Technical Guidelines for Strengthening the Implementation and Tracking of Adaptation in Climate Policies in Africa

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FOREWORD

Climate change presents an unprecedented challenge to sustainable development, particularly for Africa, where climate impacts disproportionately affect livelihoods, food systems, ecosystems, and economic stability. While African countries have made significant progress in developing national climate policies and commitments under the United Nations Framework Convention on Climate Change (UNFCCC), persistent gaps remain in translating these commitments into effective, well-coordinated, and measurable adaptation action.

Decision 18/CMA.1, adopted at the first session of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement, underscores the need for practical, implementation-oriented guidance to strengthen national adaptation planning, enhance monitoring, evaluation and learning systems, and improve the tracking of adaptation progress under the Enhanced Transparency Framework. This Technical Guideline responds directly to that mandate by offering step-by-step, Africa-tailored guidance to support countries in strengthening the design, implementation, and tracking of climate adaptation actions.

With particular emphasis on agriculture and food systems, sectors central to Africa's resilience and development, the Guideline supports greater coherence across Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs), and Long-Term Low Emission Development Strategies (LT-LEDS). It aims to strengthen institutional capacity, improve accountability, and enable evidence-based decision-making that delivers tangible resilience outcomes for communities across the continent.

PREFACE

This Technical Guideline for Strengthening Implementation and Tracking of Adaptation Policies in Africa was developed in response to identified gaps in existing global and regional climate policy guidance, particularly with respect to operationalization, financing, and monitoring of adaptation actions at national and subnational levels.

The Guideline is grounded in:

- A comprehensive scoping review of international and regional technical guidelines;
- Policy analyses of NDCs (including NDC 3.0), NAPs, and LT-LEDS across Africa; and
- Insights from peer-to-peer learning workshops involving practitioners from West, East, and Southern Africa.

Designed as a modular and flexible reference tool, the Guideline aligns with the adaptation policy cycle and supports users at different stages of readiness. It complements existing UNFCCC guidance by translating high-level principles into practical steps, tools, and templates that can be applied across diverse governance and institutional contexts.

The Guideline is intended for national climate units, sectoral ministries, subnational authorities, development partners, and practitioners involved in adaptation planning and implementation. By strengthening coherence, participation, and learning, it seeks to support African countries in advancing resilient development pathways consistent with the Paris Agreement, the Global Goal on Adaptation, and continental priorities under Agenda 2063.

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List of Acronyms

Acronym	Full Name
AF	Adaptation Fund
AU	African Union
BTR	Biennial Transparency Report
CAADP	Comprehensive Africa Agriculture Development Programme
CORDEX	Coordinated Regional Climate Downscaling Experiment
CRGE	Climate Resilient Green Economy
ETF	Enhanced Transparency Framework
EX-ACT	Ex-Ante Carbon-balance Tool
GCF	Green Climate Fund
GEF	Global Environment Facility
GGA	Global Goal on Adaptation
GHG	Greenhouse Gas
IPCC	Intergovernmental Panel on Climate Change
LEAP	Low Emissions Analysis Platform
LT-LEDS	Long-Term Low Emission Development Strategy
MCA	Multi-Criteria Analysis
MEL	Monitoring, Evaluation and Learning
MRV	Measurement, Reporting and Verification
NAP	National Adaptation Plan
NDC	Nationally Determined Contribution
SSP	Shared Socioeconomic Pathway
UNFCCC	United Nations Framework Convention on Climate Change

PART I

1.0 INTRODUCTION

Decision 18/CMA.1 underscores the need for practical, implementation-oriented guidance to support Parties in strengthening national adaptation planning, enhance monitoring, evaluation, and learning (MEL) systems, and improve tracking of adaptation progress and effectiveness under the Enhanced Transparency Framework. The Technical Guidelines provides Africa-specific, step-by-step approaches for strengthening implementation and tracking of adaptation within national climate policies. It supports coherence across NDCs, NAPs, and LT-LEDS, with a special attention to agriculture and food systems, essential for Africa's climate- resilience and sustainable development.

1.1 WHY THE TECHNICAL GUIDELINE

Grounded in a comprehensive scoping review of regional and international technical guidelines, alongside policy analyses of key policy instruments such as NDC 3.0, NAPs, and LT-LEDS, the Technical Guideline directly responds to the persistent implementation and tracking gaps identified across these studies, providing Africa-specific solutions informed by evidence from both literature and country experiences.

1.1.1 STATUS AND GAPS IN THE DEVELOPMENT OF THE CLIMATE POLICIES

Africa's climate policy landscape has evolved from reactive, donor-driven efforts to more strategic, integrated frameworks aligned with global climate goals. The journey began in the early 2000s with the development of National Adaptation Programmes of Action (NAPAs) under the UNFCCC, providing Least Developed Countries (LDCs) a platform to articulate their immediate adaptation needs. The adoption of the Cancun Adaptation Framework in 2010 and the Paris Agreement in 2015 marked a significant turning point, shifting towards long-term, country-driven adaptation processes. In particular, Article 7 of the Paris Agreement elevated adaptation to a global priority, introducing the Global Goal on Adaptation (GGA) and encouraging countries to formulate and implement National Adaptation Plans (NAPs).

Similarly, Nationally Determined Contributions (NDCs) have evolved from broad political commitments to more structured and measurable obligations, with the 2020 cycle reflecting increased sectoral targeting and inclusion of adaptation, particularly in African countries. LT-LEDs also evolved, moving from voluntary, aspirational planning instruments to institutionalized components of national climate planning, initially focusing on mitigation but now integrating adaptation and resilience, albeit with less emphasis compared to mitigation.

Nevertheless, significant gaps and challenges persist across the climate policy instruments. As of November 2025, momentum in NDC submissions has notably slowed despite being mandatory under the Paris Agreement. While 53 African countries submitted their initial Intended Nationally Determined Contributions (INDCs), only 41 countries updated their NDCs in the 2020 cycle, and just 23 have submitted a third iteration. A similar pattern is observed for other instruments. Although voluntary, progress on NAPs and LT-LEDs has been gradual, with only about 30 African countries have developed NAPs, and just 10 countries have communicated their LT-LEDS (see Fig 1), exposing persistent gaps at the national level.

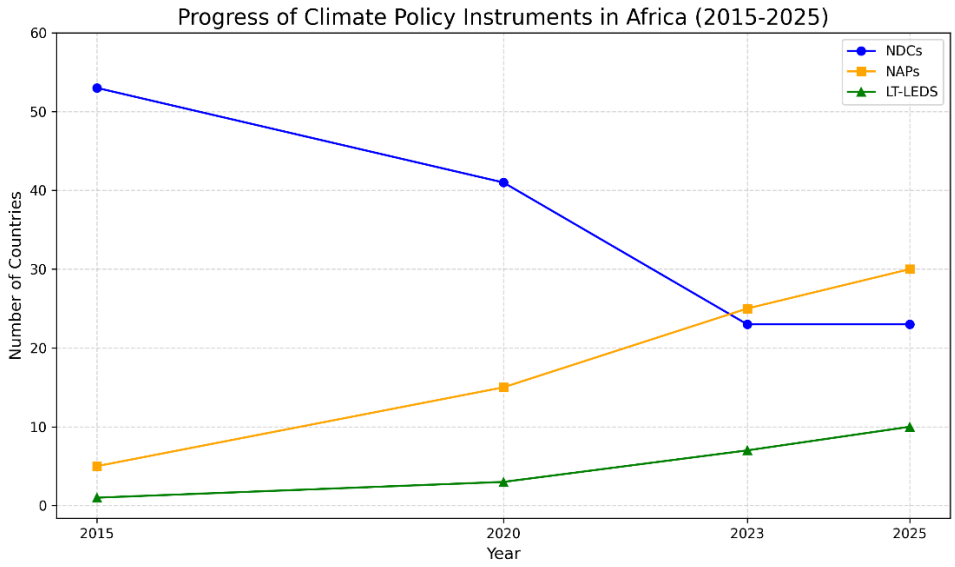

Figure 1: Progress of Climate Policy Instruments in Africa

Additionally, the gaps extend beyond the developed climate policy instruments to the quality of climate policy instruments submitted. According to 2023 UNFCCC NDC Synthesis Report, many NDCs still present broad, high-level adaptation commitments with limited costing, unclear prioritization, and weak integration with sectoral plans (UNFCCC 2023). NAPs on the other hand remain insufficiently grounded in comprehensive climate risk assessments, while others lack clear implementation pathways, financing strategies, and monitoring and evaluation system (UNFCCC, 2024, 2025). Where LT-LEDs exist, they often focus more on mitigation than adaptation, with adaptation often addressed at a high level and with limited operational detail (UNCCC, 2023). Consequently, creating an impetus to strengthening the adaptation, especially in Africa's food and agriculture sector which is disproportionately vulnerable to climate change.

Table 1: Gaps in Africa's Climate Policies

Challenge/Gap	Description	Context	Sources
Uneven Integration of Adaptation	While adaptation is gaining traction, its integration into national climate policies remains inconsistent across African countries.	Inconsistent progress between NDC 1.0, 2.0, and 3.0 cycles; slow incorporation of adaptation priorities in NDCs.	UNFCCC NDC Synthesis Reports (2020, 2025)
Lack of Detailed Costing, Sectoral Integration, and Clear Implementation Pathways in NDCs	Many NDCs, particularly in Africa, remain high-level and lack detailed costing, sectoral integration, and actionable pathways for adaptation.	NDC Synthesis Reports (2020, 2025) show persistent gaps in financial planning and sectoral strategies.	UNFCCC NDC Synthesis Report (2025)
Challenges in Comprehensive Climate Risk Assessments in NAPs	NAPs, though increasingly common, often lack robust climate risk assessments, making them less effective in guiding climate action.	UNFCCC LEG reports (2024) highlight gaps in national climate risk analysis as a barrier to successful NAP implementation.	UNFCCC LEG Annual Report (2024)
Weak Institutional Coordination	Inadequate coordination between ministries and institutions hinders effective implementation of climate policies, leading to fragmented approaches.	Several African countries face institutional fragmentation, which undermines the effective deployment of climate adaptation actions.	African Climate Policy Centre (ACPC) Reports (2023)
Misalignment of NDCs, NAPs, and LT-LEDS	The integration of NDCs, NAPs, and LT-LEDS is still incomplete, with adaptation often underemphasized relative to mitigation efforts.	Decision 18/CMA.1 calls for coherence across climate policy instruments, but this remains a challenge in many African countries.	UNFCCC Decision 18/CMA.1 (2023)
Inadequate Financing for Adaptation	Adaptation actions remain underfunded, with many African countries unable to access the necessary financial	UNFCCC Financing Mechanisms highlight the persistent gap between adaptation needs and available funding.	UNFCCC Financial Mechanism Reports (2023)

	resources to implement climate adaptation measures.		
Absence of Standardized MEL Frameworks	The lack of standardized Monitoring, Evaluation, and Learning (MEL) systems prevents effective tracking of adaptation progress and impacts across countries.	A lack of MEL systems in many African countries results in difficulties in assessing adaptation outcomes and impacts.	Adaptation Fund Annual Report (2023)

1.1.2 GAPS IN THE EXISTING TECHNICAL GUIDELINES

A scoping review assessed the climate policy technical guidelines relevant to Africa, across four themes: Policy Design, Implementation, Tracking, and Cross-cutting to identify strengths, gaps, and opportunities for strengthening adaptation into the climate policies. The review assessed the extent to which the technical guidelines define essential elements to be incorporated as well as in providing direction on the overall policy processes. The findings included strong clarity and inclusiveness in the Policy Design theme but lacked actionable guidance on integrating local knowledge and participatory evidence. Implementation was the weakest theme, particularly due to gaps in financing mechanisms, vertical coordination, and mainstreaming adaptation into national budgets. Tracking also revealed significant gaps in establishment of baseline data, stepwise guidance on the M&E processes, and vertical and horizontal integration of data systems. Similarly, the Cross-cutting themes, which assessed the technical guidelines spanning more than one analytical theme, promoted inclusive participation but did not provide practical guidance for translating these concepts into local action.

While gaps emanating from the scoping review, several entry points and opportunities for improvement were identified across the adaptation cycle. In Policy Design, integrating climate risk assessments with socio-economic vulnerability analysis and improving multi-criteria prioritization methods were key recommendations. For Implementation, expanding guidance on financing strategies, including blended finance and alignment with public financial management systems, was emphasized. In Tracking, enhancing baseline setting, target setting, and data integration across national and subnational levels were critical to improving monitoring and evaluation systems. Cross-cutting opportunities included simplifying guidelines for local actors and ensuring that sector-specific priorities, such as food and agriculture, were better addressed.

Figure 2: Findings from Climate Policy Guidelines Scoping Review

1.1.3 INSIGHTS FROM THE STAKEHOLDER ENGAGEMENT

The stakeholder engagement through peer-to-peer learning workshop with representatives from 11 African countries, West Africa (Nigeria, Benin, Togo, Burkina Faso), Eastern Africa (Kenya, Ethiopia, Rwanda, Uganda), and Southern Africa (Zambia, Malawi, Zimbabwe) confirmed persistent gaps between existing technical guidelines and the realities of Designing, Implementing, and Tracking of climate policies. Additionally, challenges of bureaucracy in Benin and Zambia, and data access for Kenya and Nigeria were commonly cited as barriers in the design, implementation, and tracking of climate policies. Similarly, overreliance on external consultants was mentioned to dilute the national ownership and institutional capacity. Despite this, emerging good practices such as utilization of digital tools such as LEAP, Ex-ACT, NEST, and Adaptation Atlas in Zimbabwe, Benin, and Kenya, respectively, presented an opportunity for sectoral prioritization of the mitigation and adaptation actions. Furthermore, policy alignment for Nigeria and Zambia and improved coordination in Ethiopia, Burkina Faso, and Rwanda enhanced the technical and participatory quality of climate policy processes,

emphasizing the importance of tailoring guidelines to the local systems, strengthening institutional capacity, and promoting inclusive, data-informed policy cycles.

1.2 RATIONALE FOR THE TECHNICAL GUIDELINE

The rationale of the Technical Guideline is to provide a practical, step-by-step reference framework to support African countries in strengthening the design, implementation, and tracking of climate adaptation actions, aligned with national development priorities, local realities, and in consistent with international obligations. The Guideline is tailored to national and subnational policymakers, technical officers, and development partners. It responds to persistent gaps in the operationalization of adaptation priorities across the continent.

The Technical Guideline is directly informed by global and regional adaptation frameworks, including Article 7 of the Paris Agreement, the Global Goal on Adaptation, the African Union Climate Change and Resilient Development Strategy (2022–2032), the Malabo Declaration, and ministerial declarations from the African Ministerial Conference on the Environment. It aims to operationalize these commitments through modular, adaptable guidance relevant to diverse governance and institutional contexts across Sub-Saharan Africa.

By providing structured modules on climate risk assessment, policy planning, institutional coordination, financing, capacity building, tracking, and cross-cutting issues, the Guideline supports African countries in building more coherent adaptation systems. It places emphasis on participatory processes, use of evidence, gender responsiveness, and subnational engagement, consequently enhancing the effectiveness, accountability, and sustainability of climate adaptation efforts, contributing to resilient livelihoods, food systems, and economies across the African continent.

PART II

2.0 INTRODUCING THE TECHNICAL GUIDELINE

2.1 FEATURES OF THE TECHNICAL GUIDELINE

The Technical Guideline features (*see Table 2*) a step-by-step, context-specific approach, aligned with the adaptation cycle. It emphasizes local relevance, addresses gaps in implementation and tracking (MEL), and aligns with global climate policy instruments including NDCs and NAPs, focusing on climate-sensitive sectors such as agriculture and food systems, and is modular and user-friendly with digital tools and templates for diverse stakeholders.

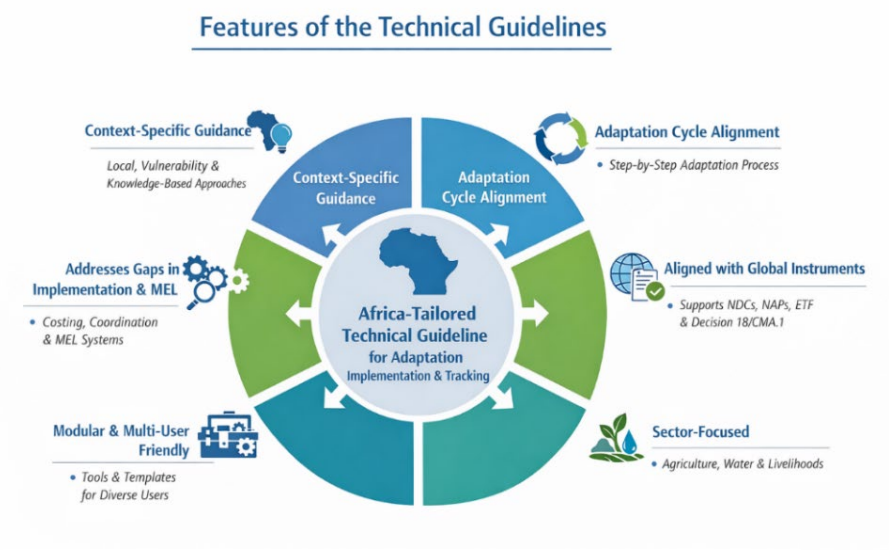

Figure 3: Features of the Technical Guideline

Table 2: Features of the Technical Guideline for Strengthening Implementation and Tracking of Climate Adaptation Action in Africa

Feature	Description
Africa-tailored and Context-Specific Guidance	Recognizes the unique climate vulnerabilities and institutional contexts across African countries. Draws from African case studies, tools, and practices, and integrates local and indigenous knowledge into adaptation design and MEL systems.
Step-by-Step Structure Across the Adaptation Cycle	Aligned with the adaptation policy cycle, from climate risk assessment to planning, implementation, monitoring, and reporting, offering phased, flexible guidance for countries at various stages of readiness.
Focus on Gaps in Implementation and Tracking	Directly addresses persistent gaps identified in the scoping review, including weak institutional coordination, limited

	costing of adaptation actions, lack of vertical integration, and poorly institutionalized MEL systems.
Alignment with International Climate Instruments	Supports the operationalization of the Enhanced Transparency Framework and Decision 18/CMA.1 by promoting coherence across NDCs, NAPs, LT-LEDS, BTRs, and ADCOMs. It also helps countries align adaptation goals, actions, and reporting requirements.
Special Attention to Agriculture and Food Systems	Prioritizes agriculture, food systems, and related sectors due to their centrality to Africa's adaptation and development objectives. Provides sector-specific entry points for mainstreaming adaptation into national policies and budgets.
Modular Design for Multiple Users	Structured for diverse stakeholders, including national climate units, sectoral ministries, and subnational implementers. Offers standalone modules, templates, costing tools, role-mapping guides, and tracking dashboards for flexible use.

2.2 MODULES AND STEPS OF THE TECHNICAL GUIDELINE

This section outlines the core modules and sequential steps of the Technical Guideline for strengthening climate adaptation policy design, implementation, and tracking. Each module provides practical, step-by-step guidance to address common operational gaps identified across African countries, particularly in climate-sensitive sectors such as food and agriculture. The Guideline is designed as a modular and flexible tool, allowing countries to apply individual modules according to their national context, institutional arrangements, and level of readiness. While the modules follow the adaptation cycle, they may be applied iteratively rather than linearly, consistent with adaptive management principles.

2.2.1 MODULE 1: POLICY DESIGN AND PLANNING

Policy Design and Planning include conducting assessments of climate risks, translating evidence into clear objectives, prioritized actions, complemented by planning instruments aligned with the national development goals and international commitments.

Key steps in Policy Design and Planning include:

1. **Climate Risks and Vulnerability Assessment**

Assessing climate risks is essential especially in the food and agriculture sector, requiring planners to combine the best available climate science with local knowledge to map how changes in rainfall and temperature affect for instance crops, livestock, soils and water in different regions. The exposure and vulnerability at national and subnational levels can be used as evidence to establish short-, medium-, and long-term adaptation pathways.

The process for conducting climate risks assessment:

i. **Gather and analyse climate data:** Compile historical weather records and obtain downscaled climate projections. Where local data is limited, explore regional and global products such as CORDEX-Africa downscaled models, CHIRPS satellite rainfall and adjust them to the local context. Compare projected changes in temperature, rainfall and extremes against the set baselines (Shared Socio-economic Pathways (SSPs), Representative Concentration Pathways (RCPs), and Business As Usual (BAU)). Additionally, Coarse models (Global Climate Models (GCMs) can also highlight hotspots for instance, worsening drought risk in the Sahel or intensifying heatwaves in the Horn of Africa.

ii. **Assess exposure and sensitivity:** Identify socio-demographic, including communities most exposed to climate hazards such as floods and droughts and the most sensitive sectors. Document observed impacts: for example, IPCC AR6 finds that climate change has already reduced crop yields in Africa (maize and wheat yields in SSA fell ~5.8% and 2.3% respectively from 1974–2008) and that over two-thirds of Africans perceive climate conditions for agricultural production have worsened. Future risks are also high: further warming will likely shorten growing seasons and increase drought stress, undermining staples. Map which areas or crops (for example sorghum in West Africa, coffee in East Africa) are projected to lose suitability under 1.5–2°C warming. Quantify where possible (percent yield loss, flooded hectares, etc.) to inform planning.

iii. **Evaluate adaptive capacity:** Examine socioeconomic and institutional factors that affect ability to adapt with clear indices for assessing the adaptive capacity. This includes among others, farmers' incomes, credit and insurance access and land tenure security, especially for women. If over two-thirds of farmers report worsening conditions, it signals both high exposure and limited capacity. Similarly, gender and social equity issues such as women's land rights or access to financial services may limit adaptation.

iv. **Use participatory methods:** Engage all stakeholders, including farmers, private sector, researchers, and sub-national authorities in all the steps. Conduct participatory rural appraisals, focused groups or community workshops to ground-truth model

outputs and uncover indigenous knowledge, for instance, traditional weather forecasting, local drought-resistant varieties, and adapting mechanisms. Additionally, the adaptation planning should be country-driven, participatory, gender-sensitive and socially inclusive, drawing on indigenous knowledge and involving vulnerable groups. In practice, this means ensuring women, youth and marginalized groups have a voice in the assessment and that local coping practices are recorded.

v. **Map risks and hotspots:** Use GIS or simple overlay mapping to combine climate hazard maps with soil, land use and cropping systems. Classify risk levels for instance high, medium, or low for each zone or commodity based on a specified criterion. Where quantitative data are limited, expert scoring and qualitative judgment can be used for example, labelling regions with declining rainfall trends as high drought risk, complemented with clear risk maps or tables highlighting the priority areas.

2. Define Adaptation Goals and Objectives

Based on the climate risk assessment, articulate clear adaptation objectives, for instance, reduce drought-related maize losses by 50% by 2030. Make the goals Specific, Measurable, Achievable, Relevant, Time-bound (SMART), aligning the objectives with broader development targets, for instance, food security, poverty reduction, and international commitments such as National Determined Contributions (NDCs). For example, the government might adopt a "*Climate-Resilient Growth*" goal that combines expanding irrigation, diversifying crops and strengthening rural livelihoods. Frame adaptation goals within the national plans, including NAPs, highlighting how they contribute to the Vision 2030 or other strategy pillars.

3. Development of Sectoral Priorities

Identify which sectors and subsectors or regions to target first. Establish a criteria severity of the climate risks, population affected, economic impact, cost-effectiveness, and co-benefits. Analytical tools like multi-criteria analysis (MCA) can help score and rank options. For instance, Zambia's recent planning, including its 2023 NAP, trained committees in MCA and evaluated options across multiple criteria, comprising governance, social, gender, technical, cost-effectiveness, yielding a prioritized list of actions. Another example is Ethiopia that utilized the multi-sectoral appraisal to identify 18 high-priority adaptation options.

4. **Develop Adaptation Measures**

For each priority, list specific interventions ranging from technical, social, or policy measures, with a short description and rationale, indicating whether its short-, medium-, or long-term adaptation mechanism, based on local context. Technical options include climate-smart seed varieties, drought-tolerant crops, improved irrigation and water-harvesting structures, soil and

water conservation, and agroforestry. Social measures encompass crop insurance, safety nets, climate-smart credit schemes, and extension services, while policy reforms can range from secure land tenure, and climate risk-management laws. For example, Ethiopia's National Adaptation Plan included actions like enhancing food security through climate-smart agriculture, improving crop and livestock productivity with tolerant varieties and better inputs, and strengthening drought, livestock and crop insurance mechanisms, and strengthening watershed and natural resource management through groundwater recharge and rehabilitating landscapes.

5. **Mainstream Adaptation Mechanisms into Plans and Budgets**

Avoid treating adaptation as a separate silo but embed adaptation objectives and actions into existing frameworks, including the national development plans, agriculture investment plans, poverty reduction strategies and sector policies. For example, a country can include climate screening criteria within the sector and sub-sector priorities. This may include using budget guidelines to mandate climate proofing.

6. **Prepare an Implementation Roadmap**

Detail institutional arrangements by assigning lead agencies and partners to each action, for instance, Ministry of Agriculture for climate smart farming; Ministry of Water irrigation. Develop a project matrix specifying timelines, milestones, and responsibilities, alongside resource requirements, financing sources, and measurable indicators. Consolidate into a costed action plan or formal policy document, such as a National Adaptation Plan (NAP) or Agriculture Climate Strategy.

Table 3: Guiding Questions for Policy Design and Planning

Step	Guiding Questions
Step 1: Defining Scope and Planning Horizon	○ What sectors, systems, and geographic areas are most vulnerable to climate risks? ○ What time horizons (short, medium, long term) are most relevant for decision-making? ○ How does this adaptation policy align with national development priorities, NDCs, NAPs, and sector strategies?
Step 2: Climate Risk and Vulnerability Assessment	○ What climate hazards pose the greatest current and future risks?

	○ Who and what are most exposed and vulnerable, and why? ○ What evidence (data, projections, local knowledge) supports these conclusions? ○ Where are the priority climate risk hotspots?
Step 3: Defining Adaptation Objectives	○ What specific climate risks are we trying to reduce? ○ What does "success" look like in measurable terms? ○ Are objectives realistic given available resources and capacities? ○ How do the objectives contribute to resilience, food security, and livelihoods?
Step 4: Identifying and Prioritizing Adaptation Options	○ Which adaptation measures are technically feasible and socially acceptable? ○ Which options deliver the greatest risk reduction and co-benefits? ○ What are the costs, trade-offs, and uncertainties? ○ Have gender and equity considerations been incorporated in prioritization?
Step 5: Integrating Gender, Equity, and Indigenous Knowledge	○ Who benefits and who may be left behind by proposed actions? ○ How are women, youth, pastoralists, and marginalized groups involved? ○ How is indigenous and local knowledge reflected in policy choices?
Step 6: Policy Coherence and Mainstreaming	○ Are adaptation objectives embedded in national and sectoral plans? ○ Are there contradictions or overlaps across policies? ○ Do existing laws, regulations, and budget frameworks support implementation?

2.2.2 MODULE 2: IMPLEMENTATION

Adaptation implementation ensures that plans are actualized, requiring strong institutional collaboration, financing mechanisms and capacity building. The key elements for Implementation are institutional coordination, budgeting and finance, capacity-building, and use of local and traditional knowledge.

Key steps in Implementation include:

1. **Institutional Coordination and Stakeholder Engagement**

Successful adaptation requires cooperation across ministries and levels of government, as well as with non-state actors. The steps in ensuring institutional coordination and stakeholder engagement include:

i. **Establish a national climate coordination body:** establish or strengthen a steering committee that comprises an inter-ministerial climate council, chaired by a senior official. The members of the committee can include Ministries of Agriculture, Environment, Finance and Planning, Water and other relevant sectors. For example, Ethiopia's Climate Resilient Green Economy (CRGE) strategy set up a CRGE Facility governed by a national management committee co-chaired by the Finance and Environment ministers. All sector ministries have CRGE climate units and contribute to the Fund's decisions. This pooled structure channels domestic and donor funds, for instance, it mobilized over USD 100 million from the Adaptation and Green Climate Funds, REDD+ to resilience programs. Such a mechanism ensures adaptation receives sustained political backing and coordination across sectors

ii. **Assign clear mandates:** Specify each ministry's roles. For instance, Agriculture leads on promoting climate-smart farming, Ministry of Water takes the lead on water-harvesting projects; while Planning and Finance integrates climate into budgets. Formal Terms of Reference or a national climate change law can lock in these roles. Where possible, require each ministry to appoint a full-time climate focal person or unit and to report regularly on climate activities.

iii. **Facilitate inter-ministerial processes:** Hold regular meetings, quarterly or bi-annually for the steering committee and relevant working groups, and form thematic subcommittees as needed for instance, finance, gender, and research. Develop a stakeholder engagement plan listing the potential stakeholders including, development partners, farmer associations, private sector and academia, and organize stakeholder consultations and workshops. This helps keep all parties informed and aligned. For instance, designate the agriculture extension service to work with farmer unions and universities on new technologies. Partner with research institutes for climate data analysis and with civil society to reach vulnerable communities

2. **Capacity Building**

Long-term success depends on human and institutional capacity. The steps for enhancing the capacity of the national teams include:

i. **Conduct a capacity needs assessment:** Identify gaps at all levels, including national and subnational levels in skills, staffing and systems. Assess if the ministries have the climate change officer responsible for ensuring climate action activities, and do this extension agents have information, including climate smart practices? Is there expertise in gender analysis or GIS and are climate data being effectively used? Report findings to inform the capacity plan.

ii. **Develop a capacity building plan:** Prioritize institutional capacity, establishing permanent climate units and career paths over one-off training. Allocate budget lines for hiring and retaining climate specialists in relevant ministries, research institutes and universities. Integrate climate modules into civil service training so new officials such as agriculture officers and planners understand climate issues

iii. **Implement Training-of-Trainers (ToT):** Rather than short courses to many individuals, train a cadre of master trainers. These trainers at national and district level can then cascade knowledge. For example, Malawi's ADAPT-PLAN conducted national ToT workshops, producing 45 district resilience champions who trained peers and communities in climate adaptation. A national Climate Adaptation manual available in local language was also developed to ensure consistent training content.

iv. **Promote peer learning and exchanges:** Facilitate south–south learning. Arrange regional workshops or study tours so officials can learn from each other. This ca include leveraging on networks like the African Adaptation Initiative and regional blocs, including IGAD, SADC, and ECOWAS for exchanges, highlighting successful projects to inspire others.

v. **Retain expertise:** Avoid over-reliance on short-term consultants. Create permanent climate adaptation officer posts in ministries of agriculture, water, and planning and strengthen university climate and/or environment departments. When contracting consultants, include clauses for knowledge transfer to government staff. Recognize and reward climate expertise through promotions, awards or performance to keep talent in the public sector.

3. Financing and Budgeting

The steps for securing and managing funding include:

i. **Estimate the adaptation costs**: develop preliminary cost estimates for each priority action, using a bottom-up approach of unit costs against scale where possible. When precise data are lacking, provide cost ranges and document all assumptions, including timeframe, discount rate, and unit costs. Similarly, the 2021 UNEP Adaptation Gap Reports alerts that adaptation cost estimates have high

uncertainty and often should be expressed as ranges. These estimates will inform budgeting and funding proposals.

ii. **Integrate into national budgets:** integration of adaptation into national budgets include budget tagging that is coding budget lines that relate to adaptation. Similarly, countries such as Uganda, Rwanda, South Africa require budget entries to be climate-tagged. In Uganda, since FY2021/22 all ministries must align their budget proposals with climate priorities and tag relevant expenditures. The Ministry of Finance (MoFPED) has implemented a Climate Change Budget Tagging (CCBT) system and trained officials to use it. Such tagging allows annual tracking of adaptation spending, as a percentage of total budget and helps identify funding gaps.

iii. **Establish climate funds or financing mechanisms:** where possible, set up a dedicated national climate fund or trust, assign public funds or donor trust to channel grants and loans for adaptation. However, it requires a climate finance law to help ensure sustainability. For instance, Rwanda's FONERWA (Rwanda Green Fund) blends domestic and donor funds for climate projects.

iv. **Mobilize external finance:** leverage the international climate finance sources, including the Green Climate Fund (GCF), Adaptation Fund (AF), Global Environment Facility (GEF) and develop project proposals for priority interventions. Bundling related projects into large programs to attract bigger grants.

v. **Engage the private sector:** encourage public–private partnerships and market mechanisms to increase climate action investments. These include promoting climate risk finance, incorporating crop and livestock insurance through insurance for transferring the climatic risks.

vi. **Allocate subnational finance:** ensure that subnational government and communities access adaptation funds, including devolving a share of the budget or establishing small-grant programs for local projects. For example, under Malawi's ADAPT-PLAN, districts were empowered to use adaptation indicators to request local funding. Similarly, Rwanda's environmental fund FONERWA allocates some grants to districts. Build capacity at local government to prepare proposals and manage funds through training, simplified procedures and hiring local climate officers

Table 4: Guiding Questions for Policy Design and Planning

Step	Guiding Questions
Step 1: Institutional Arrangements and Coordination	○ Are institutional mandates for adaptation clearly defined? ○ Is there effective coordination across ministries and levels of government? ○ Do institutions have sufficient authority and resources?
Step 2: Stakeholder Engagement and Partnerships	○ Which stakeholders need to be involved in implementation? ○ How are communities and non-state actors meaningfully engaged? ○ Are partnerships in place to support delivery and scaling?
Step 3: Capacity Building	○ What technical and institutional capacity gaps exist? ○ Are capacity-building efforts long-term and institutionalized? ○ Is knowledge being retained within public institutions?
Step 4: Financing and Budgeting	○ Are adaptation actions reflected in national and subnational budgets? ○ Is climate finance being tracked and reported? ○ Are funding mechanisms accessible to local actors? ○ How is private sector finance being leveraged?
Step 5: Delivery of Adaptation Actions	○ Are interventions being implemented as planned? ○ Are actions reaching vulnerable populations and priority areas? ○ Are safeguards, gender, and social inclusion being applied?
Step 6: Adaptive Management	○ Are implementation challenges being identified early? ○ Are lessons learned feeding back into decision-making?

	○ Is there flexibility to adjust actions as conditions change?

2.2.3 MODULE 3: TRACKING (MONITORING, EVALUATION, AND LEARNING)

A comprehensive MEL system is essential for accountability and continuous improvement. Unlike greenhouse gas accounting, adaptation is measured by outcomes for instance reduced losses, or increased resilience. The steps for establishing a robust Monitoring, Evaluation and Learning (MEL) Systems are:

1. **Define indicators**

For each objective and action, select SMART indicators. Use a mix of output indicators, for instance, number of climate-resilient wells built, farmers trained in drought-resistant seeds and outcome indicators such as percentage reduction in crop losses during drought, increase in irrigated area per farmer. Align with NDC and/or NAP and SDG indicators where possible. Disaggregate the data by gender, age, and location, for example, track *the number of women-headed farms with irrigation* or *percent of rural households with climate early-warning systems (female-headed*). Limit to a core set of key indicators, of 5–10 per sector plus a few cross-cutting, to keep the system manageable.

2. **Set baselines and targets**

Establish baseline values for each outcome indicator using assessment data or surveys. Set realistic targets for instance double the area under drought-tolerant maize by 2030. If baseline data are lacking, conduct sample surveys or piggyback on national agricultural or statistical surveys early in the process. One best practice is to *identify baseline data needs → gather available data → fill gaps with targeted surveys*, as recommended by NAP guidance. Document all baselines and assumptions

3. **Collect and manage data**

Assign data-collection responsibilities, for example agriculture extension for crop indicators, meteorology for climate data, bureau of statistics for surveys. Integrate adaptation questions into existing instruments such as censuses and household surveys. Use technology such as mobile data collection apps to collect field data; satellite remote sensing or drones can monitor crop areas or flood damage. Implement quality control, including training for enumerators and documentation of metadata. For example, Rwanda piloted a simple spreadsheet-based MEL tool in 2022 for tracking agriculture-sector adaptation indicators, then consolidated results into a national climate report.

4. **Institutionalize MEL**

Anchor the MEL system in policy or law so it is institutionalized. For instance, Rwanda's 2021 Ministerial Order No. 005/2021 legally requires preparation of a National Climate Change report on a set timetable. That Order defines how adaptation indicators from all sectors feed into the report. Assign a lead institution, often the climate change department or national statistics office to coordinate MEL. Publish an annual or biennial adaptation progress report for Parliament and the public to ensure transparency and ownership.

5. **Review, evaluate and learn**

Schedule periodic reviews of the adaptation strategy both mid-term and end-of-plan using independent evaluators. Collect lessons from successes and failures. Hold annual multi-stakeholder adaptation review workshops where agencies, donors and communities discuss what is working. Use these lessons to update plans for adaptive management. Capture learning in knowledge products or national climate knowledge portals.

6. **Link local to national MRV**

Design the MEL system so local data roll up to the national level. Use standardized indicators across levels, for example, each district might report hectares under 'climate-smart crops' which is aggregated nationally. Provide simple reporting templates and training to subnational offices. Implement feedback loops where national analysts inform local planners. Community-based monitoring such as farmer logbooks, participatory scorecards can complement official data and highlight on-the-ground impacts.

7. **Align with global reporting**

A strong MEL system should streamline UNFCCC reporting. Ensure it captures adaptation finance mobilized, actions implemented, and progress toward the Global Goal on Adaptation. Data collected should be included into National Communications, Biennial Transparency Reports and NDC updates. For example, include data on programmes facilitating adequate adaptation as required by UNFCCC guidelines. Zambia's recent climate framework explicitly costed and tagged NDC actions, reflecting this integration. As Zambia's Environment Minister put it, *"if you cannot measure it, you cannot control it"* a principle that applies equally to adaptation.

Table 5: Guiding Questions for Tracking (Monitoring, Evaluation, and Learning)

Step	Guiding Questions

Step 1: Indicator Selection	○ What indicators best capture adaptation progress and outcomes? ○ Are indicators aligned with NDCs, NAPs, and the Global Goal on Adaptation? ○ Is data disaggregated by gender, age, and location?
Step 2: Baselines and Targets	○ What are the baseline conditions? ○ Are targets realistic and time-bound? ○ How will data gaps be addressed?
Step 3: Data Collection and Management	○ Who is responsible for collecting and validating data? ○ Are data collection methods cost-effective and reliable? ○ How is data quality assured?
Step 4: Institutionalizing MEL	○ Is MEL embedded in national systems and legal frameworks? ○ Are roles and reporting timelines clearly defined? ○ Are results communicated transparently?
Step 5: Learning and Review	○ What is working and what is not? ○ Why are some interventions more effective than others? ○ How are lessons informing policy updates and future investments?
Step 6: Linking National and Global Reporting	○ Does the MEL system support UNFCCC reporting requirements? ○ Can national data feed into Biennial Transparency Reports and NDC updates? ○ Is adaptation finance and impact being clearly reported?

Table 6: Select digital decision support tools for assessing the adaptation pathway options

Tool	Brief Description
African Agriculture Adaptation Atlas	Adaptation Atlas is a spatially detailed overview of agricultural vulnerabilities across the African continent, helping identify areas that are most at risk from climate change. It offers data on climate impacts on food production, which is essential for crafting targeted adaptation strategies

	especially in agriculture sector. The tool assists in identifying climate risk hotspots in the agricultural sector, an essential in the climate risk and vulnerability assessment phase of adaptation planning. It informs decision-making by providing spatial data on how different regions are affected by climate change.
Fable Calculator	Fable Calculator is an open-source tool used to model land use, food systems, and climate change scenarios. It helps in evaluating trade-offs and synergies between food security, land use, and greenhouse gas emissions, allowing countries to test the impacts of different policy choices over time. The tool is valuable for defining adaptation objectives in the agricultural sector and prioritizing adaptation options, as it supports the identification of policies that can contribute to resilience while reducing emissions. It can be beneficial in ensuring the integration of food systems into broader adaptation planning
CCAFS Regional Agricultural Forecasting Toolbox (CRAFT)	CRAFT is designed to predict crop yields by combining crop models that simulate crop growth and development with the Climate Predictability Tool (CPT). CPT is a software package that constructs seasonal climate forecast models, validates models, and generates forecasts based on updated data. By providing a robust and advanced information tool, CRAFT empowers farmers and decision makers in food security to effectively manage climate risks within the agricultural season.
Evidence for Resilience Agriculture (ERA)	ERA is a knowledge-sharing platform that provides evidence on resilience-building practices in agriculture. It consolidates data on adaptive practices that improve food security and sustainable agricultural systems under changing climatic conditions. The tool is a knowledge-sharing platform that provides evidence on resilience-building practices in agriculture by consolidating data on adaptive practices that improve food security and sustainable agricultural systems under changing climatic conditions. The tool is essential in integrating resilience-building strategies into national adaptation plans and sector-specific frameworks.

Table 7: Select tools relevant for Adaptation and Tracking

Tool	Brief Description

The Low Emissions Economic Analysis Platform (LEAP)	LEAP is a modelling tool used to analyse energy and emissions scenarios. It helps evaluate the costs and benefits of climate policies, particularly in terms of energy transitions and their low-emission development paths. LEAP essential in tracking adaptation outcomes related to energy systems and GHG reduction. It allows countries to evaluate how energy transitions contribute to climate resilience and meet NDC targets.
The EX-Ante Carbon-balance Tool (EX-ACT)	EX-ACT Is a tool developed by the Food and Agriculture Organization (FAO) TO evaluate carbon balances in agriculture, forestry, and land-use projects. It allows countries to assess the carbon footprint of specific activities, such as land management or crop production, and estimate the carbon sequestration potential of various land-use changes. EX-ACT integrates mitigation outcomes with adaptation, supporting finance mobilization for land-based adaptation actions by demonstrating their carbon benefits. It provides the evidence base necessary for tracking mitigation and adaptation co-benefits,

PART III

3. 0 A MANUAL TO USING THE TECHNICAL GUIDE

3.1 PURPOSE OF THE USER MANUAL

This Manual provides practical instructions on how to apply the Technical Guideline to strengthen the design, implementation, and tracking of climate adaptation actions within national and subnational climate policy frameworks in Africa. It is intended to support policymakers, technical officers, planners, and development partners in translating the Guideline's modules into actionable steps, aligned with national priorities, institutional realities, and international reporting obligations under the Paris Agreement. The Manual complements the Technical Guideline by clarifying who should use it, when it should be applied, and how the modules can be operationalized across different policy entry points, including NDCs, NAPs, LT-LEDS, sector strategies, and investment plans.

3.2 INTENDED USERS

The Technical Guideline and this Manual are designed for a wide range of stakeholders involved in climate adaptation planning and implementation, including:

- National climate change authorities and NDC and NAP coordination units
- Sectoral ministries, including Agriculture, Environment, Water, Planning, Finance, Energy
- Subnational governments such as Counties, States, Districts or Regions
- National statistics offices and MEL units
- Development partners and implementing agencies
- Research institutions, civil society organizations, and technical experts

Users may apply the Guideline at national, sectoral, or subnational levels, depending on their mandates and roles.

3.3 HOW TO USE THE TECHNICAL GUIDELINE

3.3.1 MODULAR AND APPLICATION

The Technical Guideline is structured around three core modules, Policy Design and Planning, Implementation, and Tracking (MEL), aligned with the adaptation cycle. These modules can be applied sequentially from climate risks assessment to tracking), or used independently, depending on country needs and readiness. For example:

- Countries revising NDCs may prioritize Module 1 (Policy Design)
- Countries with approved NAPs may focus on Module 2 (Implementation)
- Countries preparing Biennial Transparency Reports (BTRs) may apply Module 3 (Tracking/MEL)

It supports iterative use, consistent with adaptive management principles.

3.3.2 STEP-BY-STEP APPLICATION PROCESS

Step 1: Define the Policy Entry Point

Users should begin by identifying the policy process they are supporting, such as:

- NDC update or implementation
- NAP formulation or revision
- Sectoral strategy (e.g. agriculture, food systems)
- Investment planning or climate finance proposal
- MEL system strengthening

This determines which modules and steps are most relevant.

Step 2: Assess Institutional Readiness

Before applying the modules, users should assess:

- Existing institutional mandates and coordination mechanisms
- Availability of climate data and analytical tools
- Capacity of national and subnational actors
- Existing MEL systems and reporting requirements

This assessment informs the depth and sequencing of module application.

Step 3: Apply the Relevant Module(s)

Module 1: Policy Design and Planning

Use this module to conduct climate risk and vulnerability assessments; define SMART adaptation objectives; prioritize adaptation actions using evidence and multi-criteria tools; and mainstream adaptation into national development plans and budgets. The potential outputs include:

- Risk and vulnerability profiles
- Prioritized adaptation actions
- Costed adaptation objectives aligned with NDCs/NAPs

Module 2: Implementation

Use this module to strengthen institutional coordination and stakeholder engagement; build long-term technical and institutional capacity; integrate adaptation into public financial management systems; mobilize domestic, international, and private finance. The potential outputs include:

- Clear institutional roles and coordination mechanisms
- Capacity development plans
- Financing strategies and implementation of road maps

Module 3: Tracking (MEL)

Use this module to define adaptation indicators and targets; establish baselines and data systems; track implementation progress and outcomes; and support learning, accountability, and UNFCCC reporting. The potential outputs include:

- Results-based MEL framework
- Adaptation progress reports
- Inputs for BTRs, National Communications, and NDC updates

Step 4: Integrate Digital Tools and Evidence

Users are encouraged to apply relevant digital decision-support tools identified in the Guideline, such as, Adaptation Atlas for climate risk hotspot identification, and LEAP and EX-ACT in tracking co-benefits and finance readiness. Consequently, enhancing based decision-making and improve transparency.

Step 5: Inclusive Participation

At all stages, users should engage women, youth, and marginalized groups, integrate indigenous and local knowledge, apply gender-responsive and socially inclusive approaches. Participation across all the stages should be continuous, not limited to consultation stages.

Step 6: Review, Learn, and Adapt

The Guideline should be used as a living tool, supporting periodic policy reviews, adaptive management of implementation challenges and continuous learning and improvement. Lessons learned should inform policy revisions, financing decisions, and future planning cycles.

3.4 USING THE GUIDELINE FOR REPORTING AND TRANSPARENCY

The Technical Guideline supports compliance with: Decision 18/CMA.1; Enhanced Transparency Framework; and Global Goal on Adaptation. The data and outputs generated through the modules can feed directly into Biennial Transparency Reports (BTRs), National Communications, NDC implementation reports, and Adaptation Communications (ADCOMs). Consequently, reducing reporting burdens by aligning planning, implementation, and reporting systems.

3.4.1 KEY PRINCIPLES FOR EFFECTIVE USE

When applying the Technical Guideline, users should adhere to the following principles:

- Country-driven and context-specific
- Evidence-based and data-informed
- Participatory and inclusive
- Institutionally embedded and sustainable
- Iterative and adaptive

3.4.2 EXPECTED VALUE OF THE MANUAL

By following this Manual, users will be able to translate adaptation commitments into implementable actions, strengthen institutional coherence and capacity, improve tracking, learning, and accountability, enhance access to climate finance, and support resilient food systems, livelihoods, and economies across Africa.

CGIAR

BETTER DIETS AND NUTRITION

BREEDING FOR TOMORROW

CAPACITY SHARING

CLIMATE ACTION

DIGITAL TRANSFORMATION

FOOD FRONTIERS AND SECURITY

GENDER EQUALITY AND INCLUSION

GENEBANKS

MULTIFUNCTIONAL LANDSCAPES

POLICY INNOVATIONS

SCALING FOR IMPACT

SUSTAINABLE ANIMAL AND AQUATIC FOODS

SUSTAINABLE FARMING