adverse circumstances.

### 5.2.3 Infrastructure and Human Settlements

Beyond the direct damages to assets by extreme events such as wildfires, floods, and landslides, climate change is causing negative impacts to infrastructure in African societies. Thirty countries directly mention in their NDCs and NAPs that infrastructure is a key sector for adaptation. Given the importance of infrastructure to economies and to society, it is crucial that green and gray solutions are mainstreamed into countries' plans to enhance resilience to climate change and mitigate disaster risk challenges. Further, nature-based solutions, which are more common in sectors like water, agriculture, and forestry, could benefit the infrastructure sector by reducing costs.

African nations' climate risk is increasingly being concentrated in cities, where rapidly growing populations, assets, and economic activity are becoming exposed to climate hazards. Despite this, there remains a unique opportunity to get things right, as much of Sub-Saharan Africa (approximately 40 percent) is still in the early stages of urbanization. However, the study found that only 17 countries mention human settlements as priority sectors for adaptation in their NDCs and NAPs. Given the cross-cutting nature of the topic, mentions of adaptation actions related to human settlements can be found in sectors like infrastructure, water, and agriculture, nevertheless, the topic should be prioritized as its own sector.

### 5.2.4 The Importance of Inclusion

#### **Locally Led Adaptation**

The study found that there are challenges remaining when it comes to including local communities in the design, planning, and implementation of NDC and NAP adaptation activities. NDCs and NAPs generally included consultation processes with local communities for the formulation of the documents but lacked clarity as to how they were participating in the planning and implementation phases of adaptation measures. Further, locally led adaptation by communities was generally mentioned as an isolated goal in a particular sector rather than as a cross-cutting topic across all sectors. According to the 2022 State and Trends in Adaptation Report (STA22), shifting to a model of adaptation that is locally led can enhance effectiveness and efficiency, and lead to more equitable benefits. For this reason, it is crucial to ensure that adaptation interventions are locally led.

To be successful, adaptation actions should respond to highly localized, multiple-interacting stressors (as no two communities can ever have identical risk profiles) and incorporate diverse priorities, values, perspectives, inherited wisdom, and interests, particularly of the most vulnerable.

Putting local communities in a leadership position within a process of adaptation that tackles structural drivers of risk through strengthening local institutions may be more complex and, in certain cases, have higher upfront costs than top-down, technocratic interventions. However, as shown in STA22, the evidence on returns on investment from adaptation initiatives that focus on the agency of communities suggests that the benefits far outweigh the costs. Therefore, mainstreaming locally led adaptation into all the phases of the conception of NDC and NAP adaptation measures as a cross-cutting topic will enhance the efficiency of the actions and be more sustainable in the long term.

#### **Youth and Jobs**

According to the study's analysis, there are gaps when it comes to including youth and job considerations in the design, planning, and implementation of NDC and NAP adaptation activities. Youth considerations are normally mentioned only in the consultation processes to

develop NDCs and NAPs or as isolated goals across a few sectors. The calculated impact of adaptation measures in job generation is hardly mentioned across African NDCs and NAPs.

Africa's large and growing young population, estimated at over 1.4 billion in 2022, is one of the continent's most valuable assets for growth. Capitalizing on this presents an unparalleled opportunity for harnessing social and economic development in Africa and driving transformative adaptation at scale across the continent. Nevertheless, there is not yet a significant level of youth engagement in relation to the climate crisis. The youth-climate change nexus cuts across a range of development issues, including employment. The youth play a big role in urbanization trends, as they are most likely to migrate from rural areas or between urban areas. Climate change could accelerate this trend, trapping youth in substandard living conditions (slums) and poverty. Therefore, it is crucial to include youth in the design, planning, and implementation of NDC and NAP actions to enhance their effectiveness, and efficiency, and lead to outcomes that protect the continent's most valuable assets for growth.

Further, as stated in STA21, Africa's fast-growing population, with more than one billion workers projected by 2040,<sup>36</sup> needs to be considered when it comes to adapting the continent to climate change. The continent's relatively young population provides a large and cost-competitive supply of labor. But there is currently a deficit of green jobs<sup>37</sup> for Africa's large and expanding workforce, which has impacts on the resilience of its communities. Job creation and retention in Africa are central to building community resilience in the face of climate change. Africa's massive endowment of nature can be harnessed as both an engine for jobs and a pathway for cost-effective adaptation, allowing the continent to embark on a more sustainable development pathway. With its rapidly increasing young labor force and vast natural resources, Africa has the potential to take a growth path focused on labor-intensive modern industries in ecotourism services, climate-smart agriculture, the blue economy, and green building and infrastructure. Therefore, youth and job considerations are crucial to acknowledge as cross-cutting topics to enhance the NDCs and NAPs, as they help create a stronger case for adaptation to attract investment into the continent.

---

# 6 Recent Strategic Documents, Policy and Institutional Actions Supported by the World Bank and the IMF

The World Bank and the IMF have recently developed new instruments that will provide important support to strengthen institutions and policies on climate change. The World Bank has developed a new core analytical tool called the Country Climate and Development Report that analyzes the macroeconomic and sectoral impacts of climate change on countries and provides specific recommendations on programs, policy reforms, and institutional strengthening measures to deal with climate change. The IMF has developed the Resilience and Sustainability Trust which is providing fresh financial resources to support policy and institutional reforms to tackle climate change. Given the direct relevance to the analysis in this report, and the importance that policymakers are giving to these new tools, an initial analysis of findings and areas of support from these two new tools is provided in this section of the report.

## 6.1 Country Climate and Development Reports (CCDRs)

The World Bank Group's Country Climate and Development Reports (CCDRs) are diagnostic reports that combine the best available data, models, and

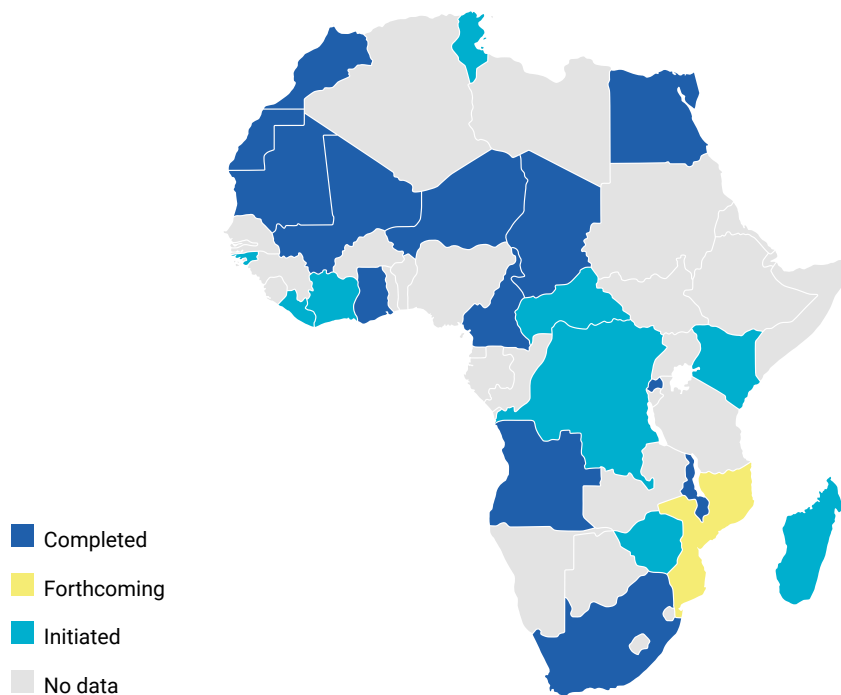
tools in a systematic approach to provide immediate and actionable recommendations that integrate climate and development objectives. The first set of 20 CCDRs was released in 2022 and covers 24 countries. Thirteen African countries are currently covered by CCDRs and 10 are forthcoming or initiated (Figure 13).

CCDRs follow a similar framework to build the climate rationale for a just transition to low-carbon and resilient development. The prioritization process follows four main steps (Figure 14).

### Economy-Wide Assessments of Climate Change

Economy-wide assessments are conducted in most of the CCDRs using macroeconomic modelling tools to estimate climate-related impacts on macroeconomic aggregates (e.g., GDP). The most widely used model is the World Bank's Climate Change Macro-Fiscal Model (CC-MFMod). It is a computable general equilibrium (CGE) model that uses "baselines" (long-term growth) scenarios that assume no additional climate change impacts beyond what has already been experienced in the

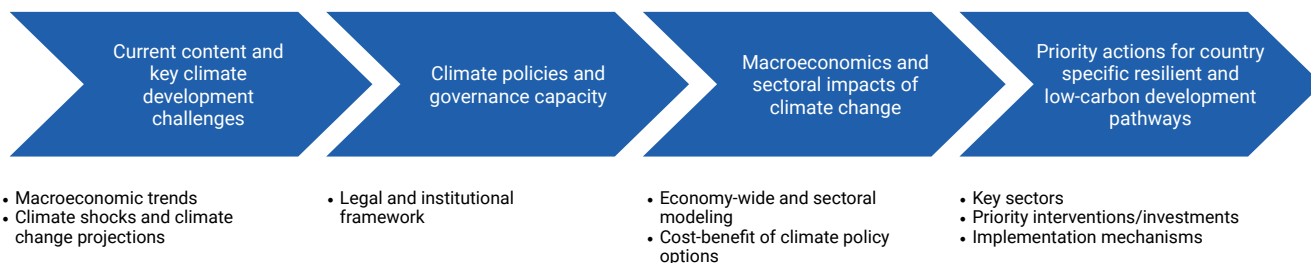
**Figure 13. Status of Country Climate Development Reports in Africa**



Source: Authors

past. The model estimates the impact of climate change-related shocks on the economy by comparing them to the baselines.<sup>38</sup>

**Figure 14. CCDRs Prioritization Process**



Source: Authors' elaboration based on a review of available CCDRs

The results of the economy-wide assessments presented in the CCDRs are not comparable between countries due to the different scenarios and models used (Table 9). It is also important to note that the results for each country should be used with caution due to the large uncertainties in their estimation. The choice of climate and baseline scenarios, the model assumptions, and the reliability of the available data can all lead to substantial differences in the results. However, despite the high uncertainties, such assessments provide important insights that can help countries plan and finance their adaptation strategies.

Overall, macroeconomic and sectoral assessments in CCDRs show that the direct impacts of climate-related shocks on African economies are context-specific but tend to be large and increasing over time. For instance, Cameroon's GDP would deviate by approximately -2 percent by 2030 under a middle-emission scenario (RCP4.5), but by -6 percent by 2050. Climate impacts also depend on the severity of climate change. By 2050, Cameroon's GDP deviation due to climate change could reach -10 percent under a high-emission scenario. In other words, urgent action is needed on both adaptation and mitigation.

Adaptation should also be integrated into medium- and long-term development strategies, as structural change plays a crucial role in mitigating the impacts of climate change. On average, the macroeconomic impacts of climate change are higher in countries where the economy is dominated by the agricultural sector (especially rainfed crop production activities). This is also the case for fossil fuel dependent economies. For instance, the modelling assessment for Angola shows that "income per capita by 2050 can be as much as 70 percent greater if [the country] successfully diversifies its economy than in the business-as-usual scenario".

Lastly, the assessment conducted for the G5 Sahel countries underscores the critical importance of fostering regional coordination. All countries in the region are negatively affected by climate change. Results from the modelling exercise show, for instance, that under the wet and optimistic climate scenarios (SSP1-1.9) annual GDP losses compared to a medium-growth baseline would range between 2.2 percent (the Niger) and 6.4 percent (Mali) by 2050. As highlighted in the report, this is likely to underestimate the economic losses from climate

change because they do not include spillover effects, both within and between countries. Populations in the region are intricately connected through dense patterns of migration and trade flows. Ultimately, a climate-related shock in one country can reverberate and indirectly affect its neighbors through various impact channels, such as road connectivity (the second largest impact channel under the wet and optimistic climate scenarios, after heat-labor productivity). However, these interconnected flows also provide a solid foundation on which to build stability mechanisms to face cross-boundary risks.

### **6.1.1 Climate Policy Recommendations for Priority Action**

The first set of CCDRs provides country-specific recommendations for adaptation and mitigation. Most recommendations are economy-wide or relate to the agriculture sector. Water, health, and environment sectors are strong priorities for adaptation but with relatively fewer linkages to mitigation. On the other hand, forestry, finance, and energy have a relatively lower priority for adaptation compared to other key sectors, but they have important co-benefits potential for climate action.

For interventions and investments, climate-smart agriculture, climate finance, governance, and urban planning are key policy issues for adaptation with strong cross-cutting linkages for climate action. Economy-wide resilience and adaptation, water-related resilience, social protection, and disaster risk management are also important policy issues for adaptation but with fewer co-benefits for mitigation. Just transition, improving macroeconomics and the enabling environment, climate fiscal policies, and deforestation have a relatively lower priority for adaptation compared to other key issues but can lead to important co-benefits for climate policy (Figure 15).

The implementation of selected interventions depends on balancing the cost of inaction and the cost of adaptation, in relation to time and other development objectives. Action is considered urgent when the cost of inaction increases faster than the cost of adaptation. At the same time, a trade-off can emerge when urgent climate action makes the achievement of development objectives more difficult (Table 10).

**Table 9. Macroeconomic Impact Estimated in CCDRs for African Countries**

Country	Scenario	Time Horizon	
		2030 (Medium-Term)	2050 (Long-Term)
Angola	RCP4.5 (middle-emission scenario)		-3% annual GDP losses relative to a scenario with no climate change
	RCP8.5 (high-emission scenario)		-5.8% annual GDP losses relative to a scenario with no climate change
Burkina Faso	Wet and SSP1-1.9 (optimistic climate scenario)	-1.2% annual GDP losses from the medium-growth baseline	-3.5% annual GDP losses from the medium-growth baseline
	Dry and SSP3-7.0 (pessimistic climate scenario)	-1.6% annual GDP losses from the medium-growth baseline	-6.8% annual GDP losses from the medium-growth baseline
Cameroon	RCP4.5 (middle-emission scenario)	~ -2% GDP deviation compared to business-as-usual scenarios	~ -6% GDP deviation compared to business-as-usual scenarios
	RCP8.5 (high-emission scenario)	~ -3.5% GDP deviation compared to business-as-usual scenarios	~ -10% GDP deviation compared to business-as-usual scenarios
Chad	Wet and SSP1-1.9 (optimistic climate scenario)	-0.9% annual GDP losses from the medium-growth baseline	-4.2% annual GDP losses from the medium-growth baseline
	Dry and SSP3-7.0 (pessimistic climate scenario)	-2.1% annual GDP losses from the medium-growth baseline	-10.5% annual GDP losses from the medium-growth baseline
Egypt	<i>No economy-wide modeling of climate impacts was conducted for the CCDR</i>		
Ghana	RCP4.5 (middle-emission scenario)	-2% annual GDP losses from the medium-growth baseline	-5% annual GDP losses from the medium-growth baseline
	RCP8.5 (high-emission scenario)	-2% annual GDP losses from the medium-growth baseline	-7% annual GDP losses from the medium-growth baseline
Malawi	Wet and SSP1-1.9 (optimistic climate scenario)	~ -10% annual GDP losses from the medium-growth baseline	~ -15% annual GDP losses from the medium-growth baseline
	Dry and SSP3-7.0 (pessimistic climate scenario)	~ -2.5% annual GDP losses from the medium-growth baseline	~ -10% annual GDP losses from the medium-growth baseline
Mali	Wet and SSP1-1.9 (optimistic climate scenario)	-2.2% annual GDP losses from the medium-growth baseline	-6.4% annual GDP losses from the medium-growth baseline
	Dry and SSP3-7.0 (pessimistic climate scenario)	-2.3% annual GDP losses from the medium-growth baseline	-10.7% annual GDP losses from the medium-growth baseline
Mauritania	Wet and SSP1-1.9 (optimistic climate scenario)	-2.8% annual GDP losses from the medium-growth baseline	-3.4% annual GDP losses from the medium-growth baseline
	Dry and SSP3-7.0 (pessimistic climate scenario)	-2.4% annual GDP losses from the medium-growth baseline	-7.2% annual GDP losses from the medium-growth baseline
Morocco*	Low-reduction in water supply scenario (-10%)		-4.3% GDP deviations from a baseline scenario in which water is not rationed in the economy
	High-reduction in water supply scenario (-25%)		-6.5% GDP deviations from a baseline scenario in which water is not rationed in the economy
Niger	Wet and SSP1-1.9 (optimistic climate scenario)	-2.8% annual GDP losses from the medium-growth baseline	-2.2% annual GDP losses from the medium-growth baseline
	Dry and SSP3-7.0 (pessimistic climate scenario)	-4.5% annual GDP losses from the medium-growth baseline	-11.9% annual GDP losses from the medium-growth baseline
Rwanda	RCP4.5 (middle-emission scenario) [Wet; Dry]	~ -4% [-3;-4] annual deviation of GDP from the baseline**	~ -4% [-2;-6] annual deviation of GDP from the baseline
	RCP8.5 (high-emission scenario) [Wet; Dry]	~ -4% [-3;-4] annual deviation of GDP from the baseline	~ -4% [-2;-6] annual deviation of GDP from the baseline
South Africa	SSP3-7.0	-0.6% of GDP losses per year	-1.2% of GDP losses per year

\*Results reported in the table are from scenarios (Simulations SC1 to SC4) where Morocco experiences a reduction in water supply from 10 to 25 percent with 5 percent increments, plus yield changes induced by climate change on irrigated and non-irrigated crops, based on the modeling work conducted by Ouraich (2010) to drop by 15 percent on average while yields for irrigated crops are projected to increase by 5 percent on average until 2050 (Simulations SC1 to SC4).

\*\*The baseline scenario for Rwanda is the development path envisioned when the 2020 NDC was approved.

To broaden the “implementation space” it is essential to reinforce implementation capacity and to make finance and technology more accessible. Implementation capacity depends both on state capacity and political capital. State capacity can be reinforced through policy reforms and capacity building. It is assessed in stage two of the CCDR prioritization process. Political capital is considered in some CCDRs at stage three of the prioritization process (e.g., South Africa), when looking at the distributional impacts of different adaptation options through a just transition approach. International cooperation can support scaling up efforts for adaptation in the poorest and most climate-vulnerable countries by providing additional finance and technology access.

Different instruments and mechanisms have been suggested in CCDRs to support the implementation of adaptation policies. Strategic planning, infrastructure investments, and social protection systems are the most cited in the recommendations. Each of them offers a solution to the three factors that determine the implementation space: state capacity, finance and technology access, and political capital respectively.

The G5 Sahel CCDR was published in June 2022 and covers Burkina Faso, Chad, Mali, Mauritania, and the Niger. All of them are included in the Least Developed Countries list by the UN and they are considered (except for Mauritania) as low-income countries by the World Bank country classification. The South Africa CCDR was published in October 2022. The country is classified in the upper-middle-income level group by the World Bank.

### **Key Development Challenges**

Apart from Mauritania, the G5 Sahel countries are landlocked and covered by semi-arid grasslands and savannahs, with shrublands and forests in the south. The population is expected to increase from 89 million to 180–211 million by 2050 due to high fertility and declining mortality rates. Despite this growth, population density remains relatively low, although urbanization continues to shape large urban areas through rural-urban migration flows and growing settlements being upgraded as secondary cities. Agriculture still contributes 40 percent of regional GDP through smallholder subsistence and rainfed farming. Human development indicators

and average incomes remain low despite robust economic growth over the past decade, which has been marked by gender inequality. Recent progress is threatened by the emergence of waves of conflict linked to perceptions of injustice by some marginalized communities. Climate risks and socio-political instability interact across national borders, further increasing the vulnerability of the population.

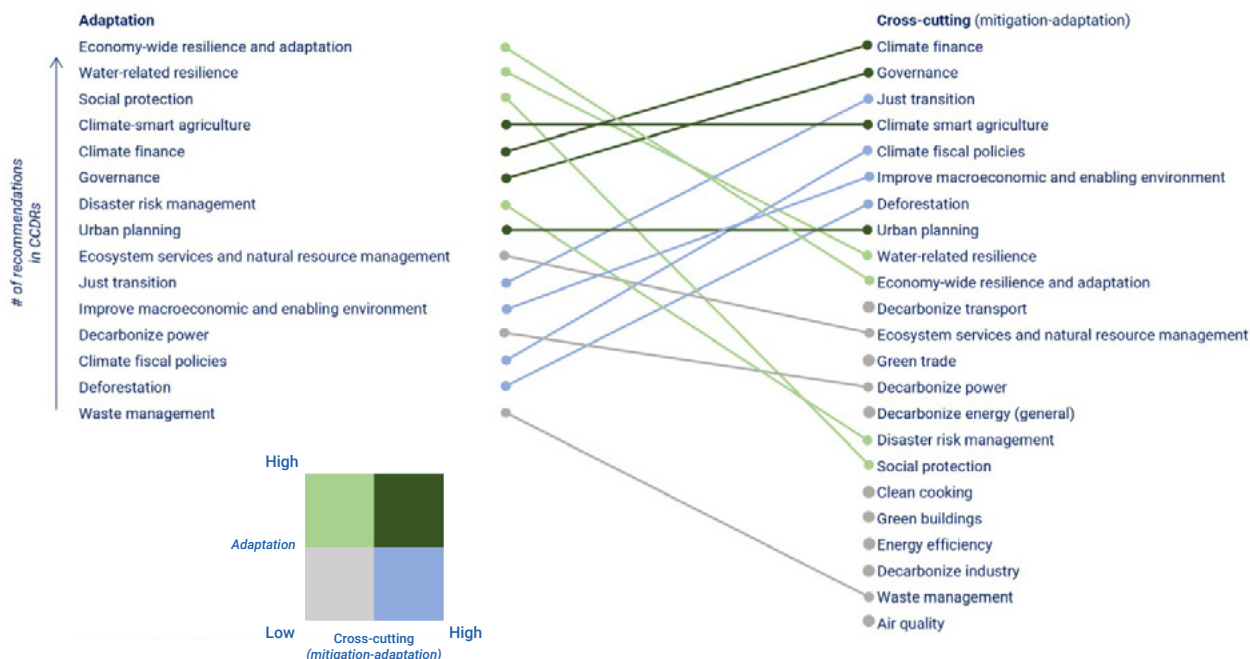
South Africa is delineated by coastlines to the south, and its land consists mainly of grassland, savannah, and scrubland. With its diverse ecosystems, the country is considered a biodiversity hotspot. Its 60 million people are concentrated in urban centers on the coast (Cape Town and Durban) and in the northeast (Johannesburg and Pretoria). South Africa’s economy and society are closely linked to the mining industry, a major driver of the country’s early economic expansion. At the same time, mining is also linked to the institutionalization of racial discrimination in labor markets and the concentration of ownership throughout the economy. As a legacy of apartheid, the country remains one of the most unequal in the world, with a skewed distribution of land and productive assets, weak property rights, and spatial exclusion of historically disadvantaged settlements. Poverty and unemployment remain high, partly due to a decade of low growth. The transition to a high-income economy is further hampered by a long-standing energy crisis due to an old coal-based power generation fleet.

### **Key Climate Challenges**

Chad, the Niger, and Mali are among the 10 most vulnerable countries in the world according to the ND-GAIN ranking. Projections indicate an anticipated rise in annual temperatures across the region, with an estimated increase of 1.5–4°C relative to pre-industrial levels. In some parts of the region, the number of days with a wet-bulb temperature of 35°C (considered the upper survivable limit for human beings) will increase, making them unlivable to human populations. The G5 Sahel countries confront heightened exposure to an array of extreme events, encompassing droughts, floods, and heatwaves, while simultaneously facing the challenges of land degradation and desertification.

Similarly, South Africa faces rising temperatures, with average monthly temperatures projected to increase by 2°C by 2050 under a high-emissions global scenario. Models estimate a 39 percent

Figure 15. Key Policy Issues for Adaption and Cross-Cutting Interventions Tackled in CCDRs



Source: World Bank, 2022. Climate and Development: An Agenda for Action

Table 10. Climate Change Action Synergies and Trade-Offs

	URGENT (Delay in action increases the cost of achieving the same end point)	LESS URGENT (Delay in action does not increase the cost of achieving the same end point)
SYNERGIES (Action facilitates the achievement of other development objectives)	Synergetic and urgent actions are to be prioritized and should be part of the recommendations (but it is important to identify the obstacles that explain why it has not been done already)	Synergetic actions that can be delayed should be implemented, but only if implementation capacity allows it. If capacity and political capital are limited, delaying them may be preferable, especially if net benefits are small or uncertain
TRADE-OFFS (Cost of action makes the achievement of development objectives more difficult)	Urgent actions that create trade-offs are the most challenging. Options to explore include: <ul style="list-style-type: none"> <li>specific designs to minimize or reverse trade-offs, or protect the poor, such as recycling options with a carbon tax</li> <li>opportunities to mobilize concessional (climate or development) financing to manage the trade-offs</li> </ul>	Actions that create trade-offs with other development objectives and can be delayed should be delayed

Source: World Bank, 2022. Climate and Development: An Agenda for Action.



increase in the likelihood of severe annual droughts by mid-century, with cities such as Cape Town already experiencing water emergencies. The frequency of other extreme events, such as floods, will further increase. South Africa's coastal population is moderately exposed to sea-level rise. Overall, the country is considered less vulnerable than the G5 countries (it ranks 75th out of 185 on the ND-GAIN vulnerability index).

### **Climate Policies and Governance Capacity**

All the G5 Sahel countries updated their NDCs in 2021, with a strong focus on adaptation. The estimated total cost of NDC adaptation investments amounts to US\$33 billion by 2030. Costs vary a lot across countries. The volume of estimated NDC adaptation investments in Burkina Faso is US\$2.8 billion (68 percent of total NDC investment), which would require an average annual investment amounting to 21 percent of 2021 total capex. For Mauritania, estimated NDC adaptation investments are US\$10.63 billion (24 percent of total NDC investment), representing 167 percent of 2021 total capex in average annual investment. Burkina Faso, Chad, and the Niger have also submitted NAPs.

South Africa updated its NDC in 2021, which contains its first adaptation NDC. It is also aligned to the country's Low-Emission Development Strategy and Just Transition Framework. The country submitted its NAP to the UNFCCC in 2021. Annual investments required for adaptation will amount to between 0.9 and 1.3 percent of South Africa's GDP, according to the CCDR.

### **Macroeconomic and Sectoral Impacts of Climate Change**

Without adaptation, the annual GDP losses due to climate risks are estimated to be very high for the G5 Sahel countries, with different levels of sensitivity between countries. Under a pessimistic climate scenario (Dry and SSP3–7.0), the direct economy-wide impact would range from –6.8 percent in Burkina Faso to –11.9 percent in the Niger by 2050. The impact of the different climate risks varies by economic sector and climate scenario. The traditional agricultural sector is affected by larger negative shocks, although rainfed crop yields would increase in some countries under the wet climate scenario (but decrease under the dry climate scenario).

Under a pessimistic scenario (SSP3–7.0), total damages from climate change would amount to 0.8 percent of South Africa's GDP per year between 2022 and 2050. Damages would increase over time, reaching –1.2 percent by 2040–2050. Most of the damage is due to heat shocks on labor productivity. Agriculture is highly exposed to climate risks, but accounts for less than 3 percent of GDP. However, there are important differences between regions and income groups. Damage is expected to be more significant in large urban centers, with the poorest being disproportionately affected.

### **Priority Areas and Actions**

Priority areas highlighted by the CCDR for the G5 Sahel countries cover landscape, agriculture, livestock, and fisheries, water security, rural water services, and cities. These match the countries' adaptation NDC priority sectors, which also include human capital (health, education, gender, and social protection). The G5 Sahel CCDR details a list of policy recommendations and investments, distinguishing between those that could be made in the next three years and those that could be made by 2030. The report also highlights the need to increase both institutional capacities and financing for climate action, through pre-arranged risk mitigating and risk-sharing mechanisms.

Key policy areas for adaptation identified in the CCDR for South Africa include agriculture and urban infrastructure systems (water and transport). The report underscores the need to improve public investment management and coordination across different levels of government. It also stresses the role that the domestic financial sector could play to scale up private investment.

## **6.2 IMF's Resiliency and Sustainability Trust**

The Resilience and Sustainability Trust (RST) was formally agreed upon in April 2022 and became operational in October, when the IMF negotiated policy programs under the new Resilience and Sustainability Facility. The RST "complements the IMF's existing lending toolkit<sup>1</sup> by providing longer-term, affordable financing to address longer-term challenges".<sup>39</sup> This balance of payment financing has a 20-year maturity and a 10.5-year grace period, for countries eligible to the Poverty Reduction and Growth Trust (PRGT). It is funded by the share of the August 2021 Special Drawing Right (SDR) allocation

that some countries with strong external positions have voluntarily committed to channel to more vulnerable members.

The RST’s objectives are to support “policy reforms that reduce macro-critical risks associated with climate change and pandemic preparedness”, and to augment “policy space and financial buffers to mitigate the risks arising from such longer-term structural challenges”.

RSF-supported policies are expected to catalyze broader donor support on terms that moderate borrowers’ credit risk. Disbursements can only be made when the borrowing country has a regular IMF program or credit line in place. Besides, conditionality is “linked to reform progress, where each measure is connected to one RSF disbursement”. RST loans also have their own policy requirements (e.g., access limits, phasing rules, debt sustainability).

A reform measure can be a single policy action or a set of very closely related actions constituting a single reform. They fall into two broad categories.

**Institutional reforms** focus on integrating climate concerns into financial planning and policymaking processes. These types of reforms involve:

- Planning and strategies (e.g., approving a National Adaptation Plan or a disaster risk financing strategy).
- Public financial management (e.g., systematically including climate implications in published budget documents or develop a climate budget tagging system).
- Public investment management (e.g., defining climate-related criteria and conducting mandatory climate-related analysis for the ex-ante appraisal of public investment projects).

**Policy measures** aim to mitigate the impact of climate change, while also improving the balance of payments position. For instance:

- Fiscal policy measures (e.g., phasing out subsidies on emission-intensive activities).
- Regulatory policy (e.g., issuing regulations on carbon pricing policy or adopting measures to achieve at least full cost recovery in water utility pricing).

To date, eight RSF arrangements and two staff-level agreements have been approved (Table 11). Disbursements have been approved for three countries, including Rwanda (Box 12).

**Table 11. RST: RSF Arrangements Approved in Chronological Order (As of March 3, 2023)**

Country	Access*		Group**	Status
	In SDR millions	In percent of Quota		
Costa Rica	554	150%	C	Approved 11/14/2022
Barbados	142	150%	C	Approved 12/07/2022
Rwanda	240	150%	A	Approved 12/12/2022
Bangladesh	1,000	94%	B	Approved 01/30/2023
Jamaica	574	150%	C	Approved 03/01/2023
<b>Total</b>	<b>2,511</b>			

\*The access policy envisages a norm of 75 percent of quota and a cap at the lower of 150 percent or SDR 1 billion.

\*\* Group A consists of PRGT-eligible countries, excluding presumed blenders. Group B includes presumed blenders and small states with Gross National Income (GNI) per capita below 10 times International Development Association (IDA) cutoff. Group C includes eligible countries that are not in groups A and B. See IMF (2022) for the RST eligibility.

Source: IMF, 2023

## Box 12. Rwanda: Accessing the Resilience and Sustainability Facility

In December 2022, the IMF Executive Board approved an arrangement for the Government of Rwanda to access US\$319 million through the Resilience and Sustainability Facility (RSF), the first for an African country. The first review of Rwanda's program under the RSF was completed in May 2023, allowing for an immediate disbursement equivalent to about US\$98.6 million for budget support.

In parallel, the IMF Executive Board also approved a 36-month Policy Coordination Instrument to support the authorities in maintaining "macroeconomic stability and foster more inclusive growth". Prior to its formal program request, Rwanda had already requested (together with Bangladesh and Costa Rica) capacity development in climate Public Finance Management (PFM) to inform climate-related program conditions. On average, PFM-related reform measures constitute about half of the number of RSF reform measures across these three RST pilots.

Proposed reform areas under an RSF include: strengthening and institutionalizing monitoring and reporting of climate-related spending; integrating climate risks into fiscal planning; improving the sensitivity of public investment management to climate-related issues; strengthening climate-related risk management for financial institutions;

and strengthening the disaster risk reduction and management strategy and operations.

Moreover, at the Paris Summit for a New Global Financing Pact in June 2023, the Government of Rwanda announced a complementary and coordinated initiative with bilateral and multilateral donors. It includes:

- Additional programmatic budget support (€50 million) and technical assistance grant (€3 million) provided by the Agence Française de Développement (AFD) to support Rwanda's Measurement, Reporting, and Verification (MRV) framework and the implementation of its sustainable finance roadmap.
- The development by the International Finance Corporation (IFC) of long-term investment plans for climate-smart agriculture and sustainable urbanization to strengthen private sector engagement.
- Additional financing by the European Investment Bank (EIB), estimated at €100 million, provided under the Global Gateway strategy, to the Ireme Invest investment facility powered by the Rwanda Green Fund (FONERWA) and the Development Bank of Rwanda (BRD).

Source: International Monetary Fund (2023). First Reviews under the policy coordination instrument and the arrangement under the resilience and sustainability facility. IMF Country Report No. 23/198. <https://doi.org/10.5089/9798400242052.002>

# 7 Recommendations

The analysis presented in this paper covered a wide range of issues and good practices among strategic adaptation documents in Africa. The excellent coverage in the region with NDCs, NAPs, and LTSs clearly demonstrates that African nations are taking the climate crisis seriously and planning to transform their economic growth into more climate-adapted trajectories.

The findings of this report show that for each dimension of analysis, there are some, and in many cases several, good examples in Africa of adaptation planning. This means that African countries can learn from each other to continuously improve their planning processes and institutions to design and implement adaptation programs at scale.

**This report offers four main recommendations:**

- **First, ministries of finance and planning need to play a central role in the strategic directions and priorities for adaptation action at scale.** While sectoral ministries and agencies have a critical policy and implementation role in adaptation, and the Ministry of Environment and/or Climate Change plays a principal role, it is essential to ensure that adaptation is a core theme in the deliberations and choices of the ministries of finance and planning.
- **Second, adaptation is not only the government's responsibility—choices and priorities for adaptation action require the involvement of all stakeholders in African societies,** including households, communities, the private sector, civil society, as well as vulnerable populations. A truly participatory process during planning and policy formulation will ensure ownership of changes by all stakeholders.
- **Third, adaptation plans need to be more specific, with clear goals, timelines, financing plans, and monitoring systems.** The NDCs, NAPs, and LTSs provide helpful directions and priorities, however, there is still a gap between these strategic

documents and specific sectoral investment programs, well-defined adaptation policies, and bankable adaptation investments.

- **Fourth, adaptation plans need to be continuously improved by considering all key vulnerable economic sectors and by strengthening the linkages with disaster risk reduction.** This report offers specific areas for consideration by African governments in this continuous improvement process.

Other more detailed recommendations that African countries may consider in their strategic adaptation planning processes include:

- It is important to assess how well-established the enabling environment is for adaptation investments in the country's planning process. This study offers a six-level scale that may be used for such assessment and for an improvement program using good practices from other African countries rated higher in this metric. Countries with higher income levels may learn from the excellent strategic work that several low-income, vulnerable countries have done in this area.
- In general, the institutional framework to plan, legislate, and manage the implementation of adaptation actions requires strengthening. This need is not uncommon, even in high-income countries. Having well-defined arrangements for leadership, coordination, prioritization, and funding of adaptation actions is key to success.
- While national cross-sectoral adaptation policies and programs are needed in most countries, achieving effective change in the resilience and adaptation capacities of communities, regions, businesses, and sectors requires more specific and targeted plans and programs at the sectoral and subnational levels. These plans and programs need well-defined goals, financial need estimates, implementation arrangements, and a comprehensive implementation roadmap.

- The monitoring and evaluation systems for adaptation policies and priorities are generally weak in Africa and require strengthening. This is an area of active research and learning in other regions, so there are no ready-made solutions to copy. African countries need to develop systems linked to the national institutions and processes instead of parallel approaches focused on adaptation.
- An effective implementation of the priorities and directions defined by national strategic adaptation documents requires a detailed estimate of funding needs. These estimates vary in quality and depth among the strategic documents reviewed. It is crucial to continuously improve these estimates and link them to the national budget and investment prioritization process.
- It is critical for the African region to enhance coordination between strategic adaptation documents and national disaster risk reduction policies. This could be done by merging initiatives and finding inter-agency coordination mechanisms to ensure the strongest possible leverage between these two areas of work that are, sometimes, not as integrated as they could be.
- African countries should consider gradually expanding the priority sectors for adaptation action to include the blue economy, tourism, infrastructure, and human settlements. Cross-sectoral issues such as inclusion, youth, and jobs should also be incorporated into future versions of adaptation strategies and plans.
- Finally, African countries could leverage further new tools developed by the World Bank and the IMF, such as the Country Climate and Development Reports and the Resilience and Sustainability Trust, respectively. These new instruments provide a robust analysis of policy and institutional reforms needed to strengthen the capacity of African nations to deal with the rapidly increasing impacts of climate change.

# Endnotes

- 1 University of Notre Dame. 2023. "ND-GAIN Country Index." Notre Dame Global Adaptation Initiative. <https://gain.nd.edu/our-work/country-index/rankings/>
- 2 IPCC. 2022. "Climate Change 2022: Impacts, Adaptation and Vulnerability." Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. Cambridge University Press, Cambridge, UK and New York, NY, USA, 3056 pp., doi:10.1017/9781009325844.
- 3 World Meteorological Organization (WMO). 2022. "The State of Climate in Africa 2021 report." <https://public.wmo.int/en/our-mandate/climate/wmo-statement-state-of-global-climate/africa>
- 4 Intergovernmental Panel on Climate Change. AR6 WGII. 2022. "Factsheet –Africa." [https://www.ipcc.ch/report/ar6/wg2/downloads/outreach/IPCC\\_AR6\\_WGII\\_FactSheet\\_Africa.pdf](https://www.ipcc.ch/report/ar6/wg2/downloads/outreach/IPCC_AR6_WGII_FactSheet_Africa.pdf)
- 5 World Meteorological Organization (WMO). 2021. "The State of the Climate in Africa 2020 report." <https://www.preventionweb.net/publication/state-climate-africa-2020>
- 6 World Resource Institute. 2023. "Adaptation Finance and Investment." <https://www.wri.org/initiatives/adaptation-finance>
- 7 Global Center on Adaptation. 2022. "The State and Trends in Adaptation in Africa Report 2022." Adaptation Finance Flows in Africa. [https://gca.org/wp-content/uploads/2023/01/GCA\\_State-and-Trends-in-Adaptation-2022\\_Adaptation-Finance-Flows-in-Africa.pdf?\\_gl=1\\*hai8sc\\*\\_ga\\*MTg4MzA4ODAwLjE2OTE1MDc0MDg.\\*\\_up\\*MQ](https://gca.org/wp-content/uploads/2023/01/GCA_State-and-Trends-in-Adaptation-2022_Adaptation-Finance-Flows-in-Africa.pdf?_gl=1*hai8sc*_ga*MTg4MzA4ODAwLjE2OTE1MDc0MDg.*_up*MQ)
- 8 Africa NDC Hub. 2021. "Africa's NDC journey and the imperative for climate finance innovation." [https://africanandchub.org/sites/default/files/2021-11/211103\\_ANDC%20Hub\\_Africa%E2%80%99s%20NDC%20journey%20and%20climate%20finance\\_.pdf](https://africanandchub.org/sites/default/files/2021-11/211103_ANDC%20Hub_Africa%E2%80%99s%20NDC%20journey%20and%20climate%20finance_.pdf)
- 9 IPCC. 2022. "Annex II: Glossary." In: "Climate Change 2022: Impacts, Adaptation, and Vulnerability." Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 2897–2930, doi:10.1017/9781009325844.029.
- 10 United Nations Climate Change 15/07/2023. "Paris Agreement and the NDCs." <https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs>
- 11 Fransen, T. et al. 2017. "Enhancing NDCs by 2020: Achieving the goals of the Paris Agreement." <https://www.wri.org/research/enhancing-ndcs-2020-achieving-goals-paris-agreement>
- 12 UNFCCC. 2021. "National Adaptation Plans 2021: Progress in the formulation and implementation of NAPs." <https://unfccc.int/sites/default/files/resource/UNFCCC-NAP2021-Progress-report.pdf>
- 13 World Resources Institute (WRI). "State of the Nationally Determined Contributions: Enhancing Adaptation Ambition." <https://www.wri.org/research/nationally-determined-contributions-enhancing-adaptation-ambition>
- 14 NDC Partnership. 2023. Country Pages. <https://ndcpartnership.org/countries-map>
- 15 NAP Global Network. 2023. <https://napglobalnetwork.org/about/>
- 16 United Nations Development Program (UNDP). 2021. "Nationally Determined Contributions (NDC) Global Outlook Report 2021: The State of Climate Ambition." <https://www.undp.org/publications/nationally-determined-contributions-ndc-global-outlook-report-2021-state-climate-ambition>
- 17 United Nations Development Program (UNDP). "State of Climate Ambition." Regional Snapshots. <https://climatepromise.undp.org/state-of-climate-ambition/regional-snapshots>
- 18 UNFCCC. 2021. "National Adaptation Plans 2021: Progress in the formulation and implementation of NAPs." <https://unfccc.int/sites/default/files/resource/UNFCCC-NAP2021-Progress-report.pdf>
- 19 UNDP Climate Change Adaptation. 2023. "National Adaptation Plans – Country Projects. Advancing adaptation planning in countries". <https://www.adaptation-undp.org/naps-gcf>; Green Climate Fund. 2023. "Programs and Projects. Country and Entity Engagement. Country Readiness". <https://www.greenclimate.fund/readiness>
- 20 Food and Agriculture Organization of the United Nations (FAO). 2021. "(Interim) Global update report: Agriculture, Forestry and Fisheries in the Nationally Determined Contributions." <https://www.fao.org/3/cb7442en/cb7442en.pdf>
- 21 Global Water Partnership (GWP). "Preparing to Adapt: The Untold Story of Water in Climate Change Adaptation Processes." <https://www.gwp.org/globalassets/global/events/cop24/gwp-ndc-report.pdf>
- 22 African Development Bank Group. Africa NDC Hub. <https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/africa-ndc-hub>
- 23 African Development Bank (AfDB). 2018. "Gap Analysis Report: African Nationally Determined Contributions (NDCs)." [https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/African\\_NDCs\\_Gap\\_Analysis\\_Report.pdf](https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/African_NDCs_Gap_Analysis_Report.pdf)
- 24 African Development Bank (AfDB). 2019. "Analysis of Adaptation Components of Africa's Nationally Determined Contributions (NDCs)." [https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Analysis\\_of\\_Adaptation\\_Components\\_in\\_African\\_NDCs\\_2019.pdf](https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Analysis_of_Adaptation_Components_in_African_NDCs_2019.pdf)
- 25 It is important to outline a few limitations of our study here. Due to time constraints and the length of the NDCs, NAPs, and LTSs, this body of strategic adaptation documents alone was used to assess the status of national planning for adaptation. The analysis was extensive but limited to these documents, which presents the risk of leaving relevant information from other documents out of the assessment. Having one set framework with which to analyze this body of strategic adaptation documents presents limitations in that it may not catch the nuances of each. Further, the same document differs from country to country in terms of content, structure, terms, and language, which could also result in different interpretations and consequently, comparing countries or regions becomes an intricate task. The analysis, therefore, should only be taken as an approximation of a general picture of the status of planning for adaptation in Africa. We also recognize a limitation in understanding the true and whole picture of a country's institutional arrangements, plans, and planning processes—which can only be gained through engagement with stakeholders on the ground. As such, this document serves to provides a high-level overview of the status of adaptation planning in Africa—as communicated through NDCs, NAPs, and LTSs only—to set the foundation for co-development of the country compacts.
- 26 <https://gain.nd.edu/our-work/country-index/>
- 27 Russell, A., A.Y. Banana, and P.O. Ongugo. 2016. "Lessons learned for improving policies affecting forest conservation and climate change adaptation in Uganda's water tower communities."
- 28 UNDRR. 2020. "Disaster Risk Reduction and Climate Change Adaptation, Pathways for policy coherence in Sub-Saharan Africa." <https://www.undrr.org/media/47688/download?startDownload=true>; UNDRR. 2020. "Integrating Disaster Risk Reduction and Climate Change Adaptation in the UN Sustainable Development Cooperation Framework: Guidance Note on Using Climate and Disaster Risk Management to Help Build Resilient Societies." <https://unsdg.un.org/sites/default/files/2020-08/Integrating-DRR-CCA-in-CFs-web.pdf>
- 29 Qi, J., A. Dazé, and A. Hammill. 2023. "Addressing loss and damage: What can we learn from countries' National Adaptation Plans?" NAP Global Network report. International Institute for Sustainable Development. <https://napglobalnetwork.org/resource/loss-and-damage-national-adaptation-plans/>
- 30 Crumpler, K. et al. 2022. "Regional analysis of the nationally determined contributions in Sub-Saharan Africa – Gaps and opportunities in the agriculture and land use sectors." Environment and Natural Resources Management Working Paper No. 94. Rome, FAO. <https://doi.org/10.4060/cc0599en>
- 31 Global Center on Adaptation. 2022. "The State and Trends in Adaptation Report: Africa. Coastal Erosion."
- 32 Landry, S. 2018. "Africa's Tourism Potential: Trends, Drivers, Opportunities, and Strategies." Africa Growth Initiative, Brookings Institution. [https://www.brookings.edu/wp-content/uploads/2018/12/Africas-tourism-potential\\_LandrySigne1.pdf](https://www.brookings.edu/wp-content/uploads/2018/12/Africas-tourism-potential_LandrySigne1.pdf)
- 33 Lusigi, A. 2022. "Rethinking tourism as a pathway for development." UNDP Ghana. <https://www.undp.org/ghana/blog/rethinking-tourism-pathway-development>
- 34 Trisos, C.H. et al. 2022. "Africa." In: "Climate Change 2022: Impacts, Adaptation and Vulnerability." Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 1285–1455, doi:10.1017/9781009325844.011.
- 35 Ibid.
- 36 ILO. 2013. "African Union calls for more investment to promote jobs in Africa." ILO, Geneva.
- 37 Green jobs is defined by the International Labour Organization (ILO) as employment in the environmental sector that meets the requirements of decent work – and, in particular, jobs for adaptation and resilience, a subcategory of green jobs (STA21).
- 38 In the case of Morocco, the authors used the GTAP-BIO-Water Model, another CGE model, to estimate the economy-wide impacts of water scarcity. In the case of South Africa, the authors used the South African General Equilibrium (SAGE) model to estimate the impacts of a low-carbon transition derived from the energy-sector South Africa TIMES Model (SATIM).
- 39 IMF. 2023. "Review of Resource Adequacy of the Poverty Reduction and Growth Trust, Resilience and Sustainability Trust, and Debt Relief Trusts." April 7, 2023: <https://www.imf.org/en/News/Articles/2023/04/07/pr23112-2023-review-of-resource-adequacy-of-the-poverty-reduction-growth-trust>





**GLOBAL  
CENTER ON  
ADAPTATION**

**Global Center on Adaptation  
Antoine Platekade 1006  
3072 ME Rotterdam  
The Netherlands  
+31 88 088 6800**

**[www.gca.org](http://www.gca.org)**

**GCA Africa  
Global Center on Adaptation  
c/o African Development Bank  
Avenue Lamblin  
Abidjan  
Côte d'Ivoire  
+225 2026 3900**