

THE STATE OF AFRICAN AGRICULTURAL ADAPTATION

2016–2026 ASSESSMENT AND ROADMAP TO 2036



INITIATIVE

AAA

ADAPTATION OF AFRICAN AGRICULTURE





“ We have proposed a set of initiatives as part of implementing the Paris Agreement, especially with respect to adaptation and financing. These include the Initiative for the Adaptation of African Agriculture (AAA) ”

Speech of His Majesty King Mohammed VI at the opening
of the High Level segment of the COP22
Marrakech, November 15, 2016

© 2026 AAA Initiative Foundation. All rights reserved.

This report was prepared by the Adaptation of African Agriculture (AAA) Initiative Foundation.

Editor and main author: Riad BALAGHI (AAA Initiative Foundation)

Contributors: Karim ANEGAY (AAA Initiative Foundation); Ileana ÁVALOS R. (CATIE, Costa Rica); Martial BERNOUX (FAO); Fiona Maria BOTTIGLIERO (FAO); Srijita DASGUPTA (CABI); Paul FORTE (independent consultant); Giulia Maria GALBIATI (FAO); Mohammed JLIBENE (independent consultant); Hamid MAHYOU (INRA-Morocco); Nezha MOUCHFI (AAA Initiative Foundation); Rachid MRABET (INRA-Morocco); Imane SAIDI (IMAL Initiative); Joel SMITH (independent consultant); Brahim SOUDI (independent consultant); Frances WILLIAMS (CABI); Mouiz YESSOUFOU (HydroModE-Lab).

Acknowledgements: the Foundation thanks the decision-makers and experts who contributed their time and views to the interview program underpinning Section C.6 and Annex 9: Rafik AINI, Lead Coordinator, African Group of Negotiators (AGN) on agriculture and climate change; Mohamed AIT KADI, President of the Scientific Committee, AAA Initiative; Amal BENAÏSSA, Director of Sustainability Advocacy, Bank of Africa – BMCE Group; Ayman CHERKAOUI, Director, Hassan II International Center for Environmental Training; Ismahane ELOUAFI, Executive Managing Director, CGIAR; Shenggen FAN, Chair Professor and Dean of the Academy of Global Food Economics and Policy, China Agricultural University, and former Director-General of IFPRI; Malla FOFANA, Deputy Executive Director and Head of the Green Growth Implementation Directorate, Global Green Growth Institute (GGGI); Rattan LAL, Distinguished Professor of Soil Science, The Ohio State University, and 2020 World Food Prize laureate; Hussein Alfa NAFO, Secretary General, AAA Initiative; Anand PATWARDHAN, Professor, University of Maryland School of Public Policy, Co-Chair of the Science Committee of the World Adaptation Science Programme (WASP); Ousmane SEIDOU, Professor and Director of the Hydraulics Laboratory, University of Ottawa, and Co-Chair of the Water Committee of IPAM; Catherine SIMONET, Lead Adaptation Expert, Climate and Nature Division, Agence française de développement (AFD); and Bart VAN DEN HURK, Co-Chair of Working Group II of the IPCC. Shenggen FAN and Rattan LAL are members of the AAA Initiative Board. All spoke in a personal capacity; their views, and the offers recorded in Section C.6, do not constitute official positions or commitments of their institutions.

Suggested citation: AAA Initiative Foundation (2026). The State of African Agricultural Adaptation, 2016–2026 Assessment and Roadmap to 2036. Rabat, Morocco. https://aaainitiative.org/AAA_Initiative_10th_Anniversary.pdf

Disclaimer

This report is published under the responsibility of the AAA Initiative Foundation.

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the AAA Initiative Foundation concerning the legal or development status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

All monetary figures are expressed in current US dollars unless otherwise indicated. Figures derived from the author's analyses are documented in Annexes 7 and 8. Any errors or omissions are the authors' own.

This publication may be reproduced and distributed, in whole or in part and in any form, for educational, policy or other non-commercial purposes without prior permission, provided the source is fully acknowledged using the suggested citation above. No use may be made of this publication for resale or any other commercial purpose without the prior written permission of the AAA Initiative Foundation. Photographs and other third-party material identified as such are not covered by this permission; users wishing to reuse them are responsible for obtaining permission from the rights holder.

Foreword



The 10th anniversary of the Adaptation of African Agriculture (AAA) Initiative marks a decade of African leadership in advancing agricultural adaptation to climate change. Adaptation efforts are

central to building sustainable agrifood systems that can deliver multiple benefits for food security, biodiversity and climate resilience. This milestone is a timely moment to reflect on progress made and lessons learned, while looking to the challenges and opportunities that lie ahead.

The impacts of climate change are already profoundly changing what farmers can grow, when they can grow it, and whether they can rely on agrifood systems to sustain livelihoods and ensure food security. That makes the adaptation agenda of the AAA Initiative more urgent than ever. Countries are clear on the way forward: all Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) in the region have prioritized agrifood systems for adaptation solutions.

This is why over the past decade, FAO has increased its support to countries in strengthening climate

adaptation and resilience, including by generating and providing science, evidence and analysis needed to inform decision-making, supporting stronger adaptation policies and translating them into actions on the ground, and facilitating access to finance and investments.

Our programmes - such as Scaling up Climate Ambition on Land Use and Agriculture through NDCs and NAPs and Strengthening Agricultural Adaptation - are working across Africa to strengthen NAPs and build resilience from the ground up.

Through our growing partnerships with the Green Climate Fund and the Global Environment Facility, we are helping nearly every African country access financing and implement locally led solutions for climate change adaptation and resilience.

Platforms such as the Food and Agriculture for Sustainable Transformation (FAST) Partnership, hosted at FAO, help mobilize the technical expertise, strategic partnerships and financial solutions needed to channel investment to agrifood systems. FAO and the AAA Initiative work together across this agenda, from policy dialogue and science-based advocacy to the mobilization of African stakeholders, and the Initiative's engagement in the FAST Partnership is one of the avenues through which it helps ensure that Africa's priorities remain central.

As the AAA Initiative enters its second decade, FAO remains committed to working alongside the Initiative and its partners to strengthen sustainable, resilient and inclusive agrifood systems and contributing to better production, better nutrition, a better environment and a better life across Africa and beyond, leaving no one behind.

Dr QU Dongyu
Director-General

Food and Agriculture Organization of the United Nations

Foreword



Ten years ago, at COP22 in Marrakech, the Adaptation of African Agriculture (AAA) Initiative was launched on African soil, under the vision of His Majesty King Mohammed VI and his enduring commitment

to Africa and to climate action. On this continent, agriculture is not one sector among many: it is where food security, employment, public finances and stability meet. A decade on, that conviction has only grown more pressing, at a time when external finance is scarcer and when the decisions that will shape the coming years, the next national climate commitments, the Kampala agenda for agriculture and the Global Goal on Adaptation, are being taken now. Behind every framework and every figure in the pages that follow stand the livelihoods of the hundreds of millions of Africans who work the land.

The AAA Initiative offers this report to the African and global community to mark its tenth anniversary. Its purpose is faithful to the Initiative's mandate, which is to help existing efforts work together rather than to add to them, and to place method, data and evidence at the service of decisions that others take. A shared future can be built only on facts and on sound science, and so the report sets out, plainly, what the past decade has and has not achieved in adapting African agriculture to a changing climate.

The report is designed to be used. Its diagnosis rests on an original, first-hand reading of the continent's own record: more than a hundred national reporting documents, from the Nationally Determined Contributions, National Adaptation Plans and Biennial Transparency Reports to the National Communications and Technology Needs Assessments, set against the African Union's CAADP Biennial Review and its continental strategies, and cross-checked with independent evidence from the World Bank, the IPCC, the OECD, UNEP, the Climate Policy Initiative, the WMO and the FAO. From these

sources the Initiative built its own harmonized databases and carried out original quantitative analyses, so that every figure can be traced, checked and challenged in the annexes.

For technical and financial partners, the report is a continental mirror that shows where support is reaching African agriculture and where it is not, so that each intervention can be placed where it will be most efficient and most impactful. For the scientific and research community, it offers an open, data-based method to interrogate and extend.

Its central message is one of realistic optimism. African agricultural adaptation is held back less by a lack of ambition than by a lack of connection between what countries declare, plan, finance and can account for. Much of what is missing is coordination, and coordination is more affordable than capital. The path the report proposes is therefore a modest one: not a new institution, but a way of connecting the frameworks, funds and instruments Africa already has, so that a result is planned, financed, delivered and counted once rather than several times over.

Evidence has value only if it informs action. This anniversary therefore marks a passage, from COP22, held on African soil, to COP31 in Antalya, and back to Africa at COP32 in Ethiopia, across the decade from 2026 to 2036 in which ambition must become delivery. The report is a working document, not a final word. Adaptation is a vast subject, and any person or institution wishing to take the analysis further will find in the AAA Initiative a willing partner.

We extend our sincere gratitude to all the technical and financial partners who have worked alongside the AAA Initiative over this decade to strengthen the resilience of African agriculture, and to the Food and Agriculture Organization of the United Nations for hosting this tenth anniversary at its headquarters in Rome, during the meeting of the FAO-led FAST Partnership, which the Initiative is proud to have joined. Our thanks go equally to the contributors and reviewers who shaped the analysis, and to the decision-makers, scientists and practitioners who agreed to be interviewed and who are named, with our gratitude, in the Acknowledgements.

The first decade proved that Africa can build ambition. The second must prove that it can build delivery, measured in the resilience of the farmers and food systems on which the continent's future depends.

A stylized blue ink signature of Ghita El Ghorfi.

Ghita El Ghorfi
Director-General
AAA Initiative Foundation

Acronyms and abbreviations

African institutions, frameworks and initiatives

Acronym	Definition
AAA	Adaptation of African Agriculture (Initiative)
AAAP	Africa Adaptation Acceleration Program
AAI	Africa Adaptation Initiative
AfCFTA	African Continental Free Trade Area
AfDB	African Development Bank
AFSH	Africa Fertilizer and Soil Health (Action Plan)
AGN	African Group of Negotiators
AMCOW	African Ministers' Council on Water
AMHEWAS	African Multi-Hazard Early Warning and Early Action System
APIA	African Adaptation Project Incubator (AAA Initiative)
ARC	African Risk Capacity
AU	African Union
AU-IBAR	African Union - Interafrican Bureau for Animal Resources
AUC	African Union Commission
AUDA-NEPAD	African Union Development Agency
CAADP	Comprehensive Africa Agriculture Development Programme
CAFI	Central African Forest Initiative
COMESA	Common Market for Eastern and Southern Africa
CSAIP	Climate-Smart Agriculture Investment Plan
EAC	East African Community
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
IGAD	Intergovernmental Authority on Development
IPAM	International Platform for Adaptation Metrics
LiDeSA	Livestock Development Strategy for Africa
NAFSIP	National Agriculture and Food Security Investment Plan
NAIP	National Agriculture Investment Plan
REC	Regional Economic Community(ies)
SADC	Southern African Development Community
SO1-SO6	Strategic Objectives 1-6 (CAADP Kampala Strategy, 2026-2035)
UMA	Arab Maghreb Union

Climate, finance and general technical terms

Acronym	Definition
AFD	Agence française de développement
AFOLU	Agriculture, Forestry and Other Land Use
AGOA	African Growth and Opportunity Act
AGRA	AGRA (formerly Alliance for a Green Revolution in Africa)
ANGA	ASEAN Negotiating Group on Agriculture
AR6	Sixth Assessment Report (IPCC)
BR	Biennial Review (CAADP)
BTR	Biennial Transparency Report
CCAFS	Climate Change, Agriculture and Food Security (CGIAR research program)
CCDR	Country Climate and Development Report (World Bank)
CGIAR	Consultative Group on International Agricultural Research
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
CMIP6	Coupled Model Intercomparison Project Phase 6
COP	Conference of the Parties
CPI	Climate Policy Initiative
CRS	Creditor Reporting System (OECD)
CSA	Climate-Smart Agriculture
DAC	Development Assistance Committee (OECD)
ENB	Earth Negotiations Bulletin (IISD)
ETF	European Training Foundation
EW4All	Early Warnings for All
EWS	Early Warning System(s)
FAO	Food and Agriculture Organization of the United Nations
FAOSTAT	FAO Statistical Database
FAST	Food and Agriculture for Sustainable Transformation Partnership
FERDI	Fondation pour les études et recherches sur le développement international
GCA	Global Center on Adaptation
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
GGA	Global Goal on Adaptation
GGGI	Global Green Growth Institute
GNI	Gross National Income
GSMA	GSM Association (mobile-industry body)
ICT	Information and Communication Technology
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IIED	International Institute for Environment and Development
IISD	International Institute for Sustainable Development
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change

Acronym	Definition
ISS	Institute for Security Studies (African Futures models)
KJWA	Koronivia Joint Work on Agriculture
LDCF	Least Developed Countries Fund
LEG	Least Developed Countries Expert Group (UNFCCC)
LIC-DSF	Debt Sustainability Framework for Low-Income Countries (IMF–World Bank)
M&E	Monitoring and Evaluation
MEL	Monitoring, Evaluation and Learning
MHEWS	Multi-Hazard Early Warning System(s)
MRV	Measurement, Reporting and Verification
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NCQG	New Collective Quantified Goal (on climate finance)
ND-GAIN	Notre Dame Global Adaptation Initiative index
NDC	Nationally Determined Contribution
NEET	(Youth) Not in Employment, Education or Training
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PPP	Purchasing Power Parity
R&D	Research and Development
SB	Subsidiary Bodies of the UNFCCC (sessions, e.g. SB62)
SBSTA	Subsidiary Body for Scientific and Technological Advice
SCCF	Special Climate Change Fund
SDG	Sustainable Development Goal(s)
SJWA	Sharm el-Sheikh Joint Work on Agriculture and Food Security
SLM	Sustainable Land Management
TNA	Technology Needs Assessment
UAE	United Arab Emirates
UNCCD	United Nations Convention to Combat Desertification
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
WASP	World Adaptation Science Programme
WFP	World Food Programme
WMO	World Meteorological Organization
WRI	World Resources Institute

Glossary of key concepts

This glossary defines the report's recurring concepts in plain terms; each is developed where it first appears in the text.

The connective mandate: an agenda that makes the instruments, institutions and frameworks already in place work together, rather than creating new ones, so that a result is planned, financed, delivered and counted once instead of three times over.

The three gaps: the report reads the chain through three gaps: a planning gap (plans costed below the need they answer), a delivery gap (finance far below what is planned) and an accountability gap (results that cannot be traced).

Orphan levers: the four climate-specific resilience measures named in most NDCs yet financed almost nowhere, agricultural insurance, agroecology, climate-smart agriculture and resilient seeds, each of which already has a dedicated continental delivery vehicle.

The funnel: the narrowing from ambition to delivery across the instruments, 53 NDCs, 28 NAPs, 24 BTRs, and only 11 countries holding all three, in which capacity, not ambition, degrades at each step. It reflects the sequential availability of the reporting instruments (NDCs are treaty obligations on a five-year cycle; NAPs are voluntary and depend on readiness support; BTRs fell due only from 2024) and differences in national capacity, not countries leaving the process.

Conditional and unconditional need: the unconditional share of a declared need is what a country commits to meet from its own resources; the conditional share is contingent on external support, and a larger unconditional share signals seriousness to financiers. The unconditional share also reflects fiscal space, not only political will: states in or near debt distress cannot pledge what their budgets cannot carry (Section A.6.8).

Triangulation: reading a country's NDC, NAP and BTR together, and against the CAADP Biennial Review, so that gaps invisible within any single document become visible.

Crosswalk: a table linking each NDC paragraph to a national agriculture investment-plan (NAIP) action, a BTR finance code and a CAADP indicator, making the chain traceable by construction.

Anchoring: a climate instrument is anchored to the continental agenda when it does three things: it references CAADP (or its successor strategy) in the text; its actions are crosswalked to NAIP budget lines and Biennial Review indicators; and its metrics align with the continental ones. A citation alone is the weakest form of anchoring; the crosswalk is the operational one.

The connective family of terms: the connective mandate is the institutional mission (above); the connective agenda is the sequenced policy package that delivers it (Sections A.5.10 and C.3); the connective layer is its costed coordination line (USD 100–200 million, Section C.4); and the connective decade is the period 2026–2036 over which it runs.

The gap vocabulary: the three gaps above: planning, delivery and accountability, are the report's canonical set; where the text says "implementation" or "investment" gap it means the delivery gap, and "preparation" or "costing" gap the planning gap. Distinct from all of these is the finance gap of Section A.6: the macro shortfall between declared need and the finance the system supplies. Three ratios recur: the delivery ratio (finance received ÷ declared NDC need), the execution ratio (finance received ÷ costed NAP plan) and the absorption ratio (finance received ÷ the relevant need or plan for a given perimeter, e.g. AFOLU); each table states the one it uses. All three measure finance received as recorded in the reports, not results delivered on the ground, a further step the current ledgers cannot yet observe.

A note on terms: throughout the report, "framework" denotes an individual policy instrument (the CAADP framework, the UAE Framework for Global Climate Resilience); "system" denotes the reporting-and-accountability machinery built around the instruments (hence "the two accountability systems"); and "continental architecture" denotes the African Union's institutional landscape as a whole. The report uses the three terms in these senses only; they are not interchangeable.

How to read our figures

Every figure in this report uses one institutional palette; each color carries a single meaning and is never decorative.

Navy	Institutions, governance and structure; default bars and titles
Steel blue	Adaptation and climate; declared need / ambition
Green	Agriculture and the solution; the transformation path
Orange	Gaps, constraints, orphan levers; the current path
Light gray	Context and secondary data
Dark gray	Body text, axis labels and annotations

Recurring uses. The chain: instrument boxes are navy, the open joints between them orange, and the connective fix green. Need versus received: declared need is steel, agriculture green, the shortfall orange. The fork: the current path is orange, the transformation path green. Orphan levers are always orange.

Tables. A navy header with white labels and light row-banding; red/amber/green shading flags performance against a benchmark. Wherever color carries meaning, the caption or a legend states it.

Contents

Introduction	01
Part A at a glance	09
A.0. Needs and gaps: framing and method	10
A.1. Political and institutional context	16
A.1.1. The weight of climate: a threat multiplier, not a sole cause	16
A.1.2. The physical-risk backdrop	17
A.1.3. The 2026 geopolitical and macroeconomic headwinds	19
A.1.4. The climate–debt cycle and domestic adaptation effort	19
A.1.5. The institutional bind in summary	20
A.2. Global context, COP21–COP31	20
A.2.1. UNFCCC frameworks	21
A.2.2. COP presidential initiatives	22
A.2.3. FAO frameworks	23
A.2.4. Africa’s voice and continental frameworks in the negotiations	23
A.3. The AU continental adaptation architecture	24
A.3.1. The umbrella: CAADP	25
A.3.2. Soil: the Africa Fertilizer and Soil Health Action Plan	28
A.3.3. Water: the Africa Water Vision 2063 and Policy	28
A.3.4. Early warning: the EW4All Action Plan for Africa	29
A.3.5. The convergence hinge: the architecture meets the Global Goal on Adaptation	29
A.4. African reporting and planning frameworks analysis (2020–2026)	30
A.4.1. Corpus and method	31
A.4.2. National circumstances: the country baseline	33
A.4.3. Ambition: the Nationally Determined Contributions	34
A.4.3.1. Corpus, costing quality and limitations	34
A.4.3.2. Volume, concentration and conditionality	35
A.4.3.3. The place of agriculture	38
A.4.3.4. Technical content: sub-sectors, technologies and capacities	39
A.4.3.5. The four orphan levers	40
A.4.3.6. Institutional anchoring: global versus continental	41
A.4.3.7. The financing gap in context, regional profiles and three paradoxes	42
A.4.4. Planning: The National Adaptation Plans	43
A.4.4.1. Corpus and the planning-to-execution bottleneck	43
A.4.4.2. What the NAPs cover: GGA targets and hazards	45
A.4.4.3. Institutional architecture, inclusion and framework alignment	46

A.4.4.4. The Module C diagnosis and the project pipeline	47
A.4.4.5. Regional clusters	49
A.4.5. Delivery: the Biennial Transparency Reports	50
A.4.5.1. Corpus and the limits of the ledger	50
A.4.5.2. Inventories and the carbon-sink blind spot	50
A.4.5.3. Climate finance received: magnitude, concentration and donors	51
A.4.5.4. Agriculture share, the inverted paradox and absorption	53
A.4.5.5. Regional coverage and country spotlights	57
A.4.5.6. Diagnostic categories, representativeness and six findings	58
A.4.6. Triangulation: reading the chain end to end	59
A.4.6.1. The coverage funnel and the three diagnostics	59
A.4.6.2. The planning gap and the full crosswalk	61
A.4.6.3. Regional reading and a readiness typology	62
A.4.6.4. What triangulation reveals that single instruments cannot	63
A.4.6.5. Independent triangulation: the World Bank Country Climate and Development Reports	63
A.4.7. Priorities emerging from the diagnostic	64
A.4.8. Conclusion	65
A.5. Cross-instrument synthesis: the accountability gap	66
A.5.1. Two systems, one verdict: the convergence	66
A.5.2. Two systems evolving in parallel: an untapped synergy	69
A.5.3. Orphan levers and their continental delivery vehicles	71
A.5.4. The shared target: Commitment 6 and the Global Goal on Adaptation	72
A.5.5. A continental integration typology	73
A.5.6. The grand crosswalk: AU architecture versus the Paris chain	74
A.5.7. The cost of non-integration	74
A.5.8. What integration would look like in practice	75
A.5.9. Implications: the connective mandate	75
A.5.10. Sequencing the connective agenda	76
A.6. Finance for agricultural adaptation	77
A.6.1. The finance gap restated	77
A.6.2. The instrument problem: debt versus grants	79
A.6.3. The multilateral public architecture	80
A.6.4. Donors and the concentration of flows	83
A.6.5. Blended finance and private capital	83
A.6.6. Climate-risk insurance and risk transfer	84
A.6.7. Continental finance vehicles	85
A.6.8. Conditionality and the domestic-finance question	85

A.6.9. What would change the picture	87
A.6.10. Conclusion	88
A.7. Capacity building and technology transfer	88
A.7.1. The capacity deficit in numbers	89
A.7.2. Technology Needs Assessments: the missing diagnostic	90
A.7.3. Measurement, reporting and statistical capacity	91
A.7.4. Planning and costing capacity	91
A.7.5. Institutional and human capacity	92
A.7.6. Technology transfer: the international dimension	92
A.7.7. What would build capacity	92
A.7.8. Conclusion	93
A.8. Technical solutions and innovations	93
A.8.1. Sustainable agriculture, crops, livestock and pastoralism	94
A.8.2. Water resources and irrigation	95
A.8.3. Agroecology, resilient seeds and genetic resources	95
A.8.4. Climate-smart agriculture	96
A.8.5. Agricultural insurance	96
A.8.6. Digital agriculture, data systems and climate services	96
A.8.7. Climate risk and early-warning systems	96
A.9. Cross-cutting: gender, youth and indigenous knowledge	97
A.9.1. Gender	97
A.9.2. Youth	98
A.9.3. Indigenous and local knowledge	99
A.10. Land tenure, natural-resource governance and food sovereignty	99
A.10.1. Land-tenure security and women's rights	99
A.10.2. Natural-resource governance and the commons	100
A.10.3. Food sovereignty and regional markets	101
A.11. Conclusion of Part A	101
Part B at a glance	105
B.1. Ten years, and still standing: origins and positioning	105
B.2. An institution built to last	106
B.3. Advocacy and climate diplomacy	107
B.4. The annual ministerial conferences	108
B.5. IPAM: a flagship platform	110
B.6. Science, knowledge and capacity	111
B.7. Partnerships and coalitions	112

B.8. Milestones, 2016–2026	113
B.9. What makes the AAA Initiative endure	114
Part C at a glance	117
C.1. The world of 2036: why act now	117
C.1.1. A continent arriving: people, workers, cities	118
C.1.2. The climate already written, and the climate still to choose	119
C.1.3. The fork: two futures, both fully priced	120
C.1.4. The temporal anchor: 2036, the year after Kampala	121
C.1.5. The mitigation-adaptation nexus, and the limits of adaptation	121
C.2. What ten years have taught: the Initiative’s theory of change	122
C.2.1. From diagnosis to causal claim	122
C.2.2. The causal chain, link by link	123
C.2.3. What the first decade proved, and what it did not	124
C.3. Five strategic directions to 2036	126
C.3.1. Anchoring the climate instruments to the continental agenda	127
C.3.2. Financing the orphan levers through their continental vehicles	128
C.3.3. Making IPAM the African standard for adaptation metrics	129
C.3.4. Building the project-preparation capacity the chain lacks	130
C.3.5. Carrying a unified African voice to COP31 and beyond	131
C.4. The means: financing and partnerships	132
C.4.1. What actually flows: the same scarcity through three independent lenses	132
C.4.2. Pricing the connective layer: small money, deliberately placed	134
C.4.3. Who finances what: the partner families and the African share	134
C.4.4. What the Initiative brings, and what it will not do	135
C.5. Results framework and accountability	135
C.5.1. The results matrix	135
C.5.2. The review cycle: reading the decade in public	137
C.5.3. The rules the Initiative sets for itself	137
C.5.4. Overarching risks, and how they are managed	137
C.6. The voice of decision-makers	138
C.6.1. The protocol and the panel	138
C.6.2. What the voices confirm	140
C.6.3. What they qualify, and what it changes	142
C.6.4. What they put on the table	143
C.6.5. The view from inside: the Secretary General and the Scientific Committee	144
Conclusion: the end of declaration, the beginning of delivery	146

The paradox at the heart of the report	146
Two systems, one verdict, one gap	146
What the first decade proved, and what it did not	146
The connective mandate: affordable, falsifiable, and already funded in principle	147
The quantified fork	147
The final word	147
References	149
Annexes	153
Annex 1. CAADP Biennial Review scorecards	153
Annex 2. NDC adaptation-needs database	155
Annex 3. NAP readiness and module-completeness matrix	158
Annex 4. BTR finance ledger	162
Annex 5. Triangulation crosswalk	167
Annex 6. AU thematic-plan targets registry	171
Annex 7. Methodology and data reconciliation	172
Annex 8. Source register and bibliography	173
Annex 9. Interview methodology and protocol	174
Annex 10. Instrument-coverage matrix: the three Paris instruments and the complementary TNA	174
Annex 11. Instrument publication timeline, all 53 African states	176
Annex 12. National circumstances of the 53 African states	176
Annex 13. African external-debt and debt-distress statistics	183

List of tables

Table A.0.1. The three gaps along the chain: diagnostic, bottleneck and remedy.	15
Table A.0.2. Diagnostic scoreboard: ambition versus delivery.	16
Table A.1.1. Cereal-production shocks, 2024.	18
Table A.2.1. Milestones for agriculture, adaptation and finance in the UN climate regime.	21
Table A.2.2. COP presidential and allied initiatives relevant to African agricultural adaptation.	22
Table A.2.3. Africa's continental frameworks and negotiating voice.	24
Table A.3.1. The AU continental adaptation architecture as a layered system.	25
Table A.3.2. The three policy eras of CAADP.	25
Table A.3.3. The six strategic objectives of the CAADP Strategy and Action Plan 2026–2035 (Kampala).	26
Table A.3.4. Selected verified continental indicators from the Fifth CAADP Biennial Review (2025).	27
Table A.3.5. Regional performance in the Fifth CAADP Biennial Review (2025), against the 9.40 benchmark. The fifth Biennial Review reports overall scores for the African Union's five geographic regions rather than for the Regional Economic Communities, so the regional breakdown follows the AU regions directly.	27
Table A.3.6. Fertilizer-use gap against the Abuja target. The Abuja target and the Biennial Review average are expressed in product terms; the Fertilizer and Soil Health Action Plan tracks nutrient terms (18 kg/ha baseline in 2020, target 54), the two metrics are not directly comparable.	28
Table A.3.7. The four pillars of the EW4All Action Plan for Africa.	29
Table A.4.1. The four corpora and their principal limitations.	32
Table A.4.2. NDC corpus and costing completeness.	34
Table A.4.3. The agricultural adaptation need as a reporting interval, not a point estimate.	35
Table A.4.4. Declared adaptation needs by sub-region: stock and annualized flows. Columns may not sum exactly to totals owing to rounding. Agricultural flows annualize each country's agricultural stock over its own NDC horizon, so regional agriculture-to-total ratios differ slightly from the stock-based shares of Annex Table 2.2.	35
Table A.4.5. The ten largest declared NDC adaptation needs, with agricultural component and conditional share.	37
Table A.4.6. Coverage of the eleven CCAFS agricultural sub-sectors across the 53 NDCs.	39
Table A.4.7. The four under-served agricultural levers and their continental counterparts.	41
Table A.4.8. Institutional anchoring of African agricultural NDCs.	41
Table A.4.9. Regional archetypes and priorities.	42
Table A.4.10. NAP module completeness and inclusion coverage.	43
Table A.4.11. NAP mandate types and fiscal traction (one NAP's mandate type is not stated).	45
Table A.4.12. Coverage of the eleven UAE-Framework GGA targets across the 28 NAPs.	45
Table A.4.13. Top climate hazards cited across the 28 NAPs, with High-severity share (hazard records; a NAP may record a hazard more than once).	45
Table A.4.14. Framework alignment of the 28 African NAPs.	46
Table A.4.15. NAP project pipeline by CCAFS sub-sector (273 actions).	48

Table A.4.16. The largest individual adaptation actions in the NAP corpus (all Planned).	49
Table A.4.17. Most frequently named specific crops across the NAPs.	49
Table A.4.18. Sample of operational NAP M&E indicators (baseline to target).	49
Table A.4.19. Regional readiness clusters of the 28 NAPs (a North African group completes the six).	50
Table A.4.20. Selected AFOLU emissions and forest removals, illustrative rows (only 4 of the 14 finance-traceable countries report removals).	50
Table A.4.21. The delivery gap and concentration of climate finance received.	51
Table A.4.22. Reported sources of climate finance in African BTRs.	52
Table A.4.23. Adaptation actions reported across the 24 BTRs by CCAFS sub-sector (169 total).	54
Table A.4.24. Climate-finance absorption ratios (finance received as a share of the relevant declared need) for selected countries.	55
Table A.4.25. AFOLU finance received versus AFOLU need, leading traceable countries (14 in total).	56
Table A.4.26. Country spotlights from the BTR analysis.	57
Table A.4.27. Diagnostic categories of the delivery shortfall (13 priority cases).	58
Table A.4.28. The 24 BTR-reporting countries versus the full 53 across five NDC indicators.	58
Table A.4.29. The eleven countries holding all three instruments.	59
Table A.4.30. The reporting funnel across the three Paris-Agreement instruments.	60
Table A.4.31. Where the chain thins, sub-region by sub-region: countries holding each instrument, and the eleven holding all three. Central Africa's near-absence from delivery reporting is the matrix's starkest line.	60
Table A.4.32. Triangulation crosswalk for the eleven countries holding all three instruments, not all fully costed (USD bn unless %).	61
Table A.4.33. Regional reading of the NDC-NAP-BTR chain.	62
Table A.4.34. Readiness-aware typology of the NDC-NAP-BTR chain.	62
Table A.4.35. Two lenses on the same diagnosis: the self-reported Paris chain versus the independent World Bank CCDRs.	63
Table A.5.1. The two systems compared: convergent verdict, convergent location of the constraint.	67
Table A.5.2. Complementary strengths: what each accountability system offers the other.	70
Table A.5.3. Mapping the under-served adaptation levers to their continental delivery vehicles.	71
Table A.5.4. The same adaptation outcomes tracked across four frameworks.	73
Table A.5.5. A sample harmonized indicator set: each measure serves several frameworks at once.	73
Table A.5.6. A continental typology of integration between the Paris chain and the AU architecture.	73
Table A.5.7. The grand crosswalk: the AU continental architecture and the Paris chain side by side.	74
Table A.5.8. The connective agenda, sequenced: the first three steps need coordination, not capital.	76
Table A.6.1. The multilateral public finance architecture for adaptation.	80

Table A.6.2. Fund-level snapshot: what two dedicated funds have committed to Africa (2026 extractions). Cofinancing is reported by the GEF; the Adaptation Fund extract carries no cofinancing field.	82
Table A.6.3. African external debt in numbers, 2024: the stock, its concentration, its burden and its official risk ratings.	87
Table A.6.4. Structural shifts that would change the agricultural-adaptation finance picture.	87
Table A.7.1. The 453 declared capacity-building needs in the NDCs, by type: planning, gender and general capacity dominate, while Technology Needs Assessments are the rarest.	89
Table A.7.2. The technology planning mismatch: demand without current assessment, the upstream constraint in one view.	90
Table A.7.3. Priorities for building adaptation capacity.	93
Table A.8.1. Each technical solution: its presence in the 53 African NDCs, its continental policy anchor and a candidate delivery indicator for the BTRs.	94
Table A.9.1. Gender gap in agricultural productivity; closing it could raise crop output by up to 19 per cent.	97
Table A.9.2. Youth labor-market indicators, sub-Saharan Africa.	99
Table A.11.1. Illustrative 2036 success metrics for the connective mandate; baselines from Part A, targets to be finalized in Part C.	102
Table B.4.1. The line of AAA Initiative ministerial conference declarations, 2016–2026: from agenda-setting to operational ambition.	109
Table B.8.1. Ten years of the AAA Initiative at a glance, 2016–2026.	113
Table C.1.1. The decade in numbers: Africa’s demographic trajectory to the 2036 horizon and beyond (UN medium-variant projections).	119
Table C.1.2. The fork, as the models price it: current path versus transformation path.	120
Table C.2.1. The theory of change, stated to be testable: four links, their mechanisms, their evidence, their strongest objections and their falsification criteria.	123
Table C.3.1. The five directions at a glance.	126
Table C.3.2. Operational crosswalk for the four orphan levers: from continental vehicle to a budgeted, measurable NAIP line.	129
Table C.4.1. Three independent measurements of the same scarcity. Scope differences (flows vs commitments vs receipts; tracked years; marker definitions) are documented in Annex 7. The report’s headline delivery figures use the country-reported lens (BTR receipts), the most conservative of the three.	133
Table C.4.2. The preparation layer, priced. The entire connective layer is of the order of one to two hundred million dollars across the decade, well under one per cent of a single year’s declared adaptation need, and every line runs through existing channels.	134
Table C.4.3. The division of financial labor across the five directions.	134
Table C.5.1. The results matrix of Roadmap to 2036: baselines from this report, milestones readable in existing cycles, targets proposed by this report (*), verification through systems that already exist.	136
Table C.5.2. The connective wager: connections and capital are complements, not substitutes.	138
Table C.6.1. The interview panel: thirteen interviews, June–July 2026. Members of the Initiative’s Board are identified; the Secretary General’s and the Scientific Committee President’s interviews are reported separately (Section C.6.5).	140
Table C.6.2. Offers recorded in the interviews, and where each lands in the Roadmap’s architecture.	143-144

List of figures

Figure A.0.1. Two accountability systems, weakly bridged: the Paris chain and the continental system pursue overlapping goals while rarely connecting (only about 9 per cent of NDCs reference CAADP).	14
Figure A.1.1. Africa's agricultural land base, 2023: a large endowment but minimal irrigation.	18
Figure A.2.1. Africa's continental frameworks and negotiating voice in the climate regime, 1992–2025.	23
Figure A.3.1. Fifth CAADP Biennial Review: overall scores by AU region against the 9.40 benchmark (continental average in steel blue; Central Africa, the lagging region, in orange).	27
Figure A.4.1. Publication window of the five instruments (bars = min-max years across countries).	34
Figure A.4.2. Declared NDC adaptation need by sub-region (USD bn).	36
Figure A.4.3. Adaptation need as a share of GDP: the relative burden falls hardest on small, fragile economies.	36
Figure A.4.4. Unconditional versus conditional shares of the declared need, by sub-region, shown for the roughly two-thirds of the declared stock that carries an explicit split.	37
Figure A.4.5. Ten largest declared NDC adaptation needs (USD bn).	38
Figure A.4.6. Agricultural share of declared adaptation need by region.	38
Figure A.4.7. CCAFS sub-sector coverage across 53 NDCs; orphan levers in orange.	39
Figure A.4.8. Institutional anchoring of NDCs: global frameworks vs the continental framework.	42
Figure A.4.9. NAP module completeness, the Module C bottleneck.	44
Figure A.4.10. Top climate hazards across the 28 NAPs, by number of hazard records.	46
Figure A.4.11. Declared status of the costed NAP funding lines: of 80 lines, 45 are conditional, 18 pledged and only 5 confirmed; the remainder carry no stated status.	47
Figure A.4.12. The pipeline in time: of the 229 actions carrying a stated implementation horizon, 95 fall due by 2030.	48
Figure A.4.13. The delivery gap: declared need vs finance received (indexed, linear scale).	51
Figure A.4.14. The inverted paradox, country by country: agriculture's declared share of adaptation need (NDC) against its executed share of received finance (BTR), dual-coverage countries.	53
Figure A.4.15. BTR adaptation actions by CCAFS sub-sector; orphans in orange.	54
Figure A.4.16. Where the traceable money lands: finance received by CCAFS sub-sector; orphan levers in orange receive essentially none.	54
Figure A.4.17. AFOLU finance absorption, selected countries.	55
Figure A.4.18. Absorption quadrants: declared NDC need (horizontal) against finance recorded as received in the BTR (vertical), twelve dual-coverage countries, logarithmic scales; dashed lines mark the medians.	56
Figure A.4.19. The reporting funnel from ambition to a complete chain. The narrowing reflects the sequential availability of the reporting instruments (NDCs are treaty obligations on a five-year cycle; NAPs are voluntary and depend on readiness support; BTRs fell due only from 2024) and differences in national capacity, not countries leaving the process.	60
Figure A.4.20. Planning gap: NAP costed total against NDC declared need (selected countries). NAPs and NDCs differ in horizon, scope and costing method, so the gap is indicative rather than a like-for-like comparison.	61

Figure A.4.21. Independent CCDR readings by region: agriculture's share of GDP and modeled economy-wide climate GDP loss.	64
Figure A.5.1. Two accountability systems reach the same verdict: ambition is met far short.	67
Figure A.5.2. The persistent gap: the CAADP benchmark has climbed to 9.40 while the continental score has reached only 5.25; the benchmark rises each review cycle toward the fixed 2025 Malabo targets.	68
Figure A.5.3. Both systems narrow sharply toward a complete, on-track record: 45 report to the BR but none is on track; 53 NDCs fall to eleven full chains.	70
Figure A.5.4. Orphan levers (orange) are weakly covered in NDCs, yet each maps to a continental delivery vehicle (Table A.5.3).	71
Figure A.6.1. The agricultural climate-finance deficit: declared need, agriculture's share, finance received and the share traced to agriculture.	78
Figure A.6.2. Agriculture: annual adaptation need versus the cumulative finance recorded as received.	78
Figure A.6.3. Public climate finance remains debt-dominated: 73 per cent (2023) and 67 per cent (2024) arrived as debt instruments.	79
Figure A.6.4. The Adaptation Fund in Africa: direct access is the dominant channel and the best-disbursing one.	81
Figure A.6.5. The GEF in Africa: a broad environmental portfolio whose grants mobilize several times their value in cofinancing.	82
Figure A.6.6. The escalating global climate-finance goals.	82
Figure A.6.7. Blended-finance and climate-risk instruments for adaptation, by year launched.	84
Figure A.6.8. African debt-distress risk: most assessed countries are at high risk or already in distress.	86
Figure A.7.1. The preparation gap: declared capacity and means-of-implementation needs across the 53 NDCs (number of countries citing each type). Technology transfer is cited by 43 countries, yet only 11 hold a Technology Needs Assessment recent enough (2019 or later) to support the request.	89
Figure A.7.2. Operationalization of the 350 named technologies: most are named only.	90
Figure A.9.1. The measured gender productivity gap in agriculture: five-country study (Table A.9.1).	98
Figure A.10.1. Property-rights protection by region, 2025: Africa scores lowest.	100
Figure A.10.2. Intra-regional share of exports, 2024: Africa trades far less within itself than other regions, and its food trade (24.2 per cent) is more regionalized than its total exports (16.8 per cent).	101
Figure B.4.1. The decade in one view, 2016–2026: the AAA Initiative's ministerial-conference line and the climate regime's milestones for agriculture.	110
Figure C.1.1. The fork: two futures for African agriculture, both fully priced.	120
Figure C.2.1. The delivery chain and its four open joints: the four connections of the theory of change, each placed at the joint it closes.	123
Figure C.3.1. The five directions on the delivery chain: four directions each close one open joint; the fifth carries the political envelope that keeps them open.	126
Figure C.6.1. The roadmap that emerges from the interview program: five points of convergence, one open design choice.	141

List of boxes

Box A.1. 2026 strategic note.	01
Box A.2. What this assessment does differently	10
Box A.3. Methodology at a glance	10
Box A.4. Key findings of Part A	11
Box A.5. Alternative interpretations considered and rejected	13
Box A.6. Trade-policy headwind.	29
Box A.7. The rules of the road: how we read the instruments	31
Box A.8. How the headline figures relate	31
Box A.9. The Malawi aggregate: why the headline total understates traceability	57
Box A.10. A crucial distinction: financing gaps versus transparency gaps	58
Box C.1. How the fork is priced	121
Box C.2. One country, the whole chain: Kenya, the only large state holding all three Paris instruments.	125

Summary for Policymakers

Africa has shown ambition; what it has not yet managed is delivery. Across 53 national climate plans, African states have set out roughly USD 566 billion of adaptation needs — about USD 56 billion a year. Yet barely 1.5 per cent of that can currently be followed through to delivery in national reporting, and only eleven of the 53 countries even hold all three Paris-Agreement instruments at once. The shortfall is not, in the main, one of intent. It is that the tools countries use to declare, plan, finance and account for adaptation still do not talk to one another.

The fix we propose is deliberately small. A thin coordinating layer — a connective layer, in the report's terms: money for project preparation, shared metrics, common templates and the slow work of getting ministries to pull in the same direction, not for adaptation projects themselves — would cost USD 100–200 million across the whole decade. That is less than one per cent of what the continent says it needs in a single year. It builds no new institution; it makes the ones Africa already has work together. The tens of billions a year for irrigation, seeds and infrastructure remain indispensable — this is not a substitute for them, and the report never pretends otherwise.

What the evidence shows: four findings

1. Ambition is real, and it is large. The 53 NDCs add up to about USD 566 billion of declared need — roughly USD 56 billion a year — of which at least USD 80 billion is for agriculture, and probably more, since many countries never price it out separately. Agriculture has moved from the edge of climate policy to its centre.

2. The chain breaks early. Only about 1.5 per cent of what is declared can be traced through to delivery. Three gaps explain it: plans costed below the need they answer, finance far below the plans, and spending that cannot be tied back to results. The pattern becomes clear once a country is followed through its own reporting chain.

3. Two very different systems reach the same verdict. The African Union's own CAADP scorecard finds no country on track; the Paris reporting chain

shows almost nothing delivered. A third, entirely separate source — 43 World Bank country studies — points the same way: agriculture is about a fifth of Africa's economy and stands to lose some seven per cent of GDP to climate change. When three independent readings converge like this, the diagnosis is difficult to dispute.

4. Money is not the whole story. Finance sits far below what countries have declared, and much more is needed; yet fragmented planning, thin preparation and weak coordination waste a good deal of what already arrives. The two belong together: capital without coordination under-delivers, and coordination without capital never reaches scale. The sharper point is that Africa has reached a stage where getting its instruments to read one another matters as much as new money — and that is met by joining up what already exists, not by building something new.

The choice: two priced futures

Both futures have already been costed, often by the same models. On today's trajectory, Africa's agri-food import bill climbs toward USD 510 billion by 2043, and cropland spreads into forest over an area about the size of France. On the other path — the one this report argues for — the continent ends up roughly USD 354 billion of GDP richer, with 59 million fewer people in extreme poverty and an import bill some USD 212 billion lower. What separates the two is not knowledge, technology or ambition; all three are already here. It is delivery.

What to decide: five directions to 2036

Each direction runs through a framework that already exists, and each comes with a named lead, a bounded cost and a target that can be proven wrong. They are meant to be taken in sequence, not all at once — two of them now, one over the medium term, one running throughout.

1. Anchor the climate plans to the continental agenda — start now. A cross-walk ties each NDC action to a budget line in the national investment plan, a finance code and a CAADP indicator. Lead: the AU Commission, AUDA-NEPAD and the Regional Economic Communities.

2. Prepare the projects the pipeline lacks — start now. A continental Preparation Compact funds the Technology Needs Assessments, NAP costing and readiness support that turn a declared need into something a fund can actually finance.

3. Finance the four neglected levers. Agricultural insurance, agroecology, climate-smart agriculture and resilient seeds — named almost everywhere, financed almost nowhere — should flow through the continental vehicles already built for them: the African Risk Capacity, the Fertilizer and Soil Health Action Plan, CAADP, and the regional seed systems.

4. Make IPAM the African standard for measuring adaptation — the medium-term build. Taken up in the Biennial Review, in the transparency reports, and by at least one major fund, so that what counts as progress is agreed once and trusted by all.

5. Speak with one voice at COP31 and beyond — throughout. Every COP outcome read against a public register of what African agriculture actually asked for.

What we ask of decision-makers

- Make the cross-walk routine in the next round of NDCs, NAPs and national investment plans. It costs next to nothing and improves every stage that follows.
- Put adaptation into the budget: honour the CAADP pledge to spend 10 per cent on agriculture, and grow the share of declared need that countries finance themselves rather than wait on others for.

- Capitalise Africa's own adaptation vehicles, which today handle under 5 per cent of recorded flows — a striking figure for institutions sitting so close to the need.
- Back IPAM and a single set of indicators, so that a result is measured once and read the same way by everyone.
- Fund the connective layer — USD 100–200 million over the decade — as core support. Small money, placed exactly where the chain gives way.

How we know

None of this leans on second-hand summaries. It comes from reading the continent's own record at first hand — every one of Africa's NDCs, National Adaptation Plans and Biennial Transparency Reports — set against the African Union's Biennial Review and 43 independent World Bank country studies, with every figure traceable in the annexes. The rest of the report follows from there: Part A lays out the evidence, Part B weighs the Initiative's first decade honestly, faults included, and Part C sets out the roadmap to 2036 and the results matrix against which ministers can hold it.

The next decade offers Africa a narrow but genuine opportunity. Much of the architecture is already in place. The challenge now is to make that architecture function as one coherent system. Whether Africa's adaptation ambitions become measurable results will depend less on new commitments than on the effective alignment of the institutions, finance and implementation mechanisms it already possesses.

Executive Summary

From ambition to delivery: connecting Africa's agricultural adaptation

A decade ago, at COP22 in Marrakech, Africa placed its farmers on the agenda of the world's climate talks. Ten years on, those same farmers are living the consequences of a warming climate, season after season.

Climate change is no longer a risk that lies ahead. On African fields it is already here: in the droughts that empty grain stores, the floods that wash away a year's work and the rains that no longer come when they should. Behind each shock are families whose food and income depend on what the land yields, and they face it as budgets tighten, debt climbs and development assistance falls.

Africa must also adapt while carrying everything else at once: insecurity and conflict, fragile economies, health emergencies and recurring food crises, often in the same year. Adaptation does not wait its turn. It competes for the same scarce attention, the same thin budgets and the same overstretched institutions. Any honest plan for the decade ahead has to start there.

And yet African countries have answered with real ambition. Everyone has submitted a Nationally Determined Contribution, almost all name agriculture as a priority, and adaptation now runs through national and continental policy alike. But ambition alone does not put food on a table or shield a farmer from the next drought. So this report asks a plain question: **why has delivery not kept pace with ambition?**

The answer is just as plain. Africa's hardest task is no longer to decide what must be done. It is to make the plans, the institutions and the money already in place work together, so that intentions become results. The binding constraint is not ambition. It is **connection**.

The first decade-built ambition. The second must build delivery.

Let there be no misunderstanding. Africa does not need less money or less capacity; it needs far more of both, and urgently. The point is one of sequence — the finance and skills already in place, and the far larger flows still required, pay off only once the chain that turns them into results is joined up.

What this report does differently

This is the most complete picture of African agricultural adaptation assembled so far, and it is built from the ground up. Rather than summarizing existing studies, it reads the continent's own record at first hand: every one of Africa's Nationally Determined Contributions, National Adaptation Plans and Biennial Transparency Reports, together with Technology Needs Assessments, the CAADP Biennial Review, 43 World Bank country diagnostics, the main climate-finance databases, continental policy frameworks, and interviews with senior policymakers and experts.

From these documents the analysis built its own harmonized databases, coding a pipeline of 273 planned adaptation actions, 169 reported finance-linked actions, 453 declared capacity-building needs and some 350 named technologies, alongside a country-by-country finance ledger and a triangulation crosswalk that follows each country across all of its instruments. These are original computations, not a digest of earlier work, and every figure in the report can be traced back to that base.

Most earlier assessments look at planning, or finance, or implementation, one at a time. This one follows the whole chain, from a country's political commitment, through its plans and its financing, to what is actually delivered and counted. Reading it end to end is what makes it possible to see not just that adaptation stalls, but exactly where it stalls, why, and what it would take to speed it up.

Four findings define the decade

1. Africa's ambition is real, and it is large. Across the 53 NDCs, countries have declared roughly USD 566 billion of adaptation need, about USD 56 billion a year, of which at least USD 80 billion is for agriculture, almost certainly an undercount, since many countries do not price agricultural actions separately. Agriculture has moved from the margins of climate policy to its center. The trouble begins the day after the promise is made.

2. The delivery chain is broken. Only about 1.5 per cent of the declared need can be traced all the way through to delivery in today's reporting. In plain terms, a farmer's need can be written into a national plan, half-financed through channels no one can follow, and then never counted as delivered. Three gaps explain it: a planning gap, where plans cost less than the need they answer; a delivery gap, where the money that arrives falls far short of what was planned; and an accountability gap, where spending

and results cannot be traced. Only eleven of the 53 countries even hold all three Paris instruments at once, so ambition, financing and action rarely line up.

3. Two very different systems reach the same verdict. The report sets the African Union's continental system, built around the CAADP Biennial Review, beside the Paris-Agreement chain of NDCs, plans and transparency reports. Designed independently, for different purposes, they nonetheless agree: measured against their own benchmarks, no African country is yet on track, with the continental score sitting well below its 9.40 mark. Forty-three World Bank country reports say the same from a third direction, confirming that agriculture, worth about a fifth of GDP, faces economy-wide climate losses of around seven per cent. When independent readings converge like this, the diagnosis is hard to dismiss.

4. The remedy is connection, and it is practical. Today's finance is nowhere near enough: far greater international support and sustained national capacity will be indispensable, and the report never pretends otherwise. But money alone will not repair a fragmented system — patchy planning, thin preparation and weak coordination already waste much of what arrives, and more of both would deliver less than it should without stronger links between institutions. The sharper point is that Africa has reached a stage where getting its instruments to work together matters as much as new money, and that calls not for a new body, framework or reporting system but for connecting the ones already in place. The Roadmap to 2036 rests on five reinforcing directions:

- closer alignment between continental and national frameworks;
- financing the adaptation priorities that are chronically under-supported;
- shared measurement and accountability through common indicators;
- stronger project preparation and institutional capacity; and

- a more united African voice in the international negotiations.

Together these make up what the report calls the connective agenda: a working programme meant to improve delivery, not to add another layer of complexity.

A small investment that unlocks much larger ones

Many of the obstacles are institutional rather than technical. Better coordination, common reporting tools, stronger project preparation, updated Technology Needs Assessments, readiness support and harmonized monitoring cost only a fraction of what irrigation, resilient seeds or large-scale transformation require, on the order of USD 100 to 200 million across the whole decade, well under one per cent of what states say they need in a single year. Such an effort cannot replace the large-scale climate finance and capacity building Africa still needs. What it can do is make both go a great deal further, and it is squarely within reach of the continent's own institutions.

Looking towards 2036

The next ten years will decide whether Africa's adaptation agenda moves from commitment to delivery. The first decade of the AAA Initiative made agricultural adaptation a continental priority; the second must turn that ambition into results people can feel. The stakes are concrete. On the current path, Africa's agri-food import bill could climb toward USD 510 billion by 2043; a path of connected, financed delivery is associated with roughly USD 354 billion more in GDP and 59 million fewer people in extreme poverty. Behind those numbers are harvests that hold through a dry year, incomes that survive a flood, and families that can count on the next meal. Getting there will take more finance and stronger national capacity, without question. It will also take connecting planning to implementation, implementation to accountability, and national effort to continental ambition. All three matter, and none can stand in for the others. Africa

has, in effect, entered a new phase of its adaptation: the task ahead is less to design institutions than to make the ones it has already built work as one.

About this report

No single report can capture the full complexity of adaptation across a continent as varied as Africa. The data are uneven, reporting systems are still maturing, and some countries are far better documented than others. Throughout, the report leans on conservative assumptions, draws only on official national and international sources, and is careful to separate a shortage of money from a shortage of transparency and from simple gaps

in the data. The 1.5 per cent delivery figure, for instance, is measured against total declared need, and around half of the flagged delivery cases (six of thirteen) involve finance that cannot yet be traced rather than proof that money never flowed. This is a count of cases, not a value-weighted share of the money, so it does not follow that half the missing finance was merely untraceable: a few high-value financing gaps could account for most of the monetary deficit. Even on the most favourable reading, the gap remains overwhelming. Its aim is not only to describe where African agricultural adaptation stands today, but to give governments, partners and regional institutions a practical way to deliver more over the decade ahead.

Introduction

African agriculture is central to the continent's future. It feeds close to a billion and a half people, employs more African workers than any other activity, and sits on one of the world's largest land bases, one that, after decades, remains barely irrigated. As the first decade of the Adaptation of African Agriculture (AAA) Initiative closes in 2026, the sector faces a climate warming faster than the

global average¹ and an external environment far less favorable than the one in which the decade began. Official development assistance is shrinking. Public climate finance now arrives mostly as debt rather than grants. A sharp global supply shock has pushed up the cost of the inputs African farming depends on. The need to adapt has rarely been clearer, and the means to do so rarely scarcer or more expensive².

Box A.1. 2026 strategic note. This report reads a 2020–2026 baseline (the NDCs, NAPs and BTRs African states have submitted) against the macroeconomic and supply-side shocks of early 2026. The structural gaps it identifies are being widened in real time by fiscal tightening, debt-service pressure and the fertilizer-price shock set out in Section A.1. Institutional reform is therefore a matter of immediate climate security, not only long-term planning.

The numbers are large and close at hand. Africa's population will approach two billion within the period this report considers³. Its workforce will be the youngest and fastest-growing in the world, and its cities will take in hundreds of millions of new residents who must be fed. Whether they are fed from African fields or from rising imports, and whether African farmers keep pace with the climate already locked in, will be decided largely by choices made in the next few years. For Africa, agriculture is more than one adaptation sector among many. It is where food security, jobs, public finances and political stability meet.

Three things make 2026 a decision point. The African Union has adopted a renewed agricultural agenda, the CAADP Strategy and Action Plan 2026–2035, agreed at Kampala. The United Nations climate regime has begun to put the Global Goal on Adaptation into practice through its first agreed set of indicators. And governments are preparing the next generation of their national climate commitments⁴. The frameworks that will govern the coming decade are being written now. This report reads the decade that is closing to inform the decade that is opening, for the people and institutions who will make those choices.

Who the report is for

The first audience is African decision-makers: the ministers of agriculture, environment and finance, the organs of the African Union and the Regional Economic Communities, and the national planning and finance units that must turn declarations into budgets, plans and projects. For them, the report is a continental mirror, a way to see where their country sits along the chain, which adaptation levers remain under-served, and which continental vehicles already exist to carry them forward.

The second audience is the international organizations and climate funds that finance and steward adaptation: the bodies of the climate convention, the Green Climate Fund and the Adaptation Fund, the multilateral development banks and the bilateral partners. For them, the report maps where finance is reaching African agriculture and where it is not, and where modest, well-placed support could unlock effects far larger than its cost. The third audience is the research and partner-financing community, who will find in the method and the open annexes the means to interrogate, extend and contest the analysis, exactly the use the report invites.

1 WMO (2025), State of the Climate in Africa 2024 (WMO-No. 1370); IPCC (2022), Sixth Assessment Report, Working Group II, Chapter 9 (Africa).

2 On the external financing environment, see OECD (2026), Climate Finance Provided and Mobilized 2013–2024; Climate Policy Initiative (2024), Landscape of Climate Finance in Africa 2024; and European Training Foundation (2025), Impact of USAID Withdrawal. The shocks are detailed in Section A.1.

3 UN DESA (2024), World Population Prospects 2024; UN DESA (2025), World Urbanization Prospects 2025; ILO (2024), Global Employment Trends for Youth 2024.

4 African Union (2024), CAADP Strategy and Action Plan 2026–2035 (Kampala); UNFCCC, UAE Framework for Global Climate Resilience (GGA targets) and the NDC reporting cycle. UNFCCC, Global Goal on Adaptation, decision -/CMA.7 (adopted at Belém, 2025; advance document FCCC/PA/CMA/2025/L.25), advancing the first set of GGA indicators.

Because these readers will not all be specialists in the language of the climate negotiations or the continental agenda, the report explains that language as it goes. It sets out what the Paris-Agreement instruments are and how they differ, what the Global Goal on Adaptation and its indicators involve, and how the African Union's CAADP process and its thematic plans fit together; an acronyms list and a series of explanatory tables run alongside the text. A minister, an adviser or an interested partner should be able to follow the argument without first mastering the technical language of either system. The report thus also serves to open these frameworks to a wider audience.

The objective of this report

The objective of this report is to set out a roadmap for the adaptation of African agriculture to 2036: a bounded, costed and connective agenda for the coming decade. That roadmap is meant to be used. It gives the AAA Initiative Foundation the basis for its own work program over the decade, and it offers the Foundation's technical and financial partners a common roadmap around which to align their support. The diagnosis that fills most of these pages is the means to that end, not the end itself. By reading the closing decade at first hand, the 53 NDCs, 28 NAPs and 24 BTRs, set against the African Union's CAADP architecture, it grounds the roadmap in the evidence of what a decade of effort did, and did not, deliver. The roadmap is thus inferred from the record rather than asserted over it.

The state of the art: what the evidence already establishes, and where it stops

This report does not start from scratch. A substantial body of work already describes African agricultural adaptation, each piece viewing it from one angle, and the analysis here builds on it. The reporting instruments of the United Nations climate regime, the Nationally Determined Contributions (NDCs), the

National Adaptation Plans (NAPs) and the Biennial Transparency Reports (BTRs), record, in turn, what countries intend, how they plan and what they deliver. The global stocktaking literature measures the distance still to travel: the United Nations Environment Programme's successive Adaptation Gap Reports, the Organization for Economic Co-operation and Development's accounting of climate finance provided and mobilized, and the Climate Policy Initiative's landscape of climate finance in Africa. The scientific record is set by the Intergovernmental Panel on Climate Change and, for the continent, by the World Meteorological Organization's State of the Climate in Africa. The economic dimension is modeled in the World Bank's Country Climate and Development Reports and the analyses of the International Monetary Fund. The sectoral and continental record is carried by the Food and Agriculture Organization (FAO), by the agriculture work of the climate convention, and by the African Union's CAADP Biennial Review and its thematic action plans on soil health, water and early warning.

Each of these is valuable, and each, by design, looks through a single lens. There lies the gap this report addresses, structural, not a failing of any one source. The global assessments aggregate at the level of developing countries or of whole economic sectors, so African agriculture rarely appears as a subject in its own right. The instrument-based reporting reads each instrument on its own terms, ambition in the contributions, planning in the plans, delivery in the transparency reports, but seldom follows one country across all three at once. And the two great accountability systems in the field, the global Paris-Agreement architecture and the African Union's continental agenda, pursue overlapping goals yet are assessed in separate venues, by separate communities, against separate benchmarks. No widely available synthesis reads the African agricultural-adaptation chain from end to end, from the need a country declares, through the plan it writes, to the finance it actually receives, and then sets that chain against the continent's own architecture. That unread join is the space this report occupies. The claim is one of synthesis, not discovery: the bankability and absorptive-capacity

diagnoses that recur through these pages have been the working conclusion of the development banks and the climate funds for a decade. What has been missing is the end-to-end reading that shows where, in each country's own instruments, those diagnoses bite, and what the continental architecture already offers to close them.

From that gap follow three questions this report sets out to answer:

1. Translation. Does the ambition that African states declare translate into financed, accountable action — and if not, where along the chain does it fail?

2. Traceability. Can that chain — from a declared need, through a costed plan, to finance received — be traced end to end for a single country?

3. Convergence. Do the two accountability systems that govern African agricultural adaptation — the global Paris-Agreement chain and the African Union's CAADP architecture — reach the same verdict, and where could they be connected?

The report approaches these questions from one testable proposition. The conventional reading holds that the main obstacle to African agricultural adaptation is a deficit of ambition. This report advances an alternative hypothesis: that ambition is no longer the binding constraint, and that the decisive shortfall lies downstream: in the translation of declared ambition into delivered finance, and in the limited connection between the two systems meant to plan, finance and account for it. Each part that follows tests that proposition against primary evidence, and the diagnosis stands or falls on whether the data bear it out; the falsification criteria are set out in Section C.2.

Why this report is different

This report differs from the literature it builds on in three ways. First, it rests on primary re-analysis, not a synthesis of existing summaries. Its diagnostic is built from an original reading of the 53 African Nationally Determined Contributions, the 28 National Adaptation Plans and the 24 Biennial Transparency Reports available for the continent. These are read alongside the Fifth CAADP Biennial Review and the African Union's thematic plans, and harmonized so that countries and instruments can be set side by

side. Second, it triangulates the two accountability systems the literature has kept apart, treating the Paris-Agreement chain and the continental agenda as two readings of one reality rather than separate worlds. Third, it brings together in one volume what is usually published separately: a diagnosis of how the system performs, an evidenced account of what a decade of continental cooperation has and has not produced, and a costed, measurable roadmap for the decade ahead.

This primary basis matters because the raw materials of the debate are hard to compare. Countries declare their needs in different currencies, time horizons and conventions; plans and reports vary widely in completeness; and continental and global figures are rarely expressed in the same terms. Making them comparable, and being explicit about the limits of each source, is itself a substantive contribution. It is what lets the report speak about the chain as a whole rather than one instrument at a time.

The report's method mirrors its central finding. What the sector most needs, on the evidence, is connection: between instruments, between institutions, and between the levels at which decisions are taken. That is what the analysis does in practice: it reads a country's pledge, its plan and its delivery report next to one another, and sets all three against the continental scorecard, so that gaps invisible within any single document become plain. The contribution is integration rather than the discovery of new ambition.

The evidence base and the method

The diagnostic rests on a broad evidence base, assembled and read first-hand. At its core are the national reporting documents African states have submitted under the Paris Agreement: the 53 Nationally Determined Contributions, the 28 National Adaptation Plans and the 24 Biennial Transparency Reports available for the continent, more than a hundred official documents in all. These were read against the African Union's own record, mainly the Fifth CAADP Biennial Review and the continental thematic plans on soil and fertilizer, water and early warning⁵. They were then cross-checked against independent assessments: the World Bank's Country

⁵ The principal works this report builds on include UNEP (2025), Adaptation Gap Report 2025; OECD (2026), Climate Finance Provided and Mobilized; Climate Policy Initiative (2024), Landscape of Climate Finance in Africa; IPCC (2022), AR6 Working Group II, Chapter 9 (Africa); WMO (2025), State of the Climate in Africa 2024; the World Bank Country Climate and Development Reports (CCDRs) and IMF regional analyses; FAO sectoral work; and the African Union Commission (2025), Fifth CAADP Biennial Review Report. Full citations in the References and Annex 8.

Climate and Development Reports, synthesized here across 43 African countries, together with the analyses of the OECD, the Climate Policy Initiative, the United Nations Environment Programme, the IPCC and the FAO. The full source register is in the references and in Annex 8.

The method works in three steps. The first is quantitative extraction: from each instrument the analysis pulled the figures that can be compared, declared adaptation needs and their agricultural share, finance received, project pipelines, named technologies and capacity-building requests, into harmonized databases. This yielded, among other results, a pipeline of 273 planned NAP actions, 169 reported BTR adaptation actions, 453 declared capacity-building needs and some 350 named technologies.⁶ The second is documentary analysis: the same texts were read qualitatively for what the figures cannot show, institutional anchoring, the conditions attached to pledges, and the language in which priorities are expressed. The third is cross-referencing: each country was followed across all three instruments, and its self-reported picture set beside the independent economic evidence, so a claim made in one document could be confirmed, qualified or challenged by another. Every figure in the body traces back to this base through the open databases in the annexes.

How the report is built

The report has three parts, held together by one logic. Part A establishes the evidence base: it identifies the needs African countries themselves declare, traces where the chain from ambition to delivery breaks, and shows why the binding constraint on adaptation is no longer the level of ambition but the limited connection between the systems meant to deliver it. Part B reads the past decade as evidence, setting out what continental cooperation demonstrably built, the capabilities the record bears out, and, stated just as plainly, what it does not support. Part C turns diagnosis and record into a roadmap for 2036: a bounded, costed agenda for what the report calls the connective decade, framed for the partners who would help finance and own it.

Behind the three parts sits a set of annexes carrying the open evidence base, the country-level databases, the readiness matrices, the finance ledger and the triangulation crosswalk, so that every figure in the body can be traced, checked and challenged. The detailed framing and method of the diagnostic open Part A, and a short “at a glance” panel heads each part, giving its argument in a single paragraph before the full text. This introduction stays above that level: its job is to situate the whole rather than to summarize the parts.

Why it matters now

The cost of leaving the two systems insufficiently connected is real. Ambition that is declared but rarely financed, plans that are written but often not costed, and support that arrives more often as debt than grant add up to a widening gap between what African agriculture needs to adapt and what it actually receives, even as the physical risks intensify year on year. Yet the diagnosis is as hopeful as it is uncomfortable. Because the binding constraint is connection rather than ambition, much of what is needed is coordination, and coordination is far cheaper than capital, though it complements, rather than replaces, the large-scale investment still required. The decisive gains of the next decade will most likely come from making existing commitments, instruments and institutions work together rather than from inventing new ones.

The opportunities to capture that gain are open now, and they will not stay open indefinitely. The Kampala agenda must be turned into national plans and budgets; the next round of national climate commitments is being prepared; the indicators of the Global Goal on Adaptation are being operationalized; and the road to the next Conferences of the Parties will set the terms of the negotiations that follow. A synthesis that lets a minister or a fund see the whole chain at once, rather than one instrument at a time, is most useful precisely while those decisions are still being made. That is why a report of this kind is timely in 2026 in a way it would not have been five years ago, and may not be five years from now.

⁶ AAA Initiative (2026), analyses of the 53 African NDCs, 28 NAPs and 24 BTRs and the NDC-NAP-BTR Strategic Triangulation; underlying databases in Annexes 2–5.

A facilitating role within existing frameworks

This report is published by the AAA Initiative, whose mandate is to advance the adaptation of African agriculture to climate change. It pursues that mandate in partnership with other African and global initiatives, seeing its role as connective and complementary, helping existing efforts work together rather than duplicating them or standing apart. The institutions that govern African agricultural adaptation, the United Nations climate regime and its instruments, the African Union and its continental architecture, the funds, the development banks and national governments, already exist and already hold the mandates. The Initiative's contribution is to align the climate instruments with the continental agenda, to support a shared African voice in the global negotiations, and to put method, data and evidence at the service of decisions that others take. It works in partnership alongside the Africa Adaptation Initiative (AAI), the African-led adaptation platform, and the FAO-hosted Food and Agriculture for Sustainable Transformation (FAST) Partnership. It stands in natural sympathy with newer efforts such as the Turquoise Nexus Initiative

(TNI), led by the Ministry of Agriculture and Forestry of Türkiye under the coordination of the COP31 Presidency, to strengthen water-food-climate links in the NDCs and in investment frameworks, to which the report's work on the water and irrigation lever directly connects. The roadmap in Part C asks for no new mandate and no parallel structure; it asks that the structures already in place connect more effectively, with the Initiative serving as a facilitator accountable to the partners and member states it serves.

The report will be presented at a high-level meeting at the headquarters of the FAO in Rome on 16 September 2026, as a contribution to the shared work of the decade ahead. Readers are warmly invited to engage with what follows, to weigh its evidence, question it, and carry its findings into the decisions they inform; the forward roadmap it proposes will be refined in continuing dialogue. The authors thank the many people who helped shape it: the contributors and reviewers who added ideas, corrected errors and sharpened the argument, and the decision-makers and experts who gave their time to be interviewed. That thanks extends to all who will help turn the analysis that follows into action over the decade it addresses.



PART A

Strategic Context: Governance, Climate Diplomacy and Socio-Economic Baselines

Credit: Artush / Shutterstock.com

Part A at a glance

On African agricultural adaptation, the principal bottleneck is less a lack of ambition than the limited integration between strong frameworks that have grown up in parallel. Three numbers tell the story: about USD 566 billion of adaptation need declared, about USD 8.2 billion of climate finance recorded as received (of which about USD 2.1 billion is traceable to agriculture), and a delivery ratio of roughly 1.5 per cent. The fix follows directly, a crosswalk mandate that links every NDC paragraph to a NAIP budget line, a traceable BTR finance code and a CAADP indicator. The diagnostic, section by section:

Section	Key finding
A.1, Political and institutional context	A hostile 2026 backdrop: ODA fell 23.1% in 2025 and major bilateral programs were cut; climate acts as a threat multiplier ($\approx 7.3\%$ of GDP lost on average by 2050 on current trends (median 6.4%)).
A.2, Global context, COP21-COP31	Agriculture entered the UNFCCC late and in fragments (Koronivia, then the Sharm el-Sheikh joint work), alongside the FAST Partnership and AAA presidential initiatives.
A.3, AU continental architecture	The architecture exists but underperforms: the fifth CAADP Biennial Review (2025) scores Africa 5.25/10 against a 9.40 benchmark, with no country on track.
A.4, NDC / NAP / BTR analysis	Ambition is near-universal but planning and delivery lag: 53 NDCs, 28 NAPs, 24 BTRs, and only eleven countries hold all three instruments (as of June 2026, based on the documents available in the UNFCCC registries), a funnel that reflects the design of the UNFCCC process as much as country capacity: each instrument answers a different mandate, on a different cycle, with different funding (A.4.1).
A.5, Cross-instrument synthesis	The accountability gap, in three numbers: $\approx$ USD 566 bn of need declared $\rightarrow$ $\approx$ USD 8.2 bn received $\rightarrow$ roughly 1.5% delivered; the two systems do not yet connect to one another.
A.6, Finance for adaptation	About USD 56 bn/yr is needed, but flows are scarce and skewed to debt over grants; agriculture received only $\approx$ USD 2.1 bn.
A.7, Capacity and technology transfer	Preparation, not money, is the upstream constraint: 453 capacity needs are declared and technology transfer is sought by 43 countries, yet only eleven hold a Technology Needs Assessment recent enough to serve their current NDC; most standing assessments date from earlier donor-funded phases, some from before the Paris Agreement.
A.8, Technical solutions and innovations	Seven solution families are each mapped to a continental anchor and a candidate BTR indicator; their presence in the NDCs ranges from 28% (insurance) to 100% (crops).
A.9, Cross-cutting: gender, youth, knowledge	Closing the gender productivity gap could raise crop output by up to 19%; youth strain is acute (NEET 21.9% in 2023); indigenous knowledge is under-valued.
A.10, Land tenure and food sovereignty	Africa has the world's weakest property-rights protection (3.78/10) and trades little within itself (16.8% of exports; 24.2% for food).

A.0. Needs and gaps: framing and method

Box A.2. What this assessment does differently

Five methodological choices set this assessment apart from the standard climate-finance literature on Africa, which it complements with original analysis of the primary data:

- Simultaneous triangulation of the three Paris-Agreement instruments (NDCs, which overstate readiness; NAPs, which understate the financing problem; and BTRs, which understate ambition) read together to locate the exact break in the chain rather than relying on any one instrument alone.
- A distinction between financing gaps and transparency gaps: of thirteen flagged de-livery failures, roughly half are gaps in traceability, not in money, separating the re-sponsibility of administrative reporting from that of capital allocation.
- The confrontation of two independent accountability systems (the global Paris chain and the African Union's CAADP Biennial Review) which reach the same verdict, no country on track, from opposite directions.
- A dual reading of the agricultural need (a strict reading of what the instruments state explicitly, and a consolidated reading that adds the report's own sectoral analysis of the underlying data) yielding an explicit uncertainty band rather than a single fragile figure.
- A self-imposed rule of contribution rather than attribution: when a climate plan the Initiative helped anchor goes on to unlock finance, the Initiative records this as a contribution to a shared result and credits the outcome to the country and its part-ners, not to itself.

Box A.3. Methodology at a glance

The report's reading rules, in one place (full detail in Annex 7).

- Sources: a first-hand reading of 53 NDCs, 28 NAPs and 24 BTRs, triangulated with the CAADP Biennial Review and 43 World Bank CCDRs (2024–2026).
- Counting: only what the instruments state in text is counted; nothing is imputed.
- Annualization: multi-year needs are divided by each country's own NDC period, never treated as a single year.
- Agriculture: agricultural finance is reconstructed from the broader AFOLU envelope, which understates it.
- Need band: the headline agricultural need is about USD 80 billion (a conservative floor); a strict text-only attribution gives about USD 44 billion, and the fuller interval reaches about USD 155 billion.
- Currency: current US dollars, not inflation-adjusted.
- Two gaps: the delivery shortfall is part financing gap and part transparency gap, finance that may have flowed but cannot be traced.

Box A.4. Key findings of Part A

- Two accountability systems (the African Union architecture and the Paris chain) reach the same verdict on African agricultural adaptation.
- Ambition is abundant (about USD 566 billion of declared adaptation need) but delivery is minimal (on the order of 1.5 per cent of need received).
- Only about 9 per cent of NDCs anchor explicitly to the continental CAADP framework.
- Agriculture is under-costed: an annual declared need of about USD 7.4 billion against roughly USD 2.1 billion ever received.
- Four “orphan levers” (insurance, agroecology, climate-smart agriculture and resilient seeds) are named but under-financed.
- Capacity is the constraint behind the constraint: 453 declared capacity needs, yet only six countries with an active GCF Readiness program.
- The binding fix is integration, a connective mandate, not more ambition.

Part A answers one question: what is the state of African agricultural development, and how far has the continent actually adapted its agriculture to a changing climate? Answering it is a precondition for judging the AAA Initiative against a decade of activity (Part B) or against a roadmap set for the decade ahead (Part C). Across the years the Initiative has operated, 2016 to 2026, this part diagnoses that state, drawing on the continent’s own policy instruments and on the international reporting frameworks African states have submitted under the Paris Agreement.

One finding shapes everything that follows: the binding constraint on African agricultural adaptation is no longer a shortage of ambition. What is missing is integration, a connective mandate linking the continental architecture to the Paris chain, and linking ambition to delivery. The sections below build the evidence for that conclusion.

Methodological scope and limitations	What this analysis cannot tell you
Data asymmetry	Coverage is asymmetric, and the report is deliberately disciplined about it: a continental or sub-regional statement is made only where the underlying documents are numerous enough to support it. Where a corpus is thin, the text reports a range or a direction of travel rather than a single point estimate, and flags the small sample explicitly. Figures resting on the larger corpora should therefore be treated as more secure than those drawn from the smaller ones. The reporting funnel narrows sharply along the chain (from 53 NDCs to 28 NAPs and 24 BTRs) so the three instruments do not describe the same set of countries. Any reading built on the smaller corpora, and especially any regional breakdown of them, rests on fewer observations and is correspondingly less robust: a single country can move a sub-regional average. Section A.4.1 sets out the exact country composition of each corpus so the weight to give each comparison is transparent, and conclusions that depend on the thin end of the funnel are presented as indicative rather than definitive.

Methodological scope and limitations	What this analysis cannot tell you
Tracking limitations	The true cost of agricultural adaptation is understated wherever an NDC does not isolate agriculture within its overall costing. Twenty-two of the 53 NDCs (15 of the 46 costed) attach no separate agricultural figure, folding agriculture into wider sectoral or economy-wide totals, so its share has to be inferred or left blank rather than read directly. The continental agriculture-need totals reported here are therefore conservative (a floor, not a ceiling), and the true gap between declared and actual need is almost certainly wider than the figures alone suggest.
	Delivery and execution ratios for partially costed NAPs can mislead if read at face value: when only part of a plan carries a price tag, the ratio of finance to cost is computed against an incomplete denominator and can look healthier, or worse, than reality. The text flags every such case rather than blending them silently into the averages, and partial-costing countries are held out of the headline ratios wherever their inclusion would imply a false precision.
	BTR finance lines are frequently reported at an aggregated level and cannot be traced cleanly to agriculture: adaptation finance is often bundled across sectors, and recipients seldom tag a flow to a specific NDC commitment or NAP action. The finance-received figures used here therefore capture only what can be reliably attributed to agriculture, which understates total flows; the deeper issue this exposes, the absence of a traceable line from commitment to disbursement, is itself one of the report's findings, not merely a data nuisance.
Temporal lag	The quantitative corpus (the NDCs, NAPs and BTRs analyzed here) was submitted largely between 2020 and 2026 and so predates the geopolitical and macroeconomic shocks of 2026. Those shocks (aid retrenchment, debt-service pressure, conflict-driven disruption) shape the report's qualitative reading and its forward outlook, but are deliberately kept out of the quantitative baseline, which reflects the world as the instruments described it. The measured figures should thus be read as a pre-shock baseline against which the 2026 disruptions are interpreted, not as a real-time snapshot.
Scope boundaries	Private capital is not systematically mapped in this diagnostic. Agri-SME lending and commercial adaptation-finance flows (where, ultimately, most capital sits) are visible here only through the narrow window of blended-finance instruments, because consistent continental data on private flows do not exist in the reporting corpus. A fuller treatment of how private and commercial finance can be mobilized is deferred to Parts B and C, where it is a central concern rather than a data gap.
	Governance and absorption risks are acknowledged here but not modeled as structural variables. Political-economy constraints, the institutional capacity actually to absorb and deploy finance, and whether finance reaches its intended beneficiaries all materially affect outcomes, yet treating them as drivers requires the country-level institutional assessment that belongs to Part B. In Part A they are noted where they bear on the reading of a particular figure, but the diagnostic does not attempt to quantify them.
	The linkage between adaptation and intra-African trade under the African Continental Free Trade Area (AfCFTA) lies outside the scope of this diagnostic. The interactions are real and consequential (a climate-driven crop shortfall in one region affecting supply to another, the harmonization of food and phytosanitary standards, the resilience of regional value chains) but they are systemic, forward-looking questions better suited to the strategic outlook than to a backward-looking diagnostic, and are taken up there.
Attribution & interpretation	The 1.5 per cent delivery ratio is a descriptive statistic, not a counterfactual judgment. It states how little of the declared agricultural-adaptation need has been measurably financed; it does not, and is not meant to, attribute that outcome to the AAA Initiative or to estimate what would have happened in its absence. That additional question, the Initiative's own contribution, is the proper subject of the Part B impact evaluation, and reading the diagnostic's ratios as a verdict on the Initiative would misuse them.
	The coordination weaknesses surfaced here (policy silos, weak inter-ministerial coordination, and fragmented, non-interoperable data) are presented as confirmed rather than newly discovered. They echo constraints documented across successive CAADP Biennial Reviews and in the wider literature. The contribution of this report is to show that the same constraints recur along the Paris chain and to locate precisely where they bite, not to claim them as an original finding.
Independence & verification	The primary evidence (the structured analyses of the NDCs, NAPs and BTRs) was produced by the Initiative's own technical team, and the report is transparent about what that implies for independence. The full method, data sources and coding rules are documented in Annex 7 so the work is auditable, but the analyses have not yet been independently replicated. The findings should therefore be read as internally rigorous and fully documented, while external replication remains a desirable step before they are treated as settled.

Box A.5. Alternative interpretations considered and rejected

- Could the delivery gap reflect under-reporting rather than under-financing? Only partly. Reporting is indeed incomplete (not every country submits a BTR, and finance lines are often aggregated and untraceable to agriculture) but the states that do report are precisely those that concentrate most of the continent's declared adaptation need, so the bulk of the demand is captured even where the finance against it is not. Better reporting would refine the figure at the margin; it would not close a gap of this magnitude. The shortfall is therefore a real financing gap, not a statistical artifact of missing data.
- Is the disconnect between the continental and global systems a feature rather than a flaw, a healthy division of labor? No. The two systems measure the same underlying outcomes, resilience, water security, early warning, but from opposite ends, and each supplies what the other lacks: the continental architecture (CAADP and the AU thematic plans) brings shared targets and political ownership, while the Paris chain (NDCs, NAPs, BTRs) brings country-level commitment, planning and finance reporting. Running them in parallel duplicates reporting effort and leaves each picture incomplete. Integration is therefore not an added burden but a net reduction in it: the same actions counted once, against one set of indicators, rather than twice against two.
- Is more ambition the answer, should the priority be larger pledges and bolder targets? The evidence says no. Ambition is already abundant: 53 states have submitted NDCs, agriculture is named almost everywhere, and the declared adaptation need runs to hundreds of billions of dollars. The binding constraint lies downstream, where ambition must become delivery: in the costing of agricultural actions, the financing of them, and the traceable accounting of what is actually spent. Raising ambition without repairing that chain would widen the gap between what is promised and what is delivered, not close it.
- Is the real problem simply a lack of capacity? Not in the way the word is usually meant. Capacity is a genuine constraint (Section A.7 documents uncostered plans, unassessed technologies and incomplete inventories) but the binding problem sits upstream of training: misaligned institutional incentives and a rigid separation between ministries, and between the two reporting systems. Closing the gap is therefore less about more workshops than about changing who is accountable to whom, and for what.

The diagnostic rests on one idea: African agricultural adaptation is governed and measured by two separate accountability systems, and the most revealing evidence comes from reading them together. The first is the continental system, the African Union's own architecture, with the Comprehensive Africa Agriculture Development Programme (CAADP) as the umbrella, the African Union's thematic action plans on soil, water and early warning beneath it, and the CAADP Biennial Review, which holds member states to account against the Malabo and Kampala commitments. The second is the global system, the machinery of the Paris Agreement, through which each country sets out and accounts for its climate effort: the NDC states the ambition (covering both mitigation and adaptation), the NAP translates the adaptation priorities into a plan (not always fully costed), and the BTR records what has actually been financed and done; progress toward the Global

Goal on Adaptation is reported through this same country-driven chain. These are two measurement systems rather than programs: convening and advocacy platforms such as the AAA Initiative work across both but are not themselves accountability mechanisms, and are assessed separately in Part B⁷. Both measure the same thing from different angles, whether Africa is building adaptive capacity and reducing vulnerability, above all in agriculture, and the distance between what the commitments pledge and what implementation records is the central diagnostic of this part.

One practical fact explains much of what follows, so it is worth stating plainly. In most countries the two systems sit in two different ministries. Led by the ministry of environment to meet UN climate rules, the Paris instruments, the NDC, NAP and BTR, stand apart from the agricultural investment plans and CAADP reporting, which belong to the ministry

7 On the structure of the Paris-Agreement reporting chain, see the Paris Agreement, Article 7, and the Enhanced Transparency Framework; the three instruments are analyzed for Africa in the author's NDC, NAP and BTR studies (2026).

of agriculture. Agriculture ministries are, in most cases, consulted when the climate instruments are prepared, so the connection exists at the working level; what is usually missing is the formal link to the continental framework. Produced cycle by cycle as discrete reporting exercises aligned to the global templates of the UN climate process, the instruments anchor their text in the global architecture, not in CAADP or Malabo, and the continental reference rarely reaches the page even when agriculture is fully involved. A more effective model generates these documents from an internal, continuous investment-framework process, owned by the relevant ministries and sustained between reporting cycles, so that anchoring, the crosswalk and institutional memory are carried forward as a matter of course rather than rebuilt for each submission. The measures this report calls the orphan levers, agricultural insurance, agroecology, climate-smart agriculture and resilient seeds, fall straight into that gap: agriculture ministries see them as too climate-focused, climate ministries see them as too agricultural, and neither side fully owns them. In the end, the accountability gap traced in

the sections that follow is this gap in anchoring and shared ownership showing up in the paperwork.

Put together, the evidence points to one clear and uncomfortable conclusion: the main obstacle to African agricultural adaptation is not a lack of ambition. Ambition is plentiful, stated again and again, and well recorded in both systems, mostly, it must be said, as declared rather than committed ambition: about 74 per cent of it is conditional on external support, and only four states meet the 10 per cent public-budget benchmark. That distinction is itself part of the diagnosis, because commitment requires fiscal space, and fiscal space is precisely what debt distress forecloses (Section A.6.8). The obstacle lies in delivery: turning plans into money spent and action taken. Making matters worse is the gap between the continental system and the Paris reporting chain of NDCs, NAPs and Biennial Transparency Reports (together, “the Paris chain”), so that two systems pursue the same goals in parallel rather than in concert (only about 9 per cent of NDCs reference CAADP). Part A builds this case step by step and tests it against the data each system produces.

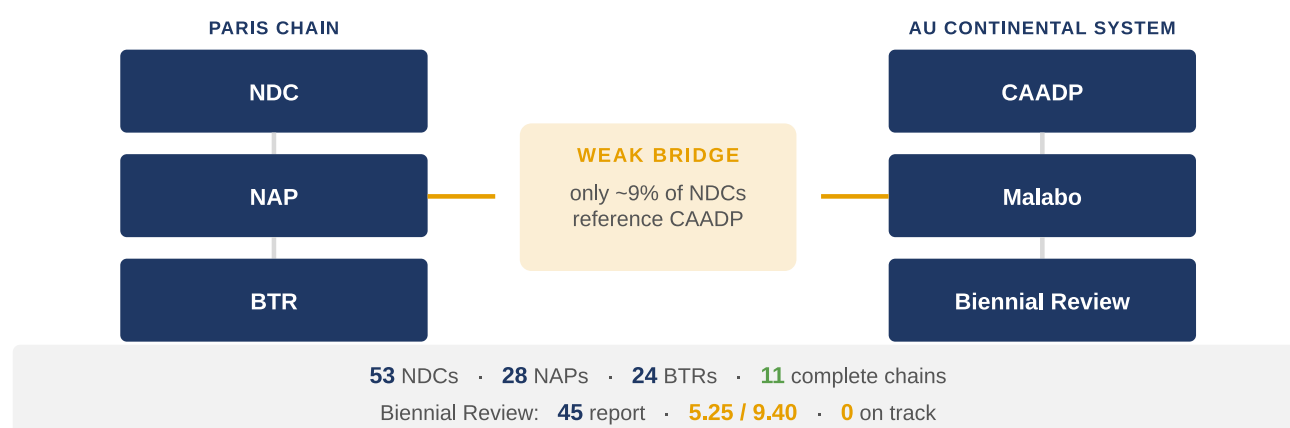


Figure A.0.1. Two accountability systems, weakly bridged: the Paris chain and the continental system pursue overlapping goals while rarely connecting (only about 9 per cent of NDCs reference CAADP).

Reading: the dashed orange vertical link marks the framework seam, where the climate instruments and the continental architecture rarely reference one another, even where agriculture ministries are consulted.
Source: synthesis of Sections A.3–A.5.

This report maintains a strict distinction between “needs” and “gaps”, and uses both throughout. Needs are what African countries themselves say they require: the adaptation finance they have quantified, the sectors they have prioritized, and the resilience results their plans aim for. Gaps are the measurable distances along the chain: the planning gap between stated ambition and costed plans, the

delivery gap between plans and the finance actually received, and the accountability gap between the climate-reporting instruments and the continental frameworks meant to give agricultural adaptation a home at national level. The three gaps are named separately on purpose, since each calls for a different fix and a different actor to deliver it.

Institutional gap	Core diagnostic	Primary bottleneck	Strategic remedy
Planning gap	Ambition is declared but not costed: stated NDC targets are not carried into costed, budgeted plans.	The NAP financing-and-implementation module (Module C) is the weakest link, and agriculture is often not isolated or costed.	Cost agriculture in the NDCs and complete the NAP financing modules, so each target becomes a budgeted action.
Delivery gap	Plans are written but not financed: finance received falls far short of declared need.	Finance is scarce, concentrated in a few countries and largely loan-based; project preparation is financed nowhere.	Grant-weighted finance, the Preparation Compact, and BTR finance codes traceable to agriculture.
Accountability gap	Two systems that do not yet connect: the Paris chain and the continental CAADP framework run in parallel.	Different ministries, calendars, indicators and venues; reporting is duplicated and cannot be traced to delivery.	A crosswalk linking each NDC paragraph to a NAIP budget line, a BTR finance code and a CAADP indicator.

Table A.0.1. The three gaps along the chain: diagnostic, bottleneck and remedy.

Source: author's synthesis (Part A).

Following one country through all three gaps shows why they are distinct. Kenya is the large state whose chain is most legible end to end across the three Paris instruments (Box C.2). Its NDC declares USD 17.7 billion of adaptation need; its NAP costs USD 38.26 billion, more than the declared need, so Kenya's planning gap appears not as missing costing but as a coherence gap between two documents that never reconcile. Its BTR then records USD 0.51 billion received, about 2.9 per cent of the declared need and 1.3 per cent of the costed plan: the delivery gap in its starkest form. Because those three documents are produced by different bodies, on different cost bases and timetables, with nothing tying them together, the accountability gap persists even in the best-documented case on the continent. Each gap has a different cause and a different fix; Kenya shows all three at once.

Two choices shape how the sections are written. First, the report separates the body from the annexes: the body carries the synthesis, the comparison tables and the cross-system reading, while the detailed country-by-country and indicator-by-indicator material, the full scorecards, finance ledgers and needs databases, sits in the annexes and in the standalone studies this part summarizes rather than repeats. Second, every figure is checked before it is used: each number in the body can be traced to a primary source and page, and any figure that cannot be confirmed against the source documents is flagged rather than stated as fact. The main evidence base is the continental Biennial Review

report and its indicator-level extraction, the African Union's thematic action plans, and the author's own analyses of African NDCs, NAPs and BTRs.

A final word on coverage. The three reporting instruments do not cover the same countries: 53 African states have submitted an NDC, 28 a NAP and 24 a BTR, while 45 African Union members reported to the most recent Biennial Review. Continental statements are made only where enough countries have reported to support them; comparisons between countries or regions use whichever states hold the relevant documents, and the way coverage narrows from one instrument to the next is treated as a finding in its own right rather than a footnote. All money figures are in current US dollars, with no adjustment for inflation. Throughout, the tone stays continental and neutral: the report does not rank countries or attach blame; where individual countries are named, they illustrate structural patterns that recur across the continent, read against the data limitations set out above.

Two final points follow. First, the documents analyzed here, the NDCs, NAPs and BTRs⁸, were submitted between 2020 and 2026, and so come before the geopolitical and economic shocks of 2026; those shocks shape how the report reads the current context, but they do not yet appear in the countries' own figures. Second, the analysis both diagnoses and judges: where the evidence is clear-cut, the report says so directly, and those judgments are made openly rather than hidden behind cautious wording.

⁸ The author's standalone chapters (Analysis of African NDCs (53), NAPs (28) and BTRs (24), and the Strategic Triangulation NDC–NAP–BTR) are the source studies condensed in A.3–A.5; their full tables are reproduced in the annexes.

The evidence supports a clear verdict, and it frames everything that follows. Across the two accountability systems, the pattern is consistent: ambition is large and delivery is small. African countries have declared adaptation-finance needs on the order of half a trillion dollars; the finance

actually recorded as received is a tiny fraction of it; and the continent's own scorecard finds no country on track against the Fifth CAADP Biennial Review benchmark. The scoreboard below previews these figures, which the rest of Part A substantiates.

Measure	Figure	What it signals
Declared adaptation need (NDCs)	~USD 566 bn (agriculture ~14%)	Scale of stated ambition.
Climate finance received (BTRs)	~USD 8.2 bn (~USD 2.1 bn to agriculture)	≈1.5% of declared need delivered.
CAADP Biennial Review (2025)	Benchmark 9.40/10; no country on track	Continental delivery shortfall.
10% budget commitment	Met by 4 of 45 reporting states	Domestic effort shortfall.

Table A.0.2. Diagnostic scoreboard: ambition versus delivery.

Sources: author's NDC and BTR analyses (2026); Fifth CAADP Biennial Review Report (2025 cycle).

A.1. Political and institutional context

The decade closes in an international environment far less favorable to financing agricultural adaptation than the one in which the AAA Initiative was launched. Cooperation is fragmenting, public finance from traditional donors is shrinking, and an acute 2026 supply shock has hit on top of these structural shifts. Against these political and institutional conditions, Africa's adaptation effort has to be read. Drawing on submissions filed between 2020 and 2026, the quantitative corpus analyzed later in Part A predates these developments: the 2025 contraction in official development assistance and the 2026 supply shock are read here as real-time stresses layered on that baseline, and the text signals at each turn which of the two frames, the historical corpus or the live 2026 shock, a given passage is using.

Institutional context is part of this diagnostic rather than background to it. To an unusual degree, African agricultural adaptation is financed publicly and from abroad. As later sections show, most declared adaptation need is conditional on international support, and domestic fiscal space is thin. Shifts in the architecture of cooperation therefore reach the continent almost at once. When external finance shrinks, grows more expensive, or is redirected, the effect is concrete: irrigation schemes deferred, extension services cut, safety nets withdrawn.

A.1.1. The weight of climate: a threat multiplier, not a sole cause

Africa's recurring agricultural crises are routinely blamed on climate change, and the attribution is not wrong, though a diagnostic should weigh it

rather than just assert it. The evidence here points to a precise reading: climate change acts as a threat multiplier on a base of structural vulnerabilities. It is decisive in shaping outcomes, but rarely the sole cause of a crisis. This sharpens rather than softens the case for adaptation: as the next paragraph quantifies, the climate increment alone removes an average of about 7.3 per cent of GDP by 2050 on top of existing structural deficits, a multiplier of that size is not a license to defer action but the strongest reason to act.

The scale of the threat is, nonetheless, large and measurable. Synthesized across thirty-nine of the 43 economies covered (those with quantified CCDD loss estimates), the World Bank's Country Climate and Development Reports estimate that unmitigated climate change would cut national output by an average of about 7.3 per cent of GDP by 2050, with a median loss of 6.4 per cent. The range runs from negligible in the least exposed economies to roughly 20 per cent in the Republic of Congo⁹, 13 per cent in Somalia and South Sudan, and close to 13 per cent in Côte d'Ivoire and the Democratic Republic of Congo.



Credit: hanif66 / Shutterstock.com

⁹ Author's analysis of 39 of the 43 World Bank Country Climate and Development Reports (those available at the time of the impact analysis; the fuller synthesis in notes 62 and 63 covers 41): mean climate-induced GDP loss of 7.3% and median 6.4% by 2050 across scenarios, range 0.08–20%. Figures are economy-wide and verified against the source CCDD reports.

These are economy-wide figures; agriculture, as the most climate-exposed sector, sits at the upper end of this range, and in several reports the agricultural and food-production losses are larger still.

The same reports make clear that climate rarely acts alone. A drought, flood or heatwave tips into a food crisis mainly where other defenses are missing, where land tenure is insecure, irrigation undeveloped, finance unavailable and social protection thin. The structural drivers documented across Part A are how the climate story bites. Working together, the conditionality of adaptation finance and mounting debt distress (A.6), insecure land and resource rights (A.10), and the deficit in delivery capacity (A.7) decide whether a shock is absorbed or becomes a catastrophe.

Two things follow for how to read this diagnostic. First, no source here supports a single figure for the “share of climate” in Africa’s agricultural crises, nor should one be expected to: climate attribution is established hazard by hazard, not for an aggregate of crises with interacting causes. An attribution study can estimate how far climate change intensified a particular drought or heatwave, but not one continent-wide share across all crises¹⁰. Second, treating climate as a threat multiplier is the more useful framing because it is actionable: the surest way to blunt the climate threat to African agriculture is to reduce the structural vulnerabilities that turn hazards into hunger, the agenda the rest of this report sets out.

One structural vulnerability deserves to be named on its own, because in parts of the continent it does not merely multiply the climate threat but cancels the response: conflict and state fragility. The IPCC finds, with high confidence, that drought and climatic stress are linked to heightened conflict risk in Africa, even where climate explains only a small share of the variation. It finds, too, that adaptation undertaken in conflict-affected areas can itself turn maladaptive where underlying vulnerabilities are left unaddressed (IPCC, Sixth Assessment Report, Working Group II, Chapter 9). The economic signature is visible in the same Country Climate and Development Reports used above: the largest

projected output losses fall on fragile and conflict-affected states, close to 13 per cent of GDP by 2050 in Somalia and South Sudan. The finance compounds the bind: although these contexts are among the most climate-vulnerable and now hold a large and rising share of the world’s extreme poor, they receive disproportionately low levels of climate finance relative to more stable settings. That is why the g7+ group of fragile states has issued a joint call for increased and more equitable climate financing (OECD, States of Fragility 2025). Where institutions are contested, long-horizon adaptation investments are the first to be destroyed, irrigation infrastructure damaged, pastoral routes severed, seed and input supply chains broken, so for several Sahelian and Horn states the binding question is less how to plan than how to protect and rebuild adaptive capacity during active instability. This is the limiting case of the report’s thesis: connection presupposes a functioning state to connect.

A.1.2. The physical-risk backdrop

The institutional headwinds set out below bite so hard because they meet a continent already under acute climate stress. African agriculture employs more than 60 per cent of the active population and generates about a fifth of continental GDP (the African Union’s strategy puts it closer to a quarter), and Africa holds an estimated 60 per cent of the world’s remaining uncultivated arable land¹¹. The sector is thus at once the backbone of livelihoods and the locus of the continent’s growth potential. Yet that potential is eroding: according to the African Union’s Climate Change and Resilient Development Strategy (2022–2032), eighteen of the twenty countries most affected by food insecurity worldwide are in Africa¹².

That endowment is vast but thinly developed. Of the continent’s roughly three billion hectares of land, about 1,176 million hectares, some 39 per cent, are agricultural land: 869 million hectares of permanent meadows and pastures, 262 million hectares of arable land, and 45 million hectares of permanent crops. Yet only about 17.5 million hectares, close to 7 per cent of the arable area, are equipped for irrigation¹³. A large resource base coupled with

10 IPCC, AR6 Working Group II, Chapter 9 (Africa): climate change is characterized as a risk multiplier interacting with non-climatic stressors, with attribution assessed by hazard and region rather than as a single aggregate share.

11 Corpus sources: COP30 RAIZ documentation and Ukama (2026) put the share at about 60%; a rural-youth literature review (Kubik) gives 52%. The 65% figure cited in the declarations of the 5th and 6th AAA Ministerial Conferences (2025, 2026) is the upper bound of published estimates.

12 African Union, Climate Change and Resilient Development Strategy and Action Plan 2022–2032, which carries the sector-employment (>60% of the active population), GDP-share (~23%) and 60% uncultivated-arable-land estimates.

13 FAOSTAT, Land Use in Africa (2023): total land area ≈2,993 million ha; agricultural land ≈1,175 million ha (permanent meadows and pastures ≈868.6, arable ≈261.8, permanent crops ≈45.0); area equipped for irrigation ≈17.5 million ha.

minimal water control is the structural reason the sector is so exposed to rainfall variability, and it frames the adaptation challenge this report diagnoses.

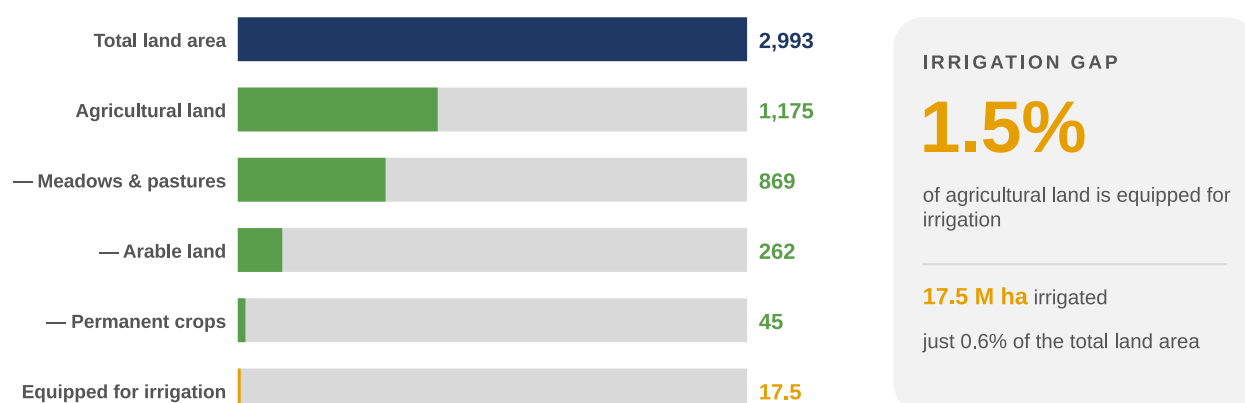


Figure A.1.1. Africa's agricultural land base, 2023: a large endowment but minimal irrigation.

Source: FAOSTAT, *Land Use in Africa* (2023).

The recent record is stark. The World Meteorological Organization's State of the Climate in Africa 2024 found 2024 to be the warmest year recorded on the continent since 1900, with a temperature anomaly of +0.86 °C against the 1991–2020 average and +1.53 °C against 1961–1990¹⁴. In the same year an estimated 307 million Africans were undernourished, about one in five, and some 893 million, roughly 59 per cent of the population, faced moderate or severe food insecurity, with about two in three unable to afford a healthy diet¹⁵.

Extreme events multiplied across every sub-region. Prolonged droughts of five to six years gripped Southern Africa and the north-west, drying water infrastructure and triggering power shortages, while floods affected more than four million people across West and Central Africa. In Mali, floods destroyed some 500,000 hectares of crops; in Kenya they killed roughly 30,000 head of livestock and damaged 170,000 hectares. Cereal output fell across the sub-regions (Table A.1.1), most dramatically in the south, and in Sudan a 35 per cent collapse exposed 21.1 million people to acute food insecurity, including 6.4 million in emergency conditions and 100,000 in famine.

Region / country	Cereal production, 2024
North Africa	–7% (vs five-year average)
Southern Africa (overall)	–16%
Zambia	–43%
Zimbabwe	–50%
Malawi	–17%
Mozambique	–12%
Sudan	–35%; 21.1 million people acutely food-insecure

Table A.1.1. Cereal-production shocks, 2024.

Source: WMO, *State of the Climate in Africa 2024*.

¹⁴ World Meteorological Organization (2025), *State of the Climate in Africa 2024*: 2024 the warmest year since 1900; +0.86 °C vs 1991–2020 and +1.53 °C vs 1961–1990.

¹⁵ FAO, AUC, ECA and WFP (2025), *Africa Regional Overview of Food Security and Nutrition 2025*, Accra and Rome, p. 10: in 2024, 307 million Africans undernourished (prevalence 20.2%); about 893 million (59%) in moderate or severe food insecurity, of which ~337 million (22.2%) severe; 67% unable to afford a healthy diet.

Against impacts of this scale, the report derives an annualized adaptation need of roughly USD 56 billion a year from the NDC corpus (see A.6.1). Needs this large colliding with the shrinking, more expensive external finance described next is what defines the political and institutional bind at the decade's close.

A.1.3. The 2026 geopolitical and macroeconomic headwinds

The landscape for international cooperation and multilateralism is defined by systemic fragmentation, driven by shifting geopolitical priorities and a marked contraction in public finance from traditional donor countries. As developed economies increasingly prioritize domestic concerns, security and defense, national industrial policy, official development assistance (ODA) and climate-directed public finance face structural reductions. The OECD's preliminary data show ODA falling by 23.1 per cent in 2025, to USD 174.3 billion, the largest annual contraction on

record, following a 6 per cent decline in 2024, with a further 5.8 per cent fall projected for 2026. The United States accounts for roughly three-quarters of the 2025 drop, alongside announced reductions in France, Germany and the United Kingdom¹⁶.

The effect on adaptive capacity is direct. Historically a primary contributor to climate resilience in lower-income countries, USAID is terminating up to 83 per cent of its specific funding allocations, which withdraws support from the baseline pillars of local adaptive capacity, water and sanitation, disaster preparedness and social-protection systems, whose developmental co-benefits inherently generate climate resilience¹⁷. On trade, after a year of uncertainty the United States reauthorized the African Growth and Opportunity Act (AGOA) for Sub-Saharan Africa through December 2025, retroactively restoring duty-free access from September 2025; as a non-reciprocal arrangement, AGOA allows African farmers and cooperatives to reach the US market without tariffs¹⁸.

Box A.6. Trade-policy headwind. Rising tariffs and protectionist policies, as developed countries turn inward, threaten to compress climate and development finance for Africa and other vulnerable regions still further.

For agricultural adaptation, the composition of these cuts matters as much as their scale. ODA and bilateral programs have long underwritten the baseline capacities resilience is built on (rural water and sanitation, disaster preparedness, agricultural extension, seed systems and social protection), so cuts concentrated here erode adaptive capacity directly. Timing compounds the damage: support is being withdrawn at the very moment climate-related needs peak. What follows is a widening gap between what African agriculture needs to adapt and the external resources realistically available to finance it.

A.1.4. The climate-debt cycle and domestic adaptation effort

This fragility was built over a decade of successive shocks. The COVID-19 pandemic (2020–2022) squeezed African fiscal space, diverted public

spending to emergency response, and disrupted agrifood systems and supply chains; the CAADP Biennial Review attributes part of the continent's underperformance to the combined effect of COVID-19 and the war in Ukraine¹⁹. The pattern is a vicious cycle: climate disasters deplete national budgets, leaving less for long-term resilience and deepening sovereign debt. When a shock strikes, constrained economies divert scarce domestic resources from development to relief and reconstruction. Domestic budgets are already overstretched, and the external channel keeps falling behind: UNEP's Adaptation Gap Report 2025 puts developing-country adaptation needs at USD 310–365 billion per year by 2035, at least twelve times current international public adaptation flows, and finds that the Glasgow Climate Pact goal of doubling adaptation finance to about USD 40 billion by 2025 will be missed on current trends²⁰.

16 OECD (2026), preliminary 2025 ODA data: total DAC ODA USD 174.3 bn, -23.1% in real terms compared with 2024 (largest annual fall on record), after USD 214.6 bn (-6.0%) in 2024; a further -5.8% projected for 2026. The United States drove about three-quarters of the 2025 decline (its ODA -56.9%). Source: OECD, "A historic decline in foreign aid: preliminary 2025 ODA data" (April 2026).

17 Cancellation of 83% of USAID programs announced on 10 March 2025 by the Secretary of State, then administrator of the agency: FERDI, Policy Brief No. 284 (June 2025), p. 2; European Training Foundation (2025), Impact of USAID Withdrawal on Global Education and Skills Development, p. 12.

18 AGOA reauthorization for Sub-Saharan Africa, with duty-free access restored retroactively from September 2025 (US trade legislation).

19 African Union Commission, Fifth CAADP Biennial Review Report (2025), which attributes the continent's off-track performance to adverse socio-political and economic conditions over the review period 2015–2024, including the COVID-19 pandemic and global price shocks (\$3.5).

20 UNEP (2025), Adaptation Gap Report 2025: Running on Empty, Nairobi: developing-country adaptation needs USD 310–365 bn/yr by 2035, at least 12 current international public adaptation flows (p. x); adaptation finance gap USD 284–339 bn/yr and Glasgow doubling goal (-USD 40 bn by 2025) set to be missed (p. xiii).

Where international support does arrive, the architecture leans toward debt rather than grants. Recent OECD findings on climate finance provided and mobilized by developed countries show that public climate finance globally remained dominated by loans rather than grants, 73 per cent, or USD 75.6 billion, in 2023, and 67 per cent, or USD 68.5 billion, in 2024. These are worldwide figures for developed-country climate finance; for African recipients the debt tilt is at least as pronounced, as the BTR and CCDDR evidence in Sections A.4 and A.6 confirms, so that much of the support extended deepens rather than relieves the fiscal bind on recipient states²¹.

The cumulative effect is an adaptation paradox: the economies most exposed to physical climate risk are exactly those with the least fiscal space to respond, and the finance that does reach them, being mostly loan-based, tightens the very debt constraint that limits their room to invest. A large and rising share of African states are assessed to be in, or at high risk of, debt distress, which crowds adaptation spending out of national budgets long before any new shock arrives. The instrument mix of grants and loans therefore conditions whether declared adaptation ambition can be financed sustainably, volume remains decisive, but the mix decides whether closing the gap deepens the debt cycle, a theme the finance analysis returns to (Section A.6)²².

Read together, these forces set the institutional context for the diagnostic that follows: a widening adaptation-finance gap, a shrinking and more expensive pool of external support, and a continent obliged to do more with constrained domestic means. Against this backdrop, the African Union's continental architecture and the Paris chain must be assessed.

A.1.5. The institutional bind in summary

Taken together, the three forces add up to a single institutional bind. External support is shrinking and growing more expensive at once; an acute input shock has raised production costs while fiscal buffers are exhausted; and a debt-dominated finance architecture turns assistance into future

liabilities. Any one of these would strain African agricultural adaptation; together they shift the burden decisively onto constrained domestic means and the continent's own institutions. Here is what gives the rest of Part A its urgency. It also explains why the African Union's continental architecture (CAADP and its thematic action plans, examined next) matters more in a period of retrenchment: as international solidarity weakens, the continental frameworks become the main vehicles through which African states can coordinate, hold one another to account, and make the most of the resources that remain.

A.2. Global context, COP21-COP31



Credit: AAA Initiative

From Paris in 2015 to Belém in 2025, and now toward Antalya in 2026, agricultural adaptation has moved from the margins of the UN climate regime to a recognized, if still under-financed and contested, strand of it. Four lenses help track that path: the UNFCCC frameworks that define adaptation and its agricultural sub-agenda; the COP presidential initiatives that have mobilized political attention, the AAA Initiative among them; the FAO frameworks that supply technical support; and the African continental frameworks and negotiating voice through which the continent has carried its own agenda into the global process. Together they form the global setting within which the African Union architecture and the country reporting chain operate.

21 OECD (2026), Climate Finance Provided and Mobilized by Developed Countries: loans 73% (USD 75.6 bn) in 2023 and 67% (USD 68.5 bn) in 2024; grants 24% and 29% (USD 24.8 / 29.7 bn); equity 4% and 3% (p. 12).

22 On African sovereign-debt distress, see IMF Debt Sustainability Assessments / Regional Economic Outlook for Sub-Saharan Africa; the qualitative claim (a large, rising share of states in or at high risk of distress) is borne out by the ratings: of the 39 African countries with a published rating under the joint IMF-World Bank debt-sustainability framework, six are in debt distress and fourteen at high risk of it (Section A.6.8; Annex 13).

A.2.1. UNFCCC frameworks

Originally proposed by the African Group of Negotiators in 2013, the Global Goal on Adaptation (GGA) was formally established under Article 7.1 of the Paris Agreement in 2015 to drive political action and finance and to raise adaptation to a status comparable with mitigation²³. Parties developed it in successive phases. The Glasgow mandate at COP26 launched the two-year Glasgow-Sharm el-Sheikh work programme, and COP27 identified the framework's dimensions and themes, water and food²⁴ and agriculture among them. In parallel, agriculture-specific processes matured along a dedicated track: the Koronivia Joint Work on Agriculture (COP23, 2017), succeeded at COP27 by the four-year Sharm el-Sheikh Joint Work, which remains the only formal UNFCCC process on agriculture and food. The architecture was consolidated at COP28 in the UAE Framework for Global Climate Resilience, with 2027 and 2030 targets, and made measurable through the UAE-Belém Work Programme, which culminated at COP30 in the adoption of 59 indicators²⁵. Discussions on the Sharm el-Sheikh Joint Work stalled at COP30 and move to the Subsidiary Bodies (SB64, Bonn, June 2026) and toward COP31 in Antalya, the final year of the program.

Operationally, the new Joint Work has been slow

to take hold. An online portal for Party submissions opened in 2024, yet only three submissions had been lodged by the end of 2024, rising to 47 by the end of 2025; the first in-session workshop, on systemic and holistic approaches to implementation, was held at SB62 in June 2025. FAO's 2026 synthesis of agriculture under the UNFCCC stresses that food and agriculture must remain an explicitly recognized priority across the Convention's workstreams beyond the Joint Work's conclusion at COP31²⁶. A stalled Joint Work has not meant a stalled agenda: agriculture's standing in the process widened over the decade through parallel tracks, the Global Goal on Adaptation indicators, the new collective finance goal, and the annual ministerial declarations.

Agriculture's place in the climate regime was won by stages, from principle to contested operational decisions. Food security and agricultural production were written into the Convention itself at Rio in 1992 (Article 4.1(e)). In 1997 the Kyoto Protocol brought agriculture into a binding treaty for the first time, through the mitigation lens. Durban (2011) then produced the first official COP decision on agriculture, opening the long cycle of technical workshops that culminated six years later in the Koronivia Joint Work on Agriculture (Decision 4/CP.23). The milestones below track the regime from that point of operational take-off.

Year	Milestone (COP / process)	Significance for agriculture, adaptation and finance
1992	Rio Earth Summit, UNFCCC adopted	Food security and agricultural production written into the Convention's core (Article 4.1(e)).
1997	COP3, Kyoto	Kyoto Protocol: agriculture enters a binding climate treaty for the first time, through the mitigation lens.
2011	COP17, Durban	First official COP decision to address agriculture (SBSTA work programme): opens the cycle of technical workshops that culminates in Koronivia (2017).
2015	COP21, Paris	Paris Agreement; NDCs; GGA established (Art. 7); 4 per 1000 launched.
2016	COP22, Marrakech	Agriculture recognized at high level; AAA Initiative launched in the margins.
2017	COP23, Bonn	Koronivia Joint Work on Agriculture created (Dec. 4/CP.23).
2022	COP27, Sharm el-Sheikh	Sharm el-Sheikh Joint Work; FAST Partnership launched; Loss and Damage Fund established.
2023	COP28, Dubai	Global Stocktake; UAE Framework; UAE-Belém indicators; Emirates Declaration.
2024	COP29, Baku	New Collective Quantified Goal (NCQG): at least USD 300 bn/yr by 2035; Baku-to-Belém roadmap toward USD 1.3 tn/yr.
2025	COP30, Belém	-59 GGA indicators adopted; Joint Work deferred to SB64 (2026).
2026	COP31, Antalya	Final year of the Sharm el-Sheikh Joint Work.

Table A.2.1. Milestones for agriculture, adaptation and finance in the UN climate regime.

Source: AAA Initiative compilation of the global climate-negotiations timeline (1992–2025), from IISD/ENB and UNFCCC decisions.

23 Paris Agreement (2015), Article 7.1; the Global Goal on Adaptation was originally proposed by the African Group of Negotiators in 2013.

24 UNFCCC, Decision 4/CP.23 (2017), Koronivia Joint Work on Agriculture; Decision 3/CP.27 (2022), Sharm el-Sheikh Joint Work, the only formal UNFCCC process on agriculture and food.

25 Adopted at COP30 (Belém, 2025) under the UAE-Belém Work Programme; UNFCCC Global Goal on Adaptation decision text.

26 FAO (2026). Navigating climate action on agriculture and food security under the United Nations Framework Convention on Climate Change (UNFCCC). Technical note. Rome (cd9937en). Sharm el-Sheikh joint work on agriculture (SJWA) progress as of May 2026: online portal and submission template (SB61); 3 submissions by 31 Dec 2024, 47 by 31 Dec 2025; first in-session workshop at SB62 (June 2025).

FAO technical note. FAO (2026), Navigating climate action on agriculture and food security under the UNFCCC (Rome, cd9937en): primary source for the Koronivia and Sharm el-Sheikh Joint Work timeline, the SJWA operational progress (online portal; 3 submissions by end-2024, 47 by end-2025; first in-session workshop at SB62, June 2025), and the integration of agriculture outcomes into the second round of NDCs (NDC 2.0).

A parallel finance story runs through the period. Set for 2009–2010, the USD 100 billion-per-year goal expired in 2025 and was replaced at COP29 by the New Collective Quantified Goal of at least USD 300 billion per year by 2035, with a Baku-to-Belém roadmap toward USD 1.3 trillion. The Loss and Damage Fund, agreed at COP27 and operationalized from COP28, added a dedicated channel. For African agriculture, what the section below develops is the composition and reach of these figures rather than the headline numbers.

A.2.2. COP presidential initiatives

Alongside the formal tracks, successive COP presidencies have launched voluntary initiatives to mobilize attention on agriculture and adaptation.

The AAA Initiative, launched in the margins of COP22 in 2016, placed African agriculture at the heart of the negotiations. The FAO-supported FAST Partnership (COP27) launched to scale up finance for agrifood systems has since evolved into a central COP-to-COP mechanism for advancing agrifood systems on the global climate agenda. And the COP28 Emirates Declaration, endorsed by more than 150 leaders, committed signatories to integrate agriculture into their NDCs and NAPs by 2025²⁷, a pledge whose limited fulfillment is documented in A.4 and A.5. These initiatives are politically valuable but voluntary and unevenly resourced; their significance lies in agenda-setting rather than binding delivery. Table A.2.2 sets out the fuller roster, from the AIM for Climate innovation mission (COP26) and the Convergence and Regenerative Landscapes agendas (COP28) to the Baku Harmoniya Climate Initiative for Farmers and the Baku methane declaration (COP29). More recent COP Presidency action agendas continue this line, the COP30 Resilient Agriculture Investment for Net-Zero land degradation (RAIZ), the centerpiece of the Brazilian Presidency’s agriculture-and-food-systems pillar and its land-restoration goal, and further initiatives expected under the COP31 Presidency.

Initiative	COP / year	Lead	Focus and relevance to African agriculture
4 per 1000	COP21 / 2015	France	Soil-carbon sequestration; relevant to the soil-health agenda.
AAA Initiative	COP22 / 2016	Morocco presidency	African agricultural adaptation: soil, water, climate-risk management.
AIM for Climate	COP26 / 2021	United States & UAE	Mobilizing investment in climate-smart agriculture and food-systems innovation; about USD 29 bn pledged by COP29.
Sharm Adaptation Agenda	COP27 / 2022	Egypt presidency	30 adaptation outcomes by 2030; food among five priority systems.
FAST Partnership	COP27 / 2022	FAO	Scaling finance for agrifood-systems transformation.
Convergence Initiative	COP28 / 2023	UN Food Systems Coordination Hub	Aligns national food-systems transformation pathways with climate action plans.
Emirates Declaration	COP28 / 2023	UAE presidency	Integrate agriculture into NDCs and NAPs by 2025; 150+ endorsers.
Action Agenda on Regenerative Landscapes	COP28 / 2023	WBCSD	Scaling regenerative-agriculture practices on farmland by 2030.
Baku Harmoniya	COP29 / 2024	FAO	Aggregator harmonizing farmer-facing initiatives; eases finance access for rural communities and women.
Baku Methane Declaration	COP29 / 2024	Azerbaijan presidency	Targets methane from organic waste, including food waste and agricultural residues.
RAIZ	COP30 / 2025	Brazil presidency	Resilient Agriculture Investment for Net-Zero land degradation: convenes initiatives and finance for land restoration in agriculture

Table A.2.2. COP presidential and allied initiatives relevant to African agricultural adaptation.

Source: AAA Initiative compilation of the global climate-negotiations timeline (1992–2025), from IISD/ENB and UNFCCC decisions.

²⁷ FAST initiative (FAO, COP27, 2022); Emirates Declaration on Sustainable Agriculture and Resilient Food Systems (COP28, 2023), 150+ endorsers, committing to integrate agriculture into NDCs and NAPs by 2025.

A.2.3. FAO frameworks

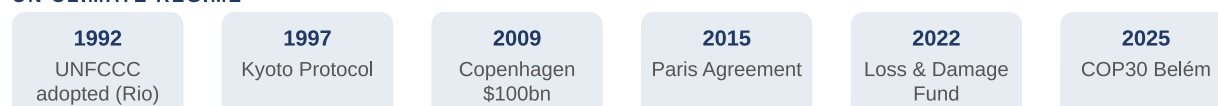
The Food and Agriculture Organization of the United Nations supplies much of the technical support connecting the global frameworks to country action, working to ensure that countries and stakeholders respond to the challenges of climate change, biodiversity loss and environmental degradation. Its Strategy on Climate Change 2022–2031 frames agrifood-systems transformation as central to adaptation and mitigation, and it hosts the FAST Partnership. At present FAO also runs several programs that embed agriculture in the Paris instruments, notably SCALA (Scaling up Climate Ambition on Land Use and Agriculture through NDCs and NAPs), co-led with UNDP across more than twenty countries, several of them in Africa. SCALA builds on the earlier FAO–UNDP NAP-Ag programme, which pioneered the embedding of agriculture in national adaptation planning²⁸ and is a direct antecedent of this report’s analysis of national adaptation planning. FAO support also extends to the measurement, reporting and verification systems on which both the GGA indicators and the CAADP Biennial Review depend, making the organization a recurring technical partner across both accountability systems.

A.2.4. Africa’s voice and continental frameworks in the negotiations

The global frameworks described above did not act on Africa from the outside. The continent has carried its own agenda into the process through a dedicated negotiating voice and a sequence of continental frameworks. The African Group of Negotiators on Climate Change (AGN), created in 1995, exists precisely to carry a common, unified African position into the UNFCCC negotiations. It was the AGN that first proposed the Global Goal on Adaptation in 2013; the adaptation pillar on which this entire report turns is, in its origins, an African diplomatic achievement²⁹. The AGN is the channel through which continental priorities (adaptation parity, agricultural finance, a fair transparency regime) enter the global text³⁰.

Behind the negotiating voice sits a continental policy course set by Agenda 2063, the African Union’s long-term framework adopted in Addis Ababa in 2015 under the banner ‘The Africa We Want’, which places sustainable and resilient agriculture among its central aspirations and of which CAADP is the agricultural instrument³¹. The continental architecture thus nests within Agenda 2063: CAADP and its thematic plans are how Agenda 2063’s agricultural aspiration is operationalized, just as the AGN is how it is carried into the global negotiations. The AAA Initiative (2016) and the Africa Adaptation Acceleration Program (2021) provide the operational relay between these continental frameworks and the global climate-finance mechanisms, translating political course into programs and projects.

UN CLIMATE REGIME



AFRICAN FRAMEWORKS & VOICE



Figure A.2.1. Africa’s continental frameworks and negotiating voice in the climate regime, 1992–2025.

Source: AAA Initiative compilation of the global climate-negotiations timeline (1992–2025), from IISD/ENB and UNFCCC decisions.

28 FAO Strategy on Climate Change 2022–2031; FAO–UNDP NAP-Ag program (2014–2015, 11 countries).

29 African Group of Negotiators on Climate Change, created 1995 to carry a common African position into the UNFCCC; the AGN pro-posed the Global Goal on Adaptation in 2013. Source: AAA Climate Negotiations Timeline.

30 Africa is not alone in organizing a regional negotiating bloc on agriculture: the ASEAN Negotiating Group on Agriculture (ANGA) has carried Southeast Asia’s positions in the UNFCCC agriculture negotiations since 2018. The comparison shows that a coordinated regional voice on agriculture is an established, replicable model, and that Africa, through the AGN since 1995 and the AAA Initiative since 2016, has been an early and comparatively well-institutionalized mover; the test is not the existence of these frameworks but whether they translate the continent’s diplomatic weight into delivered finance and connected accountability.

31 African Union, Agenda 2063 ‘The Africa We Want’, adopted Addis Ababa, 31 January 2015; resilient agriculture among its central as-pirations, with CAADP as its agricultural instrument.

Framework / body	Since	Role
African Group of Negotiators (AGN)	1995	Carries a common African position into the UNFCCC; proposed the GGA in 2013.
CAADP, Maputo Declaration	2003	Continental agricultural transformation program.
Malabo Declaration	2014	Renewed CAADP commitments to 2025; the Biennial Review.
Agenda 2063, 'The Africa We Want'	2015	AU long-term framework; resilient agriculture a central aspiration; CAADP is its agricultural instrument.
AAA Initiative	2016	Continental relay placing African agricultural adaptation in the negotiations.
Africa Adaptation Acceleration Program	2021	AfDB + GCA; mobilizing USD 25 bn over five years for adaptation.
Kampala / CAADP 2026–2035	2025	Succeeds Malabo; agrifood-systems transformation.

Table A.2.3. Africa's continental frameworks and negotiating voice.

Source: AAA Initiative compilation of the global climate-negotiations timeline (1992–2025), from IISD/ENB, UNFCCC decisions and the African Union.

This continental layer matters for the diagnosis in a specific way. It shows that the gap between the country reporting chain and the continental architecture is not for want of a continental voice or course. The voice exists (the AGN), the course exists (Agenda 2063, the AU Climate Change and Resilient Development Strategy and CAADP), and the relay exists (the AAA Initiative and the AAAP). What is missing is the operational connection at country level between the climate instruments and this continental structure, which is why the connective mandate is addressed less to the design of new continental bodies than to the wiring of the existing ones into national planning, budgeting and reporting.

A.3. The AU continental adaptation architecture

Above the global frameworks and the political context sits the African Union's own architecture, meant to translate both into action on African soil. At its apex is the African Union Climate Change and Resilient Development Strategy and Action Plan (2022–2032), the continental climate frame that organizes adaptation across sectors through four strategic intervention axes, including adaptation and resilience. The strategy explicitly ties member states' Paris-



Credit: Hybrid_Production Ethiopi / shutterstock.com

Agreement commitments to Agenda 2063. The architecture beneath it is too often described as a list of parallel programs; it is better understood as a layered system. A single umbrella program for agricultural transformation, the CAADP, sits beneath the climate strategy. Under the CAADP sit three thematic action plans addressing the resources most exposed to climate stress (soil, water, and the early-warning systems that guard against extreme events), and the whole reports upward toward the Global Goal on Adaptation. Read this way, the architecture reveals both its underlying coherence and the precise point at which it connects, or fails to connect, with the country reporting chain analyzed below.

Layer	Instrument(s)	Function
Climate strategy	AU Climate Change and Resilient Development Strategy and Action Plan (2022–2032)	Continental climate frame (four intervention axes, including adaptation and resilience) linking member-state Paris commitments to Agenda 2063
Umbrella	CAADP, Maputo (2003), Malabo (2014), Kampala (2026–2035)	Continental agricultural transformation and mutual accountability.
Sectoral plans	Fertilizer & Soil Health Action Plan; Africa Water Vision 2063; EW4All Action Plan for Africa	Resource-specific adaptation delivery (soil, water, early warning).
Global anchor	Global Goal on Adaptation, agriculture and EWS targets	Where the continental architecture reports upward and aligns with the UNFCCC.

Table A.3.1. The AU continental adaptation architecture as a layered system.

Source: author's synthesis from CAADP, AU thematic plans, the AU Climate Change and Resilient Development Strategy and Action Plan (2022–2032), and the UAE Framework for Global Climate Resilience.

A.3.1. The umbrella: CAADP

CAADP is the continent's framework for agricultural transformation, adopted by the African Union in 2003 under the Maputo Declaration, which committed member states to allocate at least 10 per cent of national budgets to agriculture and to pursue at least 6 per cent annual agricultural growth³². In 2014 the Malabo Declaration renewed and widened these commitments into seven mutually reinforcing pledges to be met by 2025: recommitment to the CAADP process, enhanced investment finance in agriculture, ending hunger,

halving poverty through agriculture, tripling intra-African agricultural trade, enhancing resilience to climate variability, and strengthening mutual accountability³³. In January 2025 the Kampala Declaration and the accompanying CAADP Strategy and Action Plan 2026–2035 succeeded Malabo, shifting the frame from raw agricultural production to integrated agrifood systems. The agenda is now organized around six strategic objectives spanning sustainable production and trade, investment and financing, food and nutrition security, inclusivity and equitable livelihoods, resilient agrifood systems, and governance³⁴.

Declaration (period)	Core targets	Key shift
Maputo (2003–2014)	10% of national budgets to agriculture; ≥6% annual agricultural growth.	Returned agriculture to the center of national development.
Malabo (2014–2025)	Recommit to 10%/6%; triple intra-African trade; end hunger and halve poverty by 2025; build resilience.	Introduced mutual accountability via the Biennial Review.
Kampala (2026–2035)	Integrated agrifood systems; six strategic objectives; elevate livestock and fisheries; inclusion of women, youth and marginalized groups.	From production toward agro-industrialization, value addition and sustainability.

Table A.3.2. The three policy eras of CAADP.

Sources: Maputo Declaration (2003); Malabo Declaration (2014); CAADP Strategy and Action Plan 2026–2035 / Kampala Declaration.

The Kampala era reorganizes the agenda around six strategic objectives, set out below. For this report the most important is the fifth, building resilient agrifood systems, which carries the adaptation mandate forward from Malabo's resilience commitment, while the fourth embeds the inclusion of women, youth and marginalized groups as a cross-cutting goal.

³² African Union / NEPAD, Maputo Declaration (2003): commitment to allocate ≥10% of national budgets to agriculture and to pursue ≥6% annual agricultural growth.

³³ African Union, Malabo Declaration (2014): seven commitments to be achieved by 2025.

³⁴ African Union, CAADP Strategy and Action Plan 2026–2035, and the Kampala CAADP Declaration (adopted January 2025; effective 1 January 2026); six strategic objectives. Strategy content verified against the locally held September 2024 draft text.

Strategic objective (2026–2035)	Focus
SO1, Sustainable production, agro-industrialization and trade	Intensify productivity, value addition and intra-African trade.
SO2, Investment and financing	Mobilize and accelerate financing for agrifood-systems transformation.
SO3, Food and nutrition security	End hunger and reduce malnutrition.
SO4, Inclusivity and equitable livelihoods	Bring women, youth and marginalized groups into value chains.
SO5, Resilient agrifood systems	Build resilience to climate and other shocks (the adaptation objective).
SO6, Agrifood-systems governance	Strengthen institutions, data and mutual accountability.

Table A.3.3. The six strategic objectives of the CAADP Strategy and Action Plan 2026–2035 (Kampala).

Source: CAADP Strategy and Action Plan 2026–2035 (draft, September 2024).

What distinguishes CAADP from a declaration of intent is its accountability machinery. Each country is expected to translate the continental commitments into a National Agriculture Investment Plan (NAIP), and progress is tracked every two years through the Biennial Review, which scores performance on the Africa Agricultural Transformation Scorecard. The scorecard works by benchmarking: each indicator is assigned a value, a benchmark, a target and a milestone, and a country is judged on track only if its overall score meets or exceeds the benchmark set for that cycle. Crucially, the benchmark is not a score any country has reached but the minimum overall score a country must reach to be on track for the 2025 Malabo targets. Since those targets are fixed at 2025, the bar climbs with each cycle as the deadline nears: 3.96 in 2017, 6.66 in 2019, 7.28 in 2021, 9.29 in 2023 and 9.40 in the fifth and final cycle (2025, covering data through 2024).

Measured against this machinery, the continental picture at the most recent review remains well short of the benchmark, even as it has improved. The fifth Biennial Review, the terminal review of the Malabo decade (2025 cycle, data covering 2015–2024), found that no Member State met the 9.40 benchmark and that the continent as a whole was not on track to achieve the Malabo goals; 45 of the Member States submitted validated reports. The continental overall score rose to 5.25 out of 10, up from 4.56 in the previous cycle (and 4.32 in 2021, 4.03 in 2019).

Even the strongest performer fell short: the highest overall score recorded was 8.15 (Morocco), below the benchmark, confirmation that the shortfall is continental rather than confined to laggards. The commitment most directly about money shows the gap plainly. Only four of the reporting states met the long-standing pledge to spend at least 10 per cent of the national budget on agriculture, an improvement on the three of the previous cycle. This metric measures fiscal space as much as political priority, and the count itself depends on the consistency of public-expenditure reporting across the Biennial Review. With 20 of the 39 African countries holding a published risk rating at high risk of, or already in, debt distress (Section A.6.8), the 10 per cent target is increasingly unattainable without the sovereign debt relief and debt-for-climate swaps that the finance recommendations take up.

The same pattern recurs across the technical commitments, and the verified continental indicators in the table below give it concrete shape. Inorganic fertilizer use averages well below the long-standing continental target; agricultural research and development spending reaches the recommended threshold in only a handful of countries; and the Malabo milestone on women's access to financial services is met almost nowhere. These gaps are not isolated: they form a consistent signal that the binding constraint lies in implementation and financing, not in the goals themselves.

Indicator	Target / benchmark	Continental status (5th BR, 2025)
Overall transformation score	Benchmark 9.40/10 (2025)	No Member State on track; 45 reported.
Public spending on agriculture	≥10% of national budget	Met by only 4 states (Burundi, Ethiopia, Mauritania, Zimbabwe).
Inorganic fertilizer use	50 kg/ha (Abuja target)	Continental average 21.39 kg/ha; only 5 states on track (Egypt, Ethiopia, Morocco, Seychelles, Tunisia).
Agricultural R&D spending	≥1% of agricultural GDP	Reached by only 5 states (Botswana, Egypt, Ghana, Mauritius, Sierra Leone).
Women's access to financial services	100% (Malabo 2022 milestone)	On track in only 5 states (Botswana, Egypt, Mauritius, Senegal, Seychelles).
First-generation NAIPs	Process indicator	~39 countries had formulated them.

Table A.3.4. Selected verified continental indicators from the Fifth CAADP Biennial Review (2025).

Sources: Fifth CAADP Biennial Review Report (2025); CAADP indicator-level extraction (CAADP Analysis, 2026).

Beneath the continental headline the picture varies across Africa's five geographic regions, yet the variation is modest and uniformly short of the mark. In the fifth Biennial Review the continental average score was 5.25 out of 10 (the CAADP scorecard rates each commitment from 0 to 10 against a rising biennial benchmark, 9.40 for the 2025 cycle, with countries above it deemed on track), and no region came close to the benchmark. The best-performing region, Southern Africa, scored 5.77, followed by Eastern Africa at 5.60 and Western Africa at 5.48, while Northern Africa reached 5.02 and Central Africa trailed at 3.04. Most regions improved on the previous cycle, yet the shortfall is structural across the continent rather than the problem of a few regions.

Region (5th BR, 2025)	Overall score (/10)	On track? (benchmark 9.40)
Southern Africa	5.77	No
Eastern Africa	5.60	No
Western Africa	5.48	No
Continental average (AU)	5.25	No
Northern Africa	5.02	No
Central Africa	3.04	No

Table A.3.5. Regional performance in the Fifth CAADP Biennial Review (2025), against the 9.40 benchmark. The fifth Biennial Review reports overall scores for the African Union's five geographic regions rather than for the Regional Economic Communities, so the regional breakdown follows the AU regions directly.

Sources: Fifth CAADP Biennial Review Report (2025), regional scorecards. The continental average is computed across the 45 reporting Member States, not as a simple average of the five regional scores.

Figure A.3.1 sets the five regional scores against the benchmark: no region is on track, and Central Africa trails the rest of the continent by two full points.

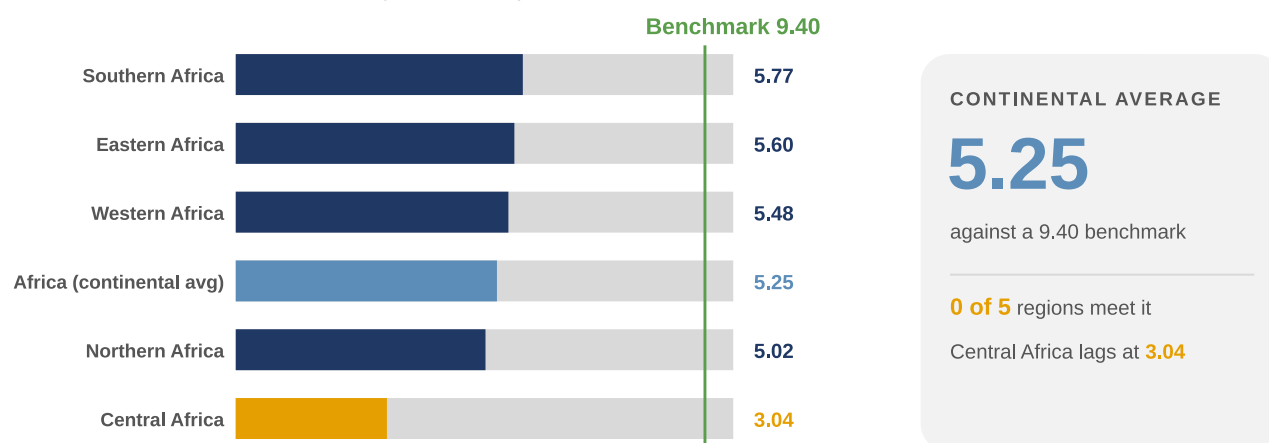


Figure A.3.1. Fifth CAADP Biennial Review: overall scores by AU region against the 9.40 benchmark (continental average in steel blue; Central Africa, the lagging region, in orange).

Source: Fifth CAADP Biennial Review Report (2025).

Two caveats temper even these scores. First, reporting is incomplete: 45 Member States submitted validated reports and the remainder did not, and several commitments still carry significant data gaps, Central Africa most of all, where inconsistent reporting depresses the regional score. Second, the scores measure progress against benchmarks rather than absolute welfare, so a low score reflects both genuine under-performance and the difficulty of measuring agricultural transformation with the data systems currently available. Both caveats reinforce rather than soften the central finding: the continental architecture sets clear goals, but the machinery to finance and to measure their delivery remains weak.

A.3.2. Soil: the Africa Fertilizer and Soil Health Action Plan

The first of the three sectoral plans addresses the foundation of agricultural productivity: soil. Adopted at the Africa Fertilizer and Soil Health Summit in Nairobi in May 2024, the Action Plan responds to a long-running deficit. African fertilizer use remains far below global norms, roughly a quarter of the global average, and the continent has never met the 50 kg per hectare target set under the 2006 Abuja Declaration. The Biennial Review data quantify the gap. In the latest (fifth, 2025) cycle the continental average stands at 21.39 kg/ha; of the 41 countries reporting on this indicator, only five are on track (Egypt, Ethiopia, Morocco, Seychelles and Tunisia), averaging above the 50 kg/ha target; the rest remain well below it.

Benchmark / region	Inorganic fertilizer use (kg/ha)
Abuja Declaration target (2006)	50
On-track states (Egypt, Ethiopia, Morocco, Seychelles, Tunisia)	>50
Continental average (BR5, 2025 cycle)	21.39

Table A.3.6. Fertilizer-use gap against the Abuja target. The Abuja target and the Biennial Review average are expressed in product terms; the Fertilizer and Soil Health Action Plan tracks nutrient terms (18 kg/ha baseline in 2020, target 54), the two metrics are not directly comparable.

Sources: Fifth CAADP Biennial Review Report (2025); Africa Fertilizer and Soil Health Action Plan (Nairobi, 2024).

The soil plan matters for adaptation in two ways. First, healthy soils with adequate nutrient and organic content retain water and buffer yields against drought, so the fertilizer-and-soil-health agenda is itself an adaptation agenda as much as a productivity one. Second, the continent’s structural dependence on imported fertilizer makes it acutely vulnerable to external supply shocks; a plan that aims to raise soil health and diversify inputs is therefore also a resilience measure against the kind of disruption seen in 2026. For the soil-health and agroecology levers that the country reporting chain repeatedly names but rarely operationalizes, the plan is the continental delivery vehicle.

Yet the plan also exposes an operational bottleneck that sits below policy. Its own program of work calls on member states to build, strengthen and standardize the soil-analysis capacity of national laboratories, to establish national soil-information centers feeding a continental soil-information center, and to extend digital soil mapping and monitoring. The plan itself flags these areas as priorities precisely because this diagnostic infrastructure is weak and

unevenly developed. The consequence is concrete: where soil testing, mapping and information systems are missing, farmers and advisory services cannot reliably match inputs to what the soil lacks, even when those inputs are available. Here is an unfinanced orphan capability of exactly the kind the report identifies elsewhere, a low-cost, high-leverage diagnostic layer whose strengthening would sharpen every downstream investment in fertilizer, seed and soil restoration. (Source: Africa Fertilizer and Soil Health Action Plan, 2024–2034, and the Soil Initiative for Africa Framework.)

A.3.3. Water: the Africa Water Vision 2063 and Policy

The second sectoral plan addresses water, the resource through which climate change is felt most immediately in agriculture. The Africa Water Vision 2063 and Policy, published at the 39th Ordinary Session of the AU Assembly in 2026 under the banner of a water-secure and resilient Africa with safe sanitation for all, sets out action

frameworks with targets and milestones across water availability, sanitation, irrigation and transboundary governance³⁵. One feature of the African water context shapes the policy: roughly 90 per cent of the continent’s surface water crosses national borders, so water security is inseparable from cooperative management of shared basins.

For agricultural adaptation the water vision is the continental anchor for the irrigation and water-management lever, and it connects directly to the report’s broader narrative on water-efficient management, the Turquoise Nexus framing flagged in the methodology. Because the plan’s quantified targets are held in detailed targets-and-milestones tables, the specific figures (irrigation expansion, sanitation coverage, basin-level milestones) are extracted into Annex 6 rather than reproduced here. The analytical point for the diagnostic is that a continental instrument exists, with measurable targets, against which national water-and-irrigation actions in NDCs and NAPs can be aligned and assessed.

The transboundary character of African water also makes the vision an instrument of cooperation, not only of national planning. With most surface water shared across borders, unilateral irrigation

expansion in one state can reduce availability in another, so the policy’s emphasis on basin-level governance is itself a form of climate-risk management. This dimension is the least visible in national climate documents, which are written at the country level: a river basin has no NDC. As the natural venue for the regional coordination that purely national instruments cannot provide, the water vision links directly to the continent’s wider development frame under Agenda 2063, of which it is the water component.

A.3.4. Early warning: the EW4All Action Plan for Africa

The third sectoral plan addresses the systems that protect lives and livelihoods when extreme events strike. The Early Warning for All (EW4All) Action Plan for Africa, finalized in November 2023, localizes the global EW4All initiative led by the World Meteorological Organization, aiming to ensure that every person on the continent is protected by early-warning systems by 2027. The starting point is a wide gap: only around 40 per cent of Africans are currently covered³⁶. The plan is organized around the four internationally recognized pillars of an effective early-warning system, summarized below.

Pillar	Focus	African status
1. Disaster-risk knowledge	Hazard, exposure and vulnerability data	Incomplete risk data in many states.
2. Observations and forecasting	Monitoring, detection and forecasting	Sparse observation networks.
3. Warning dissemination	Reaching communities, the last mile	Partial and uneven coverage.
4. Preparedness and response	Acting on warnings	Uneven local capacity to respond.

Table A.3.7. The four pillars of the EW4All Action Plan for Africa.

Source: Early Warning for All Action Plan for Africa (November 2023); WMO EW4All framework.

Early warning is the clearest case where the continental architecture and the global adaptation goal measure the same thing. The coverage target maps directly onto the early-warning dimension of the Global Goal on Adaptation and onto the resilience commitment of the Malabo and Kampala frameworks, making EW4All the continental delivery vehicle for an outcome that three separate systems are independently tracking.

A.3.5. The convergence hinge: the architecture meets the Global Goal on Adaptation

The three sectoral plans are not free-standing. Each maps onto a target of the Global Goal on Adaptation, and this is the hinge that joins the continental architecture to the global frameworks and, through them, to the country reporting chain. The Malabo

35 African Union, Africa Water Vision 2063 and Policy (39th Ordinary Session of the AU Assembly, 2026): ~90% of surface water crosses borders; targets and milestones held in the policy’s action-framework tables (extracted in Annex 6).
36 Early Warning for All (EW4All) Action Plan for Africa (November 2023): goal of protecting every person via early-warning systems by 2027; ~40% of Africans currently covered; four-pillar EWS framework (WMO).

and Kampala commitment to enhance resilience to climate variability (CAADP Commitment 6) corresponds to the early-warning dimensional target of the GGA and to the EW4All goal; the soil and water plans correspond to the GGA's food-and-agriculture and water thematic targets³⁷. In other words, the same adaptation outcomes are pursued and measured from two directions, the AU architecture from within the continent and the GGA from the global regime.

This convergence is the constructive core of the diagnostic. The instruments to give African agricultural adaptation a coherent, measurable, continentally owned home already exist: the soil, water and early-warning plans are concrete and target-bearing, and CAADP supplies the accountability machinery to track them. The unresolved question, answered in the synthesis that follows, is whether the country-level climate instruments (NDCs, NAPs and BTRs) actually connect to this architecture, or whether they pursue the same goals in parallel, unaware of the continental structure built to support them.

A.4. African reporting and planning frameworks analysis (2020–2026)

The African Union's continental architecture sets goals and tracks them. In parallel runs the Paris

chain, and it is here that each African state expresses its climate ambition, plans for it, and accounts for delivery. The analysis below follows that chain in its natural order, ambition (NDCs), planning (NAPs), delivery (BTRs), and then triangulates the three, because the distance between each link is itself the diagnostic. It draws on four standalone analyses covering 53 NDCs, 28 NAPs, 24 BTRs and their crosswalk. The full per-country tables sit in the annexes; the load-bearing figures, tables and findings appear here in full.

Reading the instruments in chain order is analytically deliberate. Ambition, planning and delivery are meant to form a coherent sequence: a country declares what it needs, plans how to meet it, and reports what it delivered. The distance between successive links is therefore a measurable diagnostic rather than a matter of interpretation. A country whose NAP is far smaller than its NDC need has a planning inconsistency; one whose BTR finance is a sliver of its NAP cost has an implementation bottleneck. Mapping those distances lets a continental verdict rest on arithmetic rather than impression.

The arithmetic also disciplines the rhetoric. African adaptation is easily cast either as a triumph of ambition or as a catalogue of failure, but the chain measurements support neither caricature. They show a continent that has, in a single decade, built a credible apparatus of ambition and planning alongside a thin, uneven apparatus of delivery, an unfinished system rather than a broken one, whose missing components are identifiable and, in important part, affordable.

Reading Section A.4: the four instruments and the question each answers.

Stage in the chain	Instrument (corpus; section)	The plain-language question it answers
Ambition	Nationally Determined Contributions, NDCs (53 countries; A.4.3)	How much adaptation does the country say it needs, and how much of that is for agriculture?
Planning	National Adaptation Plans, NAPs (28; A.4.4)	Has that need been turned into a concrete, costed, financeable plan?
Delivery	Biennial Transparency Reports, BTRs (24; A.4.5)	How much finance actually arrived, and can it be traced to agriculture?
Triangulation	The three instruments read together, and against the CAADP Biennial Review (A.4.6)	Do ambition, plan and delivery line up, and where does the chain break?

³⁷ Mapping: CAADP Commitment 6 (resilience to climate variability) ↔ the GGA early-warning dimensional target and EW4All; the soil and water plans ↔ the GGA food-and-agriculture and water thematic targets (UAE Framework, COP28).

Box A.7. The rules of the road: how we read the instruments

What is counted. Only what is textually present in the official document. Where a country does not isolate an agricultural cost (22 of 53), it is counted as zero in the agriculture column, so the agricultural total is a floor, not a verdict.

Annualization. Declared multi-year stocks are divided by the stated NDC period to give an annual flow. This overweights short-horizon NDCs: a 5-year USD 50 bn need reads as USD 10 bn/yr, a 15-year one as USD 3.3 bn/yr; per-country horizons are flagged in Annex 7.

BTR reconstruction. Agricultural finance is extracted from the AFOLU envelope of the Biennial Transparency Reports. Where a flow is reported as a single aggregate, Malawi's USD 3.05 bn line, for example, it is marked unattributable and excluded from the agricultural total.

Coverage weighting. High-coverage findings (e.g. 46 costed NDCs) are read as conclusions; low-coverage ones (e.g. 24 BTRs) as signals, with the coverage reported alongside each number.

A.4.1. Corpus and method

The analysis rests on four corpora of different sizes and qualities, and is explicit about what each can support. The reading is deliberately structural: it foregrounds continental and regional patterns, the distances between links in the chain, and the typology of country situations, rather than the precise rankings the data cannot bear. Three diagnostics recur: the planning gap (NAP cost minus NDC need), the execution ratio (finance received over plan) and the absorption ratio (finance received over declared need). Wherever a partial NAP costing would make a ratio misleading, the case is flagged rather than reported at face value. The delivery gap of Section A.0 is the complement of the absorption ratio; the execution ratio measures the same shortfall against the plan rather than the declared need.

Box A.8. How the headline figures relate

Declared adaptation need: USD 566 bn (stock, across the 46 costed NDCs) → annualized ≈ USD 56 bn/yr over the NDCs' stated horizons.

Agriculture's share: ≈ USD 80 bn, about 14 per cent of the 566 (a conservative floor; see Table A.4.3) → ≈ USD 7.4 bn/yr.

Climate finance traceable as received in the BTRs: ≈ USD 8.2 bn in total, of which ≈ USD 2.1 bn is traceable to agriculture.

Delivery ratio: ≈ 1.5 per cent ($8.2 \div 566$) overall (the numerator is total recorded climate finance; the adaptation-only ratio, $2.8 \div 566$, is lower still, about 0.5 per cent, so 1.5 per cent is the generous reading); ≈ 2.6 per cent ($2.1 \div 80$) for agriculture.

Annualization is done per country, each stock divided by that country's own NDC period (5–21 years, median 10), then summed, so the implied horizon differs slightly by sector (≈10.1 years for the total need, ≈10.8 for agriculture); the per-year figures are not the stock divided by ten.

All documents in these four corpora were collected from the official UNFCCC document registries, the National Communications, Nationally Determined Contributions, National Adaptation Plans and Biennial Transparency Reports portals, as of 24 June 2026; the World Bank Country Climate and Development Reports used for triangulation were retrieved from the World Bank repository on the same date. Any instrument published after this cut-off is not reflected in the analysis below.

One caveat governs the whole section: part of the funnel is structural before it is national. The instruments the process requests of the same country were never designed as one system. The NDC is a treaty obligation on a five-year rhythm; the NAP is voluntary, advanced when readiness funding allows; the BTR became due only from 2024; and the Technology Needs Assessment is conducted in donor-funded global phases that a country cannot trigger at will (Section A.7.2). Incompleteness and incoherence across a country's instrument portfolio therefore measure the architecture as much as the administration. Coherence between these instruments must be deliberately built, through anchoring and crosswalks, rather than expected to emerge from compliance.

Four presentation rules apply throughout the section. First, all regional readings (the NDC

profiles, the NAP clusters, the BTR coverage and the triangulation) use the same five-sub-region frame (Northern, Western, Central, Eastern and Southern Africa); where an analytical grouping departs from geography, as in the NAP readiness clusters, it is labeled as such. Second, wherever an absorption or execution ratio is quoted in isolation, its companion reading on the other denominator appears in the corresponding table or annex, so that no country is judged on a single denominator. Third, every quantitative reading from the corpus describes a pre-2026 baseline: the underlying submissions (2020–2026) predate the 2025 contraction of official development assistance and the 2026 input-price shock described in Section A.1, and tables drawn from the corpus should be read accordingly. Fourth, all monetary values are reported in current US dollars as declared in each instrument, with no inflation adjustment or PPP conversion applied. The rationale is threefold: a declared need is a forward-looking planning estimate rather than a transaction at a historical price level; the corpus is recent and tightly clustered (30 of the 53 NDCs date from 2025–2026 and only one predates 2020), so the vintage spread is small; and any residual effect would, if corrected, lower the real delivery rate rather than raise it. The convention and its rationale are detailed in Annex 8.

Instrument	Corpus analyzed	Principal limitation
NDC	53 (46 costed)	Agriculture costed separately in only 31; needs declared, not verified.
NAP	28	Many only partially costed; only 5 carry a binding legal mandate.
BTR	24	Finance often aggregated; agriculture reconstructed from AFOLU and project text.
Triangulation	11 (all three instruments)	Cross-dataset inconsistencies; partial-costing ratio traps.

Table A.4.1. The four corpora and their principal limitations.

Sources: author's NDC, NAP, BTR and triangulation analyses (2026).

Differences in corpus quality shape what can be claimed. A figure derived from 46 costed NDCs is firmer than one resting on 24 BTRs, and an absorption ratio built on a partially costed NAP is weaker still. The analysis treats high-coverage findings as conclusions and low-coverage ones as signals, and reports the coverage alongside the number so the reader can weight them accordingly.

A.4.2. National circumstances: the country baseline

The instrument analysis that follows reads what African states plan and report. This subsection first establishes the physical and agricultural baseline against which those plans must be judged, drawn from the National Communications, the one UNFCCC instrument with near-universal coverage. All 53 states analyzed have submitted at least one, and the series reaches back to second communications of 2009. Where the Nationally Determined Contributions, National Adaptation Plans and Biennial Transparency Reports cover 53, 28 and 24 countries respectively, the National Communications are the common evidentiary floor beneath the whole chain.

Africa's agricultural geography is defined by steep rainfall gradients and agro-ecological diversity. The communications describe regimes ranging from under 200 mm a year across the Sahara and northern Sahel to more than 2,000 mm in the equatorial belt and the Gulf of Guinea, with most countries partitioning their territory into three to seven agro-ecological zones. Hazard profiles cluster by latitude: drought and erratic rainfall dominate the Sahel and the Horn, pluvial and coastal flooding the humid coasts and deltas, cyclones the south-western Indian Ocean, and sea-level rise the small island and low-lying deltaic states. This is the physical structure that the NAP hazard tallies (drought cited in 30 hazard records across the 28 NAPs, floods in 29) register only in aggregate.

A single structural fact recurs across the communications: African agriculture is overwhelmingly rainfed and smallholder. Reported irrigation rarely exceeds a few per cent of cultivated land, from about 0.2 per cent in Ghana to roughly 1 per cent in Uganda and 4 per cent in Rwanda. Extensive livestock and a narrow band of staples, maize, sorghum, millet, rice and cassava, anchor rural

livelihoods, and export earnings rest on a handful of commodities (cocoa, coffee, cotton, cashew). Food security is therefore structurally exposed to a single failed rainy season. The communications supply the sectoral granularity that the NDCs and NAPs assert but do not document.

On vulnerability the communications converge. Observed warming is reported almost everywhere at about one degree since 1960, or 0.2 to 0.3 degrees per decade, and the projected agricultural losses are large and front-loaded: maize yields down 16 to 34 per cent in Benin, Cameroon and Egypt; wheat and other cereals down 25 to 50 per cent in Eritrea, Lesotho, Mauritania and Tunisia. Water stress, rangeland decline and sea-level rise compound the picture in the Sahel, the Horn and the island states. These quantified assessments are the empirical foundations beneath the headline adaptation needs declared in the NDCs.

Read against the four reporting and planning instruments, the National Communications do three things the others cannot. They corroborate, from the bottom up, the independent World Bank diagnosis that agriculture averages about a fifth of GDP and that economy-wide climate losses cluster around seven per cent. They supply the vulnerability science, downscaled scenarios and crop modeling that the NDCs invoke but omit. And, decisively for coverage, they describe the twenty-five states without a NAP, including the twelve holding neither a NAP nor a BTR, making them the only continent-wide basis for an adaptation baseline. Where a country's NDC and NAP diverge on priorities, the communication's vulnerability assessment is frequently the arbiter. (Annex Table 5.4 sets out the investment estimates and vulnerability scores country by country.)

Because these documents span 2009 to 2026 and sit on different national reporting cycles, their vintages vary widely, and any cross-instrument reading must keep that heterogeneity in view. Figure A.4.1 maps the publication timeline of all five instruments by region; the full per-country timeline is given in Annex 11. Assembled from the UNFCCC registries and the World Bank as of 24 June 2026, the corpus underlying both includes the most recent additions (Ghana's NAP, the Guinea and Madagascar CCDRs and the Seychelles BTR). With this baseline established, the analysis turns to what states have pledged, planned and reported.

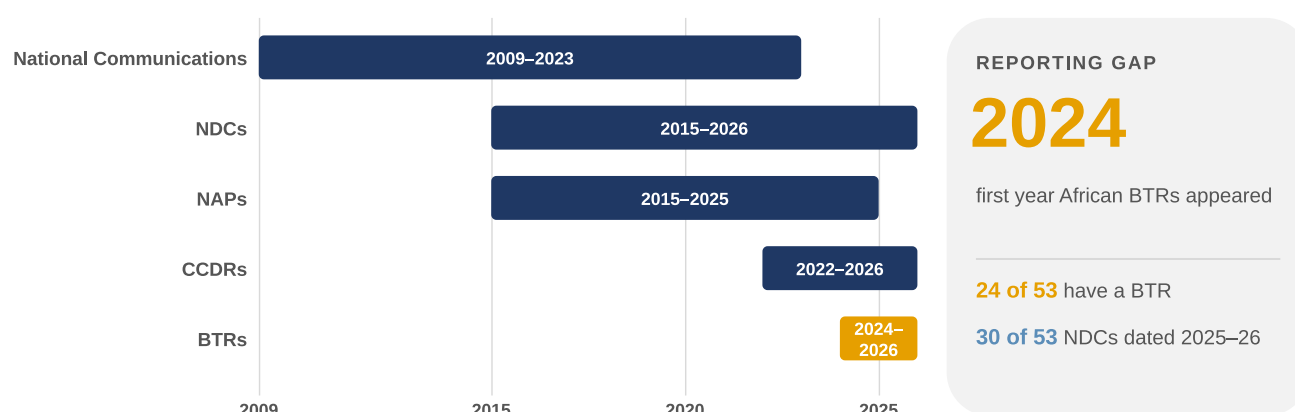


Figure A.4.1. Publication window of the five instruments (bars = min-max years across countries).

Source: author's compilation from the UNFCCC registries and the World Bank, 24 June 2026.

The full country-by-country baseline (Annex Table 12.1, National circumstances of the 53 African states) is provided in Annex 12; the continental synthesis above carries the essential picture for the body of the report.

A.4.3. Ambition: the Nationally Determined Contributions

A.4.3.1. Corpus, costing quality and limitations

Fifty-three states have submitted an NDC (Libya has not released one), and the corpus is recent: 30 of 53 date from 2025 or 2026. Of the 53, 46 (87 per cent) attach a quantified adaptation-finance need, and 31 (58 per cent) already cost agriculture as a separate line, a base of comparable data the remaining states can build on. The gap between these two figures carries forward methodologically: wherever a continental agricultural total is quoted, it rests on a partial base, and the true agricultural need is almost certainly understated. The corpus

is therefore robust for continental and regional patterns but not for precise country league tables, and agriculture is reported as an interval rather than a point estimate. Where a single continental figure for agricultural adaptation need appears elsewhere in this report, it is the lower bound of that interval, the conservative reading consistent with the under-counting noted here. Table A.4.3 makes that interval explicit. The declared floor is about USD 80 billion (14 per cent of the continental total), the agriculture that the 31 costing countries isolate; it rises to roughly USD 155 billion (27 per cent) if every country isolated agriculture at the average costed share, and falls to about USD 44 billion (8 per cent) under a stricter text-only attribution. The agricultural need is best read as this band, not as a single point, and this report uses the conservative USD 80 billion floor throughout.

NDC corpus (53 states)	Value
NDCs submitted	53
quantifying an adaptation need	46 (87%)
costing agriculture separately	31 (58%)
NDCs dated 2025–2026	30 of 53
Declared adaptation need (46 costed)	~USD 566 bn (~USD 56 bn/yr)
attributable to agriculture	USD 80–155 bn (14–27%); ~USD 7.4 bn/yr ³⁸

Table A.4.2. NDC corpus and costing completeness.

Source: author's analysis of African NDCs (2026).

³⁸ Lower bound (=USD 80 bn, =14%): agriculture as explicitly isolated in the NDCs that cost it. Upper bound (=USD 155 bn, =27%): if every country isolated agriculture at the average share observed among the countries that do isolate it (~27%). Delivery ratios in this report use the conservative lower bound.

Basis	Agricultural need (USD bn)	Share of declared total	What it represents
Strict text-only attribution	~44	~8%	Only needs explicitly labeled agricultural in NDC text; most conservative reading
Declared floor (headline)	~80	~14%	Agriculture as isolated by the 31 countries that cost it; the conservative reading used for all delivery ratios in this report
Upper estimate	~155	~27%	If every country isolated agriculture at the average costed share (~27%); per Table A.4.2, note 46

Table A.4.3. The agricultural adaptation need as a reporting interval, not a point estimate.

Floor, central and imputed-upper estimates are derived from the same NDC corpus (see text for method).

Source: author's analysis of African NDCs (2026).

A.4.3.2. Volume, concentration and conditionality

The declared need is large, concentrated and overwhelmingly conditional. The 46 quantified NDCs sum to about USD 566 billion (~USD 56 bn/yr, annualized over each country's own NDC period, most running to 2030 or 2035³⁹). The distribution is highly skewed: the ten largest declarations carry about three-quarters of the continental total. On average about 74 per cent (median 79 per cent) is conditional on international support, with several of the largest declarers at or near 100 per cent. This high conditional share is partly a reporting artifact, the NDC template invites countries to mark needs as externally contingent rather than to set out a phased, domestically funded baseline, and partly a symptom of the fiscal-debt trap (Section

A.6.8). For states already in or near debt distress, raising the unconditional share first requires fiscal space, not merely political will⁴⁰. The architecture also leans toward mitigation, which outweighs adaptation by about 2.85 to one continentally and up to 17 to one in Southern Africa, raising the question whether agricultural resilience is being systematically crowded out. The continental ratio is driven by a handful of large mitigation declarers (Egypt and South Africa foremost); for the most climate-vulnerable states of the Sahel and the Horn, adaptation is the overwhelming priority, and the average should not be read as a verdict that mitigation matters more. The structure is regional as well as national (Figure A.4.4): every sub-region declares most of its stated need as conditional, West Africa most heavily of all.

Sub-region	Countries	Stock (USD bn)	Annualized (USD bn/yr)	Agriculture (USD bn/yr)
West Africa	15	218.8	22.0	2.28
North Africa	5	123.9	10.5	2.45
East Africa	13	117.9	13.6	0.55
Central Africa	8	66.7	6.6	1.32
Southern Africa	12	39.0	3.7	0.84
Total	53	566.3	56.3	7.43

Table A.4.4. Declared adaptation needs by sub-region: stock and annualized flows. Columns may not sum exactly to totals owing to rounding. Agricultural flows annualize each country's agricultural stock over its own NDC horizon, so regional agriculture-to-total ratios differ slightly from the stock-based shares of Annex Table 2.2.

Source: author's analysis of African NDCs (2026). Note: the East African agricultural figure (USD 0.55 billion per year) is a reporting artifact rather than a measure of need; seven of thirteen countries, among them Ethiopia, Kenya and Uganda, isolate no agricultural cost, so the regional value is understated.

39 Stocks are converted to annual flows by dividing each country's declared stock by the length of its own stated NDC implementation period (Table A.4.2; typically five to fifteen years), then summing the country flows, implying a need-weighted average horizon of about ten years. Annex 7 details the conventions.

40 Author's analysis of African NDCs (2026), §4.1: ~USD 566 bn; ten largest carry >half; ~74% conditional (median 79%); mitigation outweighs adaptation ~2.85:1 (up to 17:1 Southern Africa).

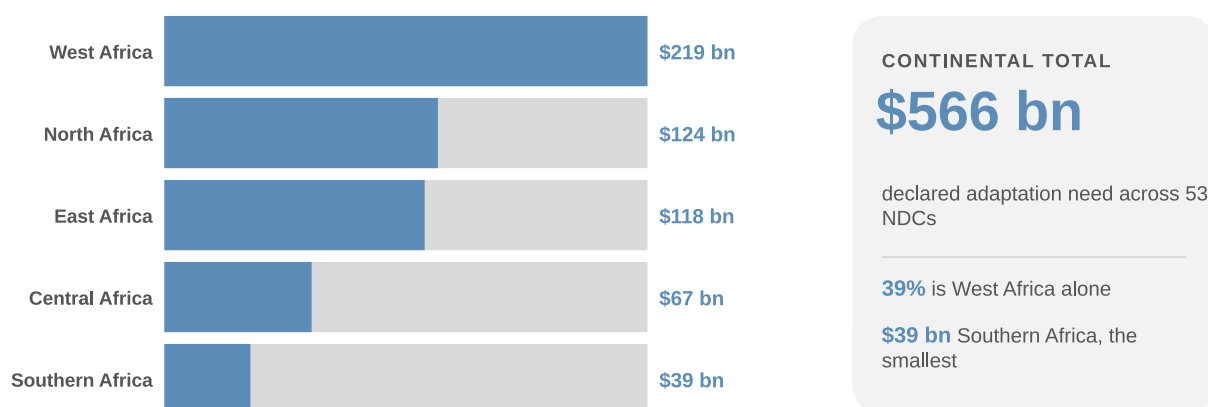


Figure A.4.2. Declared NDC adaptation need by sub-region (USD bn).

Source: author's NDC analysis (2026).

Annualization reshuffles the ranking. West Africa still leads at about USD 22 billion per year, but the agricultural slice is uneven: North and West Africa annualize USD 2.3 to 2.5 billion per year for agriculture, while East Africa reports only USD 0.55 billion despite its agricultural centrality. The mismatch between a region's agricultural economy and its declared agricultural need is the clearest sign that the figures measure reporting behavior as much as underlying requirement.

Reading adaptation need as a share of GDP points to the distortion. On that measure the smaller economies of the Sahel and the Horn carry proportionally heavier burdens than their absolute figures suggest, while some large declarers look more moderate once their economies are taken into account. Reading need only in absolute dollars therefore understates the relative weight borne by the most fragile states.

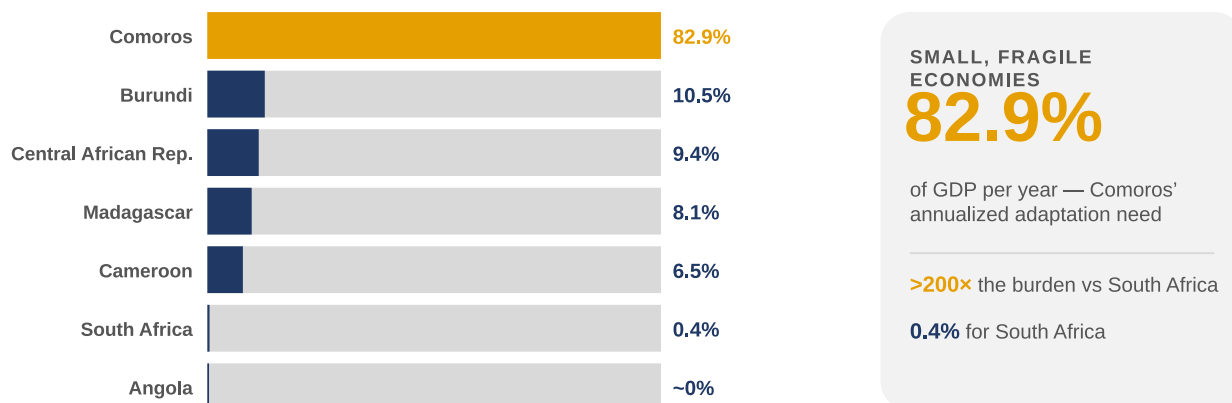


Figure A.4.3. Adaptation need as a share of GDP: the relative burden falls hardest on small, fragile economies.

Conditionality compounds this fragility. Because roughly three-quarters of the total declared adaptation need (not the agricultural slice alone) is contingent on external support, the states with the least domestic fiscal room are also those most exposed to the delivery gap documented above. They have promised action they cannot self-finance, against transfers that have not arrived. What results is a structural dependence that the conditional framing both reflects and, by discouraging domestic budgeting, tends to entrench.

This is why the recommendation that recurs through Part A is for instruments that raise the unconditional share over time, beyond external finance alone. A budget line anchored in a CAADP commitment, a domestic insurance pool, a blended-finance vehicle that crowds in private capital: each shifts a sliver of declared need from the conditional to the

unconditional column. Cycle over cycle, the growth of that column would signal genuine progress more reliably than any headline total.

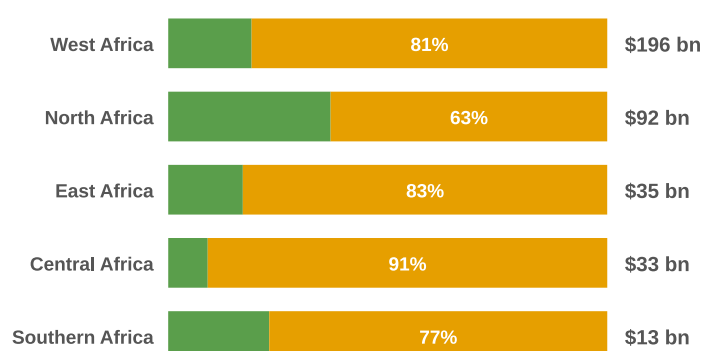
Such a metric would also change the politics of accountability. A continent that could show its unconditional adaptation spending rising year on year, anchored in CAADP budget commitments and tracked in the Biennial Review, would hold a far stronger position than one pointing only to a large conditional need: it would be demonstrating effort while others merely declare requirement. Moving from declared need to demonstrated effort is the maturation the next decade must deliver.

The ten largest declarations, which together carry about three-quarters of the continental total, show how unevenly the need, its agricultural component and its conditionality are distributed.

Country	Total need (USD bn)	Agriculture need	Conditional share
Nigeria	141.5	not isolated	80%
Egypt	50.0	15.0	100%
Ethiopia	40.0	not isolated	
Morocco	36.1	3.5	7%
Tunisia	32.0	9.8	
Cameroon	31.9	1.8	
Côte d'Ivoire	31.8	17.1	98%
DR Congo	23.1	10.1	98%
Kenya	17.7	not isolated	
Uganda	17.7	not isolated	86%

Table A.4.5. The ten largest declared NDC adaptation needs, with agricultural component and conditional share.

Source: author's analysis of African NDCs (2026)



CONDITIONAL SHARE

77%

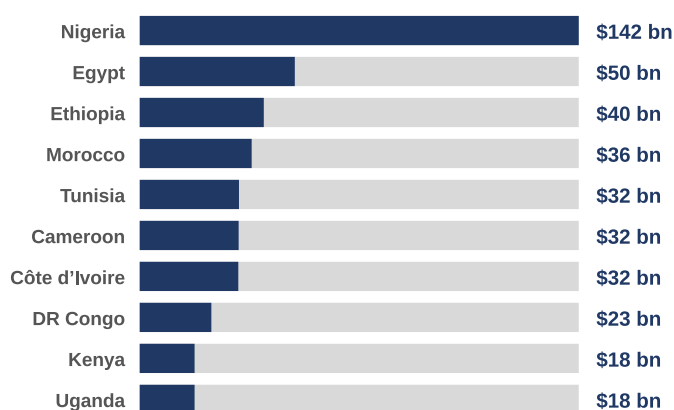
of the split need depends on external finance

\$285 bn conditional

\$84 bn unconditional

Figure A.4.4. Unconditional versus conditional shares of the declared need, by sub-region, shown for the roughly two-thirds of the declared stock that carries an explicit split.

Source: author's analysis of the 53 African NDCs (2026).



LARGEST SINGLE NEED

\$142 bn

Nigeria's declared adaptation need

25% of the continental total

Top 3 = 41% of all need

Figure A.4.5. Ten largest declared NDC adaptation needs (USD bn).

Source: author's NDC analysis (2026).

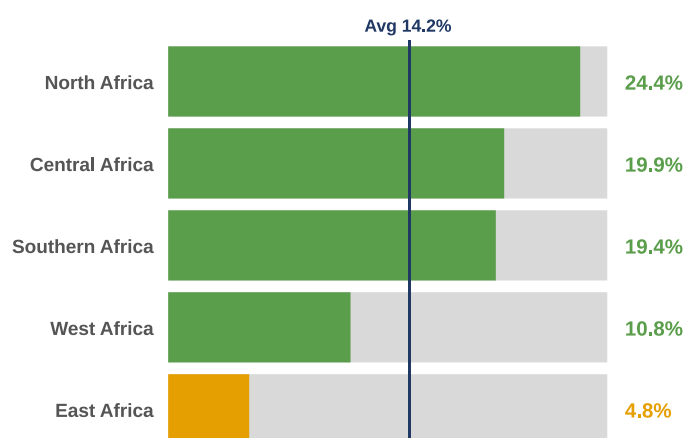
Within this concentration lies an equity warning. Since continental totals are driven by a handful of large economies, the smaller and more fragile states, whose absolute needs are modest but whose proportional exposure is often greater, become statistically invisible in the aggregate. A finance architecture that allocates against declared volume will therefore tend to bypass precisely the countries with the least capacity to declare, which argues for needs-blind as well as needs-based windows.

Conditionality here is a structural statement, and not merely a financing detail: African agricultural adaptation has been designed around external finance, with limited domestic fiscal underpinning. Delivery consequently depends on flows the BTRs show are not arriving, and the conditional framing can itself deter domestic budgeting. More external finance alone will not close the gap. Instruments that crowd in domestic and private resources (blended finance, insurance pools, and budget lines anchored

in CAADP commitments) are needed so that the unconditional share can rise over successive cycles.

A.4.3.3. The place of agriculture

Agriculture is named in almost every NDC (crops appear in all 53) and already costed as a separate line in 31 of the 53, a foundation of comparable data to build on, while 22 have yet to isolate it. Where costed, the agricultural share varies sharply: about 24.4 per cent in North Africa, 19.9 in Central, 19.4 in Southern, but only 10.8 in West and 4.8 in East Africa, against a continental 14.2 per cent⁴¹. The East African figure is the clearest distortion: in one of the most agriculture-dependent regions, seven of thirteen countries, including Ethiopia, Kenya and Uganda, do not isolate an agricultural cost. The single highest-return, lowest-cost intervention at the ambition stage is therefore technical assistance to the 22 non-costing countries to put a per-year figure on agriculture.



CONTINENTAL AVERAGE

14.2%

of declared need is earmarked for agriculture

4.8% East Africa, the lowest

24.4% North Africa, the highest

Figure A.4.6. Agricultural share of declared adaptation need by region.

Source: author's NDC analysis (2026). Note: the East African value is depressed by non-costing (seven of thirteen countries, including Ethiopia, Kenya and Uganda, isolate no agricultural cost) and reflects reporting behavior rather than true need.

⁴¹ Author's analysis of African NDCs (2026), \$4.2 / Figure 8: agricultural share North 24.4%, Central 19.9%, Southern 19.4%, West 10.8%, East 4.8%; continental 14.2%; 7 of 13 East African states do not isolate agriculture.

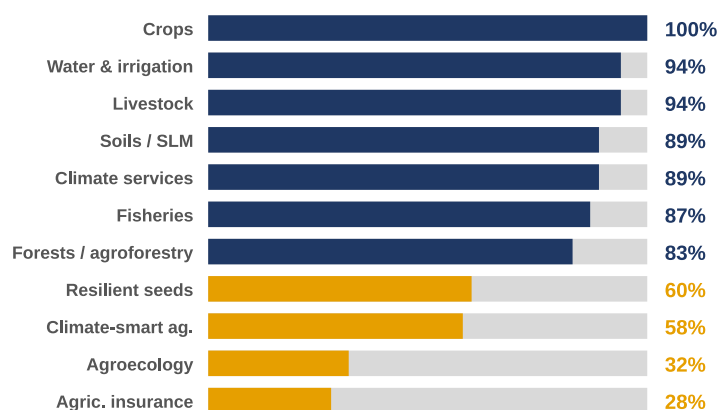
A.4.3.4. Technical content: sub-sectors, technologies and capacities

Beneath the financial headline lies a thin technical layer, which this section reads through one consistent lens: the eleven-category agricultural taxonomy of the CGIAR CCAFS program. Each of the 53 NDCs was read and coded for whether it addresses each of the eleven sub-sectors, so a sub-sector's coverage is simply the share of the 53 NDCs that mention it, and a country's breadth is the count of the eleven it touches. The average NDC covers 8.15 of the eleven, 74 per cent. Production systems are near-universal, with crops named in every NDC and water and livestock in roughly nine of ten, but four climate-specific levers remain far less widely included: resilient seeds, climate-smart agriculture, agroecology and agricultural insurance. Coverage is therefore wide but uneven, and the thinnest levers are precisely the ones that climate change makes most urgent (Table A.4.6, Figure A.4.7)⁴².

CCAFS sub-sector	Coverage (% of 53 African NDCs)	Countries
Crops / sustainable agriculture	100%	53
Water & irrigation	94%	50
Livestock & pastoralism	94%	50
Soils / land management	89%	47
Climate services / early warning	89%	47
Fisheries / aquaculture	87%	46
Forests / agroforestry	83%	44
Resilient seeds	60%	32
Climate-smart agriculture	58%	31
Agroecology	32%	17
Agricultural insurance	28%	15

Table A.4.6. Coverage of the eleven CCAFS agricultural sub-sectors across the 53 NDCs.

Source: author's analysis of African NDCs (2026).



ORPHAN LEVERS

4

high-value levers reach fewer than two-thirds of NDCs

28% insurance, least covered

100% address crops

Figure A.4.7. CCAFS sub-sector coverage across 53 NDCs; orphan levers in orange.

Source: author's NDC analysis (2026).

⁴² The eleven agricultural sub-sectors defined by the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), used as the classification grid throughout the author's analyses.

Breadth of coverage also varies by region, and it demonstrates that comprehensiveness is feasible under constraint. West African NDCs are the most complete, at about 9.3 of 11 sub-sectors on average, while Southern Africa trails at 6.8; four countries (Guinea, Guinea-Bissau, Niger and Sierra Leone) cover all eleven despite significant capacity limits. Where the orphan levers go missing, then, the outcome reflects a choice of emphasis, not an inevitability of poverty.

The operationalization data sharpen the point. The NDCs name some 350 individual technologies and measures⁴³, which were coded to the same eleven-sub-sector grid and then screened for three markers of readiness: a quantified target, a cost estimate, and the backing of a Technology Needs Assessment, the formal, GEF-supported diagnostic through which a country identifies and prioritizes the technologies it genuinely needs. The screen is unforgiving. Not one of the 350 entries carries a quantified target, only one is costed, and only about 17 per cent are anchored in a TNA at all. The same pattern recurs on the capacity side: 453 distinct capacity needs are declared and demand for technology transfer spans 43 countries, yet only eleven countries hold a TNA recent enough to underpin their current NDC⁴⁴. A technology named in an NDC is therefore a long way from a financed project: the thinness lies in engineering rather than imagination, and it

is engineering, through assessments, costings and bankable designs, that converts a technology list into a pipeline. The two shares rest on different denominators: the 17 per cent is measured against the 350 named technologies, whereas the roughly eleven countries with a current TNA is a country count.

Read together, these figures explain the section's central judgment. At the ambition stage the binding constraint is a shortage of technical preparation, not a shortage of money or of political will: agriculture is named as a priority in almost every NDC and the menu of 350 technologies is rich, yet the assessments, costings and bankable designs that turn a named lever into something a fund can finance remain scarce. That is an encouraging diagnosis, because preparation, unlike ambition, can be supplied from outside. A Technology Needs Assessment, a costing template or a standard set of MRV indicators can be financed and shared by the continent's own institutions and its partners far more readily than political consensus can be built across 53 sovereign processes. At the ambition stage, in short, the scarce resource is technical preparation, and preparation is what the continent and its partners can most readily supply. Section A.7 examines the capacity deficit behind these figures in full.

A.4.3.5. The four orphan levers

Definition, the four orphan levers. Throughout this report the “orphan levers” are the four climate-specific agricultural-adaptation solutions that are the least operationalized, least costed, planned and financed, despite being named across the instruments, with coverage ranging from about a quarter to three in five of NDCs, and despite each having a dedicated African Union delivery instrument: agricultural insurance (28 per cent of NDCs), agroecology (32 per cent), climate-smart agriculture (58 per cent) and resilient seeds (60 per cent). None rests on a quantified target⁴⁵. These four short names are used consistently below; water, by contrast, is near-universally covered and is not an orphan lever.

43 Author's coding of the 53 African NDCs (2026): technologies and measures mapped to the eleven-sub-sector CCAFS grid, then screened for a quantified target, a cost estimate and TNA backing.

44 Author's analysis of African NDCs (2026), §4.3: 350 technologies, none with a quantified target, -17% on a TNA; 453 capacity needs; technology-transfer demand in 43 countries; 11 current TNAs (on the completed-vs-current distinction, see note 90).

45 Author's analysis of African NDCs (2026), Table 6 / Table 7: CCAFS coverage, resilient seeds 60%, CSA 58%, agroecology 32%, agricultural insurance 28%.

Among the most direct instruments of on-farm resilience are these techniques, and for each the African Union has built dedicated continental instruments. The orphan-lever finding marks the most concrete point at which the country instruments and the continental architecture ought to meet, and currently do not. The coverage figures below record how often each lever is named in NDCs, not whether it is costed or financed: the orphan problem lies downstream in financing, which is why levers cited in a majority of NDCs can still be under-served.

Under-served lever	NDC coverage	Continental instrument
Resilient seeds & genetic resources	60% (32 of 53)	Kampala SO5 (resilient agrifood systems)
Climate-smart agriculture	58% (31)	CAADP Commitment 6 / resilience agenda
Agroecology	32% (17)	Fertilizer & Soil Health Action Plan
Agricultural insurance	28% (15)	Resilience / risk-transfer agenda

Table A.4.7. The four under-served agricultural levers and their continental counterparts.

Source: author's analysis of African NDCs (2026); mapping by the authors.

Down the chain, the neglect compounds. Since the same orphan levers are weak at the NDC, NAP and BTR stages alike, a single upstream correction (financing Technology Needs Assessments and costed actions on these four) would pay off three times over; leaving them vague in the NDC, conversely, exports that vagueness into the plan and the ledger. They are at once the clearest gap and the highest-return entry point in the entire chain.

A.4.3.6. Institutional anchoring: global versus continental

The most consequential structural finding concerns anchoring. African agricultural NDCs reference the global architecture more often than the continent's own framework, an artifact of how the instruments are produced rather than a judgment on either. Fully 92 per cent cite the SDGs and as many describe an MRV system, and 79 per cent reference

an institutional framework; yet only 23 per cent reference the Global Goal on Adaptation and just 9 per cent (five countries: Kenya, Sierra Leone, Somalia, Sudan and Togo) the CAADP framework or the Maputo Declaration⁴⁶. This is an opening rather than a shortcoming: CAADP already supplies the agricultural accountability machinery that could give agricultural adaptation a domestic home, and anchoring the NDCs to it would close the gap from the climate-instrument side.

Framework referenced in NDCs	Share citing it
Sustainable Development Goals	92%
MRV system described	92%
Institutional framework	79%
Global Goal on Adaptation	23%
CAADP / Maputo commitments	9% (5 countries: Kenya, Sierra Leone, Somalia, Sudan, Togo)

Table A.4.8. Institutional anchoring of African agricultural NDCs.

Source: author's analysis of African NDCs (2026).

⁴⁶ Author's analysis of African NDCs (2026), Figure 15: 92% SDGs and MRV, 79% institutional framework, 23% GGA. Coding of CAADP references: an NDC counts where it explicitly names the CAADP, the Maputo Declaration or the Malabo Declaration (including their 10% agriculture-budget commitment); incidental occurrences of the cities Malabo and Maputo, and the Maputo Protocol on women's rights, are excluded. On this basis five of 53 (about 9%) qualify, Kenya, Sierra Leone, Somalia, Sudan and Togo, which is the 9% CAADP-anchoring figure used throughout this report. None cites the Malabo Declaration by name.

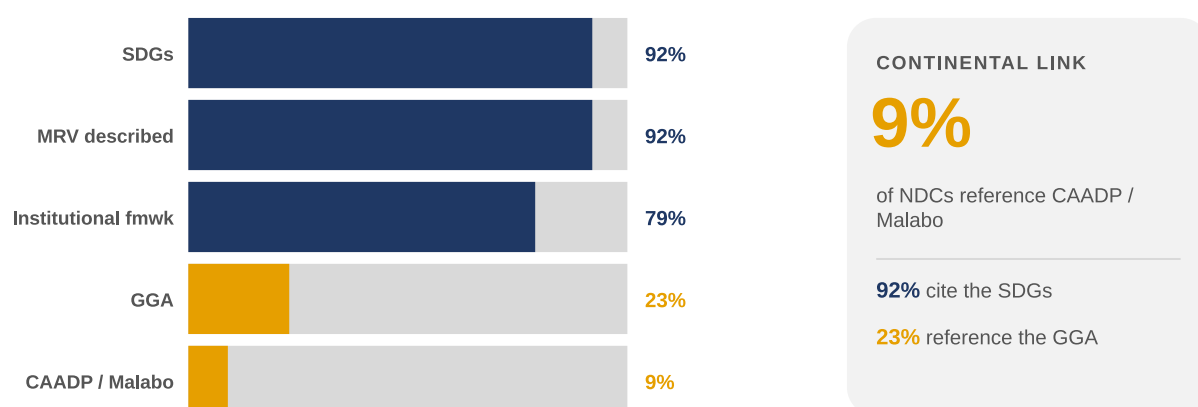


Figure A.4.8. Institutional anchoring of NDCs: global frameworks vs the continental framework.

Source: author's NDC analysis (2026).

Of all the ambition-layer findings, the anchoring gap is the most actionable, because closing it requires no new machinery, only pointing the climate instruments at machinery CAADP already provides. Notably, the five countries that cite CAADP are not systematically the best performers, which suggests the link is presently nominal even where it is made. The task is to make it operational, so that an action declared in an NDC is the same action costed in a national investment plan and tracked in the Biennial Review.

A.4.3.7. The financing gap in context, regional profiles and three paradoxes

Annualized, African NDCs ask for about USD 56 billion per year of adaptation, of which roughly USD 7.4 billion is for agriculture, three-quarters of it conditional. Set against the delivery record (roughly 1.5 per cent of declared need received overall, and under 3 per cent of the agricultural need), agriculture's USD 7.4 billion per year is at once modest (a fraction of the continent's food-import bill) and almost entirely unmet⁴⁷. Crossing volume with agricultural quality yields tailored regional priorities.

Sub-region	Annualized (USD bn/yr)	Archetype and priority
West Africa	22.0	High volume, thin agriculture-costing, costing assistance.
North Africa	10.5	Mitigation-leaning, add CSA, insurance, agroecology.
East Africa	13.6	Lowest agriculture share, urgent costing gap (7 of 13 do not isolate it).
Central Africa	6.6	Forest-centered, strengthen institutions and MRV.
Southern Africa	3.7	Smallest, sparse costing, restore agriculture to the NDCs.

Table A.4.9. Regional archetypes and priorities.

Source: author's analysis of African NDCs (2026).

⁴⁷ Author's analysis of African NDCs (2026), §4.7: -USD 56 bn/yr adaptation, -USD 7.4 bn/yr agriculture, -74% conditional; companion BTR analysis finds under 5% of declared need received in almost all dual-coverage countries.

Against a single continental remedy the archetypes argue plainly. West Africa needs costing assistance; North Africa needs the orphan levers added to mitigation-leaning plans; East Africa needs its agricultural costs isolated; Central Africa needs institutions and MRV; and Southern Africa needs agriculture restored to the NDCs at all. Continental in its diagnosis, the prescription is regional.

In sum, the NDC layer portrays ambition that has outrun its own operational base. The numbers are large, the priorities are stated, and the global anchoring is strong; what is missing is the costing, the assessment and the continental connection that would let ambition translate into financed action. Each of these missing pieces reappears, magnified, in the planning and delivery layers examined next.

Three paradoxes summarize the layer. Agriculture is a stated priority almost everywhere yet four in ten NDCs put no figure on it; a rich menu of 350 technologies is named yet almost none is operationalized; and the documents are well tied to the global agenda yet barely connected to the continent's own. All three are properties of a reporting system that rewards declaration over costing, naming over assessment, and global over continental alignment. That is encouraging, because system properties can be changed by changing incentives and templates rather than by exhorting 53 governments to try harder.

A.4.4. Planning: The National Adaptation Plans

A.4.4.1. Corpus and the planning-to-execution bottleneck

A NAP is the costed, multi-year program with the institutional and monitoring arrangements to deliver an NDC. The 2025 LEG guidelines structure each NAP into five modules: A, laying the groundwork and assessing vulnerability; B, planning and identifying adaptation options; C, implementation and financing; D, reporting, monitoring and review; and E, cross-cutting strategies. Twenty-eight African NAPs had been submitted by mid-2026: 25 first-iteration, two agriculture-sector (Senegal 2025, Uganda 2018) and one update (Cabo Verde). Against the 2025 LEG guidelines the corpus reveals a clear planning-to-execution bottleneck: vulnerability assessment is near-universal (Module A, 96 per cent), monitoring sits in the middle (Module D, 71 per cent), but financing-and-implementation is the weakest link (Module C, the implementation-and-financing phase of the NAP cycle, 61 per cent⁴⁸). Planning has matured far faster than the means to deliver it.

NAP dimension (28 NAPs)	Completeness / coverage
Module A, vulnerability assessment	96% complete (27/28)
Module C, financing and implementation	61% complete (17/28), the weakest link
Module D, monitoring, evaluation and learning	71% complete
GGA target coverage (average per country)	82%
Gender mainstreaming	100% (28/28)
Disability inclusion	61% (17/28)
AR6 (latest IPCC) alignment	21% (6/28)

Table A.4.10. NAP module completeness and inclusion coverage.

Source: author's analysis of African NAPs (2026).

48 Author's analysis of African NAPs (2026), §3 / Figure 1: 28 NAPs; Module A 96%, Module C 61% (weakest), Module D 70%.

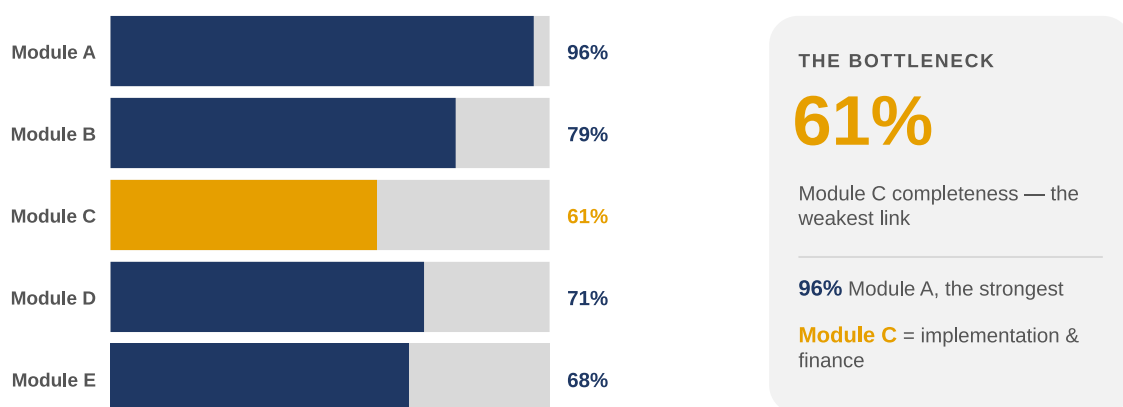


Figure A.4.9. NAP module completeness, the Module C bottleneck.

Source: author's NAP analysis (2026).

Strong on assessment and planning, the module hierarchy is weak on financing and implementation. It mirrors the diagnosis of the NDC and BTR layers exactly: the bottleneck sits consistently between intention and execution, not between awareness and intention. A continent that can assess its vulnerability and structure a plan has not yet built the bridge from plan to money, and the module data locate that missing bridge precisely.

A word is due on what this index measures, and how it sits in the field. The 28 African NAPs analyzed here fall within a global total of 67 NAPs submitted to the UNFCCC as of 30 September 2025, out of 144 countries that have launched the process. Several established indices already score adaptation readiness, among them the ND-GAIN Country Index, the Aviva Climate-Ready Index, and, for Africa specifically, the ClimAdaptCap Index. Each of these, however, rates a country's overall readiness from macro indicators of climate exposure and economic, governance and social capacity. A different object is measured by the NAP-readiness index used here: the quality and completeness of the planning instrument itself, how complete, GGA-aligned, principled and inclusive each plan is. The two are complementary, and a natural test of this

index is whether instrument readiness tracks the country-level readiness those indices report. The index scores only the quality of the 28 submitted plans; the countries without a NAP are not scored zero but are counted separately in the coverage funnel (Sections A.4.1 and A.4.6), so the two questions, whether a country has a NAP at all and how strong an existing NAP is, are kept distinct and neither inflates nor deflates the other.

In several places the corpus is strong. Module B (planning) is complete in all but six NAPs, and Module E (cross-cutting strategies) shows full non-zero coverage, so African adaptation planning is neither thin nor naive. Specific and diagnosable, the weakness lies elsewhere: the financing-and-implementation chapter, and the legal mandate behind it, do not yet convert sophisticated plans into budgeted programs.

Part of the Module C weakness is mandate weakness. Only five of 28 NAPs rest on a legal mandate that triggers automatic budget-line allocation, while nineteen rely on policy decisions with no fiscal automaticity. A costed plan without legal force amounts to a priced wish list, and the gap between the two is measured, downstream, in the empty BTR ledger.

Mandate type	NAPs	Fiscal consequence
Legal / law-level	5	Automatic budget-line allocation (Cabo Verde, Ethiopia, Lesotho, Morocco, Senegal).
Decree	3	Cabinet traction, renegotiated annually (Benin, Burkina Faso, Tanzania).
Policy / cabinet endorsement	19	No fiscal automaticity; depends on annual ministerial championing.

Table A.4.11. NAP mandate types and fiscal traction (one NAP's mandate type is not stated).

Source: author's analysis of African NAPs (2026).

A.4.4.2. What the NAPs cover: GGA targets and hazards

Average coverage of the eleven UAE-Framework GGA targets is about 82 per cent per country, with six thematic targets above 95 per cent but cultural heritage falling to 15 per cent. This is a planning blind spot in how the instruments are framed. Led by environment ministries, NAPs cover the

targets that map onto established mandates and data systems and under-address the one (cultural heritage) that fits none, a gap in anchoring rather than in consultation, since agriculture ministries are routinely involved⁴⁹. The hazard landscape is dominated by drought, floods and land degradation; food security is a priority outcome in every NAP and agriculture a top-three sector in 81 per cent.

GGA target group	Coverage across 28 NAPs
Six thematic targets (water, food/agriculture, health, ecosystems, infrastructure, poverty)	Near-universal (>95%)
Thematic T7, cultural heritage	14% (4 NAPs: Benin, Lesotho, Morocco, Tanzania)
Dimensional D1-D3 (assessment, planning, implementation)	Uniformly strong
Dimensional D4, monitoring, evaluation and learning	83%

Table A.4.12. Coverage of the eleven UAE-Framework GGA targets across the 28 NAPs.

Source: author's analysis of African NAPs (2026). Note: the eleven targets comprise seven thematic targets (water; food and agriculture; health; ecosystems and biodiversity; infrastructure and human settlements; poverty eradication and livelihoods; cultural heritage) and four dimensional targets covering the adaptation policy cycle (risk and vulnerability assessment; planning; implementation; monitoring, evaluation and learning).

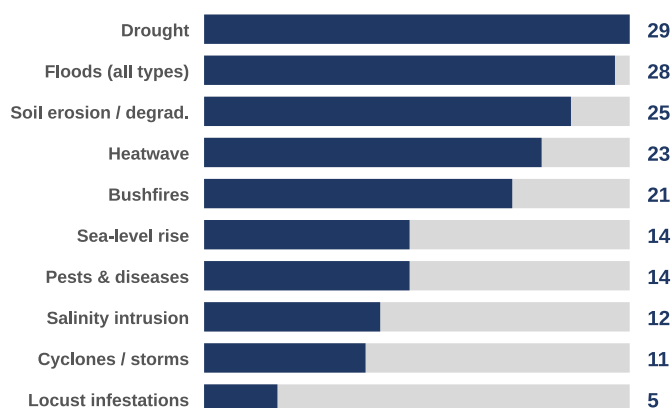
The cultural-heritage gap follows the same logic. NAPs cover the targets that map onto established ministries and data systems and neglect the one that does not. Coverage follows institutional and statistical capacity rather than need, the same mechanism that leaves agriculture well-described but poorly costed.

Climate hazard	NAP records	of which High severity
Drought	30	27
Floods (all types)	29	27
Soil erosion / land degradation	26	15
Heatwave	24	15
Bushfires	22	2
Sea-level rise / coastal erosion	16	14
Pests & diseases	16	4
Cyclones / storms	15	5
Salinity intrusion	12	2

Table A.4.13. Top climate hazards cited across the 28 NAPs, with High-severity share (hazard records; a NAP may record a hazard more than once).

Source: author's analysis of African NAPs (2026).

⁴⁹ Author's analysis of African NAPs (2026), §4: average GGA coverage ~82%; six thematic targets >95%, cultural heritage 15%, D4 (MEL) 83%; hazards led by drought, floods, land degradation; agriculture top-3 in 81%. On agriculture-sector GGA metrics and transparency, see FAO (2023), Using metrics to assess progress towards the Paris Agreement's Global Goal on Adaptation: transparency in adaptation in the agriculture sectors (Rome, cc2038en).



MOST-CITED HAZARD

29

drought records — the most cited across the NAPs

Floods: 28 records, close behind

10 distinct hazard types

Figure A.4.10. Top climate hazards across the 28 NAPs, by number of hazard records.

Source: author's NAP analysis (2026).

What turns a hazard into a financing priority is the high-severity share, not raw frequency. Drought and floods score high on both counts and rightly dominate. Sea-level rise is cited less often but almost always at high severity in the countries it affects, a concentration that argues for targeted coastal finance rather than continental averaging.

A.4.4.3. Institutional architecture, inclusion and framework alignment

A four-tier institutional architecture recurs across countries, adherence to the 2025 Guiding Principles is high, and inclusion is improving: the 2023–2025 cohort scores about 3.4 of 4 inclusion dimensions against 2.1 for 2015–2019⁵⁰. Yet the continental-anchoring gap is sharper than in the NDCs. Every NAP cites the UNFCCC and UNCCD, but explicit references run to four NAPs for the Sendai Framework, two for CAADP and none for Malabo, and only three NAPs (Chad, DR Congo, Togo) name a national agriculture investment plan. The agricultural-policy bridge is essentially unbuilt.

Framework cited in NAPs	Number of NAPs (of 28)
UNFCCC	28
UNCCD	28
Ramsar Convention	21
Convention on Biological Diversity	19
Sendai Framework	5
CAADP	2
Malabo Declaration	0
National agriculture investment plan named	3 (Chad, DR Congo, Togo)

Table A.4.14. Framework alignment of the 28 African NAPs.

Source: author's analysis of African NAPs (2026).

⁵⁰ Author's analysis of African NAPs (2026), §5 / Table 6: four-tier architecture; inclusion 2023–25 ~3.4/4 vs 2015–19 ~2.1/4; UN-FCCC/UNCCD 28/28, Sendai 4, CAADP 2, Malabo 0; NAIP named in 3 NAPs.

The environmental-convention bridge is already complete, while the agricultural-policy bridge is not yet built. Behind this lies who writes NAPs (environment ministries with UNFCCC and UNCCD focal points, working to the global reporting templates) rather than who implements agricultural adaptation (agriculture ministries operating through investment plans). It reflects an anchoring gap, and not a failure to consult, and it narrows where NAPs are generated from a continuous in-house planning process rather than treated as a standalone document each cycle. Closing the gap is therefore an institutional-coordination task as much as a documentary one.

Why the fix is cheap also follows from this institutional reading. Embedding CAADP and Malabo references, and explicit links to national agriculture investment plans, in second-iteration NAPs requires coordination between environment and agriculture ministries rather than new money or new science.

The same logic applies to alignment with current

science. Only six NAPs reflect the latest IPCC assessment, all of them post-2022 documents, so the second-iteration wave expected by 2027 to 2028 is the point at which AR6 alignment, disability inclusion and Module C completion can all be addressed together. The corpus is young, and its youth is an opportunity as much as a limitation.

A.4.4.4. The Module C diagnosis and the project pipeline

Module C is intent without commitments. NAPs describe four financing channels but rarely secure them; only six countries have an active GCF Readiness program, and the most fully costed NAP is Burkina Faso's. Across a 273-action pipeline, costs cluster in water, crops and forestry while the climate-specific levers trail⁵¹. The very largest actions are cross-sectoral infrastructure, all at the Planned stage, so a costed plan here is a statement of intent rather than of secured money. The funding lines make the point numerically: of the eighty costed lines in the corpus, only five are confirmed (Figure A.4.11).

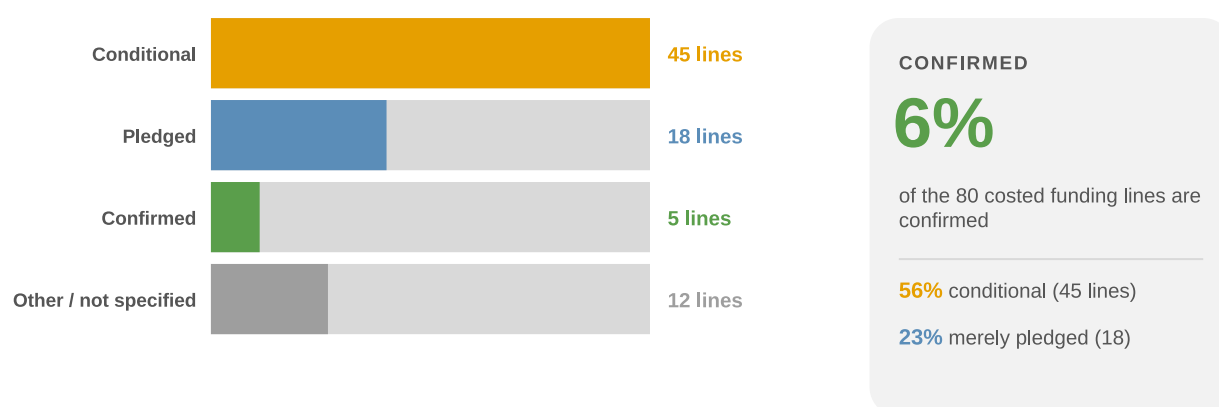


Figure A.4.11. Declared status of the costed NAP funding lines: of 80 lines, 45 are conditional, 18 pledged and only 5 confirmed; the remainder carry no stated status.

Source: author's analysis of the 28 African NAPs (2026), declared financing status of the costed funding lines.

⁵¹ Author's analysis of African NAPs (2026), \$6: Module C intent without commitments; only 6 active GCF Readiness programs; Burkina Faso most fully costed; 273-action pipeline; maize most-named crop (21 NAPs).

CCAFS sub-sector	Actions	Cost (USD bn)
Water / irrigation	54	39.4
Other / not specified	37	32.6
Crops / sustainable agriculture	24	8.6
Fisheries / aquaculture	23	7.2
Forests / agroforestry	28	5.5
Climate services / early warning	44	4.4
Livestock / pastoralism	20	4.6
Climate-smart agriculture (integrated)	7	3.2
Agricultural insurance	5	3.0
Cross-cutting	19	1.5
Soils / SLM	6	0.5
Resilient seeds	6	0.1
Agroecology	0	

Table A.4.15. NAP project pipeline by CCAFS sub-sector (273 actions).

Source: author's analysis of African NAPs (2026).

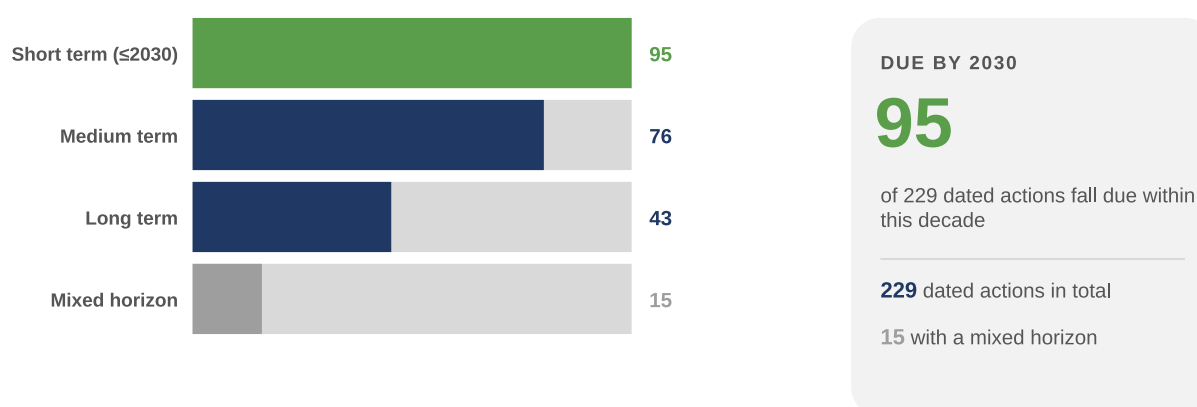


Figure A.4.12. The pipeline in time: of the 229 actions carrying a stated implementation horizon, 95 fall due by 2030.

Source: author's analysis of the 28 African NAPs (2026), implementation schedules.

From the spending side, the pipeline confirms the orphan-lever pattern: water and irrigation dominate the costed envelope while insurance, agroecology and resilient seeds attract a handful of actions and minimal cost. A pipeline shaped this way will, even if fully financed, leave the most direct instruments of on-farm resilience underbuilt. It is also near-term: 95 of the 229 dated actions fall due by 2030 (Figure A.4.12), inside the very window in which Module C remains unfixed.

A horizon problem also surfaces in the pipeline. Actions skew toward the near term, with fewer fully elaborated medium- and long-horizon investments, a pattern consistent with plans written under

financing uncertainty. Countries cost what they expect to be able to start, not what resilience will ultimately require, so the pipeline understates the long-run investment need just as the NDCs understate it at the top of the chain.

Taken together, the planning layer is a paradox of competence. African states have demonstrably learned to plan, to assess vulnerability, structure programs and, increasingly, to monitor them, faster than the international and domestic systems have learned to finance what they plan. As the strong link, the NAPs hand a fundable agenda to a financing system that has not received it.

Country	Largest adaptation action	USD bn	Status
Kenya	Climate-proof infrastructure (cross-sectoral)	20.3	Planned
Tanzania	Climate-proofing of critical infrastructure	6.0	Planned
Kenya	Adaptation in the water sector	5.1	Planned
Tanzania	Agricultural water security & irrigation	4.0	Planned
Kenya	Adaptation in the energy sector	3.5	Planned
DR Congo	Cross-sectoral climate-proofing	3.5	Planned
Zimbabwe	Crops / sustainable agriculture program	3.0	Planned
Mozambique	Water / irrigation program	2.8	Planned

Table A.4.16. The largest individual adaptation actions in the NAP corpus (all Planned).

Source: author's analysis of African NAPs (2026).

Cross-sectoral infrastructure rather than agriculture-specific work makes up the very largest actions, and all sit at the Planned stage, so scale and commitment do not yet coincide. A pipeline whose biggest items are unfunded infrastructure programs states where countries would invest given resources, and does not record investment under way.

Crop	NAPs naming it	Illustrative countries
Maize	21	Burkina Faso, Ethiopia, Kenya, Tanzania, Zambia, Zimbabwe...
Rice	13	Senegal, Sierra Leone, Tanzania, Uganda, Madagascar...
Sorghum	13	Ethiopia, Kenya, Niger, Sudan, Chad...
Millet	9	Burkina Faso, Niger, Senegal, Sudan, Chad...
Cassava	7	DR Congo, Liberia, Madagascar, Mozambique, Sierra Leone...
Groundnut	6	Benin, CAR, Niger, Sudan, Senegal
Cotton	5	Benin, Mozambique, Sudan, Chad, Zimbabwe

Table A.4.17. Most frequently named specific crops across the NAPs.

Source: author's analysis of African NAPs (2026).

Where adaptation will be won or lost in practice is mapped by the crop list. Maize, named in 21 of 28 NAPs, is a continental staple and drought-sensitive, so its prominence aligns the planning priority with the hazard landscape. Alongside it, the presence of rice, sorghum and millet reflects the agro-ecological diversity that any continental instrument must accommo-date.

Operational M&E indicator (Burkina Faso)	Baseline (yr)	Target (yr)	Unit
Cereal-needs coverage rate	101 (2022)	140 (2028)	%
Attainment of potential crop yields	40.4 (2022)	60 (2028)	%
Forest cover rate	22.7 (2020)	26.5 (2028)	%
Renewable share in power generation	31.4 (2023)	45 (2028)	%
Surface water-storage capacity	6.15 (2023)	6.4 (2028)	billion m ³

Table A.4.18. Sample of operational NAP M&E indicators (baseline to target).

Source: author's analysis of African NAPs (2026).

Where such indicators exist with baselines and target years, they make adaptation auditable. Where they remain at the framework stage, progress cannot be verified, which is itself one reason the delivery record is so hard to read. Maturation from frameworks to operational indicators is the quiet precondition for ever closing the accountability gap.

A.4.4.5. Regional clusters

The readiness analysis groups the NAPs into six clusters, differentiating the better-resourced North African and parts of the Southern and East African groups from the more constrained Central African and Sahelian clusters.

Cluster	n	Profile
West Africa	8	Largest cluster; strong Module B-E; Senegal's 2025 sectoral NAP the most agriculture-focused.
Central Africa	4	Heterogeneous; consistent Module C weakness; Cameroon's 2015 NAP the oldest.
East Africa	4	Highest average module score (4.5/5); Kenya and Tanzania full GGA coverage.
Southern Africa	6	Mixed maturity; South Africa largest planning-gap uplift (+41 bn); Mozambique a dedicated L&D chapter.
Horn of Africa	4	Lowest regional average; South Sudan and Sudan the most fragile (post-conflict) processes.

Table A.4.19. Regional readiness clusters of the 28 NAPs (a North African group completes the six).

Source: author's analysis of African NAPs (2026).

For targeting, the clustering matters. Planning weakness is not uniform, and support differentiated by cluster, costing help for the Sahel and Horn, financing mobilization for the better-planned East and Southern groups, will outperform a single continental template. In effect, the readiness map serves as an allocation guide.

A.4.5. Delivery: the Biennial Transparency Reports

A.4.5.1. Corpus and the limits of the ledger

The BTR is the delivery ledger: inventories, actions and, critically, finance received. Twenty-four African BTRs had been submitted, covering 45 per cent of the NDC-reporting countries but concentrating about 69 per cent of declared adaptation need. The subset is therefore weighted toward larger economies yet, as Section A.4.5.6 shows, remains representative⁵². Finance lines are often aggregated and agriculture must frequently be reconstructed from AFOLU and project text, so the agricultural delivery figure is assembled rather than simply read off. The need for

reconstruction is partly a transparency problem and only partly a financing one.

A.4.5.2. Inventories and the carbon-sink blind spot

Most AFOLU inventories sit at IPCC Tier 2 (16 of 23), with six at Tier 1 and only Gabon at Tier 3 (Tiers 1–3 mark rising methodological precision in emissions inventories). Only four of fourteen finance-traceable countries report any forest CO₂ removals, so the sector that should anchor both mitigation finance and resilience is under-measured, biasing net balances upward⁵³. Where sinks are reported they are large yet unrewarded: Madagascar records the corpus's largest sink but receives almost no finance, and the Congo Basin is the least documented sub-region of all.

Country	Agricultural emissions (Gg CO ₂ -eq)	Forest removals (Gg CO ₂ -eq)
Egypt	27,616	0 (not estimated)
Madagascar	-	-137,394 (largest sink in corpus)
Central African Republic	-	-3,143 (net sink)
Gabon	-	4,120 gross; removals unestimated

Table A.4.20. Selected AFOLU emissions and forest removals, illustrative rows (only 4 of the 14 finance-traceable countries report removals).

Source: author's BTR analysis (2026).

⁵² Author's BTR analysis (2026), §1–2: 24 BTRs (45% of NDCs), concentrating -69% of declared adaptation need; agriculture reconstructed from AFOLU and project text.

⁵³ Author's BTR analysis (2026), §3–3.1: 16/23 inventories at Tier 2, 6 at Tier 1, Gabon Tier 3 (one of the 24 BTRs reports no AFOLU inventory); only 4 of 14 finance-traceable countries report forest CO₂ removals.

The mismatch between ecological value and financial recognition is among the widest in the data. Madagascar holds the corpus's largest forest sink yet receives almost no finance, while the Congo Basin, the sub-region that matters most for global forest carbon, is the least documented. A continent whose most valuable carbon assets are unmeasured or unrewarded cannot expect results-based forest finance to flow. Two cautions temper the opportunity, however: the magnitude of these sinks is itself uncertain, resting on sparse, low-tier inventories, and forest carbon is impermanent, reversible by fire, drought, clearance or degradation, so results-based finance must be built around measured, durable and verifiable removals rather than headline sink size.

A.4.5.3. Climate finance received: magnitude, concentration and donors

The 24 BTRs record about USD 8.2 billion received, ~USD 2.8 billion adaptation/cross-cutting and ~USD 2.1 billion reaching agriculture⁵⁴ (the balance is mitigation-tagged or, like the Malawi aggregate, unattributable by sector). These receipts amount to about 1.5 per cent of declared need overall and under 3 per cent of agricultural need. On the dual-coverage subset, 13 of 15 countries show absorption below 5 per cent. Flows are extremely concentrated: three countries take about 71 per cent of receipts, the top ten about 98 per cent, and a single aggregated Malawi line (USD 3.05 billion, ~37 per cent of the total) is unattributable. Among traceable flows the World Bank and the GCF supply about a quarter, while African regional banks capture under 5 per cent.

Metric	Value
Declared adaptation need (NDCs)	~USD 566 bn
of which agriculture	~USD 80 bn
Climate finance received (BTRs)	~USD 8.2 bn
adaptation / cross-cutting	~USD 2.8 bn
reaching agriculture	~USD 2.1 bn
Share of declared need delivered	≈1.5% (≈2.1% against the BTR-reporting countries' own declared need)
Concentration, top 3 recipients	≈71%
Concentration, top 10	≈98%

Table A.4.21. The delivery gap and concentration of climate finance received.

Sources: author's BTR analysis and triangulation (2026).

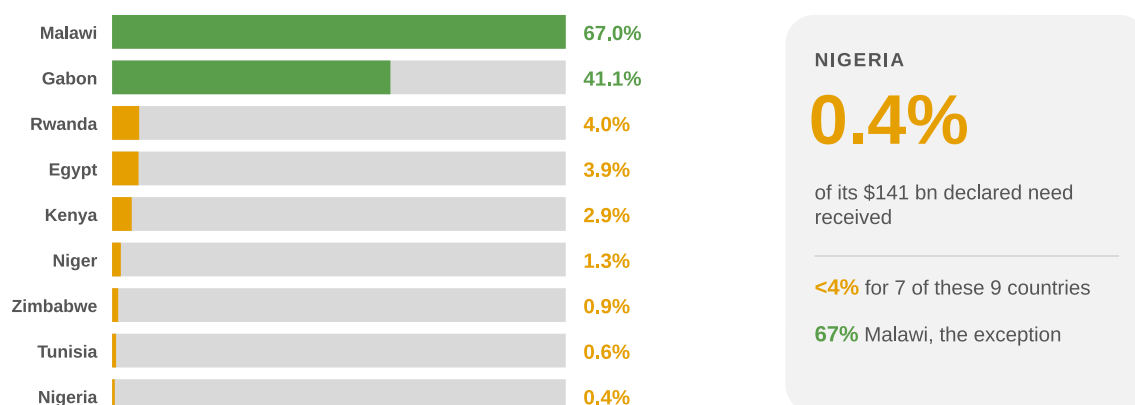


Figure A.4.13. The delivery gap: declared need vs finance received (indexed, linear scale).

Source: author's BTR analysis / triangulation.

⁵⁴ Traceable to agriculture specifically. The wider AFOLU ledger in Annex Table 4.2, which also captures forestry and other land-use finance for the fourteen traceable countries, records a larger AFOLU total; the two figures are not interchangeable.

Between declared need and recorded delivery lie two orders of magnitude, the defining fact of the chain. Every structural finding that follows, concentration, the carbon-sink blind spot, the orphan sub-sectors, donor opacity, ultimately accounts for why this gap persists and how a system designed to close it instead reproduces it.

This reproduction is not mysterious. A reporting system geared to aggregated headline figures rather than itemized lines, one that leaves sinks unestimated and channels finance through a few multilateral windows, will reliably produce concentration, opacity and blind spots, the very features observed. Changing the outputs means changing the system's incentives and templates, which is the logic of the recommendations set out below.

In large part this is a hopeful diagnosis. System features can be redesigned, templates can be standardized, and reporting can be made traceable at far lower cost than the underlying finance gap. A meaningful share of the apparent delivery gap is therefore correctable by the continent and its partners without waiting on new capital.

The distinction between design, measurement and finance problems is therefore not academic; it assigns responsibility and sequences action. The design and measurement gaps belong largely to national governments and continental institutions and can be addressed now; the capital shortfall belongs largely to the international system and is the proper subject of the climate-finance negotiations. Recognizing the split lets African actors close the gaps that are theirs while pressing the case on those that are not.

This division of labor has a temporal dimension. The design and measurement corrections can begin within the current planning and reporting cycles, which run on two-year and five-year rhythms the continent already operates; the capital correction depends on a negotiation calendar, the New Collective Quantified Goal, the Baku-to-Belém roadmap, whose horizon stretches to 2035. Acting on the first without waiting for the second is both possible and necessary, since each completed costing and traceable line strengthens the continent's evidentiary hand in the very negotiations on which the capital depends.

Source of reported finance	Amount	Note
Multiple donors (Malawi aggregate)	~USD 3.05 bn (~37%)	Unattributed at project level.
World Bank	USD 995 m	Largest identifiable source.
Green Climate Fund	USD 302 m	Second largest.
AFD, GEF, IFAD, Germany, UK	significant	Remaining attributable flows.
African regional banks (AfDB, CAFI)	<5%	In retreat despite operational presence.

Table A.4.22. Reported sources of climate finance in African BTRs.

Source: author's BTR analysis (2026).

Precisely along the dimensions that are deteriorating, the donor map is fragile; Section A.6.4 develops the structural risk and the case for diversifying toward African regional institutions and traceable, project-level attribution.

A sovereignty dimension is also at stake. A delivery channel in which African regional institutions capture under 5 per cent of flows leaves the continent with little control over the timing, conditions or sectoral focus of the finance it receives. Strengthening the AfDB, regional funds and national systems is therefore about agency as much as volume, the

capacity to direct adaptation finance toward African priorities, including the orphan levers mainstream donors neglect.

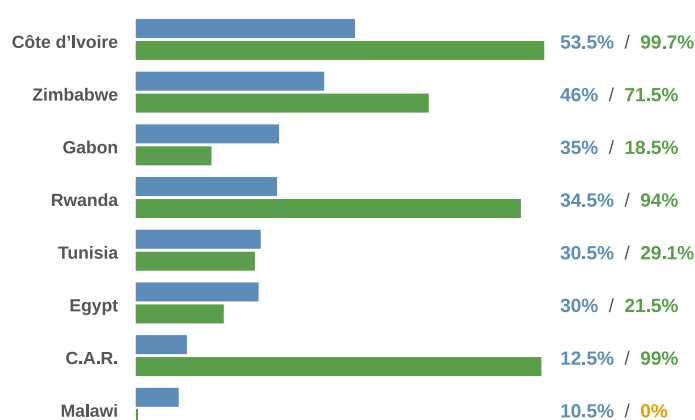
Here a continental initiative holds a defined comparative advantage. Major donors cluster in water, infrastructure and mitigation. The space they leave open, insurance, agroecology, resilient seeds, integrated climate-smart agriculture, is precisely the orphan-lever set that recurs across the NDC, NAP and BTR layers. An actor positioned there would not compete with the World Bank or the GCF but fill a gap they consistently leave.

Within the orphan-lever space, measurement and finance reinforce each other. These sub-sectors are weakly costed in NDCs, thinly planned in NAPs and barely financed in BTRs. No baseline therefore exists against which to demonstrate results, which deters the very donors who might fund them. Breaking that cycle requires acting on assessment and finance together rather than sequentially, a coordination role rather than a funding one.

Consider what 1.5 per cent means: for every hundred dollars African states judge they need, between one and two have been recorded as received. No plausible adjustment for off-ledger finance, definitional mismatch or reconstruction conservatism lifts this into a range that could be called adequate. The delivery gap is the central fact of the chain, and every other finding explains it.

A.4.5.4. Agriculture share, the inverted paradox and absorption

Read sectorally, agriculture's share of adaptation-tagged BTR flows (about 27.9 per cent, a broader AFOLU perimeter than the ~26 per cent share of all BTR receipts) is roughly double agriculture's 14.2 per cent share of declared adaptation need in the NDCs, a comparison of shares, not of absolute amounts. The result is an inverted paradox in which agriculture is over-financed against ambition but under-financed against need⁵⁵. Part of this is definitional, since the BTR AFOLU perimeter is broader than the NDC agriculture line. The robust core is that the envelope is tiny. Within it, of 169 adaptation actions, water and irrigation alone account for 42, more than the four least-covered sub-sectors combined (14), and well above the four orphan levers of Section A.4.3.5 (23 combined). The financial view is starker still: reclassified across the eleven CCAFS sub-sectors, traceable finance concentrates in crops and forestry while the four orphan levers receive essentially none (Figure A.4.16). Country by country the inversion is visible in both directions (Figure A.4.14).



THE PARADOX

99%

of C.A.R.'s executed finance went to agriculture — though its NDC declared just 12.5%

53.5% Côte d'Ivoire declared, top

0% Malawi executed on agri

Figure A.4.14. The inverted paradox, country by country: agriculture's declared share of adaptation need (NDC) against its executed share of received finance (BTR), dual-coverage countries.

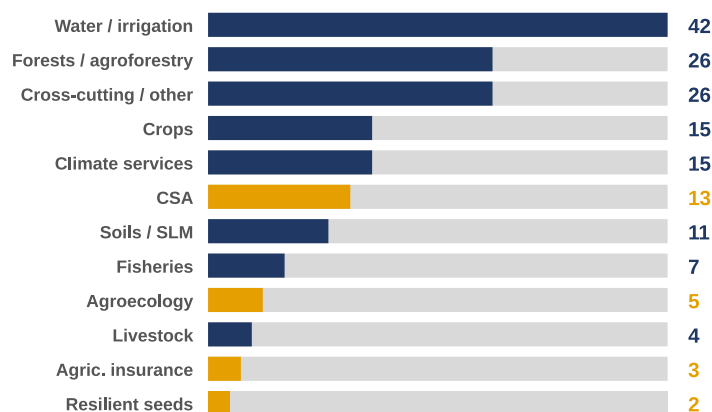
Source: author's analysis of the African NDCs and BTRs (2026), dual-coverage subset.

⁵⁵ Author's BTR analysis (2026), \$5: agriculture share of BTR flows ~27.9% vs 14.2% declared (partly definitional); of 169 actions, wa-ter/irrigation 42; the four least-covered sub-sectors (agroecology, livestock, insurance, seeds) total 14; the four orphan levers of A.4.3.5 (insurance, agroecology, cli-mate-smart agriculture, resilient seeds) total 23.

CCAFS sub-sector	Adaptation actions	Status
Water / irrigation	42	Dominant
Forests / agroforestry	26	Well covered
Cross-cutting / other	26	
Crops / sustainable agriculture	15	Covered
Climate services / early warning	15	Covered
Climate-smart agriculture	13	Orphan
Soils / SLM	11	Covered
Fisheries / aquaculture	7	Thin
Agroecology	5	Orphan
Livestock / pastoralism	4	Thin
Agricultural insurance	3	Orphan
Resilient seeds	2	Orphan

Table A.4.23. Adaptation actions reported across the 24 BTRs by CCAFS sub-sector (169 total).

Source: author's BTR analysis (2026).



ORPHAN LEVERS

23

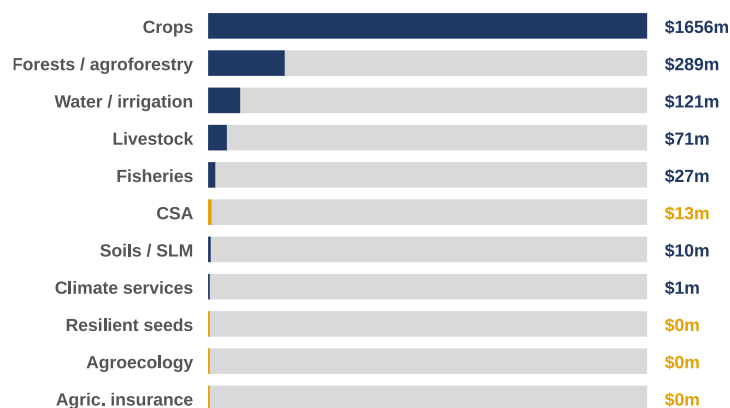
actions across all four orphan levers, of 169

42 water & irrigation, the most

169 BTR actions in total

Figure A.4.15. BTR adaptation actions by CCAFS sub-sector; orphans in orange.

Source: author's BTR analysis (2026).



CONCENTRATION

76%

of traceable finance went to crops alone

\$0m to seeds, agroecology, insurance
\$2.19bn total traced

Figure A.4.16. Where the traceable money lands: finance received by CCAFS sub-sector; orphan levers in orange receive essentially none.

Source: author's analysis of the 24 African BTRs (2026); CCAFS reclassification of the attributable finance lines.

Water and irrigation alone outnumber the four orphan sub-sectors combined, in implementation as in ambition and planning. With that, the loop closes: the blank zones identified in the NDCs remain blank through to delivery. For an initiative whose comparative advantage lies in these neglected areas, this is the clearest quantitative signal of an intervention space left open by mainstream finance.

Country-level absorption ratios show how unevenly the little finance that arrives is distributed, and why

the same country can look very different depending on the denominator. Where a country's declared need is very small or not established, the ratio turns unstable and can exceed 100 per cent without signalling genuine over-funding. Plotted against each other, need and receipt define four quadrants (Figure A.4.18): the corpus's largest declarants sit in the high-need, low-receipt corner, while the largest recorded receipts attach to comparatively modest declared needs.

Country	Total absorption	AFOLU absorption	Diagnostic
Zambia	high	47.4%	Absorption leader.
Gabon	41%		Translating (Tier 3).
Nigeria	0.39%	22%	Total/AFOLU divergence.
Kenya		11.6%	Sectoral benchmark.
Guinea-Bissau		6.1%	Regional bright spot.
Rwanda	4.0%	4.2%	Over-execution on a small envelope.
Egypt	3.9%	1.6%	High emissions, low sectoral absorption.
Niger	0.3%		Large need, near-zero delivery.
Côte d'Ivoire	<0.01%		Severe gap.

Table A.4.24. Climate-finance absorption ratios (finance received as a share of the relevant declared need) for selected countries.

Source: author's BTR analysis (2026).

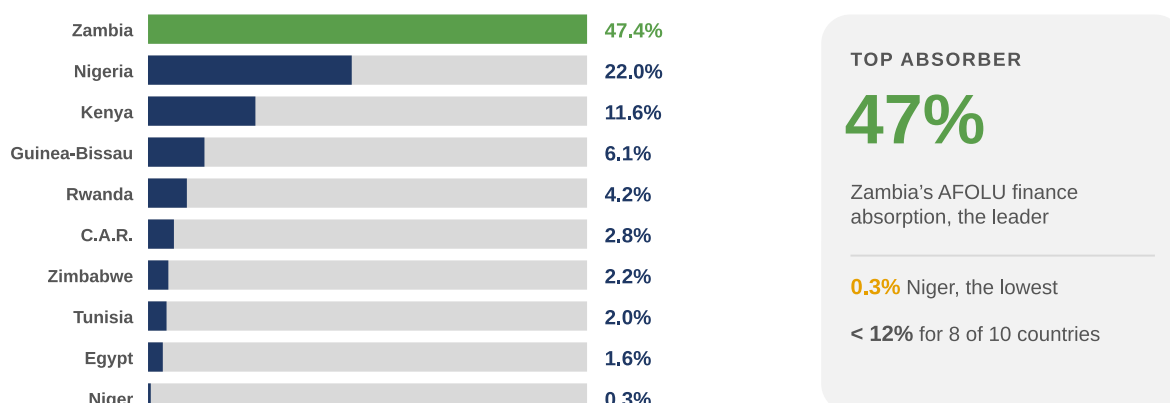


Figure A.4.17. AFOLU finance absorption, selected countries.

Source: author's BTR analysis (2026).

55 Author's BTR analysis (2026), \$5: agriculture share of BTR flows ~27.9% vs 14.2% declared (partly definitional); of 169 actions, wa-ter/irrigation 42; the four least-covered sub-sectors (agroecology, livestock, insurance, seeds) total 14; the four orphan levers of A.4.3.5 (insurance, agroecology, cli-mate-smart agriculture, resilient seeds) total 23.

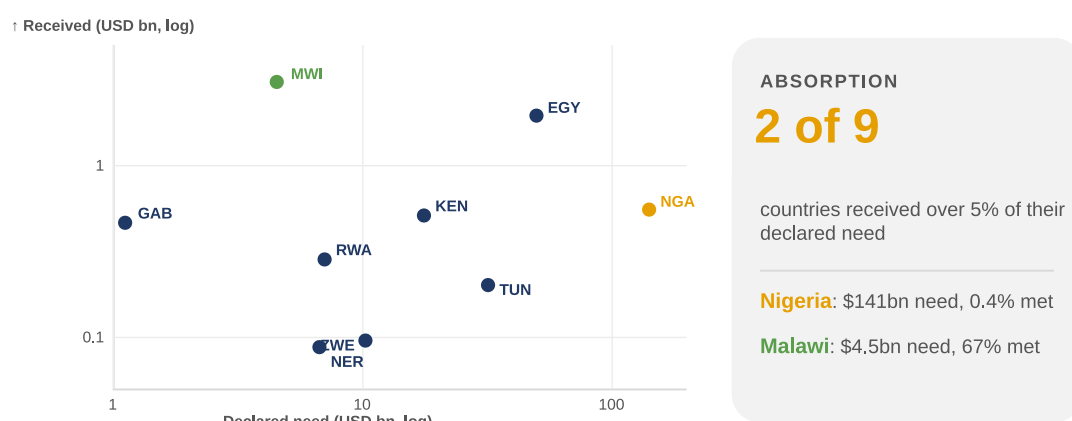


Figure A.4.18. Absorption quadrants: declared NDC need (horizontal) against finance recorded as received in the BTR (vertical), twelve dual-coverage countries, logarithmic scales; dashed lines mark the medians.

Source: author's analysis of the African NDCs and BTRs (2026).

Here the spread matters. The same denominator choice that makes Nigeria's absorption look very low against total need yet respectable against its AFOLU envelope applies across the table, which is why the analysis reports both readings. A single ratio, chosen carelessly, can make a country a success or a failure; only the pair tells the truth.

Reporting two absorption readings guards against precisely the kind of misleading league table that

thin data invite. For that reason the section resists ranking countries and instead sorts them into diagnostic categories. A category is robust to the data's imprecision in a way that a decimal-place ranking is not.

On the AFOLU perimeter only fourteen countries have traceable agricultural finance; the leaders and the scale of the underlying needs are shown below.

Country	AFOLU projects	AFOLU received (USD m)	AFOLU need (USD m)	AFOLU absorption
Zambia	7	792.2	1,669.9	47.4%
Kenya	1	508.0	4,376.0	11.6%
Nigeria	1	350.0	1,590.7	22.0%
Egypt	2	239.5	15,000	1.6%

Table A.4.25. AFOLU finance received versus AFOLU need, leading traceable countries (14 in total).

Source: author's BTR analysis (2026).

Even the leaders operate on small absolute envelopes. Zambia's corpus-leading 47.4 per cent absorption rests on USD 792 million, a rounding error against the continental need. High absorption and adequate finance remain different things, and the continent has very little of the second even where it achieves the first.

A.4.5.5. Regional coverage and country spotlights

BTR coverage ranges from 80 per cent of countries in North Africa and 58 per cent in Southern Africa down to 40 per cent in West Africa, 38 per cent in East Africa and 25 per cent in Central Africa. The regions with the largest declared needs are thus not those reporting most fully⁵⁶. Seven spotlights illustrate the diagnostic categories in their purest form.

Country	Diagnostic	Key figures
Zambia	Absorption leader	47.4% AFOLU absorption; USD 792 m vs USD 1.67 bn; 7 projects.
Kenya	Sectoral benchmark	11.6% AFOLU absorption; USD 508 m vs USD 4.38 bn.
Rwanda	Agricultural over-execution	Executed agri share +59.5 pp above declared; 8 projects; 4.2%.
Gabon	Methodological frontier	Only Tier 3 inventory; 41% total absorption; forest removals unestimated.
Egypt	High emissions, low absorption	27,616 Gg agri emissions; 1.6% AFOLU absorption; USD 239.5 m vs USD 15 bn.
Nigeria	Total/AFOLU divergence	0.39% on USD 141.5 bn total vs 22% on a USD 1.59 bn AFOLU envelope.
Malawi	Aggregation trap	USD 3.05 bn single aggregated line; 67% at face value against Malawi's own declared need (distinct from its ~37% share of all recorded receipts), vs zero AFOLU-traceable.

Table A.4.26. Country spotlights from the BTR analysis.

Source: author's BTR analysis (2026).

Disproportionate weight is carried by two spotlights. Malawi's single aggregated line flatters the record at face value but yields zero traceable agricultural finance on inspection; it is the most consequential reclassification in the corpus. Nigeria shows why

absorption must be read sectorally: very low against total need yet respectable on its narrow agricultural envelope, a spread that reflects the opacity and concentration of international flows as much as national capacity.

Box A.9. The Malawi aggregate: why the headline total understates traceability

A single line in Malawi's Biennial Transparency Report records about USD 3.05 billion of climate finance, roughly 37 per cent of all finance recorded across the 24 BTRs. Because it is reported as one aggregate sum, with no breakdown by sector or instrument, none of it can be traced to agricultural outcomes; on inspection it yields zero traceable agricultural finance. The figure therefore inflates the apparent continental total while adding nothing that can actually be followed. Set it aside and two things sharpen: the remaining recorded receipts fall to about USD 5.2 billion, and their concentration among a few external sources, the World Bank and the GCF supplying about a quarter between them, becomes clearer. It is the single most consequential reclassification in the corpus, and the clearest illustration of why traceability, not volume alone, is the binding measure of delivery.

Read together, the spotlights also caution against continental generalization. Within the corpus lie genuine absorption (Zambia), credible inventory practice (Gabon), donor alignment on agriculture (Rwanda), and pure transparency gap (Malawi, Eswatini), sometimes within the same sub-region. Because the average conceals this diversity, the typology, not the mean, organizes the section.

To regional averages the same caution applies. A 40 per cent BTR coverage rate for West Africa blends Nigeria's vast unmet need with Guinea-Bissau's modest bright spot and countries that do not report at all; the figure summarizes but does not guide.

Where the data permit, the section therefore reads beneath the regional mean to the country pattern that drives it.

Read region by region, the contrasts are pronounced; Table A.4.33 gives the full regional reading of the chain. North Africa is the best-covered sub-region but mitigation-heavy: Egypt dominates the regional finance picture at USD 1.94 billion yet absorbs only 1.6 per cent of its AFOLU needs. West Africa concentrates the corpus's largest unmet ambitions, from Nigeria's USD 141.5 billion declaration against some USD 550 million received to Côte d'Ivoire's widest severe gap, at under 0.01 per cent. East

56 Author's BTR analysis (2026), §8–9: coverage North Africa 80%, Southern 58%, West 40%, East 31%, Central 25%; seven country spotlights.

Africa shows the strongest agricultural orientation, with Kenya (11.6 per cent AFOLU absorption) and Rwanda (4.2 per cent) as the operational benchmarks, while Madagascar again pairs the corpus's largest forest sink with almost no finance (A.4.5.2). Southern Africa, second best-covered and most heterogeneous, spans the full typological spectrum, from Zambia's genuine absorption (47.4 per cent, the corpus's highest) to Malawi's headline figure that dissolves into an unattributed aggregate.

Central Africa's near-absence carries stakes beyond the continent. Represented only by Gabon, the methodological frontier of the corpus and its only Tier 3 country, and the Central African Republic, one of the few to report a net forest sink, the sub-region leaves the Congo Basin, the world's second-largest tropical forest and a critical carbon sink,

almost invisible in the delivery record. Closing that reporting gap serves the interest of the international community as much as the sub-region itself.

A.4.5.6. Diagnostic categories, representativeness and six findings

The shortfall falls into three diagnostic categories, each implying a different remedy: an empty-ledger gap (a BTR with no finance to report), a severe gap (very low absorption against large need), and a data-extraction gap (finance present but not recoverable). Six of the thirteen flagged countries face a transparency problem rather than a financing one⁵⁷, which means better reporting alone could close a material part of the apparent gap, a corollary that points to the crosswalk and inventory recommendations set out below.

Box A.10. A crucial distinction: financing gaps versus transparency gaps

Not every delivery failure is a shortage of money. Of the thirteen priority cases, six are data-extraction gaps, finance that may have flowed but cannot be traced in the Biennial Transparency Report, rather than genuine financing gaps. A material part of the apparent 1.5 per cent delivery shortfall is therefore a measurement failure, not necessarily an absence of funds. The policy implication is specific: strengthening measurement, reporting and verification, and national statistical capacity, would reveal how much of the gap is real and is a precondition for fixing either problem. This separates the responsibility of the reporting pipeline from that of capital allocation, and points to targeted accounting-capacity support rather than headline finance pledges alone.

Diagnostic category	Countries	Meaning
Implementation gap	Eswatini	BTR submitted with no finance to report.
Severe gap	Central African Rep., Côte d'Ivoire, Madagascar, Nigeria, Tunisia, Zimbabwe	Very low absorption against a large declared need.
Data-extraction gap	Burkina Faso, Burundi, Ghana, Morocco, Namibia, South Africa	Finance present but not recoverable from the BTR.

Table A.4.27. Diagnostic categories of the delivery shortfall (13 priority cases).

Source: author's BTR analysis (2026).

The reporting countries are not an unrepresentative vanguard: they average 8.2 of 11 GGA-relevant dimensions against 8.1 for the full 53, and concentrate about 69 per cent of declared adaptation need and 74 per cent of agricultural need. What the delivery gap characterizes, then, is the countries that report best.

Indicator	24 BTR countries	53 continental	Subset share
Adaptation needs declared (USD bn)	388.8	566.3	69%
Agricultural needs declared (USD bn)	59.1	80.3	74%
Mitigation needs declared (USD bn)	823.7	1,614.4	51%
Agriculture share of adaptation	15.2%	14.2%	≈
Mitigation / adaptation ratio	2.12x	2.85x	≈
Average CCAFS sub-sector coverage	8.2 / 11	8.1 / 11	≈

Table A.4.28. The 24 BTR-reporting countries versus the full 53 across five NDC indicators.

Source: author's BTR analysis (2026).

⁵⁷ Author's BTR analysis (2026), §10.2: 13 priority cases, 1 implementation gap (Eswatini), 6 severe gaps, 6 data-extraction gaps.

The representativeness check forecloses the easy objection that the delivery gap is an artifact of weak reporters. If anything, the reporting countries are the continent's stronger performers, concentrating most of its declared need. That they too deliver at around two per cent of need makes the finding more telling, not less.

This point deserves emphasis because it pre-empts a comfortable misreading. Concluding that delivery is low only because the reporting countries are weak would be reassuring, but the data refuse that comfort. The countries that have built the capacity to report are the same ones delivering at around two per cent of need, so the gap is systemic rather than a feature of the unprepared.

This systemic reading links the section back to the political economy described earlier. In the main, the delivery shortfall is not a story of African governments failing to try; it is a story of an international finance architecture that arrives late, in instruments and through channels poorly matched to the need, meeting a domestic fiscal space too thin to compensate. The reporting chain measures the symptom; the cause lies partly upstream of any single African state.

Six cross-cutting findings close the layer⁵⁸ : a generalized ambition-implementation gap; extreme concentration; the inverted agricultural paradox; Tier-2 inventories hollowed by the carbon-sink

blind spot; persistent orphan sub-sectors; and opaque donor attribution. Success would show not as a larger headline number but as qualitative shifts: broader distribution, traceable attribution, measured sinks and financed orphan levers.

A.4.6. Triangulation: reading the chain end to end

A.4.6.1. The coverage funnel and the three diagnostics

Read together, the three instruments form a funnel narrowing from ambition to delivery: 53 NDCs (46 costed), 28 NAPs, 24 BTRs; forty-one countries hold at least two instruments, and eleven hold all three, Burkina Faso, Burundi, Central African Rep., Ghana, Kenya, Madagascar, Morocco, Niger, South Africa, Zambia and Zimbabwe. None offers a fully comparable, fully costed chain end to end. Three diagnostics structure the reading, the planning gap, the execution ratio and the absorption ratio, each with a different denominator, and partial-costing cases are flagged to avoid false precision. A complementary technology lens reinforces this reading without changing the count: of the same 53 states, 39 hold a Technology Needs Assessment (TNA). Because the TNA is a voluntary, GEF-supported process rather than a Paris-Agreement reporting obligation, it is read as an indicator alongside the three-instrument core, not as a fourth instrument within it (Annex 10).

Country	NDC	NAP	BTR	Comparable, costed chain end-to-end?
Burkina Faso	Yes	Yes	Yes	No
Burundi	Yes	Yes	Yes	No
Central African Rep.	Yes	Yes	Yes	No
Ghana	Yes	Yes	Yes	No
Kenya	Yes	Yes	Yes	No
Madagascar	Yes	Yes	Yes	No
Morocco	Yes	Yes	Yes	No
Niger	Yes	Yes	Yes	No
South Africa	Yes	Yes	Yes	No
Zambia	Yes	Yes	Yes	No
Zimbabwe	Yes	Yes	Yes	No

Table A.4.29. The eleven countries holding all three instruments.

Each has an NDC, a NAP and a BTR, yet none yields a comparable, fully costed chain end to end: the three instruments are produced by different bodies, on different timetables and cost bases, so ambition, plan and delivery cannot be reconciled even where all three exist.

Source: author's NDC-NAP-BTR triangulation (2026).

58 Author's BTR analysis (2026), §10.1: six cross-cutting findings (generalized gap; concentration; inverted paradox; Tier-2 with sink blind spot; orphan sub-sectors; donor opacity).

Instrument	Countries	What it expresses
NDC	53 (46 costed)	Declared ambition and adaptation-finance needs.
NAP	28	Costed, multi-year operational plan.
BTR	24	Finance received and actions under way.
At least two instruments	41	NDC plus a NAP or a BTR.
All three instruments	11	Burkina Faso, Burundi, Central African Rep., Ghana, Kenya, Madagascar, Morocco, Niger, South Africa, Zambia, Zimbabwe.

Table A.4.30. The reporting funnel across the three Paris-Agreement instruments.

Source: author's NDC–NAP–BTR triangulation (2026).

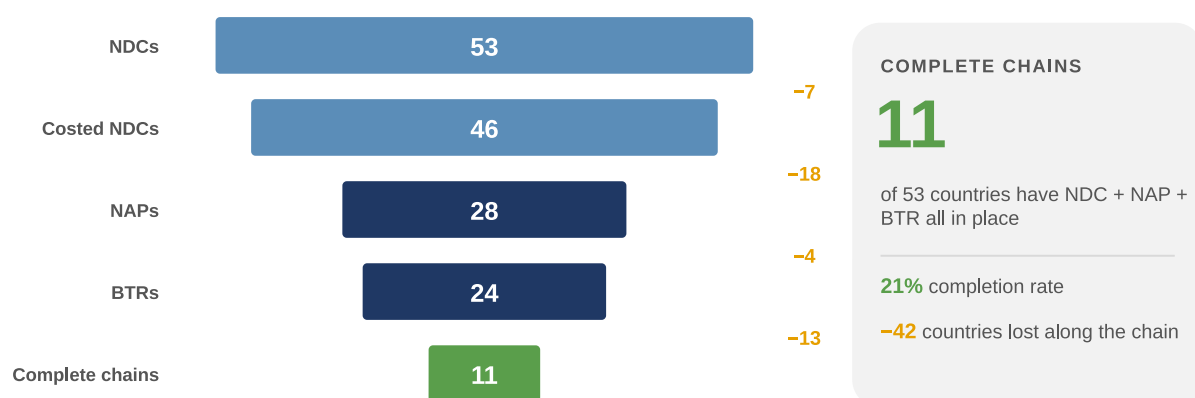


Figure A.4.19. The reporting funnel from ambition to a complete chain. The narrowing reflects the sequential availability of the reporting instruments (NDCs are treaty obligations on a five-year cycle; NAPs are voluntary and depend on readiness support; BTRs fell due only from 2024) and differences in national capacity, not countries leaving the process.

Source: author's NDC–NAP–BTR triangulation (2026).

Sub-region	NDC submitted	NAP in force	BTR filed	All three instruments
Northern Africa	5	1	4	1 (Morocco)
Western Africa	15	9	6	3 (Burkina Faso, Niger, Ghana)
Central Africa	8	4	2	1 (Central African Rep.)
Eastern Africa	13	9	4	3 (Burundi, Kenya, Madagascar)
Southern Africa	12	5	8	3 (South Africa, Zambia, Zimbabwe)
Africa	53	28	24	11

Table A.4.31. Where the chain thins, sub-region by sub-region: countries holding each instrument, and the eleven holding all three. Central Africa's near-absence from delivery reporting is the matrix's starkest line.

Source: author's NDC/NAP/BTR analyses (2026).

As the single most important framing fact of the section, the funnel shows that capacity, not ambition, degrades at each step, so the continent's ability to demonstrate progress is weakest exactly where progress matters most. Triangulation is necessarily strongest where coverage is deepest, which is why the firmest conclusions rest on the eleven countries that hold all three instruments.

A.4.6.2. The planning gap and the full crosswalk

The planning gap takes three forms: quasi-aligned (Burkina Faso, Niger); sufficient-planning where the NAP exceeds the NDC headline (Kenya +20.6, South Africa +41.1); and under-planning where it prices a fraction of need (Madagascar –11.4, Burundi –3.9)⁵⁹. The delivery gap is sharper and universal. The full eleven-country crosswalk below sets need, plan and received finance side by side with the data-quality flags that govern how far each ratio can be trusted.

Country	NDC need	NAP cost	BTR rec.	Plan gap	Absorp.	NAP costing
Burkina Faso	5.06	4.88	n/a	–0.18		Full
Burundi	3.94	0.05	0.00	–3.90	0%	Partial
Central African Rep.	2.66	NE	0.03		1.0%	None
Kenya	17.70	38.26	0.51	+20.56	2.9%	Full
Morocco	36.09	35.00	0.00	–1.09	0%	Full
Madagascar	11.63	0.27	negl.	–11.36		Partial
Niger	6.74	6.37	0.09	–0.38	1.3%	Full
South Africa	13.89	55.00	n/a	+41.11		Full
Zambia	NE	NE	0.84			None
Ghana	NE	22.64	NE	NE	NE	Full
Zimbabwe	10.31	NE	0.09		0.9%	None

Table A.4.32. Triangulation crosswalk for the eleven countries holding all three instruments, not all fully costed (USD bn unless %).

Source: author's NDC–NAP–BTR triangulation (2026).

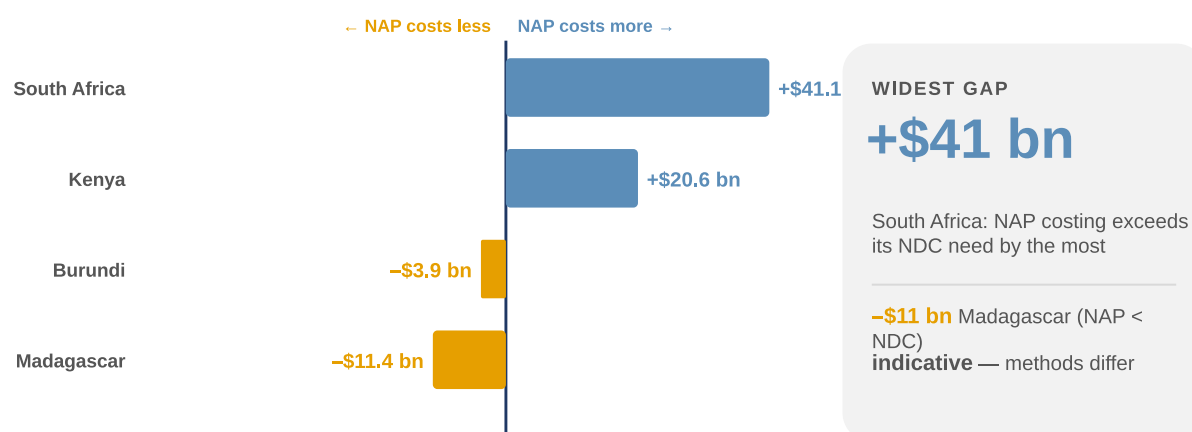


Figure A.4.20. Planning gap: NAP costed total against NDC declared need (selected countries). NAPs and NDCs differ in horizon, scope and costing method, so the gap is indicative rather than a like-for-like comparison.

Source: author's NDC–NAP–BTR triangulation (2026).

⁵⁹ Author's NDC–NAP–BTR triangulation (2026), \$5 / Tables 3 and 8: planning gaps South Africa +41.1, Kenya +20.6, Madagascar -11.4, Burundi -3.9 (USD bn); partial-costing cases flagged.

The crosswalk also exposes data pathologies a single instrument hides: partially costed NAPs that would inflate execution ratios above 100 per cent, untraceable finance lines, and figures that diverge for the same country across workbooks. Each of these is a reason to invest in the consistency and granularity of the reporting chain itself, not only in its content.

A.4.6.3. Regional reading and a readiness typology

Region by region, upstream links are far stronger than delivery, and coverage thins from north to center⁶⁰. A readiness-aware typology then sorts countries into types, each implying a different remedy. Its value is that it converts a single discouraging average into bounded, differentiated tasks.

Region	NDC need (USD bn)	BTR coverage	Dominant pattern
North Africa	123.9	4/5 (80%)	Deepest chains; highest agriculture share; finance still thin.
West Africa	218.8	6/15 (40%)	Large need, quasi-aligned NAPs, near-zero delivery.
East Africa	117.9	4/13 (31%)	Strong agricultural orientation; absorption achievable but below need.
Central Africa	66.7	2/8 (25%)	Highest conditionality (~80%); sparse costing and coverage.
Southern Africa	39.0	8/12 (67%)	Full typological spectrum, from absorption to transparency gap.

Table A.4.33. Regional reading of the NDC–NAP–BTR chain.

Source: author's NDC–NAP–BTR triangulation (2026).

Chain type	Profile	Illustrative
Full-chain reporters	All three instruments present and extractable.	Burkina Faso, Burundi, Central African Rep., Ghana, Kenya, Madagascar, Morocco, Niger, South Africa, Zambia, Zimbabwe.
Ambition-led	Large declared need; weak planning and delivery.	Several large declarers.
Planning-ahead	NAP exceeds NDC; delivery negligible.	Kenya, South Africa.
Under-planned	NAP a fraction of declared need.	Madagascar, Burundi.
Low-coverage	Little beyond an NDC.	Many states with NDC only.

Table A.4.34. Readiness-aware typology of the NDC–NAP–BTR chain.

Source: author's NDC–NAP–BTR triangulation (2026).

By sorting a discouraging average into tractable tasks, the typology assigns reporting templates to the low-coverage majority, costing support to the under-planned, finance mobilization to the planning-ahead group, and traceability discipline to the full-chain reporters. In aggregate the gap looks insurmountable; broken into parts it becomes addressable, and the triangulation is what makes the parts visible.

Together, the funnel and the typology turn the section's central number, 1.5 per cent delivered, from a counsel of despair into an agenda. In aggregate the gap is large precisely because it sums many different, individually addressable gaps: missing costings here, untraceable finance there, unestimated sinks elsewhere. Naming and sorting those gaps is the necessary first step toward closing them, and among the four analyses only the triangulation can perform it.

Understood this way, the triangulation amounts to more than the sum of the three sections it draws on. Each of the NDC, NAP and BTR analyses describes one link with authority; only their crosswalk reveals how weakly the links connect. Ambition, plan and delivery are produced by different actors, on different timetables, in different documents, with no mechanism guaranteeing they describe the same adaptation. As much as the finance gap itself, that structural gap in connection is the deeper subject the synthesis inherits.

One implication of that structural gap in connection deserves to be stated plainly before the synthesis takes it up. If ambition, plan and delivery are produced separately and never reconciled, then no amount of effort within any single instrument can close the chain. What is needed is not a better NDC or a fuller NAP but a mechanism that binds the three together: the crosswalk discipline recommended

Author's NDC–NAP–BTR triangulation (2026), §8 / Table 6: regional reading, North 123.9 (80%), West 218.8 (40%), East 117.9 (31%), Central 66.7 (25%), Southern 39.0 (58% coverage).

here and, above it, the continental accountability spine. The diagnosis points beyond the reporting chain to the architecture meant to hold it together.

A.4.6.4. What triangulation reveals that single instruments cannot

Each instrument read alone misleads: the NDC overstates readiness, the NAP understates the financing problem, the BTR understates ambition. Only the triangulation shows the true shape, strong at the top and collapsing at the bottom, with the break at the financing handoff⁶¹. It also surfaces data pathologies single-instrument analysis hides: partial costing that inflates ratios, aggregated and untraceable finance lines, cross-dataset inconsistency, and missing links. Followed specifically along the chain, agriculture is prioritized everywhere and financed almost nowhere: a top-three NAP sector and 28 per cent of BTR flows, yet about two billion dollars against a declared need of eighty billion or more.

A.4.6.5. Independent triangulation: the World Bank Country Climate and Development Reports

Governments report the three Paris instruments about themselves. Produced independently of that chain, a fourth lens lets the diagnostic be cross-checked against an external assessment: the World Bank's Country Climate and Development Reports (CCDRs), available for 43 African states. Of these, 39 quantify an economy-wide GDP-loss estimate and 37 isolate agriculture's share of GDP;

the figures below draw on the relevant subset. Bank country teams build the CCDRs bottom-up, using common macro-structural and computable-general-equilibrium modeling rather than national submissions. Agreement between them and the self-reported chain is therefore genuine corroboration, not an echo of the same source.

On the stakes, the CCDRs confirm what the NDCs assert. Across the 37 countries whose CCDR isolates agriculture's share, the sector averages 20.1 per cent of GDP (20.3 per cent on the full 43-report perimeter, Table A.4.35), reaching 45 per cent in Guinea-Bissau and 38–39 per cent in Niger, Cameroon, Ethiopia and Liberia⁶². Independently modeled, economy-wide losses from climate change average 7.3 per cent of GDP and reach 20 per cent in the Republic of Congo⁶³. A separate modeling exercise thus validates the exposure the Paris submissions claim.

On needs, the comparison is more revealing. The continental Paris figure is a declared adaptation need of about USD 566 billion, of which roughly 14 per cent, some 80 billion, is attributed to agriculture. Building needs sector by sector, the 43 CCDRs record USD 378.5 billion in climate-investment requirements, yet isolate only USD 21.2 billion as agriculture-specific, and in just ten countries. Mixing horizons and scopes (annual, cumulative-to-2030 or -2050, and net-present-value figures), the CCDR totals are not strictly additive, a caveat the Bank states itself. Read together, the two lenses converge on this report's central finding: agriculture is costed thinly even where it dominates both the economy and the projected climate loss.

Dimension	Self-reported Paris chain (NDC / NAP / BTR)	Independent World Bank CCDRs (43 countries)
Coverage	53 NDCs, 28 NAPs, 24 BTRs analyzed	43 African states
Agriculture's economic weight	Asserted as central to the economy	Average 20.3% of GDP (maximum 45%, Guinea-Bissau)
Climate impact	Qualitative / NDC narrative	Economy-wide GDP loss averaging 7.3% (maximum 20%, Congo)
Investment need	≈ USD 566 bn declared	USD 378.5 bn recorded (mixed horizons)
Agriculture-specific need	≈ USD 80 bn declared (14%)	USD 21.2 bn isolated, in 10 countries
Financing premise	Conditional (74% of declared need)	Unaffordable without concessional finance (e.g. Mauritania 54.2% of GDP)

Table A.4.35. Two lenses on the same diagnosis: the self-reported Paris chain versus the independent World Bank CCDRs.

Sources: author's NDC / NAP / BTR analyses (2026); author's synthesis of 43 World Bank CCDRs (2022–2024).

61 Author's NDC–NAP–BTR triangulation (2026), §11: each instrument misleads alone; data pathologies (partial costing, aggregation, cross-workbook inconsistency, missing links).

62 Author's synthesis of 41 of the 43 CCDRs (2026), EconWeight sheet (agriculture's share of GDP, 37 of 41 countries with data). Coun-try example: World Bank, CCDR Ethiopia, p. 47.

63 Author's synthesis of 41 of the 43 CCDRs (2026), ClimateImpact sheet (economy-wide GDP-loss estimates, 39 of 41 countries). Maximum: World Bank, CCDR Republic of Congo.

The CCDRs also corroborate the climate-debt diagnosis. They repeatedly frame national needs as unaffordable from domestic resources: Mauritania's CCDR puts the country's total NDC need at USD 44.9 billion, USD 34.3 billion for mitigation and USD 10.6 billion for adaptation, a scale it equates to 54.2 per cent of GDP⁶⁴. Independent confirmation that the needs cannot be met without concessional finance reinforces the financing-handoff break the triangulation locates.

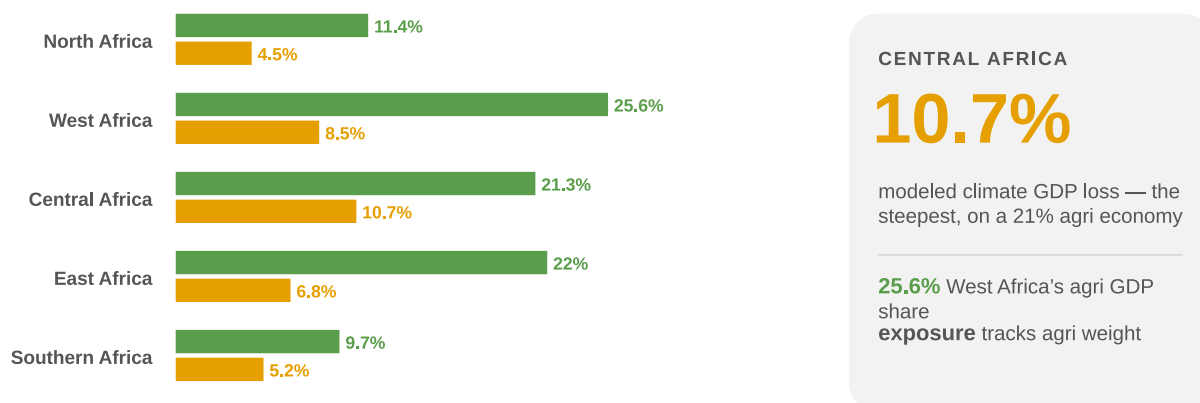


Figure A.4.21. Independent CCDR readings by region: agriculture's share of GDP and modeled economy-wide climate GDP loss.

Source: author's synthesis of 43 World Bank CCDRs (2022–2024).

Produced outside the reporting chain, by a different institution, on a different method, this assessment reaches the same verdict: high exposure, large needs, agriculture under-costed, and delivery contingent on external concessional finance. Agreement from a fourth, independent instrument raises confidence that the accountability gap is a real feature of the system, not an artifact of how governments report.

A further independent line of evidence points the same way. The IPCC's Sixth Assessment finds that climate change has already reduced agricultural productivity growth in Africa by about 34 per cent since 1961, more than in any other region. It also projects staple-crop yield losses across most of the continent beyond 2 °C of warming, including declines of 20 to 40 per cent in West African maize⁶⁵. An intergovernmental scientific assessment, a multilateral bank's country modeling and the countries' own submissions thus converge on the same diagnosis from three different vantage points.

A.4.7. Priorities emerging from the diagnostic

A specific regional gap warrants a targeted response. Central Africa, and in particular the Congo Basin, the world's second-largest tropical-forest carbon sink, is almost entirely absent from the analyzed transparency reports, so a planetary-scale asset goes largely unmeasured and unrewarded. The priority is concrete: targeted measurement,

reporting and verification (MRV) capacity for the Central African states, so that the sub-region's carbon sink becomes visible in the reporting chain and can attract results-based forest finance⁶⁶. The stake is not only African: because the Congo Basin's carbon sink is a global public good, the international community that benefits from it has a direct interest in co-financing this MRV capacity, rather than treating it as an African transparency problem alone.

Together, the four sections converge on a compact set of structural priorities, presented here at the continental level and carried forward into Part B and Part C.

Five steps follow. Make the chain traceable by construction, through crosswalk tables linking NDC paragraph, NAP/NAIP action and BTR finance line, adopted as an annual self-assessment. Close the costing gap by helping the 22 non-costing countries cost agriculture and complete NAP costings where readiness is otherwise adequate. Fix sink measurement by conditioning AFOLU finance on estimating forest removals. Finance the orphan levers through dedicated windows for insurance, agroecology, resilient seeds and CSA. And reconnect the country instruments to the continental architecture by embedding CAADP/Malabo/Kampala and GGA targets in NDC and NAP guidance⁶⁷. These steps are sequenced, not parallel. Traceability and costing come first, because without a costed, crosswalked chain neither finance nor accountability has anything to attach to. The cost of

64 World Bank, CCDR G5 Sahel (2022), Table 0.1, p. 10 (Mauritania NDC total = USD 44.88 bn, 54.2% of GDP).

65 IPCC, Sixth Assessment Report, Working Group II, Chapter 9 (Africa): agricultural productivity growth reduced by about 34% since 1961 (more than any other region); staple-crop yield reductions across most of Africa above 2 °C, e.g. 20–40% declines in West African maize yields.

66 Author's BTR analysis (2026): Central African / Congo Basin states are markedly under-represented in the analyzed Biennial Transparency Reports, leaving the sub-region's forest carbon sink largely undocumented in the Paris reporting chain.

67 Author's NDC–NAP–BTR triangulation (2026), §13; author's BTR analysis (2026), §10.2: crosswalk tables, NAP-costing completion, conditioning AFOLU finance on forest-removal estimation, dedicated windows for orphan sub-sectors, and CAADP/GGA reconnection.

the early steps is technical assistance, not capital. The binding constraint, though it presents as a financing failure, is therefore in the first instance a failure of design and measurement, one the continent can begin to correct from its own resources.

A.4.8. Conclusion

Read end to end, the chain tells one consistent story. Ambition is large and recent (53 NDCs, USD 566 billion, agriculture named widely across the instruments). Planning is maturing (28 NAPs, near-universal vulnerability assessment, a growing pipeline). Delivery, however, has collapsed (24 BTRs, ~USD 8.2 billion, ~1.5 per cent of need, concentrated in three countries and weakly tied to agriculture). Between the strong top and the broken bottom lies a financing handoff that does not function.

Three structural features explain it. The instruments are barely connected to the continent's own framework (9 per cent of NDCs, almost no NAPs); the orphan levers most central to on-farm resilience are under-served from ambition through delivery; and the data systems that should make the chain auditable are themselves defective, from un-costed agriculture to un-estimated carbon sinks. In the first instance none is a money problem; each is a problem of design, measurement and connection.

Here lies the empirical heart of Part A, converging with the continental scorecard, where the CAADP Biennial Review independently finds no country on track. From opposite directions, two accountability

systems, one continental and one global, reach the same verdict: the binding constraint is the translation of plans into delivered, measurable finance, not ambition. The connective task is concrete. An agricultural adaptation action is declared in an NDC, costed in a NAP and a national investment plan, financed through a traceable line, and tracked in both the BTR and the CAADP Biennial Review: one action, legible end to end across both systems. Nowhere on the continent does that yet happen for a complete portfolio. Demonstrating that it can is the standard against which the next decade, and the AAA Initiative's own next phase, should be measured. The synthesis builds that bridge explicitly. These remain two distinct diagnostics that converge, not one and the same: the Paris chain measures reporting completeness (eleven countries hold all three instruments), while the CAADP scorecard measures performance against a benchmark (no state on track). They are different gaps, yet they point the same way.

Section A.4 in brief. Ambition is abundant (53 NDCs, about USD 566 billion declared, roughly USD 80 billion for agriculture); planning is maturing (28 NAPs, near-universal vulnerability assessment, but Module C, financing, the weakest link); and delivery is thin (24 BTRs, about 1.5 per cent of declared need received). The chain narrows from 53 instruments to 11 complete sets; the four orphan levers are the least financed; barely 9 per cent of NDCs reference CAADP; and Central Africa is almost absent from delivery reporting.

The two accountability systems, in plain terms.

System	What it is, in plain terms	What it offers, and what it lacks
Continental (African Union): the CAADP Biennial Review	Africa's own scorecard: heads of state set agriculture targets (the Malabo, now Kampala, commitments) and grade every country against them every two years.	Offers a domestic accountability spine, national investment plans, the 10-per-cent budget pledge, a political scoreboard. Lacks an international finance and transparency framework.
Global (Paris Agreement): NDCs → NAPs → BTRs	The UN climate chain: each country declares its adaptation need (NDC), plans for it (NAP) and reports finance received and results (BTR).	Offers an international finance and transparency framework. Lacks a domestic accountability spine at country level.
The shared verdict	Built from opposite ends, the two systems share no data pipeline, yet both reach the same conclusion.	Ambition is abundant; delivery is thin. Each system supplies what the other lacks, which is why the fix is to connect them, not replace them.



Credit: Pedal to the Stock / Shutterstock.com

A.5. Cross-instrument synthesis: the accountability gap

In the preceding sections, two accountability systems were read separately. The first examined the African Union's continental architecture: CAADP as the umbrella, the soil, water and early-warning action plans beneath it, and the reporting toward the Global Goal on Adaptation. The second walked the Paris chain: ambition in the NDCs, planning in the NAPs, delivery in the BTRs. Setting the two side by side, this section makes a simple argument, one that becomes hard to escape once the evidence of the preceding sections is assembled: the continental system and the global system are measuring the same thing, failing in the same place, and not yet connected to one another. Their convergence is what makes the diagnosis credible; their parallel evolution is what makes it actionable.

A.5.1. Two systems, one verdict: the convergence

The two systems were built by different institutions, on different timetables, with different methods, to

answer different questions. They share no common data pipeline, indicator framework or review mechanism, the Biennial Review is compiled by the African Union Commission from agriculture-ministry self-reports, the Paris instruments by countries for the UNFCCC, typically through environment ministries, so their convergence is genuine triangulation, not circularity. CAADP's Biennial Review scores member states against the seven Malabo commitments on an Africa-owned scorecard; the Paris chain records each country's declared need, costed plan and finance received under an international transparency framework. Yet they reach the same verdict. The Biennial Review finds that no member state is on track against the 2025 benchmark of 9.40, the continental average score is 5.25 of 10, and only four of the reporting states meet the 10-per-cent budget commitment⁶⁸. The Paris chain finds that of some USD 566 billion in declared adaptation need, about 1.5 per cent is recorded as received in the reporting ledgers (the distinction set out in Section A.4.5)⁶⁹. Two independent instruments, pointing in the same direction, are far more persuasive than either alone.

Methodologists call this convergent validity: when two measures built on unrelated assumptions yield the same result, the result is unlikely to be an artifact of either. Here the assumptions differ sharply, a

68 Fifth CAADP Biennial Review Report (2025): benchmark 9.40/10; no Member State on track; continental average score 5.25 (up from 4.56 in 2023); four of the reporting states (Burundi, Ethiopia, Mauritania, Zimbabwe) met the 10% budget commitment. See Section A.3. (Report Table 3.1; §3.4–3.6, §3.21.)

69 Author's BTR analysis and triangulation (2026): -USD 566 bn declared need; -USD 8.2 bn received (-1.5%); 13 of 15 dual-coverage countries below 5% absorption. See Section A.4.

political benchmark set by African heads of state against a financial ledger assembled under an international treaty, yet both describe a continent rich in intention and poor in execution. The remainder of this section treats that convergent finding as established and asks what follows from it.

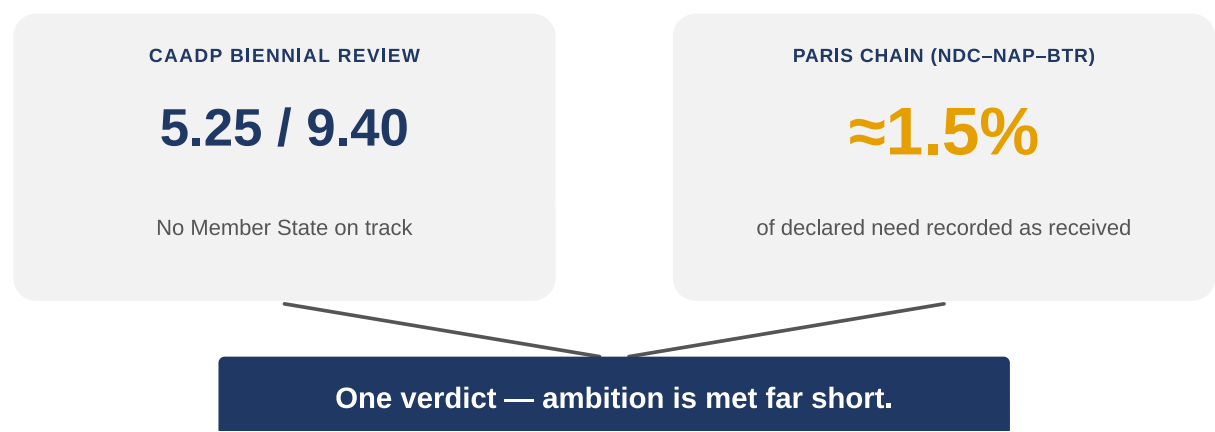


Figure A.5.1. Two accountability systems reach the same verdict: ambition is met far short.

Sources: Fifth CAADP Biennial Review (2025); author’s BTR analysis (2026).

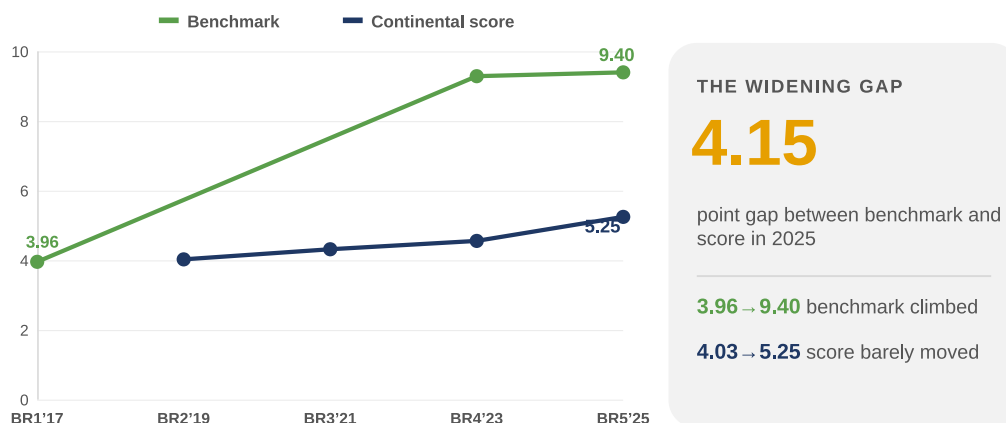
The convergence runs deeper than two low numbers: both systems locate the binding constraint at the same point in the chain. CAADP’s weakest commitments are investment finance and the implementation of production and resilience measures; the Paris chain’s break comes at the financing handoff between plan and delivery, which the NAP analysis pins to Module C and the BTR analysis to the concentration and traceability of flows. Where two systems with nothing in common agree both on the magnitude of the shortfall and on its location, the finding is about as robust as a continental diagnosis can be: the binding constraint on African agricultural adaptation is the translation of plans into delivered, measured finance, not ambition.

This convergent verdict reframes a decade of debate. Much of the international conversation about African adaptation has treated the problem as one of insufficient ambition or weak planning, to be remedied by more strategies and more pledges. Together, the two systems refute that framing: ambition is abundant and planning is maturing, in both the continental and the global architectures. What neither system can show is delivery, and on this they agree precisely because it is the part neither has managed to produce. Downstream, then, at financing and accounting, is where the next decade’s effort belongs, not upstream at yet more declaration.

Dimension	Continental system (CAADP)	Global system (Paris chain)
Ambition	10% budget / 6% growth + 7 Malabo commitments	~USD 566 bn declared adaptation need
Accountability device	Biennial Review scorecard (benchmark 9.40)	NDC → NAP → BTR reporting chain
Verdict on delivery	No country on track; 4 of 45 met the 10% commitment	≈1.5% of need delivered; 13 of 15 below 5%
Located constraint	Investment finance & implementation commitments	Financing handoff (NAP Module C; BTR flows)

Table A.5.1. The two systems compared: convergent verdict, convergent location of the constraint.

Sources: Fifth CAADP Biennial Review (2025); author’s NDC/NAP/BTR analyses (2026).



ent gap: the CAADP benchmark has climbed to 9.40 while the continental .25; the benchmark rises each review cycle toward the fixed 2025 Malabo

Figure A.5.2. The persistent gap: the CAADP benchmark has climbed to 9.40 while the continental score has reached only 5.25; the benchmark rises each review cycle toward the fixed 2025 Malabo targets.

Source: Fifth CAADP Biennial Review (2025).

The convergence is the more striking for the systems' incompatible mechanics. CAADP's scorecard is a benchmarking device: each indicator is scored against a value, a benchmark, a target and a milestone, and the benchmark itself rises over time toward the 2025 endpoint. A country can therefore improve in absolute terms and still fall further behind as the bar climbs. Quite differently, the Paris chain expresses need, plan and receipt in current dollars and judges delivery as a ratio of money received to money declared. One measures distance to a moving political benchmark; the other measures the flow of finance against a self-declared requirement. That two such different rulers register the same shortfall is precisely why the shortfall can be trusted as real rather than as an artifact of method.

Over time, the pattern deepens the point. Across the five Biennial Review cycles the benchmark climbed steeply from 3.96 in 2017 to 9.29 in 2023, far outpacing the continental score, which inched from 4.03 in 2019 to 4.56 in 2023. In the fifth and final cycle (2025) the score improved to 5.25 while the benchmark edged to 9.40, narrowing the gap only at the margin. After a full decade the continent still sits more than four points below the threshold to be on track, and the score has

never passed the midpoint of the scale. No longer widening but still wide, the gap has persisted over the very period in which the Paris chain shows finance failing to arrive. Across two systems and two methods, the diagnosis is a decade-long trend line rather than a snapshot.

The trend line also disposes of a hopeful counter-reading. One might argue that low scores reflect a young reporting system that will improve as capacity grows; the record says otherwise. Capacity has grown, more countries report, the instruments are more sophisticated, planning has matured, and still the gap has persisted, because the constraint lies downstream of capacity, at the point where plans must be financed. Better reporting has made the gap more visible without making it smaller.

Far from arguing against reporting, this argues for connecting it. The value of the transparency built over the decade is precisely that it now lets the gap be seen and located, which is the first step toward correcting it. A continent that could not measure its delivery gap could not close it; a continent that can measure it, in two systems at once, has the diagnostic foundation that the connective agenda turns into action.

A.5.2. Two systems evolving in parallel: an untapped synergy

Where the two systems align, they do so because they were built in parallel rather than in concert, a synergy still waiting to be made deliberate. The NDC analysis found that 92 per cent of African agricultural NDCs cite the Sustainable Development Goals and as many describe an MRV system, but only 23 per cent reference the Global Goal on Adaptation and just 9 per cent, five countries, reference the CAADP framework or the Maputo Declaration. In the NAPs the agricultural-policy bridge is thinner still, with explicit references running to two NAPs for CAADP and none for the Malabo Declaration. At present the climate instruments are more strongly anchored to the global architecture than to the continent's own agricultural framework, an untapped opportunity to anchor them, too, in CAADP as their natural continental reference.

This is more than a question of cross-referencing, because the two systems carry genuinely complementary strengths. CAADP supplies what the Paris chain lacks at country level, a domestic accountability spine: national agriculture investment plans, a budget commitment, and a biennial scorecard that names and tracks performance. The Paris chain supplies what CAADP lacks, an internationally recognized finance and transparency framework through which adaptation needs can be declared and external support mobilized. Each can reinforce the other, and deliberate orchestration would let them do so. The opportunity also speaks to a live negotiating agenda: the COP28 Emirates Declaration committed signatories to integrate agriculture into their NDCs and NAPs by 2025, and the COP30 talks on the Sharm el-Sheikh Joint Work returned to the same aim. For the continental dimension at least, the data show that this integration still lies largely ahead: the instruments anchor strongly to the global frameworks and have yet to reference the continental ones.

Why the two systems have evolved separately is not mysterious; it is institutional, and therefore tractable. NDCs and NAPs are prepared by environment ministries, whose focal points sit in the UNFCCC and the Rio conventions, so those are the frameworks they cite, a tendency reinforced by the global templates

the reporting process itself supplies. CAADP and the national agriculture investment plans sit instead with agriculture ministries and the planning machinery of the African Union, a different administrative space with which the climate documents have so far had few structured occasions to connect. Closer alignment is thus a matter of deliberate coordination between ministries and between continental and global processes, rather than of will, which is encouraging, because coordination is cheaper to build than capacity or capital.

This institutional reading has a corollary that matters for who is best placed to act. Because the opportunity lies in the seam between ministries and between continental and global processes, the actors best positioned to capture it are those that straddle that seam: the African Union, which owns CAADP and sits in the negotiations, and continental initiatives whose mandate is precisely to connect African agriculture to the climate regime. The role is not in the gift of any single environment ministry or any single donor; it is an orchestration role, well suited to an African-led, neutral facilitator.

Concrete gains follow from bringing the two systems into concert. At present, adaptation actions declared internationally are not yet tracked domestically, so they sit outside the continent's own accountability; the continental budget commitment is not yet linked to the internationally declared need, so the two do not yet reinforce each other; and a country often reports twice, in differing formats, to audiences that have had no occasion to reconcile the figures. Set out more fully below, the value of fuller integration is measured in effort saved, priorities financed and a stronger, better-documented negotiating position.

These opportunities are not independent; they compound. Streamlining duplicate reporting frees the capacity that could cost the orphan levers; financing those levers narrows the resilience gap that better-measured sinks would help close; and a stronger negotiating position attracts the finance that could fund all three. Integration is therefore a self-reinforcing system rather than a sum of separate fixes, which is why the connective agenda is most effective when pursued as a whole.

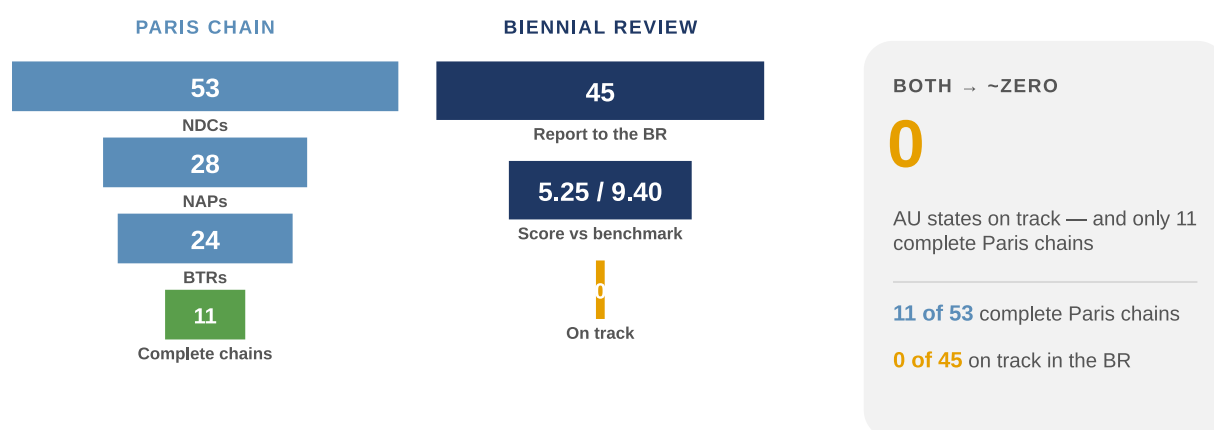


Figure A.5.3. Both systems narrow sharply toward a complete, on-track record: 45 report to the BR but none is on track; 53 NDCs fall to eleven full chains.

Sources: 5th CAADP BR (2025); author's NDC–NAP–BTR triangulation (2026).

CAADP offers the Paris chain	The Paris chain offers CAADP
National Agriculture Investment Plans (a delivery vehicle)	An internationally recognized finance framework
The 10% budget commitment (domestic effort)	The Enhanced Transparency Framework (delivery tracking)
The Biennial Review scorecard (naming and tracking)	A standard for declaring quantified adaptation need
A continental, Africa-owned accountability spine	Access to the NCQG and international climate finance

Table A.5.2. Complementary strengths: what each accountability system offers the other.

Source: synthesis of Sections A.3 and A.4.

Why has this gap persisted? Between environment and agriculture ministries the seam is structural, not a failure of officials to cooperate. The two answer to different reporting cycles and different donor demands; each operates within its own mandate and accountability lines; there is as yet no established mechanism that rewards integration, and no continental authority empowered to require alignment. Treating this gap as a simple oversight understates it: separate mandates, cycles and reporting lines sustain it, and closing it means building positive incentives for integration, not only issuing better guidance.

None of this is irreversible, and the report treats it as the central opportunity rather than a verdict. The two systems can be joined without merging them or building anything new, and Part C develops the steps as the first direction of Roadmap to 2036. Four moves would do

most of the work. A shared crosswalk would let every adaptation action carry, on one line, its NDC paragraph, its NAIP budget line, its BTR finance code and its CAADP Biennial Review indicator, so the same action is visible to both systems at once. A common indicator set would align the Global Goal on Adaptation indicators with the Biennial Review, so the same outcome is measured once rather than twice. A synchronized review moment would read the NDC–NAP–BTR cycle and the Biennial Review against the same data, so the two scorecards finally meet. And a standing bridge between the environment and agriculture ministries (and, continentally, between the UNFCCC focal points and the AUC and AUDA-NEPAD) would give the seam an owner. None of these asks Africa to create a new instrument; each connects instruments that already exist, with CAADP as the natural continental anchor.

A.5.3. Orphan levers and their continental delivery vehicles

Around the four orphan levers (defined in Section A.4.3.5), the gap is most consequential and most addressable. Across the NDC, NAP and BTR layers alike, agricultural insurance, agroecology, resilient seeds and integrated climate-smart agriculture are the least costed, least planned and least financed sub-sectors of African adaptation. Yet each has a named continental instrument built precisely to deliver it, the very instruments described above. The orphan-lever finding therefore identifies not only a gap but the specific bridges that, if built, would close it.

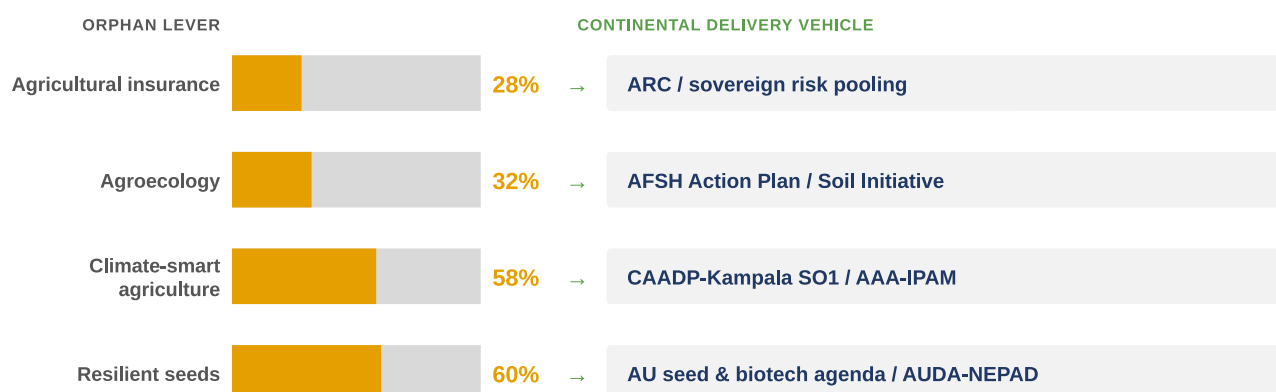


Figure A.5.4. Orphan levers (orange) are weakly covered in NDCs, yet each maps to a continental delivery vehicle (Table A.5.3).

Source: author's NDC analysis (2026); AU thematic plans.

Orphan lever	NDC coverage	Continental delivery vehicle
Agricultural insurance	28%	Malabo/Kampala resilience & risk-transfer agenda (Commitment 6)
Agroecology	32%	Africa Fertilizer and Soil Health Action Plan
Resilient seeds & genetic resources	60%	Kampala Strategic Objective 5 (resilient agrifood systems)
Climate-smart agriculture	58%	CAADP Commitment 6 / Kampala SO5
Water & irrigation	94%	Africa Water Vision 2063 and Policy
Early warning	89%	EW4All Action Plan for Africa / GGA EWS target

Table A.5.3. Mapping the under-served adaptation levers to their continental delivery vehicles.

Sources: author's NDC analysis (2026); AU thematic plans.

Taken lever by lever, the bridges are specific. Present in a little over a quarter of NDCs and almost absent from BTR delivery, agricultural insurance maps to the risk-transfer and resilience strand of the Malabo and Kampala agenda and to continental instruments such as sovereign risk pooling. Here the gap is less a shortage of vehicles than a failure to name them in the country instruments. Agroecology, costed in fewer than a third of NDCs, is the natural province of the Africa Fertilizer and Soil Health Action Plan, whose soil-restoration agenda is an adaptation agenda by another name.

Resilient seeds and genetic resources, and integrated climate-smart agriculture, sit under the Kampala Strategy's resilient-agrifood-systems objective and under CAADP Commitment 6. Appearing in roughly six in ten NDCs but rarely with a quantified target or a financing line, both leave the continental objective in place without the country-level specification that would let it be funded. Water and irrigation, by contrast, are well covered in the country instruments and have a strong continental anchor in the Africa Water Vision 2063. The lesson is that where a continental instrument

is visible and a country priority is costed, coverage follows; the orphan levers lack one or both.

One qualification shapes how these vehicles are used: they are not of the same institutional kind, and the connective task differs by type. Five functional roles recur across the continental instruments named here, a policy anchor that sets targets and accounts for them (CAADP, the Kampala Strategy, the Africa Fertilizer and Soil Health Action Plan); a coordinating institution with its own governance and convening mandate (the African Union Commission, AUDA-NEPAD); a financing or risk-transfer mechanism able to receive and channel funds (the African Risk Capacity); an implementation platform that turns plans into programs (the national agriculture investment plans and regional seed systems); and a technical or regulatory instrument (harmonized seed catalogues, genebanks and soil-information systems). A vehicle that can itself receive and move money, such as the African Risk Capacity, plays a different role in the chain from a policy framework that can only anchor and account, such as the Fertilizer and Soil Health Action Plan; matching each orphan lever to the right type of vehicle, not to a vehicle in the abstract, is part of what the crosswalk operationalizes.

A worked example shows what alignment would mean in practice. A country that today lists «promote climate-smart agriculture» in its NDC without a figure could, in its next NAP, cost a specific CSA program, tag it to Kampala Strategic Objective 5 and to CAADP Commitment 6, record its financing line in the BTR, and report its progress through both the Biennial Review and the GGA indicator on resilient practices. One action would then be legible across both systems, declared, planned, costed, financed and tracked, instead of appearing as an untracked aspiration in one system and an unreferenced commitment in the other.

Multiplied across a national portfolio, this is the difference between a country that can show its adaptation effort end to end and one that can only assert it. The former can be audited, financed against results, and held to account; the latter can only declare a need and hope. Serving as the mechanism by which African agricultural adaptation would become legible, the orphan-lever bridges make the effort financeable, for what is legible can be financed.

Legibility also changes the terms of trust. A donor or a fund facing an unconnected chain must take an adaptation claim largely on faith. Facing a connected

one, an action declared, costed, financed and tracked across both systems, it can verify, disburse against results, and return. Integration thus lowers the transaction costs and the perceived risk that today deter finance from the smaller and more fragile states, which is one more reason the connective agenda is a financing measure even though its first steps cost no capital.

This matters most for exactly the countries the aggregate figures hide. The large declarers will attract some finance regardless. For the low-coverage and under-planned states, those with little beyond an NDC, legibility is the difference between visibility and neglect. A connective agenda that builds basic reporting capacity and a traceable chain in those states is therefore also an equity agenda, directing the benefits of integration toward the fragile economies that the current architecture systematically overlooks.

Read this way, the recommendation that emerged tentatively above sharpens into a precise instruction. To say that agricultural adaptation needs more finance is not enough: the diagnosis identifies which levers are neglected and which existing African instrument is responsible for each. Aligning a country's NDC and NAP actions on agroecology with the Fertilizer and Soil Health Action Plan, its irrigation actions with the Water Vision 2063, and its early-warning actions with EW4All would connect the two systems lever by lever. A continental architecture that currently sets goals would then become one that also receives, tracks and delivers the country-level commitments made under the Paris framework.

A.5.4. The shared target: Commitment 6 and the Global Goal on Adaptation

The convergence is clearest on resilience and early warning. The Malabo and Kampala commitment to enhance resilience to climate variability (CAADP Commitment 6) measures the same outcome as the early-warning dimensional target of the Global Goal on Adaptation and as the EW4All goal of protecting every person by 2027. The soil and water action plans likewise mirror the GGA's food-and-agriculture and water thematic targets⁷⁰. Three or four separate frameworks independently track the same adaptation outcomes from different institutional vantage points. This is wasteful where it duplicates reporting, but powerful where it can be harmonized.

⁷⁰ See note 37. See Sections A.2 and A.3.

In practice, then, a single harmonized indicator set could serve all of them at once. A country reporting its early-warning coverage, its resilience expenditure, its fertilizer-and-soil-health progress and its irrigation expansion would, with one act of measurement, satisfy CAADP Commitment 6, the relevant GGA targets, and the monitoring needs of the three thematic action

plans. The redundancy in the current architecture is therefore also an opportunity: rationalized, the overlap that today multiplies reporting burdens could multiply the value of each data point. This is the strongest argument for the harmonized agricultural MRV that recurs through Part A's recommendations.

Adaptation outcome	GGA target	CAADP / Kampala	Continental plan & Paris locus
Resilience & early warning	EWS dimensional target	Commitment 6	EW4All; NDC/NAP EWS actions
Food & agricultural production	Food/agriculture thematic	Commitments 3 & 4; Kampala SO1	Fertilizer & Soil Health; NDC agric. needs
Water security & irrigation	Water thematic	Kampala SO5	Water Vision 2063; NDC/NAP water actions
Investment & finance	Means of implementation	Commitment 2 (10% budget)	Kampala SO2; BTR finance / NCQG
Accountability & monitoring	Dimensional (MEL)	Commitment 7	Biennial Review; BTR / MRV

Table A.5.4. The same adaptation outcomes tracked across four frameworks.

Source: synthesis of Sections A.2, A.3 and A.4.

The sample below shows how a handful of indicators already collected for one purpose would, if standardized, satisfy several.

Indicator	CAADP	GGA	Thematic plan	Paris (NDC/BTR)
Public budget share to agriculture	Comm. 2			BTR finance
Early-warning system coverage	Comm. 6	EWS target	EW4All	NAP / BTR
Inorganic fertilizer use (kg/ha)	production	food target	Fertilizer plan	NDC
Public expenditure on resilience	Comm. 6			BTR
Area under sustainable land mgmt	production	food target	Fertilizer/soil plan	NDC / NAP

Table A.5.5. A sample harmonized indicator set: each measure serves several frameworks at once.

Source: author's synthesis.

A.5.5. A continental integration typology

Bringing the two systems together yields a continental typology of how well countries connect them, presented as a pan-African pattern rather than a ranking, and without singling out individual states. The value of the typology is that each type implies a different bridge between the country instruments and the continental architecture, so support can be matched to need rather than applied uniformly.

Integration type	Pattern across the two systems	Bridge required
Integrated	Full Paris chain present and anchored to CAADP/NAIPs; domestic accountability functioning	Maintain consistency and traceability
Ambition-led	Large declared NDC need, weak planning and delivery, little continental anchoring	Planning and finance mobilization; embed CAADP/GGA
Planning-ahead	Costed NAP exceeding NDC ambition but negligible delivery	Finance mobilization; link plan to NAIP and BR
Under-planned	NAP a fraction of declared need; partial costing	Costing assistance; connect to continental targets
Low-coverage	Little beyond an NDC; outside the continental tracking	Basic reporting capacity; entry into NAIP/BR

Table A.5.6. A continental typology of integration between the Paris chain and the AU architecture.

Source: author's synthesis of Sections A.3 and A.4.

The types are worth reading as a sequence of bridges rather than a hierarchy of merit. Integrated countries (those with a full Paris chain anchored to CAADP and functioning national investment plans) need only the discipline of keeping the chain consistent and traceable; the marginal task is maintenance. Ambition-led countries, with large declared needs but thin planning and delivery and little continental anchoring, need the most: both planning and finance mobilization, and the embedding of CAADP and GGA references that would give their ambition a domestic home.

Planning-ahead countries, whose costed NAPs exceed their NDC ambition while delivery remains negligible, need finance mobilization above all, plus the linkage of their plans to national investment plans and the Biennial Review so that a strong plan becomes a fundable one. Under-planned countries, whose NAPs price only a fraction of declared need, need costing assistance and connection to the continental targets. And the large

low-coverage group (states with little beyond an NDC and outside continental tracking altogether) needs the most basic intervention: the reporting capacity to enter the system at all. Each type points to a different, bounded, affordable bridge.

A.5.6. The grand crosswalk: AU architecture versus the Paris chain

A single crosswalk captures the synthesis most compactly, setting the continental architecture and the Paris chain against each other across the dimensions that matter for a diagnosis of African agricultural adaptation. Read down either column, the table summarizes one system; read across, it shows where the two meet, where they diverge, and where the bridges must be built.

Dimension	AU continental architecture	Paris chain	Status
What it measures	Agricultural transformation & resilience	Climate ambition, plans, finance	Same object
Instruments	CAADP; soil/water/EW plans; GGA reporting	NDC; NAP; BTR	Parallel
Accountability unit	Member state vs Malabo benchmark	Country vs declared NDC need	Both country-level
Coverage	45 report to the BR	53 NDC / 28 NAP / 24 BTR	Both incomplete
Verdict on delivery	No country on track (5.25 vs 9.40)	≈1.5% of need delivered	Convergent failure
Adaptation locus	Commitment 6; soil/water/EW plans	NDC/NAP actions; orphan levers	Mapped, not linked
Cross-reference	(continental, self-contained)	9% (5 of 53) of NDCs cite CAADP/Maputo	The disconnect
Delivery mechanism	NAIPs; 10% budget commitment	BTR finance ledger	Neither delivering
What each offers the other	Domestic accountability spine	International finance & transparency	Complementary

Table A.5.7. The grand crosswalk: the AU continental architecture and the Paris chain side by side.

Source: synthesis of Sections A.3 and A.4.

Read across, the crosswalk tells a consistent story line by line. The two systems measure the same object and operate at the same unit, the member state, yet they run on parallel instruments that never join. Both are incomplete and narrowing; both deliver a convergent verdict of shortfall; the adaptation levers are mapped between them but not linked; the cross-reference that would join them is present in fewer than one NDC in ten; and neither delivery mechanism is delivering. Only the final row points forward: each system offers exactly what the other lacks, which is why integration, not replacement, is the remedy.

The final row sets out the constructive part of the diagnosis. The continental architecture has the domestic accountability spine (investment plans, a budget commitment, a scorecard) that the Paris chain conspicuously lacks at country level; the Paris chain has the international finance and transparency

framework that CAADP, as an Africa-owned process, cannot itself provide. Neither is sufficient alone, and that is a complementarity to exploit: the pieces of a functioning system exist, distributed across two architectures that were never designed to connect.

A.5.7. The cost of non-integration

Before turning to what integration would achieve, it is worth naming what its absence costs, because those costs are real and recurring rather than hypothetical. Four are visible directly in the evidence above.

First, duplicated and wasted reporting. The same adaptation outcomes are measured for CAADP, for the GGA, for the thematic action plans and for the Paris chain, in differing formats and on different cycles, so scarce statistical capacity is

spent producing parallel numbers that are never reconciled. A continent short of MRV capacity can least afford to measure the same thing four times.

Second, unfinanced priorities. The orphan levers most central to on-farm resilience fall precisely in the gap between the systems: under-specified in the country instruments and unreferenced to the continental vehicles that could deliver them, they attract neither domestic budget nor international finance. This gap concentrates its costs on exactly the interventions that matter most for smallholders.

Third, unmeasured assets. The carbon sinks documented above, the Congo Basin above all, go unestimated in the BTRs and unrewarded by either system, so a continental asset of planetary value generates no finance because no framework counts it. Integration would not by itself measure the sink, but a connected system would make the gap in measuring it visible and accountable, provided any resulting finance accounts for the uncertain size and the impermanence of forest-carbon stocks.

It is worth being precise about what integration can and cannot do here. It cannot, by itself, install Tier 2 inventories or estimate a forest sink; that requires technical investment. What it can do is ensure that the absence of those measurements is no longer invisible, so that a missing sink shows up as a gap in a connected chain rather than disappearing silently between two systems that do not yet compare notes. Integration makes gaps findable, which is the precondition for fixing them.

Fourth, a weakened negotiating position. A continent that cannot show a connected, costed, tracked chain from ambition to delivery arrives at the climate-finance negotiations able to declare a need but not to demonstrate effort or absorptive capacity. In weakening the very case for the finance whose absence it partly reflects, this gap forms a vicious circle that only integration can break.

None of these four costs is hypothetical, and their orders of magnitude are already in the evidence. The duplication runs across four parallel reporting systems on a base of scarce capacity, only one of twenty-three African AFOLU inventories reaches the highest IPCC tier. The unfinanced-priorities cost falls on agriculture, which records about USD 2.1 billion received against some USD 80 billion of declared need, roughly 2.6 per cent, with the orphan levers below even that. The unmeasured-assets cost sits on the Congo Basin, the continent's largest carbon sink: only four of the fourteen finance-traceable countries report any forest

removals at all, so a store of planetary value earns nothing because no framework counts it. And the weakened-negotiating-position cost is the 1.5 per cent itself: a continent able to trace barely USD 8.2 billion of some USD 566 billion declared arrives able to state a need but not to demonstrate absorption. Compounded across the decade, this same non-integration is what prices the current path at a USD 510 billion import bill and 59 million people left in extreme poverty by 2043 (Section C.1.3).

A.5.8. What integration would look like in practice

Integration is easiest to grasp through the unit it would change: the single adaptation action. Today an action may be declared in an NDC, costed (or not) in a NAP, financed (or not) through channels recorded in a BTR, and tracked (or not) in the Biennial Review, four appearances, in four documents, with nothing guaranteeing they describe the same thing. An integrated system would make one action legible end to end: declared in the NDC, costed in the NAP and the national investment plan, tagged to a CAADP commitment and a GGA target, financed through a traceable BTR line, and reported once through a harmonized indicator that satisfies all four frameworks.

At national scale, this is the crosswalk discipline recommended throughout Part A made operational: a country register in which every adaptation action carries its NDC paragraph, its NAIP line, its BTR finance code and its Biennial-Review indicator, so that ambition, plan, finance and result are joined by construction rather than reconciled after the fact. Nowhere on the continent does such a register yet exist for a complete portfolio. Building one, even for a single country, would be the most useful demonstration the next decade could offer, and it needs coordination and templates far more than it needs new capital.

A.5.9. Implications: the connective mandate

The synthesis points to a single, high-leverage conclusion. The continent has ambition, plans, and even the institutional instruments to act; what it lacks are the connections between them. Two accountability systems track African agricultural adaptation and neither talks to the other; four thematic levers are neglected in the country instruments while the continental instruments built to deliver them go unreferenced; and the same adaptation outcomes are measured three or four

times over without harmonization. Restated in the language of this synthesis, the binding constraint is integration.

That conclusion defines a connective mandate, and it is the natural hinge to Part B. The highest-return, lowest-cost intervention available to the African Union and to a continental initiative is to connect the instruments that already exist rather than build new ones: to embed CAADP, Malabo, Kampala and the GGA agriculture and early-warning targets in NDC and NAP guidance; to require a crosswalk that links each adaptation action to its NDC paragraph, its national investment plan, its BTR finance line and its Biennial-Review indicator; to harmonize the overlapping indicator sets into one; and to channel support to the neglected levers through the continental vehicles already responsible for them⁷¹. None of this requires waiting on the international finance negotiations; all of it strengthens the continent's hand within them, because a country that can show a connected, costed, tracked chain is a country that can be financed.

This is the diagnosis Part A hands forward. Over the decade under review the components of a functioning system were built (ambition, plans, a continental architecture, a transparency framework) but left unconnected. Whether the AAA Initiative, over its first ten years, helped close that gap, and how it might do so over the next ten, is the question Parts B and C take up. Having shown what the connective task is, the synthesis leaves the assessment that follows to ask how far it has been, and can be, accomplished.

For this connective mandate to work, four governance conditions must hold, and they are conditions of governance rather than of funding. First, inter-ministerial coordination that brings the environment, agriculture and finance ministries around a single plan rather than three parallel ones. Second, a shared set of indicators that serves several frameworks at once, so that a result is counted once rather than re-counted differently for each. Third, interoperable data systems, so a figure reported once can be read by the NDC, the NAP, the BTR and the CAADP review alike. Fourth, explicit accountability arrangements that name who is answerable for each link in the chain. These

conditions, not additional ambition, are largely what separates the countries that close the chain from those that do not, and the connective mandate is an offer to help existing institutions meet them, not to build a new structure beside them.

A.5.10. Sequencing the connective agenda

The connective mandate is an ordered program, and the order matters because the early steps make the later ones possible. The first and cheapest step is traceability: requiring that NDCs and NAPs carry the crosswalk described in the preceding section. This step costs templates and coordination, not capital, and is the precondition for everything else, because an action that cannot be traced cannot be financed against results or counted in either system.

Harmonization is the second step: collapsing the four overlapping indicator sets into one, so that a single national measurement discharges the CAADP, GGA, thematic-plan and Paris reporting obligations together. Doing so relieves the very MRV-capacity constraint that duplicated reporting creates, and the task is most naturally led by the African Union in concert with the UNFCCC processes described above. Embedding forms the third step: writing CAADP, Malabo, Kampala and the GGA agriculture and early-warning targets into the national guidance that shapes the next generation of NDCs and NAPs, so that the connection becomes the default. With its coming second-iteration wave, the young state of the NAP corpus is the natural moment to do it.

Only then does the fourth step, channeling finance to the orphan levers through the continental vehicles responsible for them, have the costed, traceable, harmonized foundation it needs to be effective. Sequenced this way, the agenda front-loads the steps that are within African agency and cost little, and positions the continent to make the financing case from a position of demonstrated readiness rather than declared need. The sequence, not any single measure, is the recommendation.

Step	Action	Cost	Lead
1. Traceability	A crosswalk linking each adaptation action to its NDC paragraph, NAIP line, BTR finance code and Biennial-Review indicator	Templates & coordination	AU + member states
2. Harmonization	One indicator set discharging the CAADP, GGA, thematic-plan and Paris reporting obligations together	Coordination	AU + UNFCCC process
3. Embedding	CAADP/Malabo/Kampala and GGA targets written into national NDC and NAP guidance	Programmatic	AU + partners
4. Financing	Channel support to the orphan levers through the continental vehicles responsible for them	Capital	Donors + AU + AfDB

Table A.5.8. The connective agenda, sequenced: the first three steps need coordination, not capital.

Source: synthesis of Sections A.3–A.4.

⁷¹ Synthesis of the recommendations in A.3–A.4: embed CAADP/Malabo/Kampala and GGA targets in NDC/NAP guidance; require NDC–NAP–NAIP–BTR–BR crosswalk tables; harmonize indicator sets; channel orphan-lever support through the continental vehicles.

Indicative cost bands (order-of-magnitude, author estimate; re-priced against realized unit costs at the 2031 mid-decade review) run as follows: shared templates, guidance and definitions typically cost under USD 0.5 million; standing coordination mechanisms and convening, USD 0.5–2 million a year; technical-assistance and project-preparation facilities, USD 2–10 million; and a continental data-and-accountability platform, above USD 10 million. Against the finance gap each would help unlock, none is large.

One implementation risk must be named. Central tasks fall to the African Union under the connective agenda, embedding targets, harmonizing indicators, coordinating ministries, yet the Commission's own staffing, budget and authority to drive them are not assured. Strengthening the relevant departments, agriculture, climate change and statistics, is itself a prerequisite for the mandate to work.

At a glance, the table shows the affordability of the agenda. Three of the four steps require coordination and templates while only the fourth depends on capital. That fourth step is also the one best positioned to succeed once the first three have made the chain costed, traceable and harmonized. Genuine dependencies, not bureaucratic neatness, dictate the ordering. Finance cannot flow efficiently to actions that are not yet traceable, and harmonized reporting cannot be built on instruments that do not yet reference one another.

Before Part B takes up what this diagnosis means for the Initiative, five further readings complete it: the finance constraint in depth (A.6), the capacity constraint behind it (A.7), and the technical, social and governance content the connective mandate must carry (A.8–A.10).

Section A.5 in brief. Two accountability systems built in parallel, the CAADP Biennial Review (continental score 5.25 against a 9.40 benchmark) and the Paris chain (about 1.5 per cent of declared need delivered), reach the same verdict from opposite ends, and their convergence is what makes the diagnosis robust. The binding issue is an untapped synergy rather than a flaw in either system: each holds what the other lacks. Realizing it is sequenced: traceability and costing first (coordination, not capital), harmonization and embedding next, and finance to the orphan levers last, with the early and decisive steps the cheapest.

72 Author's NDC analysis (2026): -USD 566 bn declared adaptation need (-USD 56 bn/yr); agriculture -USD 80 bn (-USD 7.4 bn/yr). See Section A.4.

73 Author's BTR analysis (2026): -USD 8.2 bn climate finance received, -USD 2.1 bn to agriculture; -1.5% of declared need overall, <3% of agricultural need; -71% concentrated in three countries. See Section A.4.

A.6. Finance for agricultural adaptation



The preceding sections converge on a single conclusion: the binding constraint on African agricultural adaptation is the translation of plans into delivered, measured finance rather than any shortfall of ambition. This section examines that constraint directly. It asks not only how much finance reaches African agricultural adaptation (the answer, established above, is very little) but also what kind of finance it is, through what architecture it flows, why so little arrives, and what would change the picture. The finance problem is as much one of quality, structure and conditionality as of sheer volume, and the levers most able to shift it are partly within African control.

A.6.1. The finance gap restated

The finance gap, established in Section A.4.5, is worth restating in the per-year terms this section builds on. Across the 46 NDCs that quantify needs, African states declare about USD 566 billion of adaptation need, roughly USD 56 billion per year, of which agriculture accounts for some USD 80 billion in stock and about USD 7.4 billion per year. Against this, the Biennial Transparency Reports record about USD 8.2 billion of climate finance received in total, of which around USD 2.1 billion is traceable to agriculture, a small fraction of the declared need. Set on a per-year basis, agriculture's declared requirement of about USD 7.4 billion per year dwarfs the cumulative finance ever recorded as received over the whole reporting period, about USD 2.1 billion, a stock equivalent to roughly 0.3 years of the annual need⁷²⁷³.

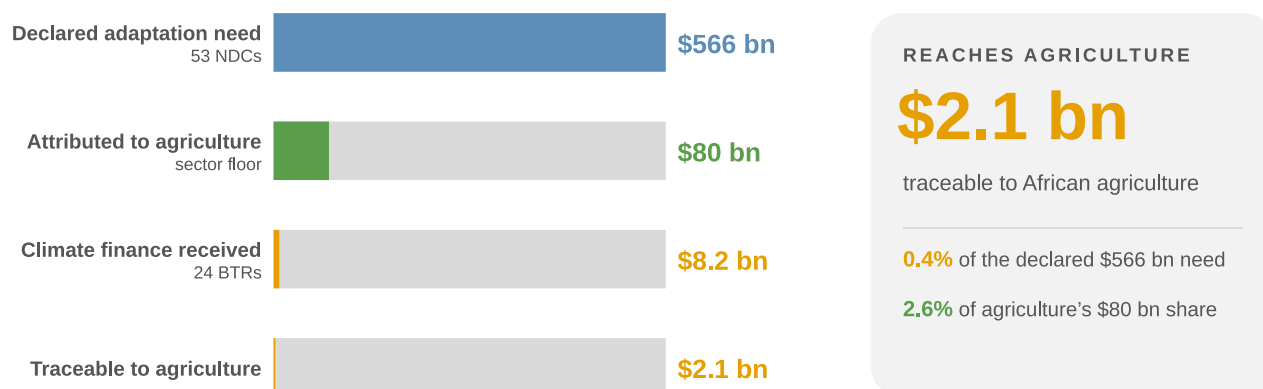


Figure A.6.1. The agricultural climate-finance deficit: declared need, agriculture's share, finance received and the share traced to agriculture.

Reading: bars are on a plain linear scale; the finance-received bar is genuinely a sliver of declared need, with exact values labeled on each bar.

Source: author's NDC and BTR analyses (2026).

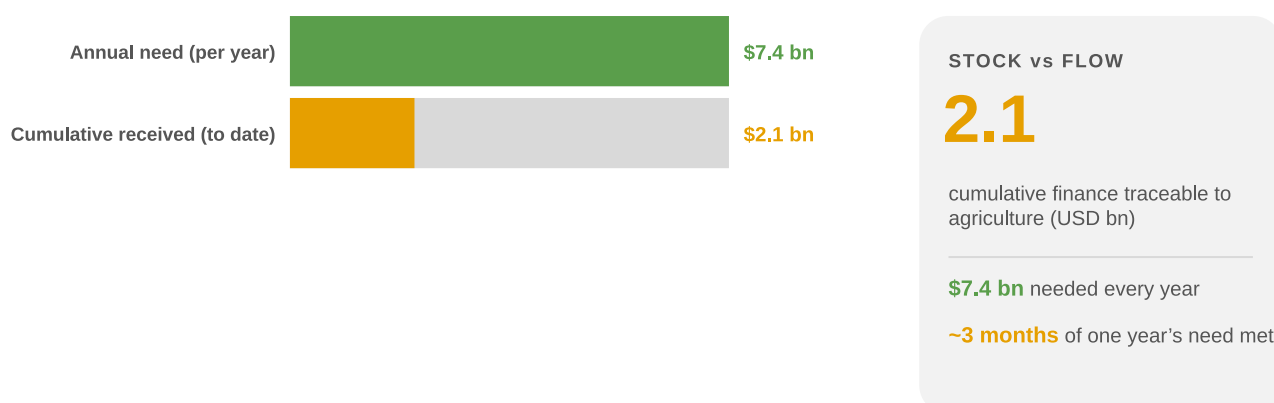


Figure A.6.2. Agriculture: annual adaptation need versus the cumulative finance recorded as received.

Reading: block heights are proportional to the amounts shown. Sources: author's NDC and BTR analyses (2026).

Two framings put this in perspective. Agriculture's USD 7.4 billion per year is modest against flows the continent already sustains, a fraction of its annual food-import bill. Small relative to the global economy, the gap is large only relative to what has actually been delivered. The shortfall is also unevenly shared: about 71 per cent of all recorded receipts went to just three countries, so for most states the effective delivery rate is a fraction of even the 1.5 per cent continental figure. Rather than sums that are astronomical, the difficulty is a delivery system that reaches so few, with so little, so unreliably.

The reliability point deserves emphasis, because adaptation is a multi-year undertaking. A farmer adopting drought-tolerant practices, a state expanding irrigation, a ministry building an early-warning system all need finance that arrives predictably over years, not in concentrated, one-off

tranches to a handful of countries. Documented in the BTRs, the concentration is therefore a problem of equity as much as of effectiveness. Even the countries that do receive finance often receive it in forms and rhythms poorly matched to the long horizon of resilience-building.

Compounding the unreliability are the geopolitical pressures described earlier. With official development assistance projected to fall, a major bilateral provider terminating much of its allocation, and a multilateral framework facing expiry, the external channel on which three-quarters of declared need depends is becoming both smaller and less predictable. In this environment, a financing base built on conditional external transfers rests on uncertain ground. Here lies the strongest practical argument for raising the domestic and continental share examined later in this section.

71 Synthesis of the recommendations in A.3-A.4: embed CAADP/Malabo/Kampala and GGA targets in NDC/NAP guidance; require NDC-NAP-NAIP-BTR-BR crosswalk tables; harmonize indicator sets; channel orphan-lever support through the continental vehicles.

A.6.2. The instrument problem: debt versus grants

Volume is only half the story; the form of the finance matters as much. As established in Section A.1.4, public climate finance remains dominated by loans rather than grants (about 73 per cent in 2023 and 67 per cent in 2024); the same OECD findings break the remainder down as grants of 24 and 29 per cent respectively (USD 24.8 and 29.7 billion) and equity marginal at 4 and 3 per cent (shares may not sum to exactly 100 owing to rounding)⁷⁴. For adaptation in agriculture, which generates resilience and

public goods rather than easily monetized returns, loan-based finance is particularly ill-suited. The headline loan share, moreover, says nothing about concessionality: even highly concessional loans (long maturities, low rates) still consume future fiscal space and must be serviced in hard currency. They thus compete directly with recurrent adaptation spending during the very shocks adaptation is meant to absorb. Loan-based finance therefore adds to the debt burden of states already in or near distress, and must be serviced from the same constrained budgets that climate shocks repeatedly divert to emergency relief.

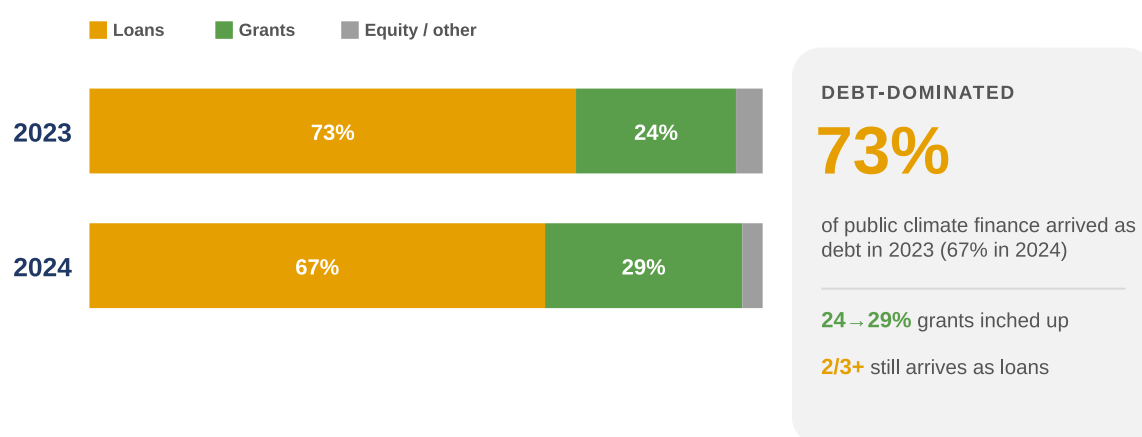


Figure A.6.3. Public climate finance remains debt-dominated: 73 per cent (2023) and 67 per cent (2024) arrived as debt instruments.

Reading: segment widths are proportional to the amounts shown, loans, grants, equity.

Source: OECD (2026), *Climate Finance Provided and Mobilized by Developed Countries*, p. 12.

This architecture has produced a predominance of loans over grants, with a self-reinforcing consequence: climate-exposed economies borrow to adapt, the borrowing deepens the debt distress that climate shocks worsen, and the rising debt service crowds out the very adaptation spending the finance was meant to enable. Whether finance, once delivered, actually advances resilience or merely transfers a future liability turns on the instrument mix. A dollar of grant and a dollar of loan are recorded identically in the headline totals and could hardly differ more in their effect on a fragile agricultural economy.

A measurement distortion also lies buried in the headline totals. Because loans are counted at face value rather than grant-equivalent, a continent reported to have received a given sum of climate finance has in reality received far less in concessional

terms; a portion of the nominal total is simply money it must repay with interest. Any fair accounting of what has reached African agricultural adaptation would discount the debt component heavily, pushing the already low delivery figures lower still.

Quantity is not the only question; quality and alignment matter as much. The Green Climate Fund has channeled about USD 7.4 billion cumulatively to Africa across 122 adaptation or cross-cutting funded activities (author's extraction from the GCF country database, July 2026); its full portfolio to Africa, across all themes, runs to about USD 9.6 billion over 148 activities (Annex Table 4.5). Most activities are small or medium in size, a profile that both reflects and reinforces the limited capacity of national entities to absorb large programs. On alignment the headline totals stay silent. The persistent under-financing of the four orphan levers indicates that

⁷⁴ See note 21. See Section A.1.

flows do not track country-stated priorities, and the predominance of debt instruments means that even “support” can deepen the fiscal bind rather than relieve it.

Two finance-quality questions lie beyond this diagnostic’s scope: whether climate finance is genuinely additional to ODA rather than re-labeled, and the true concessionality of what is counted, tied procurement, interest rates and grace periods. Both are priorities for the Part B evaluation of the Initiative’s fundraising.

A.6.3. The multilateral public architecture

African agricultural adaptation draws on a layered architecture of multilateral public funds, built up over two decades of climate negotiations. Each fund has a distinct mandate, scale and degree of accessibility. Together they form the formal channel through which most internationally declared adaptation need is meant to be met.

Fund / goal	Since	Role and relevance to African agricultural adaptation
Green Climate Fund (GCF)	2010	Largest dedicated climate fund; adaptation and mitigation windows; the single largest identifiable source of traceable BTR finance after the World Bank.
Adaptation Fund	2001	Adaptation-only; small but agriculture-relevant; transitioned at COP30 to serve the Paris Agreement exclusively.
GEF / LDCF / SCCF	2001	Least-developed-country adaptation; underwrote the NAPA and NAP processes.
Loss and Damage Fund	2022/23	Post-disaster loss and damage; operationalized from COP28; nascent for agriculture.
New Collective Quantified Goal	2024	At least USD 300 bn/yr by 2035, with a Baku-to-Belém roadmap toward USD 1.3 tn/yr; the headline future envelope.

Table A.6.1. The multilateral public finance architecture for adaptation.

Source: Section A.2 (AAA Initiative compilation of the global climate-negotiations timeline, 1992–2025, from IISD/ENB and UNFCCC decisions).

Seen from the recipient side, the scale of this architecture is consistent with the diagnosis. Across the thirty multilateral climate funds tracked by Climate Funds Update, about USD 42.4 billion had been approved for some 4,066 projects worldwide by early 2026. Sub-Saharan Africa is the single largest regional recipient, with roughly USD 11.0 billion across 1,297 projects; a further USD 2.1 billion has gone to North Africa, and least-developed countries, most of them African, account for about USD 9.1 billion. Yet only some USD 10.9 billion of the global total, about a quarter, is adaptation-themed; the remainder is mitigation, REDD or multi-focus. Grants dominate by number, but concessional loans still carry roughly a third of the value, echoing the debt tilt documented above. The dedicated adaptation funds on which African agriculture most relies remain modest in absolute terms: over their lifetimes the Adaptation Fund has approved about USD 1.45 billion, the Least Developed Countries Fund USD 1.73 billion, the Pilot Program for Climate Resilience about USD 1.0 billion, and IFAD’s Adaptation for Smallholder Agriculture Programme about USD 0.28 billion (programme-wide approvals). Set against an agricultural adaptation need of roughly USD 7.4 billion per year, two decades of

these dedicated funds together approved less than a single year of what the continent says it requires⁷⁵.

A fund-level lens sharpens one feature the aggregate hides: how the money reaches the ground. The Adaptation Fund’s own project database, extracted on 10 July 2026, records 267 projects worth about USD 1.57 billion in approved grants, of which USD 0.92 billion, 59 per cent, has been disbursed⁷⁶. Africa is its largest region, with 108 projects and about USD 609 million, but the instructive pattern is the access modality. The Adaptation Fund pioneered direct access, allowing an accredited national implementing entity to receive and manage finance without an international intermediary, and in Africa this is now the dominant channel: 58 of the 108 African projects run through a national entity, against 38 through a multilateral agency and 10 through a regional one (two further projects carry no entity classification in the extract). More telling, the national channel delivers better: African projects implemented by national entities have disbursed 70 per cent of their approved grants, against 53 per cent for those routed through multilateral agencies. Agriculture, food security, rural development and water management together account for 44 of the

⁷⁵ Author’s analysis of Climate Funds Update (climatefundsupdate.org), Multilateral Climate Funds database, data current as of February 2026: USD 42.37 bn approved across 30 funds and 4,066 projects; Sub-Saharan Africa USD 10.96 bn (1,297 projects), Middle East and North Africa USD 2.13 bn; adaptation-theme USD 10.90 bn; grants USD 24.6 bn versus concessional loans USD 14.1 bn; least-developed countries USD 9.11 bn. Fund-level approvals: Adaptation Fund USD 1.45 bn, Least Developed Countries Fund USD 1.73 bn, Special Climate Change Fund USD 0.30 bn, Pilot Program for Climate Resilience USD 1.01 bn, ASAP USD 0.28 bn.

⁷⁶ Author’s analysis of the Adaptation Fund project database, extracted 10 July 2026 (267 projects; about USD 1.57 bn approved and USD 0.92 bn disbursed; 108 African projects). This fund-level total is more recent than, and slightly above, the USD 1.45 bn lifetime approval recorded from Climate Funds Update (February 2026) cited above; the two differ in source and extraction date rather than in substance.

African projects and about USD 340 million, placing the fund squarely in the agrifood space. The pattern prefigures the preparation-and-accreditation argument of Part C: where an African institution is accredited to receive adaptation finance directly, the money not only arrives but moves, direct access is, on this evidence, a question of delivery as much as of ownership (Direction C.3.4).

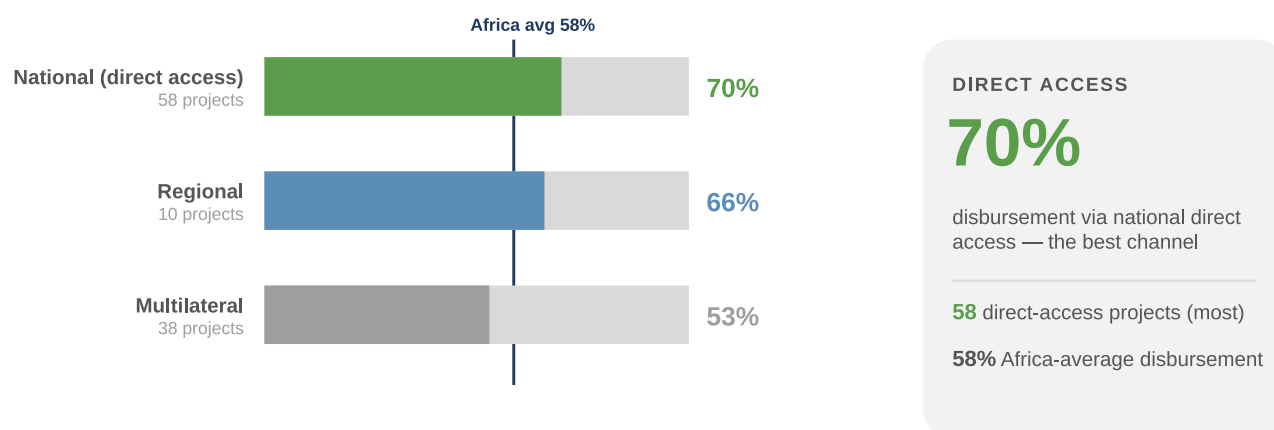


Figure A.6.4. The Adaptation Fund in Africa: direct access is the dominant channel and the best-disbursing one.

Source: author's analysis of the Adaptation Fund project database, extracted 10 July 2026 (108 African projects; national = direct-access national implementing entities).

A second, larger fund-level lens broadens the picture beyond adaptation alone. The Global Environment Facility, the oldest multilateral environmental financier, the entity that funds the Technology Needs Assessments and underwrote the NAPA and NAP processes, has, across its history, committed about USD 9.98 billion in grants to 2,365 projects involving Africa, roughly 37 per cent of its global grant total. In doing so it has mobilized some USD 65.8 billion of cofinancing: every GEF grant dollar in Africa is matched by about 6.6 dollars from other sources⁷⁷. That multiplier is the GEF's distinctive contribution to the mobilization half of the climate-finance goals, the Baku-to-Belém USD 1.3 trillion aspiration is itself a mobilization target, and it is the clearest continental evidence that concessional public grants can lever co-financier capital at scale. The GEF is not an adaptation fund: its African portfolio spans climate change (USD 5.41 billion), biodiversity (USD

4.43 billion) and land degradation (USD 3.10 billion); multi-focal projects are counted under each relevant area, so these figures overlap and exceed the grant total. Its dedicated adaptation windows, the Least Developed Countries Fund and the Special Climate Change Fund, account for USD 1.47 billion across 293 African projects, at a 4.6-times cofinancing multiplier. But two of its windows sit squarely in the agricultural-adaptation space: land degradation finances sustainable land and soil management directly, and the LDCF and SCCF finance the adaptation the country instruments prioritize. The lesson for Part C is not that the GEF should simply do more, but that its cofinancing model, a public grant structured to pull in several times its value, is the template the connective agenda needs to turn prepared African projects into financed ones at scale.

⁷⁷ Author's analysis of the GEF project database, extracted 10 July 2026: 2,365 of 6,732 projects (35%) involve Africa, carrying about USD 9.98 bn of GEF grants (37% of the global grant total) and about USD 65.8 bn of cofinancing, a 6.6-times leverage; the adaptation-dedicated windows (LDCF and SCCF) account for USD 1.47 bn across 293 African projects. Figures are cumulative across GEF replenishment periods since 1991, not annual flows.

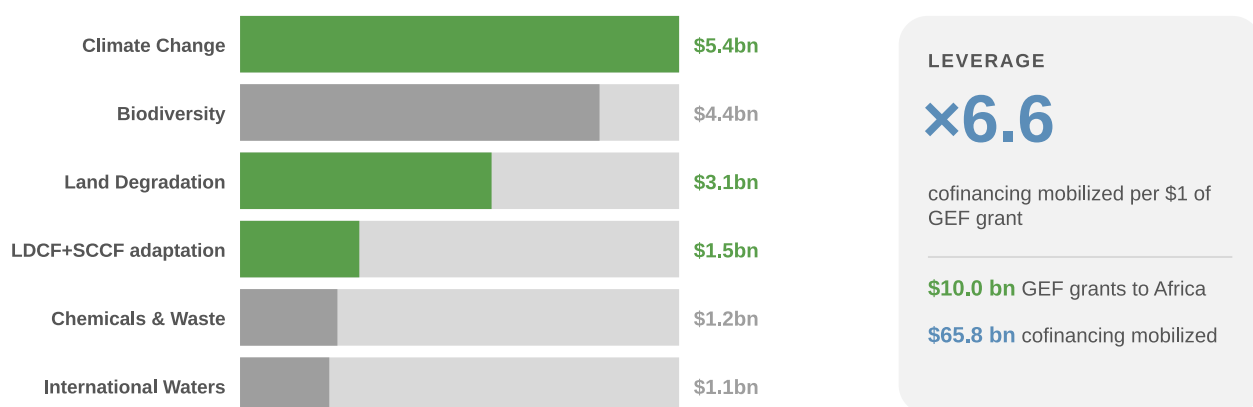


Figure A.6.5. The GEF in Africa: a broad environmental portfolio whose grants mobilize several times their value in cofinancing.

Source: author's analysis of the GEF project database, extracted July 2026 (2,365 projects involving Africa).

Fund / window	Projects (Africa)	Grant to Africa	Cofinancing mobilized	Leverage
Adaptation Fund (adaptation-only)	108	USD 0.61 bn		
GEF, all windows	2,365	USD 9.98 bn	USD 65.8 bn	x6.6
GEF, adaptation windows (LDCF/SCCF)	293	USD 1.47 bn	USD 6.79 bn	x4.6

Table A.6.2. Fund-level snapshot: what two dedicated funds have committed to Africa (2026 extractions). Cofinancing is reported by the GEF; the Adaptation Fund extract carries no cofinancing field.

Sources: author's analysis of the Adaptation Fund project database (10 July 2026) and the GEF project database (July 2026).

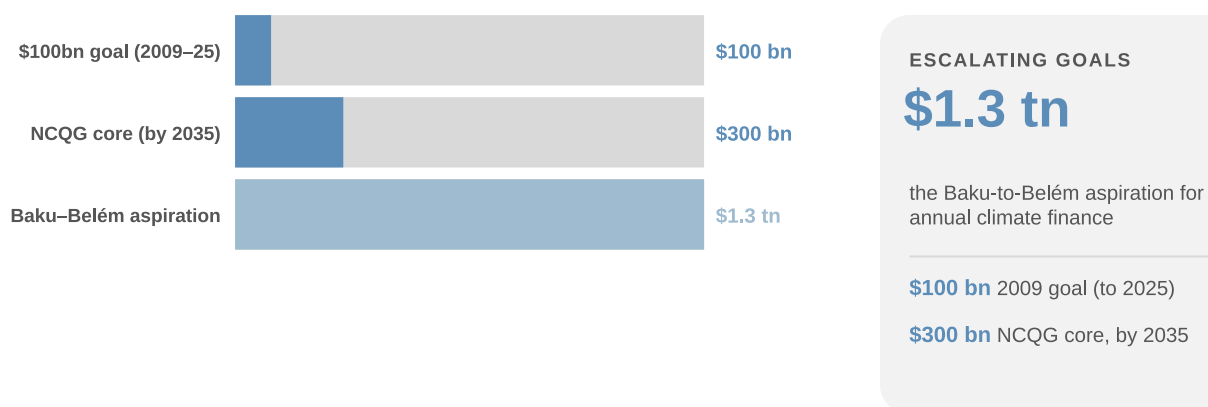


Figure A.6.6. The escalating global climate-finance goals.

Source: UNFCCC; Section A.2.

Escalating from USD 100 billion per year, through the USD 300 billion New Collective Quantified Goal, to the USD 1.3 trillion Baku-to-Belém aspiration, the headline goals are striking on paper, yet the experience of the expired USD 100 billion goal counsels caution. That target was declared met only late and largely through loans, and the BTR ledger shows how little of it reached African agriculture. A larger number is necessary, though not sufficient on its own. Without a dedicated agricultural window, a higher grant share, and channels that reach beyond the largest economies, the new goals risk reproducing the old pattern at greater scale.

A.6.4. Donors and the concentration of flows

Beneath the architecture, the actual flows recorded in African BTRs are concentrated and externally weighted. Setting aside a single unattributed Malawi line of USD 3.05 billion, about 37 per cent of all recorded flows, the World Bank (USD 995 million) is the largest identifiable source, followed by the Green Climate Fund (USD 302 million); together they supply about a quarter of traceable finance, with the AFD, GEF, IFAD, Germany and the United Kingdom also significant (the donor map is set out in Table A.4.22)⁷⁸. African-facing channels, the African Development Bank and the UNDP-hosted Central African Forest Initiative (CAFI) for the Congo Basin, capture less than 5 per cent of recorded climate flows despite a long-standing operational presence.

This donor map carries a structural risk that is worsening. A channel dominated by a few multilateral sources, with African institutions in retreat and a third of flows unattributable, is fragile precisely where the geopolitical pressures bite: exposed to shifts in a handful of donor budgets, opaque enough to resist accountability, and thin in the institutions closest to African agriculture. Diversifying the channel, toward African regional banks, toward traceable project-level attribution, and toward instruments that mobilize domestic and private capital, is a resilience measure for the finance system itself, and not merely a question of volume.

One blind spot in the donor map deserves flagging. The flows mapped here are those that surface in the Biennial Transparency Reports and the multilateral databases, overwhelmingly Western bilateral and multilateral sources. Climate and development finance from China, the Gulf states, India and other non-DAC providers to African agriculture is not systematically reported and could not be traced here⁷⁹; given the geopolitical shifts noted earlier, mapping it is a priority for further research.

A.6.5. Blended finance and private capital

Because public concessional finance is both scarce and debt-heavy, attention has turned to blended finance, the use of public funds to de-risk and crowd in private investment. The Green Climate Fund's Private Sector Facility, established in 2015, is the cornerstone instrument, combining grants, concessional loans, guarantees and equity. The Sharm el-Sheikh Adaptation Agenda of 2022 explicitly called for public-private blended finance across its priority systems, food and agriculture among them⁸⁰. In principle, blended structures suit parts of the agricultural value chain with monetizable returns (input supply, processing, logistics) even where on-farm adaptation itself is a public good.

In practice, blended finance for African agricultural adaptation remains thin, for reasons the diagnosis has already exposed. Private capital requires bankable, costed projects with measurable returns; the NDC and NAP analyses found that agriculture is largely uncoded, technologies are named without assessment, and the orphan levers most relevant to resilience are the least specified. The upstream preparation deficit that blocks public finance blocks private finance even more firmly, because private investors demand a higher standard of project readiness. Blended finance therefore depends on fixing the costing and traceability problems identified earlier, and does not offer an alternative to them.

For expectations, the sequencing point matters. Blended finance is often presented as a way to

78 Author's BTR analysis (2026), §4.2: World Bank USD 995 m and GCF USD 302 m -25% of attributable flows; Malawi aggregate USD 3.05 bn (~37%) unattributed; African regional banks <5%.

79 Not traceable from the BTRs or the multilateral databases used here; for non-DAC flows see AidData (Global Chinese Development Finance), the Islamic Development Bank, and the Gulf development funds, a priority for further research.

80 GCF Private Sector Facility (2015); Sharm el-Sheikh Adaptation Agenda (COP27, 2022), with food and agriculture among five priority systems. See Section A.2.

escape the scarcity of public concessional funds, yet it cannot leapfrog the preparation deficit; if anything it raises the bar, because private capital is less tolerant of unbankable projects than concessional public finance. Its realistic role in African agricultural adaptation is selective and downstream: viable in the commercial segments of the value chain once costing and traceability are in place, while the grants that on-farm public goods require remain irreplaceable.

Two facts frame how much weight private capital can bear. First, it is small: of the roughly USD 43.7 billion of climate finance tracked flowing to Africa in 2021/22 (Climate Policy Initiative, Landscape of Climate Finance in Africa 2024), only about USD 8 billion, under a fifth, came from private sources, and Africa drew just 1.2 per cent of global private climate finance (Climate Policy Initiative, Landscape of Climate Finance in Africa, 2024). Second, the actors who would carry adaptation on the ground are largely non-state and under-served by both public and private finance: micro, small and medium enterprises handle on the order of 85 per cent of the food Africans consume. Yet the agritech firms, decentralized solar-irrigation providers, input distributors and farmer cooperatives that bridge the last mile face financing and regulatory bottlenecks quite different from those of national

governments (Accelerating the Private Sector for Food Systems Transformation in Africa, 2024). A connective agenda that prepares bankable projects must therefore design explicitly for these non-state intermediaries, alongside ministries and funds, or the same preparation deficit will keep private capital downstream and marginal.

A.6.6. Climate-risk insurance and risk transfer

A distinct strand of the financing toolkit addresses risk rather than investment: sovereign and index-based insurance that protects farm incomes and public budgets against droughts, floods and other shocks. Africa has pioneered instruments here. The African Risk Capacity, an African Union specialized agency established in 2012, provides sovereign drought and disaster insurance of up to about USD 30 million per country per season. The InsuResilience Global Partnership, launched at COP23 in 2017, set out to protect 500 million vulnerable people by 2025, and the Global Shield against Climate Risks, launched by the V20 (the Vulnerable Twenty group of climate-vulnerable economies) and the G7 at COP27, provides pre-arranged finance deployable quickly after disasters, with Ghana and Senegal among its pathfinder countries⁸¹.



Figure A.6.7. Blended-finance and climate-risk instruments for adaptation, by year launched.

Source: Section A.2 (AAA Initiative compilation of the global climate-negotiations timeline, 1992–2025, from IISD/ENB and UNFCCC decisions).

Risk transfer matters doubly for the diagnosis, because agricultural insurance is one of the four orphan levers (defined in A.4.3.5): the least covered sub-sector in the NDCs, present in a little over a quarter of them, and near-absent from

BTR delivery. Between continental capability and country uptake the gap is wide. The African Union has built a sovereign-insurance vehicle, yet the country instruments rarely reference or cost it. Here the connective agenda applies directly: existing

⁸¹ African Risk Capacity (AU specialized agency, 2012; up to -USD 30 m/country/season); InsuResilience Global Partnership (COP23, 2017; 500 m people by 2025); Global Shield against Climate Risks (V20 & G7, COP27, 2022; Ghana and Senegal pathfinders). See Section A.2.

continentally, the vehicle need only be linked into national plans and budgets to begin closing one of the most consequential resilience gaps.

More broadly, risk transfer reframes what adaptation finance is for. Much of the debate concerns finance for investment, building the irrigation scheme, distributing the resilient seed. Insurance addresses the other half of resilience: protecting the gains, and the public budget, when shocks strike anyway. A financing strategy that funds investment but leaves farmers and treasuries uninsured against drought and flood is incomplete. For that reason, the near-absence of insurance from both the country instruments and the delivery record ranks among the more consequential gaps the diagnosis identifies.

Risk transfer also illustrates a recurring asymmetry between continental capability and country uptake. The instruments exist, a sovereign insurer in the African Risk Capacity, a global partnership in InsuResilience, a rapid-disbursement facility in the Global Shield, yet they reach only a fraction of the farmers and budgets they could cover, because the country instruments rarely cost or reference them. The binding constraint here is not the absence of a vehicle but the missing connection between the vehicle and the national plan, precisely the connective task placed at the center of the diagnosis.

A.6.7. Continental finance vehicles

Alongside the global architecture, African institutions have built their own adaptation-finance vehicles. The Africa Adaptation Acceleration Program, launched in 2021 by the African Development Bank and the Global Center on Adaptation, aims to mobilize USD 25 billion over five years to accelerate adaptation across the continent; the African Development Bank and multi-donor initiatives such as the UNDP-hosted CAFI provide further channels⁸². These vehicles matter both for the volume they add and for what they represent: African-led finance, governed closer to the point of need, and better placed to reach the smaller and more fragile states that the global channels overlook.

Yet, as the donor map showed, these African institutions presently capture under 5 per cent of

recorded climate flows. Between their potential and their current share lies one of the clearest opportunities the finance diagnosis identifies. Strengthening continental vehicles, capitalizing the AAP, expanding the AfDB's adaptation window, connecting sovereign-insurance and regional funds to the CAADP investment-planning machinery, would simultaneously address the concentration problem, the African-agency problem and the orphan-lever problem, since these are precisely the institutions positioned to finance the neglected levers that mainstream donors avoid.

A.6.8. Conditionality and the domestic-finance question

The reliance on external finance is a choice embedded in the instruments rather than a given. On average about 74 per cent of declared adaptation need is conditional on international support (the unweighted country mean; the median is 79 per cent and the need-weighted share 77 per cent⁸³), and several of the largest declarers place almost all of it in the conditional category. This share is a measure of countries' own fiscal dependence, a need declared as contingent on external support, not a pipeline of pledged or committed donor finance; the delivery gap shows these conditional needs are almost entirely unmet⁸⁴. This is a structural statement: African agricultural adaptation has been designed around external finance, with limited domestic fiscal underpinning. Yet the instruments themselves systematically understate the domestic dimension. In UNEP's Adaptation Gap Report 2025, only about 5 per cent of the adaptation needs reported by developing countries are marked unconditional, expected to be met primarily from domestic public finance, while roughly half carry no conditionality marking at all. The report expects domestic finance to grow in importance as international flows tighten. The reporting convention, in other words, renders domestic effort largely invisible in the very documents that frame the financing debate⁸⁵.

Two implications follow. First, the conditional framing can be self-defeating: by signaling that adaptation is contingent on transfers, it can deter the very domestic budgeting that the reporting conventions do not yet capture. Second, the CAADP 10-per-cent budget commitment is, in effect, a domestic-finance

82 Africa Adaptation Acceleration Program (AfDB & Global Center on Adaptation, 2021): goal of mobilizing USD 25 bn over five years. See Section A.2.

83 The two shares are different aggregations of the same data: 77% is the need-weighted continental share, while 74% is the un-weighted mean of the five sub-regional averages. Per-country and sub-regional tables therefore differ by construction, not by error.

84 Author's NDC analysis (2026): average conditional share -74% (unweighted regional mean; need-weighted 77%, see note 83; median 79%); several large declarers at or near 100%. See Section A.4.

85 UNEP (2025), Adaptation Gap Report 2025: unconditional needs =5% of reported totals, to be met primarily from domestic public finance; domestic finance expected to grow in importance (pp. 45 and 59). See Section A.1.

instrument hiding in plain sight, met by only four states, but a lever that, if honored, would mobilize far more than the international channel delivers. A more resilient financing base runs not only through larger external flows but also through instruments that raise the unconditional, domestically anchored share over successive NDC cycles: budget lines tied to CAADP commitments, domestic insurance pools, and blended vehicles that crowd in private capital.

It is worth asking why the Maputo–Malabo commitment to devote 10 per cent of public spending to agriculture is met by only four states. The constraints are largely fiscal and political-economic: debt service crowds out discretionary spending, domestic revenue is thin (tax-to-GDP ratios across much of the continent sit well below the level such a commitment would require), and

agriculture ministries carry limited weight in budget negotiations against debt, defense and infrastructure. The World Bank’s country diagnostics repeatedly tie under-investment in the sector to exactly these fiscal-space and prioritization constraints⁸⁶. The fiscal squeeze is now measurable: across the published World Bank–IMF Debt Sustainability Analyses, 20 of the 39 African countries with a published risk rating (about half) are at high risk of external debt distress or already in distress, and 21 of the 37 with a published overall rating (about three in five) on overall public debt; debt service on this scale leaves little fiscal room for a 10 per cent agriculture allocation⁸⁷. A connective mandate that leans partly on this domestic commitment must therefore reckon with the political economy of the national budget, not only with reporting design.

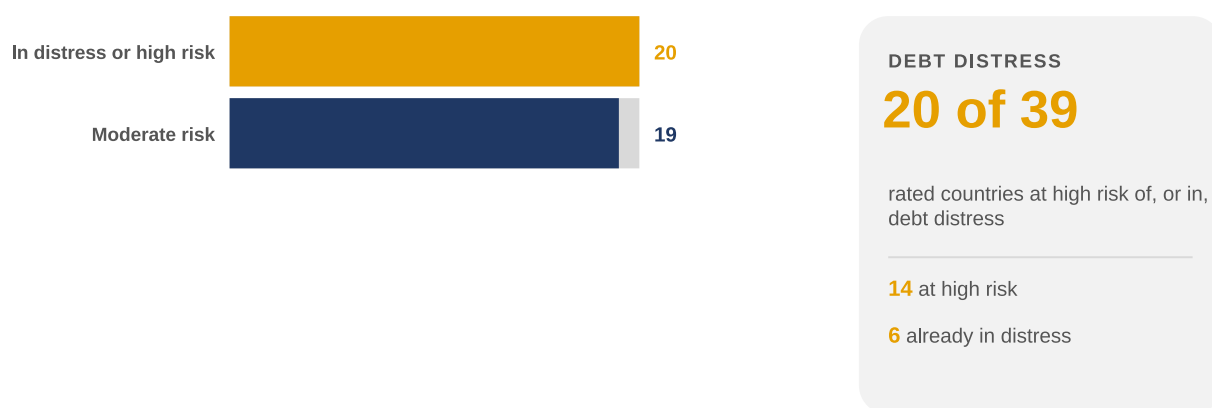


Figure A.6.8. African debt-distress risk: most assessed countries are at high risk or already in distress.

Source: author’s analysis of 40 African Debt Sustainability Analyses (37 verified against the joint DSAs; Chad, Eritrea and Sudan from the March 2025 LIC-DSF list); external-risk ratings published for 39.

The debt backdrop can be stated exactly, from the countries’ own reporting to the World Bank and the IMF: the stock, its concentration, its burden on exports and its official risk ratings (Table A.6.3; the full country-level table is in Annex 13).

⁸⁶ World Bank Country Climate and Development Reports (synthesis, 2026) and the Fifth CAADP Biennial Review: under-investment tied to debt service, narrow fiscal space and sectoral prioritization. Tax-to-GDP context: ICTD/UNU-WIDER. (The four states meeting the 10% commitment: Fifth CAADP BR, §3.21.)

⁸⁷ Author’s analysis consolidating the World Bank–IMF Joint Debt Sustainability Analyses (37 verified, plus Chad, Eritrea and Sudan carried from the March 2025 LIC-DSF list; Annex 13): 20 of the 39 countries with a published rating at high risk of external debt distress or already in it (≈51%; one of the 40 assessed lacks a published external rating); 23 of 37 (≈62%) for overall public debt. Risk ratings verified against the source DSA reports.

Indicator	Value (2024 unless noted)
Total external debt stock, 50 of the 53 states (IDS-covered; Eritrea 2023)	USD 1,176 billion
Concentration of the stock	Top 10 borrowers hold 69%, South Africa (USD 176 bn), Egypt (156), Nigeria (109)
External debt to GNI (48 states)	Median 44%; highest: Mozambique 351%, Senegal 151%, Mauritius 123%
Debt service to exports (42 states)	Median 12.4%; highest: Egypt 49.2%, Mozambique 46.5%, Senegal 41.8%
Multilateral share of the external stock	33.6% on average
LIC-DSF risk of external debt distress (40 states assessed)	external risk published for 39 of the 40 (Eritrea not published): 6 in debt distress, 14 high, 19 moderate; 20 of 39 (51%) at high risk or worse
The three states outside the IDS	Government debt, 2024 (IMF): South Sudan 54.3%, Seychelles 57.8%, Namibia 67.7% of GDP

Table A.6.3. African external debt in numbers, 2024: the stock, its concentration, its burden and its official risk ratings.

Source: author's analysis of the World Bank International Debt Statistics country tables (2024; Eritrea reconstructed from the February 2025 IDS database), the IMF–World Bank LIC-DSF risk ratings (37 verified against the joint DSAs; Chad, Eritrea and Sudan from the March 2025 LIC-DSF list) and the IMF Global Debt Database. Country-level detail in Annex 13.

A.6.9. What would change the picture

These priorities can be sequenced using the readiness typology: finance mobilization should concentrate on the planning-ahead group (countries with costed plans but no flows), while the low-

coverage and under-planned majority need costing and project-preparation support before finance can usefully follow.

The finance diagnosis points to a set of structural shifts, presented here at the continental and systemic level and consistent with the connective agenda set out above.

Shift	Rationale
A dedicated agricultural window in the NCQG	Ensures the USD 300 bn/yr goal reaches agriculture rather than reproducing the USD 100 bn pattern.
A higher grant share for adaptation	Loan-based finance deepens the debt trap; adaptation public goods warrant grants.
Blended finance and risk transfer for the orphan levers	De-risks private capital and links sovereign insurance (ARC) into national plans.
Debt-for-climate swaps and debt relief	Frees fiscal space that climate shocks repeatedly consume.
Strengthened continental vehicles (AAAP, AfDB)	Raises the African-institution share above 5% and reaches fragile states.
Domestic resource mobilization via the CAADP 10% commitment	Raises the unconditional share; the largest under-used lever.

Table A.6.4. Structural shifts that would change the agricultural-adaptation finance picture.

Source: synthesis of Sections A.1–A.5.

None of these is the gift of any single actor, yet several lie within African agency. The CAADP budget commitment, the connection of sovereign insurance to national plans, the strengthening of continental vehicles, and the costing and traceability that make projects bankable can all be advanced from within the continent's own institutions. Each strengthens the case for the external shifts, the agricultural window, the grant share, the debt relief, that require international agreement. As set out above, the recommendation is to act on the domestic and structural levers now, as the means of unlocking international finance and not as a substitute for it.

These levers reinforce one another. Honoring the budget commitment builds the domestic record that makes a country credible to external funders; connecting sovereign insurance to national plans illustrates the absorptive capacity that blended finance requires; and strengthening continental vehicles creates the African-governed channels through which a larger, grant-heavier external flow could actually reach fragile states. The finance agenda is an integrated sequence in which domestic and continental action unlocks international finance, and does not merely wait upon it.

A.6.10. Conclusion

Finance is where the diagnosis of Part A comes to a point. The sums required are not beyond reach: agriculture's USD 7.4 billion a year is small against global flows. The difficulty is the finance that does arrive, too little, too concentrated, too debt-heavy, too externally dependent, and too weakly connected to the plans and continental institutions that could put it to work. Addressing those five weaknesses is the core of the report's agenda. Quality, structure and conditionality matter as much as volume. The encouraging corollary, consistent with the rest of Part A, is that a meaningful share of the remedy lies within African control: honoring the budget commitment, strengthening continental vehicles, connecting risk transfer to national plans, and making projects bankable through costing and traceability. These are the financing dimensions of the connective mandate, and they set the agenda that the assessment of the AAA Initiative, in Part B, must weigh.

Finance is also where a continental initiative's comparative advantage is most testable. Positioned between the African Union's agricultural machinery and the global climate-finance system, an organization is well placed to do exactly what the diagnosis demands: help countries cost and make

bankable the neglected levers, connect sovereign insurance and continental vehicles to national plans, and carry the case for an agricultural finance window into the negotiations. Whether the AAA Initiative has played that role over its first decade, and how it might over its next, is the question Part B takes up, with the finance diagnosis of this section as one of its principal yardsticks.

A.7. Capacity building and technology transfer



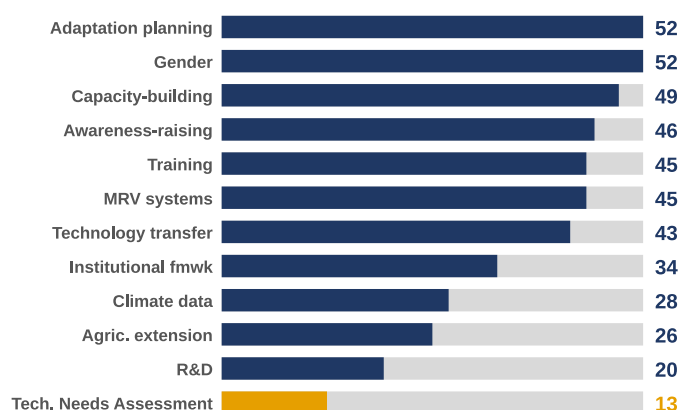
Credit: AAA Initiative

If finance is the binding constraint on African agricultural adaptation, capacity is the constraint behind the constraint. The preceding sections showed that finance fails to arrive partly because the projects it would fund are not costed, the technologies are not assessed, the inventories are incomplete and the reporting cannot be traced. Each of these is a capacity gap, and each recurs across the NDC, NAP and BTR layers. This section reads African adaptation through the lens of capability, the technical preparation, measurement systems, planning skills and institutions needed to turn ambition into financed, delivered action. It argues that the scarce resource is not money itself but the upstream preparation that makes money usable. That diagnosis is an unusually hopeful one, because preparation is cheaper to supply than capital and lies substantially within reach of the continent and its partners. This also explains the sequencing of the five directions: capacity-building sits fourth, not first, because building capacity before the chain is connected would only strengthen the ability to report into a system that still cannot trace delivery. Connection comes first, so that new capacity feeds a chain able to use it.

A.7.1. The capacity deficit in numbers

The country instruments declare the deficit directly. Across the 53 NDCs, African states register some 453 distinct capacity-building needs⁸⁸, and demand for technology transfer is nearly as widespread as demand for finance, expressed by 43 of the 53 countries. Yet the diagnostic step that would

turn that demand into bankable projects is largely missing: only 11 countries hold a Technology Needs Assessment recent enough (2019 or later) to underpin their current NDC. The gap between 43 countries asking for technology and 11 having assessed what they need is the single clearest measure of the preparation deficit, and it explains why so much declared demand never converts into financed delivery.



RAREST NEED

13

of 453 cited needs are a Technology Needs Assessment

52 cite adaptation planning (top)

453 capacity needs in total

Figure A.7.1. The preparation gap: declared capacity and means-of-implementation needs across the 53 NDCs (number of countries citing each type). Technology transfer is cited by 43 countries, yet only 11 hold a Technology Needs Assessment recent enough (2019 or later) to support the request.

Source: author's NDC analysis (2026).

This shortfall is not a peripheral technicality. A donor or fund cannot finance an unassessed need; a national treasury cannot budget against an uncosted plan; a transparency report cannot trace finance to a project that was never specified. The capacity deficit therefore propagates downstream, turning each subsequent stage of the reporting chain into a narrower funnel, precisely the pattern documented above. Capacity is the upstream valve that determines how much of the continent's ambition can flow through to delivery.

Capacity-building need (type)	Declared needs	Share of 453
National adaptation planning	52	11%
Gender	52	11%
General capacity-building	49	11%
Awareness-raising	46	10%
Training	45	10%
MRV systems	45	10%
Technology transfer	43	9%
Institutional framework	34	8%
Climate data	28	6%
Agricultural extension	26	6%
Research and development	20	4%
Technology Needs Assessment (TNA)	13	3%
Total	453	100%

Table A.7.1. The 453 declared capacity-building needs in the NDCs, by type: planning, gender and general capacity dominate, while Technology Needs Assessments are the rarest.

Source: author's analysis of the 53 African NDCs (means-of-implementation entries).

⁸⁸ Author's analysis of the 53 African NDCs (2026): capacity-building and means-of-implementation entries coded by type. The same corpus yields the technology-transfer demand expressed by 43 of the 53 countries cited here.

A.7.2. Technology Needs Assessments: the missing diagnostic

The technology layer of the NDCs illustrates the deficit clearly. Across the corpus some 350 distinct technologies are named, a rich menu spanning the eleven CCAFS sub-sectors, yet none carries a quantified target and only about 17 per cent rest on a Technology Needs Assessment⁸⁹. The overwhelming majority are named without a costing, an implementing modality or a measurable goal, so they function as aspirations rather than as projects. A technology named in an NDC is, in this state, a long way from a financed intervention.

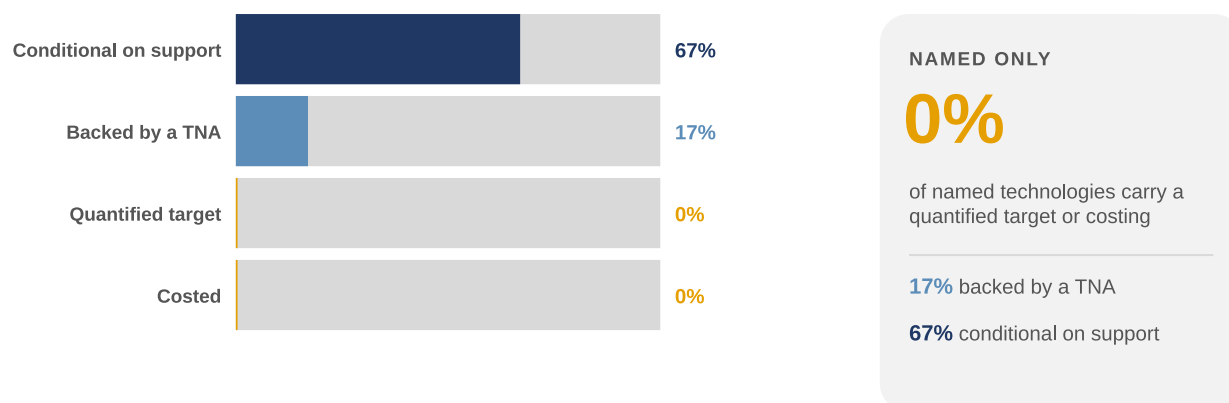


Figure A.7.2. Operationalization of the 350 named technologies: most are named only.

Source: author's NDC analysis (2026).

The Technology Needs Assessment is the instrument designed precisely to close this gap: a structured national process that prioritizes technologies, identifies barriers and produces an action plan and project ideas. Its obsolescence is therefore the keystone gap. Most African countries did complete a TNA under one of the successive global phases, the corpus assembled for this report spans 2001 to 2023, but only about a dozen assessments are recent enough to align with the post-2020 NDCs, and a country cannot refresh its assessment at will⁹⁰.

The TNA matters because it is the step that would convert the long technology lists of the NDCs into the costed, prioritized, barrier-assessed pipelines that finance requires. Financing Technology Needs Assessments on the four orphan levers (agricultural insurance, agroecology, resilient seeds and climate-smart agriculture) would be among the highest-return, lowest-cost interventions identified anywhere in Part A, because it acts at the point where the chain first narrows.

Technology demand (NDCs)	Assessment reality (TNAs)
43 countries explicitly request international technology transfer in their NDCs	11 hold a TNA recent enough (2019 or later) to serve those NDCs
≈350 technologies named across the corpus	none carries a quantified target or costing; ≈17% rest on any TNA
Demand spans all five sub-regions and the four orphan levers	standing assessments date from 2001–2013 for many countries, pre-Paris
Demand renewed in the NDC 3.0 revision wave	update funding is phase-bound (GEF/UNEP global rounds) and cannot be triggered at will

Table A.7.2. The technology planning mismatch: demand without current assessment, the upstream constraint in one view.

Sources: author's NDC analysis (2026); the TNA corpus assembled for this report (2001–2023).

⁸⁹ Author's NDC analysis (2026), §4.3 / Figure 13: 350 technologies named across the corpus; none with a quantified target; ≈17% resting on a TNA.

⁹⁰ Technology Needs Assessments are produced in time-bound global phases funded by the GEF and implemented by UNEP with the UNEP Copenhagen Climate Center; a country cannot trigger an update at will, and update funding has prioritized first-time participants. Most African states therefore hold a completed TNA from one of the successive phases, the corpus assembled for this report spans 2001 to 2023, but many standing assessments predate the Paris Agreement and the post-2020 NDCs. The author's count of 11 refers to assessments recent enough to serve the current instruments.

The contrast between demand and means is wide: technology-transfer demand spans 43 countries, but only about a dozen hold a current Technology Needs Assessment (completed assessments exist for most countries from earlier global phases, many predating Paris) and just six have an active Green Climate Fund Readiness program⁹¹. Burkina Faso shows that this capacity can nonetheless be built: its National Adaptation Plan is the most fully costed in the corpus, evidence that the costing and planning deficit is a function of support rather than of inherent inability.

The cost of closing the deficit is modest against its pay-off. The Green Climate Fund's Readiness program has disbursed about USD 251 million across African states, a median of roughly USD 4.6 million per country, yet only six have an active program. Completing current Technology Needs Assessments for the forty-odd countries lacking an up-to-date one would cost on the order of USD 0.5–1 million each, perhaps USD 20–40 million in total, a small sum against the finance such planning would unlock.

A.7.3. Measurement, reporting and statistical capacity

A second capacity gap concerns measurement. The Biennial Transparency Reports revealed that most African AFOLU inventories sit at the lowest IPCC tiers (16 of 23 at Tier 2, six at Tier 1, only one at Tier 3) and that only four of the fourteen finance-traceable countries report any forest carbon-dioxide removals, leaving the continent's carbon sinks largely unmeasured⁹². This is a statistical-capacity problem with direct financial consequences: a country that cannot measure its emissions, its sinks or the agricultural share of the finance it receives cannot claim results-based payments, cannot demonstrate absorption, and cannot be held, or hold itself, accountable.

The measurement deficit also explains a recurring difficulty in the diagnosis itself. As noted above, the agricultural delivery figure had to be reconstructed from broader categories because BTR finance lines are often aggregated and sectoral tagging is inconsistent; six of the thirteen flagged delivery cases were transparency gaps rather than financing gaps. Part of what looks like a delivery gap is in fact a measurement gap, finance that may have flowed but cannot be traced. Building MRV and statistical capacity would not only improve reporting; it would reveal how much of the apparent finance gap is real and how much is an artifact of weak measurement, which is itself a precondition for fixing either.

A.7.4. Planning and costing capacity

A third gap lies in the capacity to cost and to plan for implementation. The NAP analysis found that vulnerability assessment is near-universal (Module A, 96 per cent) but financing-and-implementation is the weakest, the Module C bottleneck identified in Section A.4.4.4, and that only six countries have an active Green Climate Fund Readiness program; the most fully costed NAP in the corpus stands out precisely because complete costing is so rare⁹³. African states have demonstrably learned to assess vulnerability and to structure plans; what many have not yet built is the specialized capacity to cost those plans, to package them as bankable projects, and to navigate the accreditation and readiness requirements of the major funds.

For that reason GCF Readiness support, project-preparation facilities and costing assistance recur in the recommendations of each of these studies. The constraint is specific and addressable: African states have adaptation ideas in abundance, but they lack the intermediary capacity that turns an idea into a fundable proposal. That intermediary function of costing, structuring, accrediting and packaging is exactly the kind of capability that technical assistance can build relatively quickly and that continental institutions are well placed to provide at scale.

⁹¹ Green Climate Fund country-level database: Readiness financing ≈USD 251 million across African states (median ≈USD 4.6 mil-lion/country). TNA unit-cost is an order-of-magnitude illustration based on GEF/UNEP Technology Needs Assessment practice.

⁹² See note 53. See Section A.4.

⁹³ Author's NAP analysis (2026): Module A 96% complete, Module C 61% (the weakest link); only 6 countries with an active GCF Readiness program; Burkina Faso the most fully costed NAP. See Section A.4.

A.7.5. Institutional and human capacity

Capacity is not only technical but institutional. The NAP analysis found a consistent four-tier institutional architecture across the corpus (a high-level political authority, a technical coordinating body, sectoral focal points and sub-national structures) and high adherence to the 2025 Guiding Principles, indicating that the institutional framework of adaptation is increasingly in place⁹⁴. But two weaknesses recur. Weak mandates leave most NAPs without the legal force to compel budget allocation, so even well-staffed institutions lack fiscal traction; and a coordination seam runs between the environment ministries that write the climate instruments and the agriculture ministries and continental bodies that run CAADP, so the two accountability systems are administered by institutions that rarely interact.

Beneath both sits human capacity. Many of the indicators the Global Goal on Adaptation now requires demand modeling, disaggregated local data and technical expertise that are scarce, particularly in rural administrations and fragile states; the same scarcity constrains inventory quality, costing and project preparation. Institutional and human-capacity building is the slowest-maturing of the gaps, and also the most foundational. Templates and one-off assistance can move the technical needles quickly, while the deeper capability to plan, cost, measure and coordinate is built over years and is the truest measure of whether a country can sustain adaptation without perpetual external support.

A.7.6. Technology transfer: the international dimension

Capacity building and technology transfer are linked in the UNFCCC architecture and in the country instruments alike: demand for technology transfer is expressed by 43 of 53 countries, almost as widely

as demand for finance, and it is overwhelmingly conditional on international support⁹⁵. The Paris-Agreement technology mechanism and the means-of-implementation provisions are meant to channel this transfer, and the COP30 negotiations on the Sharm el-Sheikh Joint Work returned, contentiously, to the demand for grant-based finance and technology transfer for agriculture. Yet transfer, like finance, founders on the preparation deficit: a technology cannot be transferred effectively to a country that has not assessed which technologies it needs, under what barriers, at what cost.

An ordering emerges that runs through the whole section. Technology transfer and the finance to support it are demanded widely and supplied narrowly, but the binding constraint on the African side is less the willingness of providers than the readiness of recipients to specify, absorb and account for what is transferred. Strengthening that readiness, through Technology Needs Assessments, MRV systems and project-preparation capacity, is the part of the technology-transfer agenda that lies within African and continental control, and it is the part that makes the international dimension actionable rather than aspirational.

A.7.7. What would build capacity

The same typology orders the capacity agenda: basic reporting templates for the low-coverage majority, NAP-costing and project-preparation support for the under-planned, and traceability and monitoring discipline for the full-chain reporters, so that assistance matches each group's actual bottleneck and not a continental average.

The capacity diagnosis converges on a compact set of priorities, each acting at the point where the chain narrows and each largely within reach of the continent and its technical partners. Several can be met continentally, through structured peer exchange, countries that have already built a complete reporting chain mentoring those still assembling theirs, which Part C develops into a budgeted peer-preparation mechanism (Section C.3.4).

94 Author's NAP analysis (2026), §5: a four-tier institutional architecture and high adherence to the 2025 Guiding Principles; only 5 of 28 NAPs rest on a legal mandate. See Section A.4.

95 Author's NDC analysis (2026): technology-transfer demand in 43 of 53 countries, overwhelmingly conditional; COP30 Sharm el-Sheikh Joint Work discussions on grant-based finance and technology transfer. See Sections A.2 and A.4.

Priority	Rationale
Finance Technology Needs Assessments, prioritizing the orphan levers	Converts the 350 named technologies into costed, prioritized, fundable pipelines; closes the 43-vs-11 gap.
Build MRV and statistical capacity, including forest-sink estimation	Lets countries claim results-based finance, demonstrate absorption, and distinguish real from apparent delivery gaps.
Provide costing and project-preparation support (GCF Readiness)	Turns sophisticated plans into bankable proposals; addresses the Module C bottleneck.
Supply harmonized MRV and gender-budgeting templates	Relieves the capacity drain of duplicated reporting across CAADP, the GGA and the Paris chain.
Strengthen institutional coordination across the ministry seam	Connects the two accountability systems that today operate in parallel.
Expand south-south and continental knowledge exchange	Spreads the capability of the few full-coverage countries to the many low-coverage ones.

Table A.7.3. Priorities for building adaptation capacity.

Source: synthesis of Sections A.4–A.6 and the author's analyses.

A single feature unites these priorities and distinguishes capacity from finance. Because the same gaps, uncostered agriculture, unassessed technologies, incomplete inventories, untraceable finance, recur at the NDC, NAP and BTR stages, capacity support delivered once at the upstream stage compounds downstream: a completed Technology Needs Assessment improves the NDC, the NAP that operationalizes it, and the BTR that accounts for it. In this sense, capacity investment is the highest-leverage spending available, because it multiplies through every later link in the chain.

A.7.8. Conclusion

Capacity is the constraint behind the constraint. In significant part the finance gap is a capacity gap in disguise: finance does not flow because needs are unassessed, plans uncostered, inventories incomplete

and reporting untraceable. The country instruments declare the deficit themselves: 453 capacity needs, technology demanded by 43 countries but currently assessed by 11, inventories at the lowest tiers, financing modules half-complete. Yet this is the most tractable of Part A's findings, because the scarce resource is preparation rather than capital, and preparation can be supplied through technical assistance, templates and continental knowledge exchange at a fraction of the cost of the finance it unlocks. Building the capacity to assess, cost, measure and coordinate is the foundation of the adaptation agenda, the upstream investment on which the finance, the delivery and the accountability examined throughout Part A ultimately depend, and a natural locus for the kind of continental support the assessment of the AAA Initiative will weigh in Part B.

A.8. Technical solutions and innovations

Where the preceding sections diagnosed the architecture, the instruments and the finance, this section turns to the technical content of adaptation: the on-the-ground solutions through which African agriculture actually adjusts to a changing climate. Each is read the same way: first its coverage in the countries' own reporting, then the continental plan that gives it a policy home, and finally the kind of indicator that would let a Biennial Transparency Report record real delivery. Supplying the policy frame are the continental plans set out above; the purpose here is implementation, evidence and the metrics that would close the accountability loop.



Credit: AAA Initiative

Solution	Present in NDCs	Continental anchor	Candidate delivery indicator (BTR)
Crops, livestock, pastoralism	crops 100%, livestock 94%	LiDeSA 2015–2035; Pastoralism Policy Framework	Hectares under sustainable land management
Water and irrigation	94%	Africa Water Vision 2063 and Policy	Share of cultivated area irrigated
Agroecology, seeds, soils	seeds 60%, soils 89%, agroecology 32%	Fertilizer & Soil Health Action Plan 2024–2034	Certified resilient-seed adoption rate
Climate-smart agriculture	58%	CAADP; AUDA-NEPAD	Households practicing CSA
Agricultural insurance	28%	African Risk Capacity (ARC)	Insurance penetration; farmers covered
Digital and climate services	89%	AU Digital Strategy 2020–2030; AfDB DTAP	Farmers receiving climate services
Early-warning systems	89%	Early Warning for All; AMHEWAS	Population covered; warning lead time

Table A.8.1. Each technical solution: its presence in the 53 African NDCs, its continental policy anchor and a candidate delivery indicator for the BTRs.

Sources: AU thematic plans; author's analysis of NDC sub-sector coverage; author's NDC/NAP/BTR analyses (2026).

A.8.1. Sustainable agriculture, crops, livestock and pastoralism

Livestock and pastoral systems are economically central yet thinly planned. Across African countries livestock contributes between 30 and 80 per cent of agricultural GDP⁹⁶, and pastoralism is the dominant land use across the continent's drylands; yet in the countries' reporting these sub-sectors are unevenly costed relative to crops⁹⁷.

The continental frame is the Livestock Development Strategy for Africa 2015–2035 (LiDeSA) and the AU Policy Framework for Pastoralism in Africa, carried by AU-IBAR, with regional instruments such as the East African Livestock Feed and Feeding Strategy⁹⁸. On the ground the priorities are sustainable land and rangeland management, secured mobility corridors, animal-health and feed security, and the integration of crops, livestock, forestry and fisheries that CAADP itself promotes. Candidate

BTR indicators: hectares under sustainable land management; rangeland restored; vaccination and feed-security coverage; pastoral corridors secured.

Adaptation does not end at the farm gate. Post-harvest losses in sub-Saharan Africa run at 10 to 20 per cent for grains and pulses and up to half for fruits and vegetables; grain losses alone are valued at around USD 4 billion a year, and a warmer, more humid climate accelerates spoilage⁹⁹. Strengthening storage and the cold chain is therefore an adaptation measure in its own right, protecting both food security and farm incomes. Candidate BTR indicators: post-harvest loss rates; storage and cold-chain capacity; share of produce reaching market.

A wider blind spot appears here: the NAPs and BTRs rarely cost storage, cold chains or market infrastructure at all, so a whole class of post-farm adaptation remains invisible to the planning-and-reporting chain.

96 AU-IBAR, Livestock Development Strategy for Africa (LiDeSA) 2015–2035, verified: "The African livestock sector contributes between 30 and 80% of the agricultural GDP" (Executive overview). See also the AU Policy Framework for Pastoralism in Africa and the East African Livestock Feed and Feeding Strategy 2023–2037.

97 Author's analyses of African NDCs, NAPs and BTRs (2026), incl. the CCAFS sub-sector coverage; and the World Bank CCDR synthesis (reforms column), which flags land tenure and irrigation reform across countries.

98 See note 96.

99 FAO (2024), Post-harvest management: bridging gaps and embracing innovations, Rome, pp. 20–21: losses of 10–20% for grains and pulses and up to 50% for fruits and vegetables; grain post-harvest losses in sub-Saharan Africa valued at USD 4 bn/yr (after World Bank/FAO, 2011, Missing Food). African Union Commission (2018), Post-Harvest Loss Management Strategy, p. 8 (USD 4 bn/yr at 2007 prices).

A.8.2. Water resources and irrigation

Water is the most immediate physical constraint on African adaptation: water-related sectors already underpin more than a quarter of the continent's GDP¹⁰⁰. Yet irrigation remains marginal: of Africa's roughly 262 million hectares of arable land, only about 17.5 million hectares, some 7 per cent, are equipped for irrigation. That capacity is highly concentrated, South Africa, Egypt, Sudan, Morocco and Algeria alone account for around three-quarters of it, leaving most of sub-Saharan agriculture rain-fed and directly exposed to rainfall variability¹⁰¹. Water is correspondingly the most frequently prioritized hazard across the National Adaptation Plans¹⁰².

The continental anchor is the Africa Water Vision 2063 and its associated Policy, which promote water-efficient technologies, drip irrigation, water harvesting, reuse and recycling. Small-scale and farmer-led irrigation rather than mega-schemes forms the implementation agenda, paired with watershed management. Candidate BTR indicators: share of cultivated area under irrigation; water-use efficiency; number of functioning water-harvesting structures.

A.8.3. Agroecology, resilient seeds and genetic resources

Soils come first: an estimated 75 to 80 per cent of Africa's cultivated area is degraded and crop productivity sits at roughly 30 per cent of the global average¹⁰³. Among the technical levers, resilient seeds are the best covered in the NDCs (about 60 per cent) while agroecology is among the weakest (about 32 per cent)¹⁰⁴.

The continental anchor is the Africa Fertilizer and Soil Health Action Plan (2024–2034), which targets a tripling of fertilizer use from 18 to 54 kilograms per hectare in nutrient terms by 2034 and explicitly links soil health to seed performance, together with the Soil Initiative for Africa Framework¹⁰⁵.

The operational agenda harmonizes regional seed catalogues and strengthens national genebanks for stress-tolerant continental staples (sorghum, millet, cowpea, cassava and drought-tolerant maize) alongside the systems approach of agroecology (the FAO 10 Elements)¹⁰⁶. Candidate BTR indicators: certified resilient-seed adoption; varietal releases; area under soil-restoration and agroecological practice; fertilizer-use efficiency.

Soils also offer the clearest adaptation-mitigation link in this report. Restoring soil organic carbon sequesters emissions and raises the soil's water-holding capacity, which directly builds drought resilience¹⁰⁷. Treating soil-carbon restoration as a dual-benefit intervention, rather than as an adaptation or a mitigation measure alone, is exactly the kind of cross-system connection the Fertilizer and Soil Health Action Plan makes possible.

There is a further dimension to the seed-and-genetic-resources lever that the orphan-levers reading understates: the diversity of the genetic base itself is an adaptive asset, not merely an input, and the quantified evidence is pointed. The FAO's Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture (2025) finds that, while an average of 6 per cent of surveyed farmers' varieties and landraces are threatened globally, nine of eighteen subregions report far higher loss, with 18 per cent or more of that on-farm diversity threatened; nearly a third of some 7,000 wild food-plant species are likewise at risk. The stakes for adaptation are direct, because on-farm trials show landraces out-yielding modern varieties by 25 to 61 per cent under stress (Ceccarelli, 1996), intraspecific diversity is, in effect, insurance against an unpredictable climate. Yet Africa's own holdings are thin: the same FAO assessment notes that landraces from countries such as Sierra Leone, Rwanda and Burundi are poorly represented in ex situ collections. Conserving this diversity, through national genebanks and harmonized regional seed catalogues for stress-tolerant continental staples such as sorghum, millet, cowpea, cassava and drought-tolerant maize, is therefore an act of

100 African Union / AMCOW, Africa Water Vision 2063 and Policy: water-related sectors contribute over 25% of GDP, with a higher share in some countries.

101 FAOSTAT, Land Use in Africa (2023): arable land ≈261.8 million ha; area equipped for irrigation ≈17.5 million ha (≈7% of arable land). Country concentration per FAO AQUASTAT (2023): South Africa ≈4.84 M ha, Egypt ≈3.82 M, Sudan ≈1.85 M, Morocco ≈1.52 M, Algeria ≈1.37 M (together about three-quarters of the equipped area). The South Africa value reflects AQUASTAT's 2022 upward revision of the series (2.24 M ha in 2021).

102 See note 97.

103 African Union, Africa Fertilizer and Soil Health Action Plan 2024–2034 (AUDA-NEPAD summary) and the Soil Initiative for Africa Framework: 75–80% of cultivated area degraded; crop productivity ≈30% of the global average; target to triple fertilizer use from 18 kg/ha (2020) to 54 kg/ha by 2034; the 2006 Abuja target of 50 kg/ha remains unmet.

104 Author's analysis of African NDCs (2026), CCAFS coverage of agricultural sub-sectors: resilient seeds ≈60%, climate-smart agriculture ≈58%, agroecology ≈32%, insurance ≈28%.

105 See note 103.

106 FAO, Climate-Smart Agriculture Sourcebook; FAO, The 10 Elements of Agroecology.

107 On soil organic carbon as a dual adaptation-mitigation lever: FAO and IPCC AR6 WGII (restoring soil organic carbon increases water-holding capacity and drought resilience while sequestering carbon); aligned with the Africa Fertilizer and Soil Health Action Plan 2024–2034.

adaptation in its own right, not only seed supply. The erosion of native varieties and their wild relatives is a loss of future adaptation options, and the genebank-and-catalogue agenda of the Fertilizer and Soil Health Action Plan is the continental vehicle best placed to arrest it.

A.8.4. Climate-smart agriculture

Climate-smart agriculture (CSA) is widely invoked, appearing in about 58 per cent of the NDCs¹⁰⁸, but the label spans divergent practices. Naming it among the under-financed levers is a diagnosis of unfinanced potential, not an endorsement of any one model: CSA is treated here as a toolkit to be defined locally. A balanced reading distinguishes productivity-first CSA from agroecological approaches. The two can be complementary, yet conflating them obscures trade-offs between yield, emissions and resilience. Anchored in CAADP's productivity and resilience¹⁰⁹ targets and AUDA-NEPAD's programs, the implementation question is which specific practices are adopted, at what scale, and with what measured effect. Candidate BTR indicators: households practicing CSA; yield stability under drought; emissions intensity per unit of output.

A.8.5. Agricultural insurance

Treated here as a technical risk-management solution rather than as the financing instrument examined earlier, insurance is the thinnest of the levers in the NDCs, at about 28 per cent¹¹⁰. The continental vehicle is the African Risk Capacity (ARC). In 2023 its risk-pool coverage rose to USD 264 million (a 125 per cent increase on the previous pool), payouts to member states and Replica partners reached about USD 48 million, and the ARC Group (including Replica coverage) has now paid over USD 170 million in cumulative claims; 39 states have signed the ARC Treaty¹¹¹.

The technical agenda is to scale from sovereign (macro) cover toward farmer-level (micro) index

insurance, to embed cover within input and credit packages, and to treat public premium subsidy as a budgeted adaptation line rather than an emergency expense. Candidate BTR indicators: insurance penetration; number of farmers and hectares covered; premium subsidy recorded in national budgets.

A.8.6. Digital agriculture, data systems and climate services

Digital reach has been transformed. Sub-Saharan mobile-broadband coverage rose from about 3 per cent in 2004 to 85 per cent by 2022, and the digital economy already contributes on the order of 8 per cent of GDP¹¹². This makes large-scale agricultural advisory technically feasible for the first time. Usage still runs far behind coverage, at roughly a quarter of the population, which keeps affordability and content design the binding constraints.

The continental anchors are the AU Digital Transformation Strategy for Africa 2020–2030 and the African Development Bank's Digital Transformation Action Plan 2024–2028. Implementation priorities are mobile advisory services (irrigation timing, pest alerts, market prices), AI-assisted early detection of crop pests and diseases, and, critically for the reporting chain, interoperable national agricultural data systems able to feed the BTRs. Candidate BTR indicators: farmers receiving digital climate services; data interoperability between agriculture and environment ministries¹¹³.

A.8.7. Climate risk and early-warning systems

Early warning is the operational complement to the supply-side exposure set out earlier. Globally, close to 40 per cent of countries (76 in total) still report no multi-hazard early-warning system (WMO and UNDRR, Early Warnings for All, 2023), and coverage is weakest in Africa¹¹⁴.

The continental frame is the global Early Warning

108 See note 104.

109 See note 106.

110 See note 104.

111 African Risk Capacity, Annual Report 2023: risk-pool coverage rose to USD 264.4 m (Pool 10 up 125%); payouts to states and Re-plica partners of ≈USD 48.0 m in 2023, Pool 10's final payout totaled USD 69.4 m, its settlement spanning calendar years; ARC Ltd has paid over USD 170 m in cumulative claims; 39 states have signed the ARC Treaty.

112 African Development Bank (2024), Digital Transformation Action Plan 2024–2028: sub-Saharan mobile-internet coverage from 3% (2004) to 85% (2022), pp. 13 and 20; digital economy 8.1% of GDP in 2023, pp. 11 and 21 (after GSMA, Mobile Economy SSA 2023); usage ≈25% of population, p. 40. World Bank (2023), Digital Africa: Technological Transformation for Jobs reports 22% usage at end-2021 (Main Messages, p. xi). See also AU Digital Transformation Strategy for Africa 2020–2030.

113 See note 112.

114 WMO, Global Status of Multi-Hazard Early Warning Systems 2025: close to 40% of countries (76) report no MHEWS. See also Early Warnings for All in Focus, Pillar 2 (WMO-No. 1381) and the AU African Multi-Hazard Early Warning and Early Action System (AM-HEWAS).

for All initiative and the African Union’s African Multi-Hazard Early Warning and Early Action System (AMHEWAS)¹¹⁵. The technical priorities are the modernization of national hydrometeorological infrastructure and its “last mile”, seasonal forecasts translated into local languages, and a functioning bridge from a weather alert to the release of national contingency funds. Candidate BTR indicators: share of population covered; warning lead time; last-mile reach to rural communities.

A.9. Cross-cutting: gender, youth and indigenous knowledge



Credit: Riad Balaghi

Inclusive governance conditions whether any of the technical agenda works. Three cross-cutting

dimensions recur across the diagnostic (gender, youth and indigenous knowledge) and each is at once an equity question and an effectiveness one. The efficiency figures that follow, the productivity gains from closing the gender gap, for instance, are the business case addressed to finance ministries; they sit alongside, and do not replace, the human-rights and equity imperatives that are the foundational reason to embed gender, youth and local knowledge in the instruments.

A.9.1. Gender

Women make up almost 40 per cent of all workers in sub-Saharan Africa’s agrifood systems, yet farm less productively than men, because they hold less land and weaker title and have less access to credit, inputs and advice. Legal protection of women’s land rights remains weak across much of the continent, and fewer than 7 per cent of the region’s women access a pension¹¹⁶.

The resulting productivity gap is large and measurable: 28 per cent in Malawi, 16 in Tanzania, 13 in Uganda and around 11 in Rwanda and Ethiopia in one five-country study¹¹⁷. The World Bank finds the gaps widen further once plot size and agro-ecology are taken into account¹¹⁸. Closing the gap would raise crop output by up to 19 per cent (Table A.9.1). At the whole-agrifood-system level, FAO estimates that closing the gender gap in farm productivity and the agrifood wage gap would add nearly USD 1 trillion to global output (about 1 per cent of GDP) and lift 45 million people out of food insecurity (FAO, 2023).

Country (five-country study)	Productivity gap, women vs men
Malawi	28.0%
Tanzania	16.0%
Uganda	13.0%
Rwanda	11.7%
Ethiopia	10.6%

Table A.9.1. Gender gap in agricultural productivity; closing it could raise crop output by up to 19 per cent.

Source: UN Women, *The Gender Gap in Agricultural Productivity in Sub-Saharan Africa: Causes, Costs and Solutions*, Policy Brief No. 11.

¹¹⁵ See note 114.

¹¹⁶ FAO (2026), *The Status of Women in Agrifood Systems in Sub-Saharan Africa*, Rome: almost 40% of all agrifood-system workers are women; sub-Saharan African women are among the least covered by social protection, with just 13% receiving any cash benefit and fewer than 7% accessing a pension; many countries offer weak legal protection of women’s land rights.

¹¹⁷ UN Women, *The Gender Gap in Agricultural Productivity in Sub-Saharan Africa: Causes, Costs and Solutions*, Policy Brief No. 11: gaps of 28% (Malawi), 16 (Tanzania), 13 (Uganda), 11.7 (Rwanda) and 10.6 (Ethiopia); closing the gap could raise crop production by up to 19% across the five countries studied.

¹¹⁸ World Bank, *Gender & Agriculture in Sub-Saharan Africa* (2023): female-male productivity gaps (e.g. Malawi 25%, southern Nigeria 24, Niger 19, Uganda 13, Tanzania 6), widening once plot size and agro-ecology are controlled for.

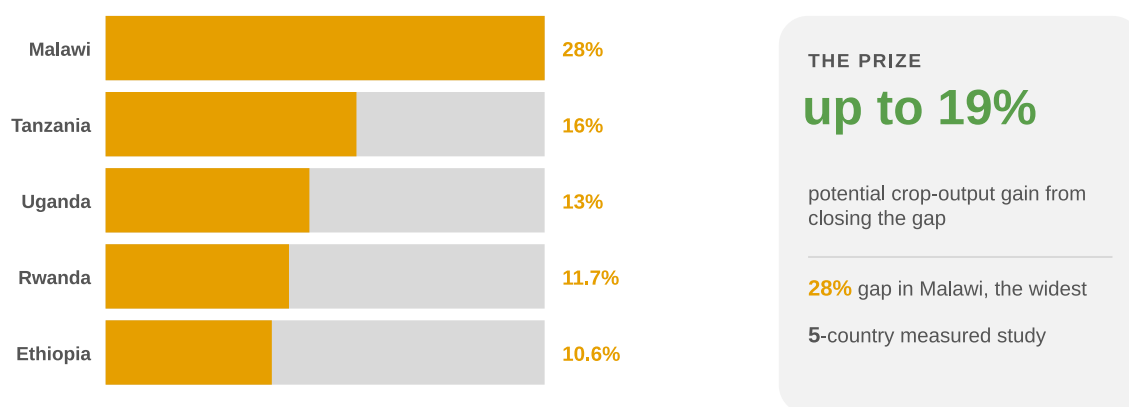


Figure A.9.1. The measured gender productivity gap in agriculture: five-country study (Table A.9.1).

Source: UN Women; World Bank (Table A.9.1).

The operational response is to make gender explicit in delivery: a mandatory gender-marker for AAA Initiative-supported projects, modeled on the Green Climate Fund's gender policy; a defined share of project budgets tracked for gender-equality outcomes; and secured land and water rights for women, treated as an adaptation investment in their own right¹¹⁹.

The productivity gap has a financing counterpart that the delivery lens makes visible. Gender-targeted climate finance in Africa reached about USD 8 billion in 2021/22 (up 45 per cent from USD 5.5 billion in 2019/20), but the overwhelming majority counted gender only as a secondary objective rather than a principal one. Agriculture, at roughly USD 1 billion, was among the few sectors to receive meaningful gender-related flows (Climate Policy Initiative, Landscape of Climate Finance in Africa, 2024). The shortfall is not only on the supply side: in Africa only about 32 per cent of adults hold an account at a bank or other formal institution (about 54 per cent once mobile-money accounts are included), and women remain less likely than men to be banked (World Bank, Global Findex Database 2025). African women entrepreneurs, moreover, frequently self-select out of the credit market, declining to apply even when creditworthy, for want of financial literacy, collateral or confidence rather than because of overt lender discrimination (Morsy, El-Shal and Woldemichael, Women Self-Selection out of the

Credit Market in Africa, African Development Bank Working Paper 317, 2019). The gap is twofold: finance nominally aimed at closing it rarely reaches women as its primary purpose, and demand-side barriers keep women from the finance that already exists. Treating women's access to adaptation finance as a measurable target, with a gender-marker, a tracked budget share, and the outreach and literacy support that self-selection implies, converts gender from a cross-cutting principle into a specific, auditable financial gap that can be corrected.

A.9.2. Youth

Africa's agricultural future is a youth question. Agriculture is already the primary source of employment for young workers in sub-Saharan Africa, yet the youth labor market is under severe strain: in 2023 about 21.9 per cent of young people were not in employment, education or training, above the global rate and barely changed in twenty years. Most youth employment is informal and own-account, and young women are markedly less likely to be in work than young men¹²⁰ (Table A.9.2). The implication is specific: making farming a destination rather than a last resort means pairing land access, finance and digital advisory in youth-in-agriculture programs, for instance, at least ten countries running operational schemes by 2031, tracked through the Biennial Review.

¹¹⁹ Green Climate Fund, Gender Policy; FAO (2026), The Status of Women in Agrifood Systems in Sub-Saharan Africa, on land rights and access to resources as determinants of women's productivity.

¹²⁰ ILO, Global Employment Trends for Youth 2024, Sub-Saharan Africa: youth NEET rate 21.9% (2023, above the global 20.4 and little changed in 20 years); youth unemployment 8.9%; agriculture the primary source of youth employment; informality and own-account work dominant; young women's employment rate 38.2 vs 42.6% for young men. See also AGRA, Africa Agriculture Status Report (2024) on agrifood midstream and downstream jobs, and AUDA-NEPAD, Skills Initiative for Africa.

Youth labor-market indicator, sub-Saharan Africa	Value (2023)
Youth not in employment, education or training (NEET)	21.9%
Youth unemployment rate	8.9%
Young women in employment	38.2%
Young men in employment	42.6%
Primary source of youth employment	Agriculture

Table A.9.2. Youth labor-market indicators, sub-Saharan Africa.

Source: ILO, *Global Employment Trends for Youth 2024 (Sub-Saharan Africa)*.

For adaptation this is both risk and opportunity. Rural out-migration drains the labor and stewardship that climate-resilient farming needs, while a young, increasingly connected generation is the natural adopter of the digital advisory and climate services set out earlier. The opportunity lies downstream: a growing share of agrifood jobs is in processing, logistics and services, where youth enterprise can cut post-harvest losses and add value. Making agriculture a destination means green entrepreneurship in those value chains, skills programs such as the African Union's Skills Initiative for Africa, and youth access to land and finance¹²¹.

A.9.3. Indigenous and local knowledge

Adaptation does not begin on a blank page. Endogenous water-and-soil techniques, among them the *zai* (tassa) planting pit, stone bunds and the demi-lune, deliver yield gains of 500 to 1,000 kilograms per hectare on degraded Sahelian land, depending on accompanying soil-fertility management, often where imported packages failed¹²². The IPCC likewise finds that maintaining indigenous forest protects biodiversity and stores carbon, whereas mis-targeted afforestation can be maladaptive¹²³.

The aim is to hybridize tradition rather than romanticize it: pairing IPCC-grade climate science with endogenous knowledge in the co-design of National Adaptation Plans, and recognizing women and elders as holders of that knowledge. Treating local knowledge as evidence widens the menu of proven, low-cost options.

A.10. Land tenure, natural-resource governance and food sovereignty



Credit: Andrzej Kubik/ Shutterstock.com

A.10.1. Land-tenure security and women's rights

Land tenure underlies every technical solution. A farmer cannot be expected to invest in long-term soil health, through agroforestry, durable organic amendments or terracing, if eviction is a real prospect next season. Tenure security is the precondition for adaptation investment, and not a separate governance topic.

¹²¹ See note 120.

¹²² WRI, *Enhancing NDCs: Opportunities in Agriculture (working paper)*: rainwater-harvesting practices (planting pits (*zai*), demi-lunes (half-moons) and contour stone lines) deliver yield improvements of 500 to 1,000 kilograms per hectare, depending on accompanying soil-fertility management such as fertilizer microdosing, which raised sorghum and millet yields by 44–120% in Mali, Burkina Faso and Niger.

¹²³ IPCC, *Sixth Assessment Report, Working Group II, Chapter 9 (Africa)*: maintaining indigenous forest benefits biodiversity and stores carbon, whereas mis-targeted afforestation can be maladaptive.

The continental anchor is the African Union’s Framework and Guidelines on Land Policy in Africa. Insecurity is pervasive: more than 60 per cent of Africa’s urban dwellers live in informal settlements, and most rural land is held without documented rights, leaving long-term investment exposed. Africa holds about 1.18 billion hectares of agricultural land, including some 262 million hectares of arable land¹²⁴, a resource base whose security is decisive for adaptation investment¹²⁵. The World Bank’s country diagnostics repeatedly identify land-tenure reform as a binding constraint on agricultural transformation across the continent¹²⁶.

The weakness shows in the data: Africa records the lowest property-rights protection of any world

region, 3.78 out of 10 in 2025, below Latin America (4.40), the Middle East and North Africa (4.63) and Asia (4.96), and far below North America and Western Europe (about 7.7)¹²⁷. Most rural land is still held under customary systems whose protections are strong for primary holders but weak for women and secondary claimants, and fragile once land gains commercial value. Formal documentation helps but does not by itself guarantee security, and women’s weaker rights compound the gender gap noted above. A decade-scale remedy need not be a full cadastral overhaul: priority should go to low-cost, high-impact steps in the first years, customary and community land certification, explicit recognition of women’s land rights, and securing pastoral corridors, enough to make on-farm investment worthwhile.

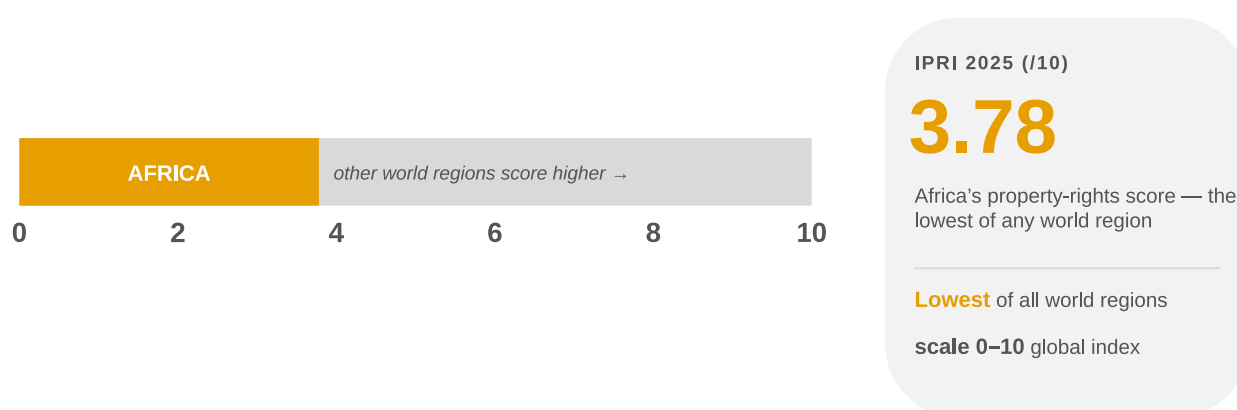


Figure A.10.1. Property-rights protection by region, 2025: Africa scores lowest.

Source: International Property Rights Index 2025 (Property Rights Alliance).

The agenda is threefold: documented tenure, including secured customary certificates, as the collateral that unlocks local adaptation credit; protection of arable land from urban encroachment and large-scale acquisition, as a matter of food sovereignty; and community land-governance arrangements that enable shared investment in irrigation and other common infrastructure. Candidate BTR indicators: share of agricultural land with documented rights; women’s registered land rights.

A.10.2. Natural-resource governance and the commons

Beyond the individual plot, adaptation depends on how shared resources are governed. Rangelands and pastoral corridors, forests and water are largely common-pool resources whose governance determines whether mobility, restoration and benefit-sharing are possible. Two pressures stand out: large-scale land acquisition, which can displace smallholders and pastoralists where tenure is weak;

124 FAOSTAT, Land Use in Africa (2023): agricultural land ≈1,175 million ha (≈39% of land area), of which arable land ≈261.8 million ha and permanent meadows and pastures ≈868.6 million ha.

125 African Union, Framework and Guidelines on Land Policy in Africa (AUC-ECA-AfDB, 2010): over 60% of African urban dwellers live in informal settlements. See also Chitonge (2021), Current and Emerging Land Tenure Challenges in Africa.

126 See note 97.

127 Property Rights Alliance, International Property Rights Index 2025: Africa has the lowest regional average, 3.78/10 (down 6.7% on 2024), below Latin America and the Caribbean (4.40), the Middle East and North Africa (4.63), Asia (4.96), and North America and Western Europe (≈7.71) and Oceania (7.86).

and rapid, largely informal urban expansion. The Congo Basin's vast forest carbon sink, in particular, remains largely outside the measurement and reporting systems that would let it attract results-based finance, a governance gap as much as a technical one.

A.10.3. Food sovereignty and regional markets

Food sovereignty also has a trade dimension that climate change sharpens. Africa trades remarkably little with itself: in 2024 only about 17 per cent of the continent's exports went to other African countries, against 54 per cent within the Americas, 59 per cent within Asia and 67 per cent within Europe. The

World Bank estimates that full implementation of the African Continental Free Trade Area could raise real incomes by 7 per cent, or nearly USD 450 billion, by 2035, and lift 30 million people out of extreme poverty and 68 million out of moderate poverty (World Bank, 2020). Even for food, the intra-African share, about 24 per cent, remains far below the 46 to 76 per cent seen in those regions¹²⁸. A continent whose food largely leaves it rather than circulating within it is more exposed when a climate shock cuts harvests in one region. Integrated regional markets, the promise of the African Continental Free Trade Area, are themselves an adaptation mechanism, smoothing local supply shortfalls that fragmented markets cannot.

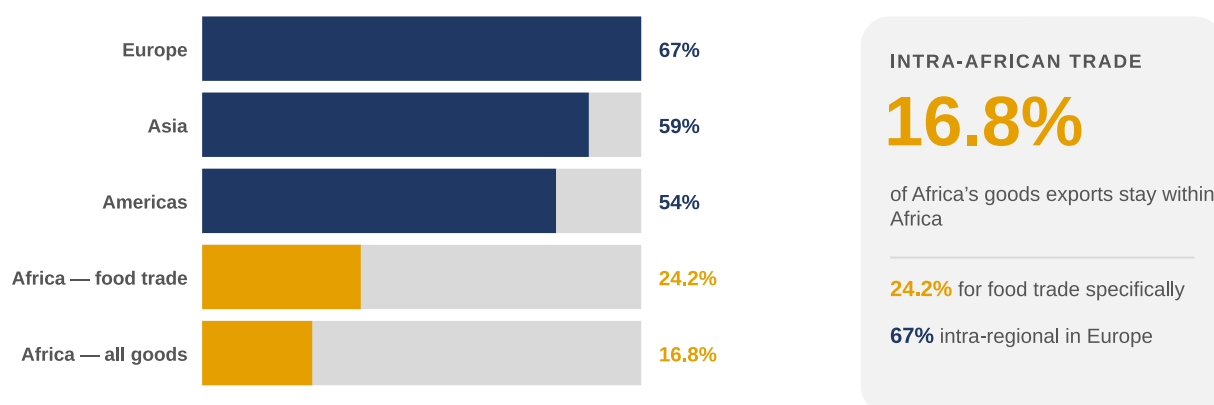


Figure A.10.2. Intra-regional share of exports, 2024: Africa trades far less within itself than other regions, and its food trade (24.2 per cent) is more regionalized than its total exports (16.8 per cent).

Source: author's calculation from the UNCTADstat intra-/extra-regional merchandise-trade matrix.

Food sovereignty is therefore as much about land and markets as about production. Africa's persistent food-import dependence exposes it to precisely the price shocks that climate disruption amplifies. Meanwhile arable land, about 262 million hectares, only a small fraction of it irrigated, is lost to urban encroachment and acquisition faster than it is restored. Building integrated regional markets under the African Continental Free Trade Area is itself an adaptation lever: the AfCFTA's Guided Trade Initiative and national trade frameworks are beginning to lower the barriers that keep African food trading out of the continent rather than within it¹²⁹.

A.11. Conclusion of Part A

Part A set out to answer one question: what is the state of African agricultural development and its adaptation to climate change, after the decade in which the AAA Initiative has operated? Assembled across the preceding sections, the answer is consistent. The political and institutional context is harder than at any point in the decade, with external finance shrinking and dearer, an acute input shock and a debt trap. The continental architecture is more complete than ever, CAADP renewed through Kampala, with dedicated plans for soil, water and early warning, yet its own scorecard finds

¹²⁸ Author's calculation from UNCTADstat, "Merchandise: intra-trade and extra-trade of country groups by product, annual" (1995–2024, SITC Rev.3): intra-group exports as a share of each group's total exports to the world ("percentage by destination"). The intra-/extra-regional shares are the author's own extraction and computation from this UNCTADstat matrix.

¹²⁹ AfCFTA country trade fact sheets and the AfCFTA Guided Trade Initiative (tralac compilation); intra-African trade shares from UNCTADstat (see Figure A.10.1).

no country on track. Ambition in the reporting chain reaches into the hundreds of billions, while delivery reaches only the single-digit billions. In the synthesis these prove to be not separate gaps but one: two systems converging on the same verdict while failing to connect. The problem lies in integration and delivery, and not in ambition. That is the foundation on which the assessment of the AAA Initiative, and the roadmap for 2036, must now build.

The components of success are present; the connections are not, and closing that gap, between

a continent that can plan and one that can deliver, is the inheritance the next part of this report must address.

Across these technical sections one conclusion recurs: the binding constraint on African agricultural adaptation is no longer a shortage of technical solutions but the intermediate capacity to turn them into bankable, financeable projects, the planning-to-finance handoff exposed by the weakness of NAP Module C. Against that constraint the AAA Initiative’s record must be assessed.

What success would look like by 2036 (illustrative).

Metric	2026 baseline	2036 target (illustrative)
NDCs anchoring to CAADP	9%	>80%
NAPs with a complete Module C (financing)	61%	>90%
Countries with a traceable NDC–NAIP–BTR–CAADP crosswalk	0	>20
Agricultural adaptation finance received	~USD 2.1 bn (cumulative)	>USD 10 bn/yr
BTRs reporting forest removals	4 of 14	>80%

Table A.11.1. Illustrative 2036 success metrics for the connective mandate; baselines from Part A, targets to be finalized in Part C.

Source: author’s analyses (2026).

This diagnosis ends where the assessment begins. A decade ago the AAA Initiative was created to place African agricultural adaptation at the center of the climate agenda and to help mobilize the means to act on it. In evidence, Part A has defined what acting now requires: not more ambition, but the connection of ambition to delivery and of the global reporting chain to the continental architecture. Whether and how the Initiative has advanced that connective task, and what role it should play in completing it by 2036, are the questions to which the report now turns.

PART B

The Decade as Evidence: What the Initiative Built



Part B at a glance

Part B reads the decade as evidence, asking what the Initiative demonstrably built, which capabilities that building proved, and where the record falls silent.

- **A platform built and held.** Launched as a royal initiative at COP22 (2016) and prepared by the Skhirat symposium and the White Paper, the Initiative grew into a registered public-utility foundation whose Board seats serving African ministers, sustaining an uninterrupted governance cycle and six ministerial conferences.
- **Advocacy with traceable asks.** Across the 2016–2026 declaration lineage (Table B.4.1), measurable demands (Koronivia and its renewal, loss and damage, the NCQG, NDC 3.0) moved into the negotiations as agriculture's place in the UNFCCC process widened.
- **A measurement asset.** IPAM grew to roughly 190 experts, nine of them serving in the UAE–Belém expert groups; as the Initiative's most distinctive capability, it seeds direction C.3.3.
- **A partnership and investment-plan model.** Here sit the AAI alliance and FAO cooperation; CSAIPs representing about USD 1.1 billion of identified investment potential by 2018; and the Pan-African Climate Finance Access Programme, presented in 2019.
- **What the record does not support.** Advocacy at scale did not, by itself, produce delivery at scale: frameworks and pledges answered the finance asks, flows did not follow, and the investment-plan model was never industrialized. Part C builds on these negative results as much as on the achievements.

The sections that follow document each claim: genesis and design (B.1–B.3), the declaration lineage (B.4), the measurement and partnership record (B.5–B.7), and the decade in one table (B.8).

Over its first decade, the AAA Initiative has grown from a declaration adopted at COP22 into a continental platform that combines a permanent institution, a recurring ministerial process, a dedicated adaptation-metrics body and a broad network of partners. This part presents that record (the Initiative's origins and positioning, its governance, its advocacy and climate diplomacy, its annual ministerial conferences, the IPAM platform, its scientific and capacity-building work, and its

partnerships) and draws from it the foundations on which the 2036 roadmap set out in Part C will build.

B.1. Ten years, and still standing: origins and positioning

A note on method. Institutional and narrative in character, the assessment of the Initiative's record that follows draws on the Foundation's public activity reports, the ministerial conference declarations and its statutory filings; it is not quantitative. The quantitative diagnostic of Part A and the modeled projections of Part C rest on the separate sources set out in their own methods notes.

The AAA Initiative, Adaptation of African Agriculture, was launched as a royal initiative of His Majesty King Mohammed VI of Morocco at COP22 in Marrakech in November 2016. It was created to close a clear gap. African agriculture, the livelihood of most of the continent's people and the sector most exposed to climate change, remained marginal in the climate negotiations relative to its importance, and underserved by the finance that flowed from them. The Initiative set out to place the adaptation of African agriculture, and the smallholder farmers who sustain it, at the heart of the global climate agenda, and to mobilize the finance, science and political attention the sector had long been denied. It has endured where others have not. Climate coalitions are easy to announce and hard to sustain, and many that emerged in the same period have lapsed or never moved beyond a launch communiqué. The AAA Initiative, by contrast, has operated continuously for a decade. It gave itself the means to last by establishing a permanent legal vehicle, the AAA Initiative Foundation, in 2019.

The launch was the visible summit of a deliberate, year-long construction. The case was first assembled ahead of the Bonn climate session of May 2016: a diagnosis of a triple bias in climate finance (against adaptation, against agriculture and against Africa), answered by three programs, soil management, agricultural water control and climate-risk management. On 14 July 2016, a scientific symposium in Skhirat brought together some sixty African and international experts, including IPCC, UNFCCC and FAO scientists, in five working groups to lay the Initiative's technical foundations; their synthesis became the founding White Paper. On 30 September 2016, a High-Level Meeting of ministers, heads of delegation and development partners

adopted the founding Marrakech Declaration (Table B.4.1). By the time COP22 opened, the Initiative was already a worked-out proposition: a scientific corpus, a declared mandate and a growing coalition of countries and institutions¹³⁰.

A decisive step came in 2020, when the Initiative was adopted as an African Union initiative. That endorsement moved it from a sponsor-led platform to a continentally owned one, anchoring it within the African Union's institutional architecture and aligning it with CAADP and Agenda 2063. Continental ownership explains why the Initiative has been able to convene ministers from across the continent year after year (the pandemic pause of 2020–21 apart) and to speak with continental legitimacy in the negotiations.

The Initiative pursues its mission through four complementary lines of work: strengthening governance and capacities through ministerial conferences and dialogue platforms that bring together African decision-makers and international partners; developing rigorous adaptation metrics through the International Platform for Adaptation Metrics (IPAM); promoting South–South and triangular cooperation, notably through the pan-African forum on adaptation finance and the APIA program; and disseminating knowledge and digital tools, including the African Agriculture Adaptation Tracking Tool. These lines define its identity. As a continental platform for advocacy, metrics and coordination, the AAA Initiative does not finance projects. It is designed to complement, not duplicate, the African Union and CAADP architecture, the COP presidential initiatives, the FAST Partnership, the Africa Adaptation Initiative and the Climate Commissions born of the 2016 Marrakech Summit.

From the outset, the Initiative defined itself as complementary to the existing landscape rather than competitive with it. The founding analysis mapped the major agricultural-development platforms then active (CAADP, the Global Agriculture and Food Security Program, national transformation agencies, Grow Africa and AGRA) and identified the space none occupied: a platform combining advocacy in the climate negotiations with support to bankable adaptation projects, spanning both finance and capacity. That complementarity was later formalized in a mapping of the Initiative onto the African Union's CAADP Business Plan 2017–2021, an early marker of the continental anchoring completed in 2020.

Its way of working is itself part of the achievement. Through transparency, ownership and collegiality, expressed in the annual ministerial conferences,

anchored in continental and international commitments, and exercised in partnership with peer initiatives such as the Africa Adaptation Initiative and the FAST Partnership, the Initiative gets things done. Decisions are taken collectively and declarations adopted by consensus, so that the agenda belongs to the African ministers who endorse it and to no single institution. This collegial, partnership-based method is a source of both legitimacy and durability.

B.2. An institution built to last

Building on that diplomatic momentum, the Initiative also became a permanent institution. The AAA Initiative Foundation was legally constituted at its founding General Assembly in 2019, with statutes, a Board of Directors, a General Assembly, founding and honorary members, and a permanent secretariat. Its statutes have since been updated as the organization matured, reflecting the move to African Union ownership and the broadening of its membership. Registration as a foundation, in place of an informal coalition dependent on the energy of a single summit, is the structural fact that makes continuity possible. Alongside these statutory organs, the Annual Ministerial Conferences of the Initiative constitute its political board: convened each year, they bring the member states' ministers together to set strategic direction and to adopt the ministerial declarations that carry the Initiative's positions into the negotiations (Table B.4.1).

Design, not improvisation, produced that institutional form. The post-COP22 stocktake of early 2017 fixed the structure's DNA (a solid scientific base, a multi-stakeholder coalition, the twin missions of advocacy and project facilitation, and a financing answer to the triple bias). It then weighed successive options for the structure's financial role, from an agri-climate marketplace through a seeding facility to sponsored dedicated funds, before the lean, public-utility foundation constituted in 2019 was retained.

The quality of its membership underpins its authority. The Board brings together serving African ministers of agriculture, eminent scientists, and leaders of major financial and development institutions; a Scientific Committee composed of internationally recognized researchers links the Initiative's positions to the best available evidence; and an executive secretariat ensures day-to-day continuity. This combination of political weight, scientific credibility and administrative permanence

¹³⁰ Founding corpus of the Initiative: AAA White Paper (2016); conceptual and ministerial presentations prepared ahead of the Bonn session (May 2016); proceedings of the Skhirat scientific symposium (14 July 2016).

is precisely what many short-lived initiatives lacked.

Statutory life has continued without a break. Annual cycles of board meetings and general assemblies have been held from 2019 through 2026, including through the disruption of the COVID-19 pandemic, when many comparable bodies lost momentum or suspended their activities altogether. The Initiative not only maintained its governance through that period but used it to consolidate its statutes and prepare its next phase. The same continuity held through the macroeconomic shocks to which the Biennial Review itself attributes part of the continent's underperformance, the pandemic and the 2022 input-price crisis. The Initiative kept its advocacy, its metrics work and its country support running throughout. What it could not do, and did not claim to do, was cushion those shocks programmatically. An advocacy-and-metrics platform holds no buffer instruments, which is precisely why risk transfer figures among the orphan levers its Roadmap now prioritizes (C.3.2).

That continuity has been sustained by a stable base of committed anchor partners, among them the OCP Foundation, Crédit Agricole du Maroc and MAMDA-MCMA, whose steady support has allowed the Foundation to plan and act over the long term. A registered foundation, an uninterrupted governance cycle, a high-caliber membership and a reliable support base together form the institutional foundations that allow a continental initiative to outlast the political moment that created it.

B.3. Advocacy and climate diplomacy



Credit: AAA Initiative

Advocacy is the Initiative's core métier: carrying a

unified and ambitious African voice for agricultural adaptation into the rooms where decisions are taken, and demonstrating that African agriculture ranks at once among the sectors most vulnerable to climate change and among the most powerful levers for building resilience and safeguarding food security.

That voice registered from the first fortnight. At COP22, the Initiative was cited in the royal addresses to the Conference and to the African Action Summit; the United Nations Secretary-General saluted the alliance of some thirty countries and major development institutions assembled behind the Initiative; the Marrakech Proclamation adopted by the 197 Parties echoed its agenda; and the UNFCCC's closing communiqué credited the Initiative, then numbering 27 participating countries, with showing how water, soil, climate-risk management and smallholder finance could be brought together to push adaptation forward. A Factiva-based media analysis conducted for the Initiative's post-COP22 stocktake found that the share of COP press coverage devoted to agriculture doubled between COP21 and COP22. The Initiative's pavilion made the same case in practice: a thousand square meters in the green zone, more than twenty panels, a marketplace showcasing 42 projects from more than thirty countries, and some eight thousand visitors¹³¹.

The reach of that voice widened markedly in 2025. For the first time, the Initiative addressed the African Union Peace and Security Council, at its 1263rd meeting on 6 March 2025, during a session devoted to climate change and security. It set out an evidence-based case (a continent warming faster than the global average, agricultural productivity already sharply reduced over recent decades, climate acting as a threat multiplier in fragile regions, and the prospect of large-scale climate-driven displacement). Its recommendations were that climate be recognized as a security-risk factor, that climate finance be treated as an investment in peace, that the governance of shared natural resources be strengthened, and that integrated climate-agriculture-security early-warning systems be developed. Carrying agricultural adaptation into the continent's security forum, and framing it as an instrument of peace, was itself a diplomatic milestone.

The Initiative has maintained a continuous presence in the UNFCCC process from COP22 through COP30 in Belém, and has positioned itself in the negotiations on the UAE-Belém work programme

¹³¹ Post-COP22 stocktake of the Initiative (March 2017), including a Factiva-based media analysis; UNFCCC closing press release (18 November 2016); AAA partner brochure.

on the Global Goal on Adaptation, the New Collective Quantified Goal on climate finance and the 2028 Global Stocktake. A technical mission to the Bonn climate talks secured agreement to host a preparatory workshop under the UAE–Belém work programme, and nine of the Initiative’s IPAM experts were formally integrated into the work programme’s expert groups, a concrete sign that an African platform is now recognized as a technical contributor and no longer a mere observer.

High-level diplomacy reinforced this throughout the year. The Initiative was carried into the EU–Africa Agriculture Ministerial in Rome, the United Nations Food Systems Summit +4 in Addis Ababa, and the Africa Food Systems Forum in Dakar, while a sustained program of bilateral engagements (with the African Union’s Agriculture Commissioner and with the agriculture ministers of several African states) built the political coalition needed to carry a common position into COP30 and toward the Initiative’s tenth anniversary.

B.4. The annual ministerial conferences



Credit: AAA Initiative

The annual ministerial conference is the Initiative’s signature instrument and the clearest expression of its collegial method. Through this recurring continental rendez-vous, African ministers of agriculture take ownership of the adaptation agenda: each conference is prepared by a scientific day that distils the latest evidence, and each closes with a ministerial declaration adopted by consensus. The mechanism matters as much as the message, for it is the means by which a genuinely shared African position is forged.

The series runs from the founding Marrakech Declaration, adopted at the High-Level Meeting convened ahead of COP22 in 2016, through successive annual conferences, including the fourth (2024), with its Meknès Declaration, and the fifth (Meknès, 23 April 2025), to the sixth in 2026, which will mark the tenth anniversary. Held in the margins of a major continental agricultural exhibition, the conferences have grown into a fixture of the African climate calendar, drawing ministers, regional and international organizations, financial institutions, researchers and technical partners from across the continent.

The fifth conference, convened under the theme of agroforestry and climate resilience, illustrates the model. It opened with addresses linking the urgency of adaptation to the role of agricultural finance and food-systems transformation, drew on the recommendations of the preceding scientific day, and culminated in a ministerial declaration adopted after debate. Participants reaffirmed the Initiative as the continental platform of reference for the adaptation agenda and committed to deepening its work through regular expert–decision-maker exchanges and farmer and producer-organization programs.

The resulting Meknès Declaration set out a roadmap around five axes: scaled-up climate finance, including a call to mobilize on the order of USD 1.3 trillion per year by 2035, reform of the Green Climate Fund and the Adaptation Fund, simplified access to the loss-and-damage fund, and African innovations such as climate bonds and levies on polluting activities; the systematic integration of agriculture, agroecology, climate-smart agriculture and agroforestry into the NDCs; inclusive food security centered on smallholders, women and youth, with early-warning systems and adapted insurance; robust adaptation metrics through IPAM and the UAE–Belém work programme; and strengthened South–South and triangular partnerships. The declarations build deliberately on a continental lineage (Marrakech 2016, Addis Ababa 2017 and 2020, the UN Food Systems Summit 2021, the Nairobi Africa Climate Summit 2023 and the resilient-investment summit of 2024). The Meknès Declaration also welcomed the Kampala CAADP 2026–2035 strategy adopted in January 2025, with its targets of raising agricultural output, halving post-harvest losses and tripling intra-African agri-food trade by 2035.

Read in sequence, the Initiative's ministerial conference declarations are themselves the clearest record of the advocacy it has carried out, and of how that advocacy has matured. The line runs from the founding Declaration of African Heads of State at Marrakech in 2016, through the second annual conference of AAA Initiative ministers in 2019 once the Foundation had been established, across a pause in 2020 and 2021 imposed by the COVID-19 pandemic, and on through the conferences of

2023 to 2026. Over that span, broad principle gave way to increasingly specific and costed demands (innovative finance, reform of the climate funds, and credible adaptation metrics), culminating in the forward agenda set out in the tenth-anniversary declaration of 2026. At each edition the coalition behind the message widened, and the precision of what African ministers were collectively asking for increased.

Edition	Conference declaration	What the advocacy advanced
2016 (1st)	Founding Declaration of Marrakech, 1st Ministerial Conference (COP22, 2016)	Set the founding mandate: put agriculture at the heart of climate negotiations and secure more, better-targeted finance for African agricultural adaptation, at a time when the continent drew about 5% of climate funds, adaptation about 20% of public climate finance, and agriculture barely 4%.
2019 (2nd)	2nd Annual Conference of AAA Ministers	Welcomed the Foundation as the Initiative's permanent vehicle; called for wider country support in formulating climate-smart agricultural investment plans and invited partner institutions to finance them; endorsed the AAA-AAI partnership and a pan-African program for Green Climate Fund access; recorded membership rising to 36 countries.
2020–21	No conference (COVID-19)	The annual cycle was suspended during the pandemic and resumed in 2023.
2023 (3rd)	3rd Ministerial Conference (Meknès, SIAM)	Re-anchored the Initiative in the continental architecture (recalling its 2020 reconfirmation by AU Heads of State and its integration into the AU Green Recovery Action Plan (2020–2026)), welcomed the renewal of the Koronivia joint work on agriculture at COP27, and pressed international financial institutions for resources matching national climate investment plans and pipelines of bankable climate-smart projects.
2024 (4th)	4th Ministerial Conference, Meknès Declaration	Committed to innovative finance, green bonds, dedicated national and regional adaptation funds, index-based insurance, green credit and the reform of agricultural subsidies; welcomed the operationalization of the loss-and-damage fund at COP28; and relayed the COP28 declaration on sustainable agriculture by calling for the integration of agriculture and food systems into NDCs and NAPs ahead of COP30.
2025 (5th)	5th Ministerial Conference (agroforestry), Meknès Declaration	Set costed, specific demands: delivery of the COP29 goal of USD 300 billion a year, with a collective ambition of USD 1.3 trillion, reform of the Green Climate and Adaptation Funds, agroecology, climate-smart agriculture and agroforestry embedded in the 2025 NDC revisions, and IPAM endorsed to support the UAE–Belém work programme on adaptation metrics.
2026 (6th)	6th Ministerial Conference, “10 Years: Review, Roadmap and Renewed Commitment”	Turned advocacy into a forward agenda: endorsed the “Review and Roadmap to 2036” exercise conducted with FAO, called for effective implementation of the NCQG, committed to finalizing NDCs 3.0 and NAPs by COP31 in line with the Global Goal on Adaptation, and pledged a unified African voice at COP31 ¹³² .

Table B.4.1. The line of AAA Initiative ministerial conference declarations, 2016–2026: from agenda-setting to operational ambition.

Source: the AAA Initiative conference declarations (Marrakech 2016; 2nd Conference 2019; Meknès 2023–2026), most recent versions; the 2020 and 2021 editions were not held owing to COVID-19.

¹³² The declaration drew on a preliminary reading of the NDC corpus (USD 550 bn of declared adaptation need; a 2.8:1 mitigation-to-adaptation finance ratio). The refined figures established in this report are USD 566 billion and 2.85:1 (Section A.4.3).

Figure B.4.1 compresses the decade into one view, with the Initiative’s conference line above and the climate regime’s milestones below.



Figure B.4.1. The decade in one view, 2016–2026: the AAA Initiative’s ministerial-conference line and the climate regime’s milestones for agriculture.

Source: synthesis of Part B (conference declarations, Table B.4.1; COP milestones).

B.5. IPAM: a flagship platform



The International Platform for Adaptation Metrics (IPAM), whose secretariat the AAA Initiative Foundation holds, is the Initiative’s most distinctive structural achievement. IPAM is the Initiative’s metrics arm, launched and hosted by the Foundation to answer a gap that Part A documents in detail: the absence of credible, Africa-relevant indicators with which to measure adaptation progress and orient finance. By building a community of practice around adaptation metrics, IPAM gives African positions, and the Initiative’s advocacy, a technical backbone that pledges alone cannot provide.

The platform has grown quickly and visibly. From 146 members across 40 countries in 2024, it expanded

to some 202 experts from 51 countries in July 2026 (of which, 89 are African in a network spanning four continents). Beyond its 202 individual members, IPAM’s strength also lies in its 16 institutional members, a range that runs from small grassroots NGOs to major international bodies and pan-African institutions alongside think tanks, research centers, and universities spanning Africa, Asia, Europe, and the Americas. It also strengthened its governance, broadening its steering committee and running a standing Tools, Techniques and Member Networking (TTMN) committee. This growth has made it one of the few adaptation-metrics communities with genuinely continental reach and a recognized international profile¹³³.

Its outputs are increasingly tagible. Held in Rabat from 29 September to 1 October 2025, under the theme “Accelerating Global Climate Resilience through Robust Adaptation Metrics”, the international IPAM conference gathered the platform’s community and partners. It fed directly into a thirty-page policy paper of the same title, which distilled the conference, a peer-review round and current policy developments into five priority recommendations and was launched at COP30 in Belém. Complementing these were a series of global knowledge-sharing webinars, including a February 2025 session co-hosted with UNDP, and a growing body of published output on adaptation measurement. Alongside them sits the African Agriculture Adaptation Tracking Tool, which offers decision-makers interactive dashboards to follow

133 AAA Initiative Foundation, 2025 Activity Report: the IPAM network and its TTMN committee; the Rabat international conference (29 September–1 October 2025); the thirty-page policy paper “Accelerating Global Climate Resilience through Robust Adaptation Metrics” launched at COP30; the global webinar series; and the African Agriculture Adaptation Tracking Tool.

progress in near real time, turning metrics into a usable instrument.

IPAM's technical standing has been recognized where it counts most. Ten of its experts sit in the UAE-Belém work-programme groups, and the platform has contributed formally to the work programme and to the preparation of the second Global Stocktake. In an arena where Africa has often received methodologies designed elsewhere, IPAM allows the continent to help write the rules by which adaptation is measured.

B.6. Science, knowledge and capacity

A Scientific Committee links the Initiative's positions to the best available evidence, on the founding principle that science offers options and solutions yet cannot, on its own, substitute for political commitment and for the integration of resilience into national plans and NDCs. Chaired by an internationally respected scientist and composed of leading researchers, the Committee gives the Initiative a credibility grounded in evidence and not in conviction alone.

Its 2025 scientific day, devoted to agroforestry, convened internationally renowned soil scientists, IPCC and CGIAR experts, and heads of African and international research institutions across two sessions, one on scientific advances and one on policy, governance and finance. The discussions

produced structured recommendations (on integrating agroforestry into national policies and NDCs, securing land rights, mobilizing patient finance suited to the maturity cycle of trees, and building a continental monitoring framework based on adaptation metrics). Carried directly into the ministerial declaration the following day, these recommendations closed the loop between science and policy.

The Initiative also invests in the capacity of those who must deliver. In April 2025 it ran a regional training of African agriculture focal points, co-organized with the Africa Adaptation Initiative, the World Bank, FAO, the Islamic Development Bank and national technical agencies, which brought together representatives of thirteen ministries of agriculture. Participants worked on designing climate-smart projects, assessing climate risk and accessing international climate finance such as the Green Climate Fund and the Global Environment Facility. They called for this training to be institutionalized at continental scale and supported by a pool of African experts.

A dedicated event on climate services for agriculture and the C12C-2025 international conference rounded out the year's technical program. All of this rests on a growing analytical corpus on Africa's NDCs, National Adaptation Plans and Biennial Transparency Reports, of which the present ten-year diagnostic is the flagship, produced and shared as a continental public good for ministries, negotiators and partners alike.



Credit: AAA Initiative

B.7. Partnerships and coalitions

The Initiative's influence rests on its ability to convene, and its first decade has woven a dense and widening web of partnerships. Bringing institutions to the same table (African and international, public and private, scientific and financial) is both a method and, in a fragmented landscape, an achievement in its own right.

Its partnership with FAO has been renewed and deepened, and the tenth-anniversary commemoration was prepared jointly for Rome in 2026. With the Africa Adaptation Initiative it signed a memorandum of understanding and advanced the APIA program, launched in Rabat in July 2024, together with an Adaptation Finance Academy aimed at strengthening African capacity to access climate finance. It concluded an agreement with the FARM Foundation and advanced the AACC-Med project, which links partners across the Mediterranean basin in Morocco, France and Egypt.

Two of these relationships reach back to the Initiative's first years. With the Africa Adaptation Initiative the tie is organic: the AAA Initiative positioned itself from the outset as the AAI's

agricultural arm, and the two convened the first African Dialogue on resources for agricultural adaptation in July 2019, at which the Pan-African Climate Finance Access Programme, designed to widen access to Green Climate Fund resources, was first presented. With the World Bank, the NDC Partnership, AFD, CIAT and FAO, the Initiative launched its first delivery instrument in 2017: the Climate-Smart Agriculture Investment Plans. The first three country plans (Côte d'Ivoire, Mali and Morocco) were completed by 2018, representing a cumulative investment potential of about USD 1.1 billion, with four more then in preparation¹³⁴.

Beyond these structuring agreements, the Initiative cooperates with the Africa Climate Commissions born of the Marrakech Summit and with the Abidjan Initiative, contributes to the FAST Partnership, and works with the Arab Organization for Agricultural Development, the French Development Agency, the World Bank, the Islamic Development Bank and leading universities and research centers. Taken together, these ties show that the Initiative occupies a genuine and recognized place in the global adaptation ecosystem. The collegial, continental network they form provides precisely the connective tissue that the diagnosis in Part A identifies as the continent's missing ingredient.



¹³⁴ AAA partner brochure; post-COP22 stocktake (March 2017); Foundation activity reports.

B.8. Milestones, 2016–2026

Year	Milestone
2016	Founding year: scientific symposium (Skhirat, July) and founding Marrakech Declaration (September); launch at COP22, whose African Action Summit places agricultural adaptation on the climate agenda; a marketplace of 42 projects from more than thirty countries.
2017	The agenda is carried into the UNFCCC process; the AU ministerial committee calls on the Commission to support the Initiative (Addis Ababa, October); the Climate-Smart Agriculture Investment Plan program begins with partner institutions.
2018	First three Climate-Smart Agriculture Investment Plans completed (Côte d'Ivoire, Mali, Morocco), with a cumulative investment potential of about USD 1.1 billion; four more in preparation.
2019	The AAA Initiative Foundation is legally constituted as the Initiative's permanent vehicle.
2020	The Initiative is adopted as an African Union initiative, anchoring it within the continental architecture; activity is maintained through the COVID-19 disruption. IPAM is created by five launching institutions.
2021	Engagement at the UN Food Systems Summit.
2023	Presence and advocacy at the Nairobi Africa Climate Summit.
2024	Fourth Ministerial Conference and the Meknès Declaration; IPAM reaches 146 members across 40 countries; the APIA program is launched in Rabat; pan-African adaptation-finance forum in Lomé.
2025	First intervention before the AU Peace and Security Council (6 March); fifth Ministerial Conference on agroforestry (Meknès, 23 April); IPAM grows to some 190 experts from 49 countries; IPAM policy paper launched at COP30 (Belém); partnerships with FAO, the Africa Adaptation Initiative and the FARM Foundation.
2026	Tenth anniversary: sixth Ministerial Conference, IPAM grows to more than 200 experts from 51 countries; the present ten-year report, and an anniversary event with FAO in Rome.

Table B.8.1. Ten years of the AAA Initiative at a glance, 2016–2026.

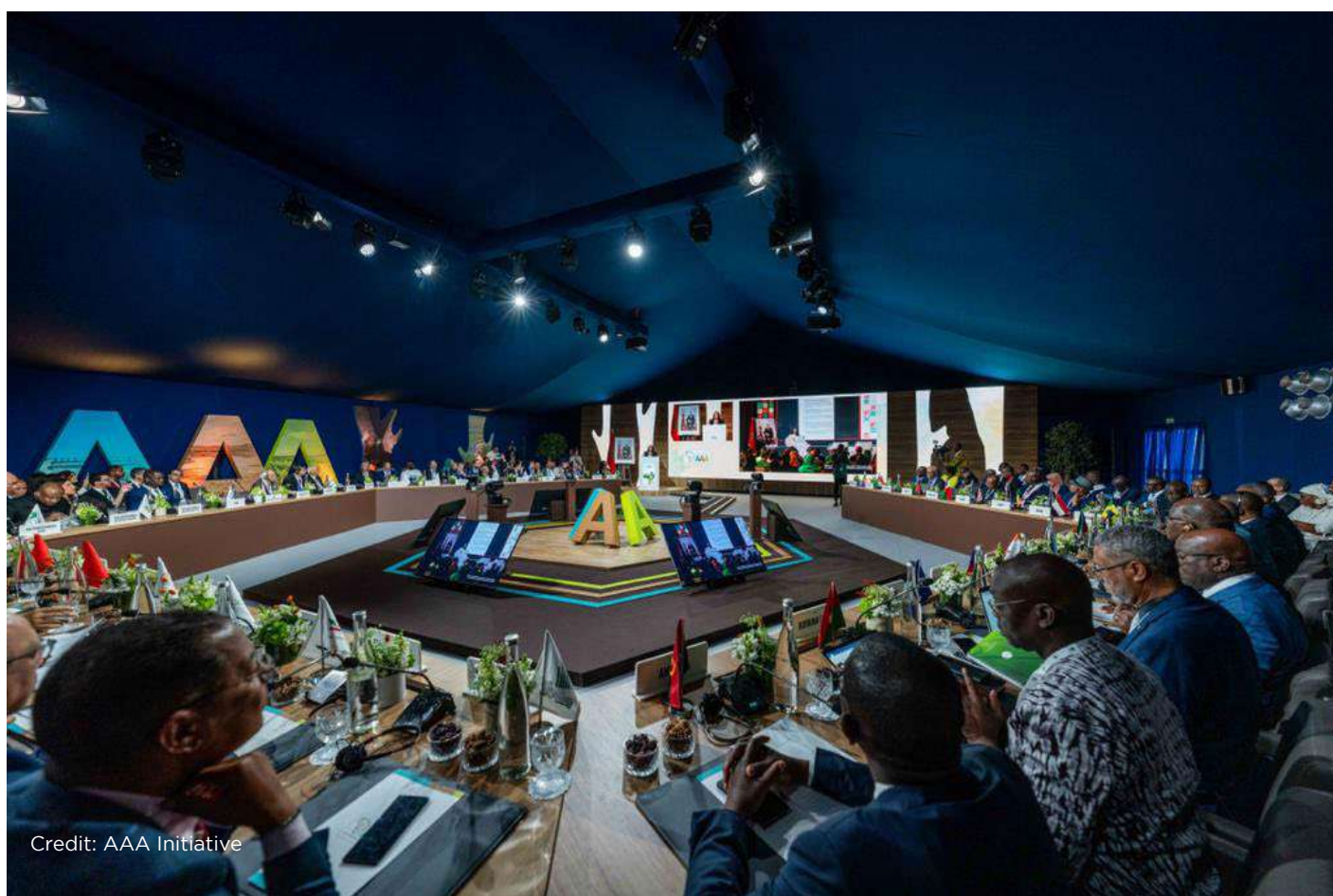
Source: Foundation activity and moral reports (2019–2025) and ministerial conference declarations.

B.9. What makes the AAA Initiative endure

Five features explain why the Initiative has lasted where others have not, and they are the foundation on which the 2036 roadmap of Part C will build. First, continental political anchoring, reinforced by its adoption as an African Union initiative in 2020, has given it standing, legitimacy and continuity beyond any single sponsor. Second, a light platform model, built on convening, metrics and advocacy in place of heavy project delivery, has kept it agile and focused on its comparative advantage. Third, an uninterrupted governance cycle, embodied in a registered foundation with a high-caliber membership, has carried it through shocks including

the pandemic. Fourth, a demonstrated capacity to federate partners (African and international, public and private) has multiplied its reach. And fifth, a method of transparency, ownership and collegiality, exercised through the ministerial conferences and its partnerships, has earned it trust.

Together these turn a decade of presence and convening into a platform ready for a more ambitious mandate. Part A showed that the binding constraint on African agricultural adaptation lies in integration well ahead of ambition; Part B shows that the AAA Initiative has built, over ten years, precisely the convening power, the metrics capacity through IPAM, and the partnership network that a connective mandate would require. Part C sets out how that hard-won capacity can be put to work between now and 2036.



Credit: AAA Initiative

PART C

Roadmap to 2036: the connective decade

Part C at a glance

Part C converts the diagnosis into an investment rationale for the decade to 2036, the connective decade. Its claim is deliberately bounded: the Initiative does not promise to close a USD 566 billion gap. What it does claim is that the 1.5 per cent of declared need currently arriving can change order of magnitude within a decade, because the chain is unconnected at four identified joints (Figure C.2.1) and each connection lies within the capabilities Part B documented.

- **C.3.1 Anchor the climate instruments to the continental agenda: moving from 9 per cent of NDCs and 2 of 28 NAPs referencing CAADP to >80 per cent of NDCs anchored and >20 traceable country chains*.**
- **C.3.2 Finance the orphan levers through their continental vehicles: no statistical orphans, every lever at ≥ 70 per cent coverage, with finance flowing through each vehicle*.**
- **C.3.3 Make IPAM the African standard for adaptation metrics: adopted in the Biennial Review, in BTRs and by at least one major fund*.**
- **C.3.4 Build the project-preparation capacity the chain lacks: quasi-universal TNA coverage and NAP financing modules >90 per cent complete, under a continental Preparation Compact*.**
- **C.3.5 Carry a unified African voice to COP31 and beyond: African agricultural asks consistently reflected in COP outcomes, tracked in a per-COP register*.**

By design the means stay small: a connective layer of roughly USD 100–200 million over the decade, financed as core support and in kind (Section C.4). Measurement is committed in advance through a ten-line results matrix read annually at the ministerial conference, a mid-decade review in 2031 aligned with the NDC, Biennial Review and Kampala cycles, and the twenty-year report in 2036 (Section C.5).

* Targets were tested through the interview program (Section C.6, Annex 9) and stand as this report's proposals; Table C.3.1 presents the five directions in full.

Part A established the diagnosis: ambition is abundant, delivery is failing, and the systems that govern African agricultural adaptation do not yet connect. Part B established the record: ten years of convening, metrics and advocacy that built precisely the capacities a connective mandate requires. In

Part C the Initiative sets out its own roadmap for 2036, an argued roadmap written for the partners expected to finance the decade. Grounding comes from the evidence of Part A, from the projections and strategic corpus assembled for this report, and from a structured program of interviews with African and international decision-makers (Section C.6 and Annex 9). Opening the Part is a one-page roadmap statement; everything that follows exists to make it credible.

By 2036, twenty years after Marrakech, African agriculture will no longer declare its adaptation needs into a void. Having learned in this decade to name what it needs and to plan for it, the continent will have learned to finance, deliver and account for it, once, together, across the systems that already exist. A need declared in a national contribution will carry a costed plan, a prepared project, a line of finance and a traceable result, anchored in the continent's own agricultural agenda and recognized in the global climate regime. The word "bankable" will have left the vocabulary of refusal. Adaptation finance will reach the farm, the herd and the watershed at a scale measured in tens of billions, not single digits. The AAA Initiative does not promise to close the gap; it promises to connect the systems that can. Africa will adapt on its own terms, and the world will be able to see it.

Four terms recur throughout Part C, with fuller definitions in the Glossary: the connective mandate is the institutional mission, making the instruments and institutions that already exist work together; the connective agenda is the sequenced policy package that delivers it (Section C.3); the connective layer is its costed coordination line, USD 100–200 million across the decade (Section C.4); and the connective decade is the period 2026–2036 over which it runs.

C.1. The world of 2036: why act now



Set out here is the world in which the roadmap will play out, in references the partners themselves use. A short narrative opens the section, the Africa of 2036 if the decade succeeds, before dated projections ground it: a continent of 1.95 billion people by 2036 (430 million more than today), 310 million additional working-age Africans, three-quarters of the population in urban or semi-dense areas yet a rural population still growing in absolute terms; a further +1.2 to +1.6 °C of warming locked in by mid-century whatever the emissions pathway, three distinct hydric futures across the continent, and six states already exposed on more than 90 per cent of their territory to high or extreme water stress. Closing the section is the quantified fork between two futures (an agri-food import bill heading toward USD 510 billion by 2043 on the current path, against +USD 354 billion of GDP and 59 million people out of extreme poverty on the transformation path) and the temporal anchor that gives this roadmap its place: 2036 is the Initiative's twentieth year and the first year after the Kampala CAADP decade. That timing positions the Initiative as the guarantor of continuity where ten-year frameworks succeed one another. No other actor occupies that position.

Picture the Africa of 2036, if this decade succeeds. A continent of close to two billion people, the youngest market and the largest workforce entering the world economy, feeds itself from its own fields first: the import bill has stopped climbing, and regional food trade moves through the African Continental Free Trade Area in volumes three times those of the mid-2020s. The word "bankable" has quietly disappeared from the vocabulary of refusal, because every country that declares an adaptation need can show the costed plan, the prepared project and the metric behind it. Climate shocks still come, harder than before; but they land on early-warning systems that reach the last village, on insured harvests, on soils that hold water because a decade of restoration was financed on time.

Now picture the other Africa of 2036, the one that needs no effort to imagine, because it follows the current path. The same two billion people, fed increasingly from abroad: an agri-food import bill on its way to half a trillion dollars, farmland expanding into forests because yields did not move, the young leaving rural areas that investment never reached, and adaptation finance still arriving at one-and-a-half cents on the declared dollar. Both Africas are plausible, and both are today fully priced by the

same models. What separates them is delivery, once knowledge, technology and ambition are set aside, since Part A has shown all three to be abundant: the connection of plans to money, of instruments to institutions, of measurement to accountability.

That choice rests on the demographic certainties, the climate already written and the climate still to choose, the water constraint, and the two quantified futures between which the decade will decide, closing on the reason this roadmap bears the date it does.

C.1.1. A continent arriving: people, workers, cities

The demographic floor of the decade is not a scenario; it is the population already born. Africa counted some 1.52 billion inhabitants in 2024. It will count about 1.73 billion in 2030, 1.95 billion in 2036 (the horizon of this roadmap, 430 million more people than today) and 2.47 billion in 2050, on the way to 2.92 billion at the Agenda 2063 horizon. No plausible variant changes the 2036 figure by more than a few percentage points: whatever else is uncertain about the next decade, its demography is settled¹³⁵.

Within that total, the structure is shifting in a direction that defines the stakes. The working-age population (15–64) grows from about 0.87 billion today to 1.18 billion in 2036 and 1.56 billion in 2050, 310 million additional potential workers within the window of this roadmap, two-thirds of the growth of the world's workforce. The continent stays young, with over half its people still under 25 in 2036, while moving from a population of children toward a population of workers. That is precisely the window in which agriculture either becomes a destination, a modern, financed, climate-resilient sector that absorbs labor into value chains, processing and services, or remains the default that the young leave at the first opportunity.

Where those people will live reframes the food question. Measured by the degree-of-urbanization method, 41 per cent of Africans already live in cities and another 32 per cent in towns and semi-dense areas; by 2050 those shares reach 46 and 33 per cent. Nearly three-quarters of the continent's consumers are therefore already urban or peri-urban, and the food market is a city market, with everything that implies for processing, logistics, standards and post-harvest systems. Yet the rural

¹³⁵ UN, World Population Prospects 2024, medium variant: Africa 1,515 m (2024); 1,727 m (2030); 1,947 m (2036); 2,467 m (2050); 2,923 m (2063). Author's analysis of the WPP country files assembled in the Vision corpus.

population keeps growing in absolute terms, from about 418 million today to 516 million in 2050. The transformation this roadmap describes must therefore do two things at once: supply booming urban food markets, and raise the productivity and resilience of countrysides that will be more populated in 2050 than they are today¹³⁶.

Indicator	2024/25	2036	2050
Population (billion)	1.52	1.95	2.47
Working-age population, 15–64 (billion)	0.87	1.18	1.56
Share under 25	58%	54%	50%
Living in cities (degree-of-urbanization)	41%	43%	46%
Living in towns and semi-dense areas	32%	33%	33%
Rural population (million, absolute)	418	466	516

Table C.1.1. The decade in numbers: Africa's demographic trajectory to the 2036 horizon and beyond (UN medium-variant projections).

Source: author's analysis of UN World Population Prospects 2024 (medium variant) and World Urbanization Prospects 2025.

C.1.2. The climate already written, and the climate still to choose

Some of the climate of 2036 is no longer a matter of scenario. Across every African region, the CMIP6 ensemble places the 2040–2059 period between +1.2 °C and +1.6 °C above the 1995–2014 reference, almost regardless of the global emissions pathway, with northern Africa and the Sahel warming fastest. The adaptation that this decade must build is therefore not contingent on what the world decides about mitigation: it is the entry ticket. What remains to be chosen is the second half of the century, and the choice is wide. Under a moderate pathway, end-of-century warming settles at +2.0 to +2.6 °C over the reference; under a high-emissions pathway it reaches +3.8 to +5.2 °C¹³⁷.

Water tells three different stories. Toward the end of the century, northern Africa loses 13 to 27 per cent of its annual precipitation depending on the pathway, the driest large-region signal on the continent. Southern Africa dries more gently, while the Sahel, the central basins and eastern Africa receive 5 to 11 per cent more rain in the annual median. More rain, however, does not mean safer rain: the same ensembles indicate it arrives more violently and less predictably, and the regional evidence assembled for West Africa suggests crop growing periods could shorten by around a fifth by 2050, implying cereal-

yield losses of up to 40 per cent where adaptation does not keep pace. Under a pessimistic scenario, West Africa alone faces up to 54 million internal climate migrants, against fewer than 18 million if action comes early.

Dangerous heat is the century's binary variable. Today, essentially no African state experiences thirty or more days a year of heat index above 41 °C. By 2080–2099 under the moderate pathway, one does; under the high-emissions pathway, around half of them do, with the Sahel and the West African coast in the front line. For outdoor agricultural labor, the difference between those two numbers is the difference between a hard climate and an impossible one: it is the single clearest expression of what global mitigation is worth to African agriculture, and the foundation of the asymmetry argument the Initiative has carried since 2016¹³⁸.

The water constraint, finally, is not waiting for 2050. On the WRI Aqueduct baseline, six states (in the north and the arid south-west of the continent) already face high or extremely high water stress on more than 90 per cent of their territory, and water is the hazard most cited across the African National Adaptation Plans. The regional geography of the roadmap follows directly: water efficiency and irrigation modernization first in the north and the south-west, heat-proofing and risk transfer in the Sahel, sustainable intensification in the humid basins, and post-harvest and market systems everywhere¹³⁹.

136 UN, World Urbanization Prospects 2025 (degree-of-urbanization methodology), Africa: cities 41% / towns and semi-dense 32% / rural 27% in 2025; 46/33/21 in 2050; rural population 418 m (2025) → 516 m (2050). Working-age and under-25 shares: author's analysis of WPP 2024 population by age.

137 Author's analysis of CMIP6 multi-model ensemble monthly climatologies (median; ssp245 and ssp585) for the African states: re-gional mean warming vs 1995–2014 of +1.2 to +1.6 °C in 2040–2059 under both pathways; +2.0–2.6 °C (ssp245) vs +3.8–5.2 °C (ssp585) in 2080–2099; annual precipitation –13%/–27% (north) to +5–11% (Sahel, central, east); states with ≥30 days/year of heat index >41 °C: 0 today, 1 (ssp245) vs 24 (ssp585) in 2080–2099. West Africa figures: World Bank, Blueprint for Strengthening Food System Resilience in West Africa (growing periods --20% by 2050; internal climate migrants 54.4 m pessimistic vs 17.9 m with early action).

138 Author's analysis of the CMIP6 heat-index climatologies (days per year with heat index above 41 °C, ensemble median); conven-tions as in note 137. Front-line values under ssp585, 2080–2099: Senegal 123 days/year, Mali 104, Nigeria 83.

139 Author's analysis of WRI Aqueduct 4.0 (baseline annual, area-weighted country aggregation): Libya, Botswana, Niger, Egypt, Mau-ritania and Namibia above 90% of territory in high or extremely high baseline water stress. Hazard ranking across NAPs: Part A, Ta-ble A.4.14.

C.1.3. The fork: two futures, both fully priced

What distinguishes this decade from previous ones is that both of its futures have been quantified, often by the same institutions and with the same models. On the current path, Africa’s agricultural import bill grows from about USD 114 billion in 2019 to about USD 510 billion in 2043; cereal import dependency, already at 47 per cent, keeps rising; and even if half the yield gap were closed, seven of the ten most populous countries would still not be cereal self-sufficient in 2050, so cropland keeps expanding into natural habitats, by an area roughly the size of France. At the global scale, FAO’s ‘stratified societies’ long-range pathway concentrates close to a billion undernourished people in sub-Saharan Africa by mid-century ¹⁴⁰.

The transformation path is priced with equal precision. A modeled agriculture scenario combining yield gains, irrigation expansion and post-harvest-loss reduction produces, by 2043, 486 million tonnes of additional food per year, an import bill USD 212 billion lower, an economy USD 354 billion larger, and 59 million fewer Africans in extreme poverty than on the current path. The market that rewards this path is already forming: urban food markets approaching USD 1 trillion by 2030, and a continental free-trade area whose full implementation is independently estimated to raise incomes by some USD 450 billion and lift tens of millions out of poverty by 2035. The investment required (in the range of USD 30 to 40 billion a year for agriculture, several times today’s actual flows) is large against current budgets and small against either the import bill it avoids or the GDP it creates¹⁴¹.

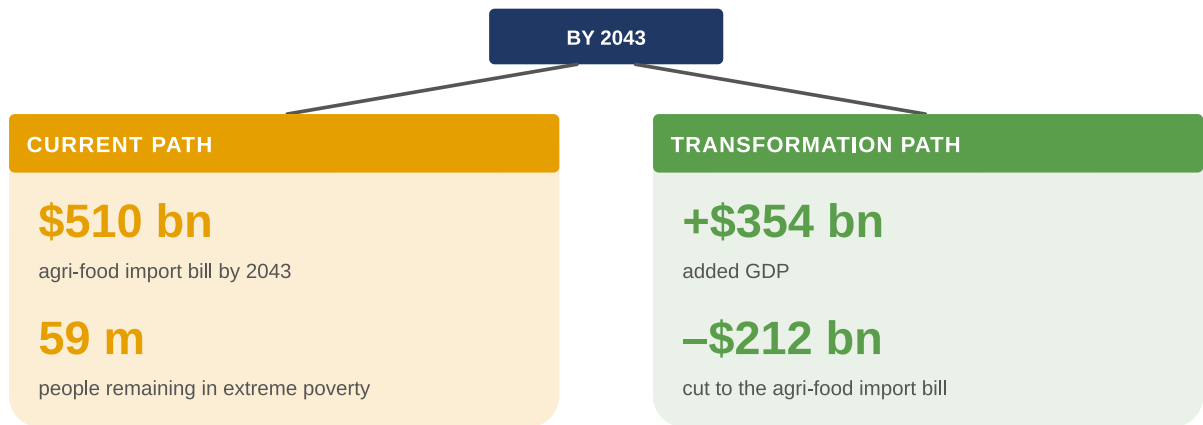


Figure C.1.1. The fork: two futures for African agriculture, both fully priced.

Dimension	Current path	Transformation path
Agri-food import bill, 2043 (from ≈ USD 114 bn in 2019)	≈ USD 510 bn	USD 212 bn lower
Food production (2043)	baseline	+486 Mt per year
Extreme poverty (2043)	398 million (18%)	339 million (15%), 59 m fewer
GDP (2043)	baseline	+ USD 354 bn
Cereal self-sufficiency (2050)	7 of 10 largest countries not self-sufficient	yield-gap closure replaces land expansion
Land and ecosystems	cropland expansion ≈ the area of France	intensification on existing land

Table C.1.2. The fork, as the models price it: current path versus transformation path.

Sources: ISS African Futures, Africa Agriculture Futures (2043 horizons); WWF/IIED and IFPRI for trade-dependency and land readings; FAO long-range pathways.

140 Current path: ISS African Futures, Africa Agriculture Futures thematic futures (import bill USD 114 bn in 2019 → USD 510 bn in 2043). Cereal import dependency 46.6% (2016–2023): IFPRI, Global Food Policy Report 2025, ch. 19. Self-sufficiency and land ex-pansion: WWF/IIED, Africa’s Food Systems and Environmental Sustainability (IMPACT model: net cereal imports 58.6 Mt in 2010 → 164.2 Mt in 2050). Long-range pathways: FAO, The Future of Food and Agriculture, Alternative Pathways to 2050.

141 Transformation path: ISS African Futures, Agriculture scenario (2043: +486 Mt food; import bill –USD 212 bn; GDP +USD 354 bn at MER; extreme poverty 339 m vs 398 m on the current path). Market: World Bank, Growing Africa, Unlocking the Potential of Agri-business (food markets ≈ USD 1 trillion by 2030). AfCFTA effects: World Bank/Brookings estimates (+USD 450 bn income by 2035). Investment range: AfDB Feed Africa (USD 315–400 bn over a decade) and the wider corpus assembled for this report.

Central to the decade is the tension the fork captures, though it should be read carefully: this is no forecast of two Africas, one of which will happen. What the fork offers is a price list. Every element of the transformation column has a known cost, a known instrument and, in most cases, a continental vehicle already built for it, all documented in Part A. What the current path measures is the recurring failure to connect those solutions to finance at scale. Ending that precise gap is why this roadmap exists.

Box C.1. How the fork is priced

The current-path and transformation-path figures are conditional projections, not forecasts. They are drawn from the ISS African Futures models and the FAO long-range pathways: the current path assumes today's policies and investment levels persist; the transformation path assumes full implementation of the Kampala CAADP agenda and the connective measures of Part C. Neither pole is a prediction: the realized path will lie between them, and the point of pricing the fork is to make the stakes of the decade's choices explicit. Sources and horizons are given beneath Table C.1.2 and in Annex 7.

C.1.4. The temporal anchor: 2036, the year after Kampala

This roadmap bears the date 2036 for three reasons, none of them rhetorical. First, 2036 marks the Initiative's twentieth year: a horizon at which the institution that Part B described (the convening power, the metrics platform, the partnership network) must have converted its endurance into measurable continental outcomes. Second, 2036 is the first year after the Kampala CAADP Strategy and Action Plan (2026–2035), the decade in which the continent has committed to raise agri-food production by 45 per cent, halve post-harvest losses and triple intra-African agri-food trade. Deliberately, the Initiative's roadmap is set one year beyond that finish line: its role is to help the Kampala decade succeed (by connecting the climate instruments, the finance and the metrics to the continental strategy) and to ensure that what follows Kampala starts from delivery, and not from another declaration. The year 2036 is the horizon of this Roadmap, not the expiry of the Initiative: the Foundation's role is one of continuity across successive decadal frameworks, and the 2036 review is meant to set the course toward 2046, not to close the books.

Third, and most structurally: ten-year frameworks succeed one another (Maputo, Malabo, Kampala) and each transition has cost the continent continuity, as Part A's account of the accountability record shows. A platform that is continental yet light, ministerial yet permanent, and analytical as well as political stands as the natural guarantor of continuity across those transitions. Few other actors in the landscape combine the three capacities this role demands: continental institutions and the regional economic communities hold the mandate but not the measurement machinery; the climate funds command finance but not the negotiating presence; and individual partnerships rarely span all three at once. What gives the Initiative its distinctive value is that it holds the convening power, the measurement capacity and the climate-negotiation presence together. The five directions that follow are the operational form of that position.

C.1.5. The mitigation-adaptation nexus, and the limits of adaptation

A roadmap built on adaptation must be honest about adaptation's limits, and about its dependence

on a variable the continent does not control: the pace of global mitigation. Part of the climate of the coming decades is already locked in whatever the emissions pathway (Section C.1.2), so the adaptation this decade must build stands as the entry ticket, independent of global mitigation. Yet the second half of the century remains a choice, and for African agriculture the gap between the pathways set out in Section C.1.2 is categorical, not incremental. At the upper end, adaptation meets biophysical limits, and outdoor agricultural labor, rain-fed staples and pastoral systems in the Sahel and parts of Southern Africa face conditions no feasible investment fully offsets.

This has a direct implication for the Initiative's voice. Because the severity of the adaptation task is set partly by global mitigation, and because Africa, which has contributed least to the problem, is warming faster than the global average, the case for ambitious global mitigation is itself an African adaptation interest. The heat-asymmetry argument the Initiative has carried since 2016 belongs in that voice: the Initiative's mandate is adaptation, but its advocacy at COP31 and beyond (Direction C.3.5) should make plain that adaptation finance and global mitigation are complements, not substitutes, every tenth of a degree avoided lowers the adaptation bill this report prices, and at the high end protects systems that adaptation alone cannot save. The connective agenda assumes a world that also mitigates; where it does not, the same agenda still reduces avoidable losses, but within limits this roadmap names rather than hides.

C.2. What ten years have taught: the Initiative's theory of change



Credit: Salvador Aznar
/ Shutterstock.com

The analytical spine of the roadmap. This section is the one place where the report states, in testable form, why connection rather than more ambition changes the order of magnitude of delivery, and commits that claim to the falsifiable criteria of Table C.2.1. Everything in Part C, the five directions, the means and the results framework, rests on the causal argument set out here.

This section converts the diagnosis of Part A into an explicit theory of change, the investment rationale of the roadmap. If the climate instruments are anchored to the continental architecture; if preparation is financed as a public good rather than awaited project by project; if adaptation is measured by credible, African-anchored metrics; then the 1.5 per cent of declared need that currently arrives can change order of magnitude within a decade. Each causal link is stated, referenced to its evidence in Part A, and confronted with its main objection, so that partners can see what the Initiative believes, why, and what would falsify it.

C.2.1. From diagnosis to causal claim

Part A can be compressed into a single sentence: African agricultural adaptation declares much, plans increasingly well, delivers almost nothing, and accounts for itself in two systems that do not yet connect, and every component of that sentence is measured. The needs are declared (about USD 566 billion, 14 per cent agricultural); the plans exist (28 NAPs, with financing as their weakest module); delivery is the anomaly (about 1.5 per cent of declared need received, under 3 per cent for agriculture); and accountability is split between a continental scorecard that no state currently meets and a Paris chain that no state currently completes. A theory of change worth financing must explain what should happen and also why this precise configuration, abundance upstream, famine downstream, persists, and at which joints it can be broken.

The explanation Part A documents is structural. Money does not flow because projects are not prepared; projects are not prepared because preparation is financed nowhere (a public good that no single project can carry); plans do not align with continental commitments because no instrument requires them to; and progress cannot be credibly shown because adaptation lacks an agreed African metric. Each gap reinforces the others: unprepared projects confirm the perception of risk, which raises the cost of capital, which makes preparation still

less likely. The system is unconnected at four points, and the four gaps are mutually stabilizing. Which is why a decade of advocacy, finance summits and instrument-building has moved the needle so little: every actor has optimized its own link while the chain as a whole stayed open.

C.2.2. The causal chain, link by link

The Initiative's theory of change holds that four connections, made together over a decade, change the order of magnitude of delivery. Each link is set out below with its mechanism, its evidence base in Part A, the strongest objection to it, and what would count as falsification. A roadmap that cannot say what would prove it wrong amounts to a hope, not a strategy.

Link	Mechanism	Evidence (Part A/B)	Main objection, and response	Falsified if...
1. Anchor the climate instruments to the continental agenda	NDCs and NAPs that reference CAADP targets become legible to AU accountability, and vice versa; one national measurement serves several reporting obligations, relieving the very MRV constraint that duplication creates	9% of NDCs and 2 of 28 NAPs cite CAADP; the harmonized indicator set of Section A.5.4; the cost of non-integration (A.5.7)	Sovereignty: countries may resist a second anchor. Response: the anchor reduces burden rather than adding one	If by 2031 crosswalked countries show no faster planning-to-finance conversion than others
2. Finance preparation as a public good	TNAs, costings and readiness convert declared needs into investable pipelines; preparation is cheap (USD 0.5–1 m per country) against the finance it unlocks	The 43→11→6 funnel of current assessments (A.7.1); Burkina Faso's fully costed NAP as proof of feasibility; GCF Readiness disbursements ≈USD 251 m continent-wide	Absorption: prepared projects may still find no capital. Response: Part A shows capital cites preparation, not the reverse, as the binding constraint	If countries completing TNAs and costings see no material rise in approved finance within two cycles
3. Measure adaptation with credible African metrics	A recognized standard (IPAM, feeding the UAE–Belém work programme) lets funders verify outcomes, lowers perceived risk, and gives the continent an evidence base for its asymmetry case	IPAM's growth and formal role (B.5); the GGA indicator window adopted at COP30; the two-systems convergence on measurement (A.5)	Standards proliferate and die. Response: IPAM's niche is African anchorage plus UNFCCC process access, a combination no competitor holds	If IPAM-derived indicators are not adopted by at least one major fund or several BTRs by 2031
4. Carry one African voice into the negotiations	A unified ministerial position converts continental weight into negotiated outcomes (finance goals, agriculture work programmes, GGA indicators) that the first three links can then exploit	The declaration lineage and its measurable asks (B.4); agriculture's rising place in the UNFCCC process since COP22 (B.3)	Negotiated text does not move money by itself. Response: true, which is why this link is necessary but deliberately not sufficient, and never carried alone	If ministerial positions cease to be reflected in COP outcomes on agriculture

Table C.2.1. The theory of change, stated to be testable: four links, their mechanisms, their evidence, their strongest objections and their falsification criteria.

Source: synthesis of Parts A and B.

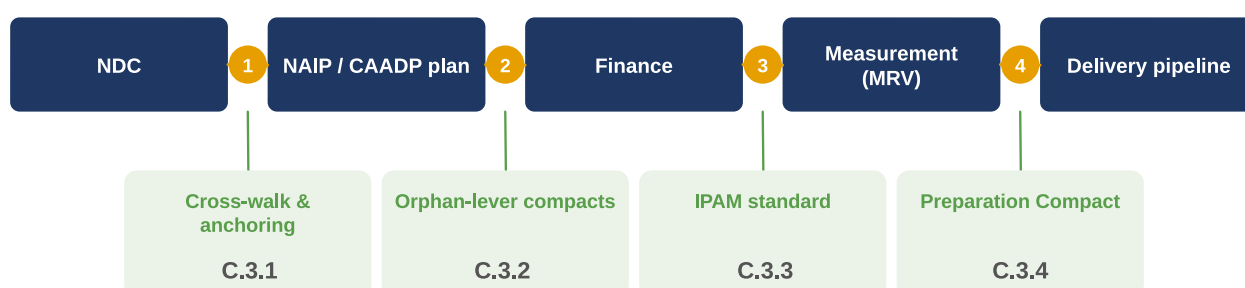


Figure C.2.1. The delivery chain and its four open joints: the four connections of the theory of change, each placed at the joint it closes.

Reading: solid arrows mark the reporting chain that exists; dashed orange links mark the connections that do not yet exist.

Source: synthesis of Parts A and B (Table C.2.1).

Read together, the links compose a single proposition: connection is the multiplier, and connections and capital work as complements, not substitutes, as the connective-wager matrix (Table C.5.2) makes explicit. None of the four requires new institutions; none requires the Initiative to deliver projects itself; all four lie within the capabilities Part B documented: convening, metrics, advocacy and partnership. The combined claim is deliberately bounded. The Initiative does not promise to close a USD 566 billion gap. Its claim is that the 1.5 per cent can plausibly become an order of magnitude more within a decade, because each link removes a specific, evidenced blockage, and because the four blockages are the only ones the corpus consistently identifies between African ambition and African delivery.

To keep the proposition falsifiable, the annual reading attaches provisional quantitative thresholds to each link, tested through the interview program (Section C.6) and recalibrated at the 2031 mid-decade review once tracked cohorts provide a measured baseline. The theory is judged not to be working if, by 2031, crosswalked countries do not convert prepared projects to finance at least 50 per cent faster than comparable countries without a crosswalk; if fewer than half of the prepared, costed projects in the pipeline secure finance within twenty-four months; or if neither a major climate fund nor the CAADP Biennial Review has adopted an IPAM-standard adaptation metric.*

To keep that test clean, the readiness-finance link is examined as four distinct questions rather than one: whether readiness predicts (1) receiving any adaptation finance at all, (2) the volume received, (3) the time from proposal to approval, and (4) disbursement and delivered outcomes, since a country can be ready in one of these senses and not another. Reporting quality is treated as a separate variable throughout, because countries with stronger reporting systems may appear to receive more finance simply because they trace it more fully, not because readiness drew the money in; failing to separate the two would confuse the visibility of finance with its arrival.

One objection deserves pre-emption: because a crosswalk makes finance visible, its first effect is to measure money rather than to add it, so the delivery ratio would rise partly by construction. The theory accepts this. Visibility is a dividend in its own right,

since flows that cannot be seen cannot be managed; and it is precisely why the falsification tests run on the conversion speed of prepared projects and on adoption by funds, not on the delivery ratio itself.

C.2.3. What the first decade proved, and what it did not

The theory rests on lessons paid for over ten years. What worked is documented in Part B. The light-platform model survived shocks that ended heavier initiatives; the ministerial conference turned a launch event into the continent's recurring agricultural-climate rendez-vous; advocacy demonstrably moved agriculture into the UNFCCC process and kept it there; IPAM created, from nothing, the continent's claim to the adaptation-metrics agenda; and the early country work, the climate-smart investment plans prepared with partner institutions, proved that African pipelines can be built to financiers' standards when preparation is actually financed.

That last lesson now has a current, concrete proof point. In July 2026 the Green Climate Fund Board approved the first project drawn from the Côte d'Ivoire climate-smart agriculture investment plan, a plan the Initiative helped design a decade ago, converting preparation financed years earlier into finance disbursed today. It remains a single case, and the Initiative claims it as a contribution rather than a sole cause; still, it turns the causal argument from a correlation into a worked instance of connection unlocking capital (Section C.6.5).

What the decade did not prove is equally instructive, and the roadmap is candid about it. Advocacy at scale did not, by itself, produce delivery at scale: the finance asks of successive declarations were met with frameworks and pledges, not flows, and the delivery record of Part A is the decade's own scorecard. The investment-plan model demonstrated feasibility in a handful of countries but was never industrialized; preparation remained financed project by project, precisely the pattern the model was meant to break. The Initiative also learned the limits of substitution: it cannot replace national capacity, continental mandates or fund governance; it can only connect them. The theory of change above is built directly on those negative results. It assigns the Initiative the connective role the decade showed to be both missing and within its reach, and assigns to others, states, continental institutions, funds, the roles

only they can hold. Section C.3 turns each link into a strategic direction with a baseline, a target and a delivery vehicle; Section C.4 prices the means; Section C.5 commits the measurement.

A word on who acts, and on the Initiative's own role. The connective mandate is in no single actor's gift: the crosswalk is written by environment, agriculture and finance ministries; CAADP and the national investment plans are owned by the African Union and its member states; and the finance is provided by the funds and partners. The Initiative neither writes the instruments nor delivers the projects. Its own theory of change is narrower and

testable: by convening the ministerial conference, supplying metrics through IPAM, and maintaining this analytical corpus, it lowers the cost and raises the odds of the connections that others must make. That causal claim is measured on the connective lines of the results matrix (Section C.5) and disciplined by the rule of contribution rather than attribution. When an anchored instrument unlocks finance, the credit belongs to the country and its partners; the Initiative's own success is read on whether the connections it facilitated were made, and on the one number no one else yet publishes: the preparation-to-approval conversion rate.

Box C.2. One country, the whole chain: Kenya, the only large state holding all three Paris instruments.

Stage in the chain	Kenya, end to end
Ambition (NDC)	Declares USD 17.7 billion of adaptation need.
Plan (NAP)	Costs USD 38.26 billion, more than the declared need: a planning-coherence gap, not a shortfall.
Delivery (BTR)	Records USD 0.51 billion received, 2.9% of the declared need, 1.3% of the costed plan.
Where it breaks	Three documents, three bodies, three cost bases and timetables; nothing reconciles them end to end.
What the connective mandate would do	A single crosswalk register ties every Kenyan action to its NDC paragraph, NAIP line, BTR finance code and Biennial-Review indicator, so ambition, plan, finance and result form one chain rather than four.

C.3. Five strategic directions to 2036

At the heart of the roadmap sits this section. Each direction follows the same argued format: the Part A baseline, the 2036 target (finalized from Table A.11.1 through the interview program), the theory of action, an indicative program of work across 2026–2031–2036, the delivery vehicle and presumptive partners, the IPAM metric by which progress will be measured, and the direction-specific risks. Regional differentiation runs throughout: water and irrigation first in the north and south, heat and risk transfer in the Sahel, sustainable intensification in the humid basins, markets and post-harvest everywhere.



Direction	Baseline (Part A/B)	Proposed 2036 target*	Lead vehicle	Headline metric
C.3.1 Anchor the climate instruments to the continental agenda	9% of NDCs and 2 of 28 NAPs reference CAADP	>80% of NDCs anchored; >20 traceable country chains	AUC / AUDA-NEPAD / RECs	Anchoring & crosswalk rate
C.3.2 Finance the orphan levers through their continental vehicles	NDC coverage 28–60%; 23 of 169 BTR actions	No statistical orphans: every lever ≥70% coverage, finance flowing through each vehicle	ARC; AFSH Plan & Soil Initiative; AUDA-NEPAD	Coverage & lever finance per BTR cycle
C.3.3 Make IPAM the African standard for adaptation metrics	≈190 experts; 9 in the UAE–Belém groups	The reference standard: adopted in the BR, in BTRs and by at least one major fund	IPAM (Foundation secretariat) & Scientific Committee	Adoption count (funds, BTRs, BR)
C.3.4 Build the project-preparation capacity the chain lacks	43 countries demand, 11 TNAs, 6 readiness programs; Module C 61%	TNA coverage quasi-universal; NAP financing modules >90% complete	A continental Preparation Compact across existing facilities	TNAs; Module C completeness; preparation-to-approval conversion
C.3.5 Carry a unified African voice to COP31 and beyond	Declaration lineage 2016–2026 (Table B.4.1)	African agricultural asks consistently reflected in COP outcomes; adaptation share rebalanced	Ministerial conference; AGN; AAI & Climate Commissions	Tracked outcomes register per COP

Table C.3.1. The five directions at a glance.

* Targets, tested through the interview program (Section C.6), finalize the draft metrics of Table A.11.1.

Source: synthesis of Parts A–C.

Figure C.3.1 places the five directions on the delivery chain of Section C.2, each at the joint it closes.

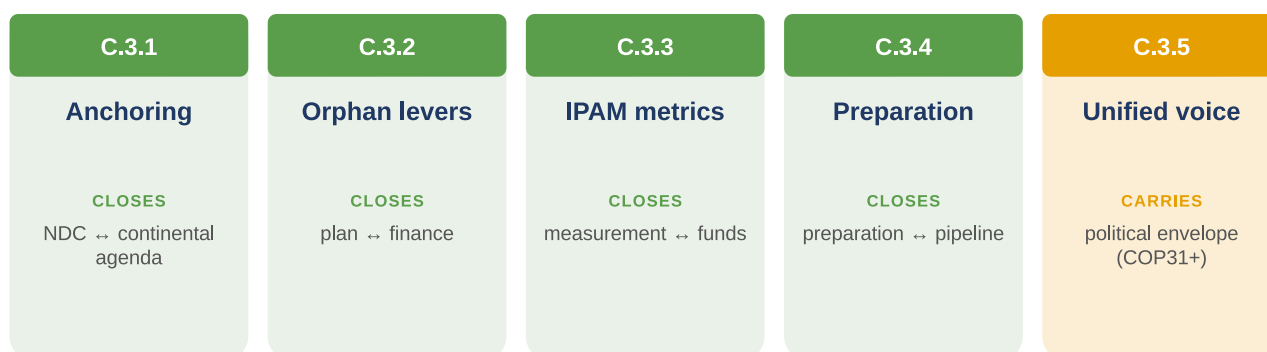


Figure C.3.1. The five directions on the delivery chain: four directions each close one open joint; the fifth carries the political envelope that keeps them open.

Source: synthesis of Parts A–C (Table C.2.1).

C.3.1. Anchoring the climate instruments to the continental agenda

The first direction addresses this gap at its root: the moment when countries write their instruments. Anchoring is an act of drafting: a CAADP reference, a crosswalk table and a shared indicator can only enter an NDC or a NAP while it is being written. That is why this direction is the most time-critical of the five. The NDC 3.0 revision wave is underway now, the Kampala national agrifood investment plans are being formulated now, and the next generation of NAPs will follow. The anchoring window of this decade is, in practice, 2026–2029. Anchoring is durable only if the drafting itself changes. Rather than treating the NDC as a standalone document rewritten every five years, countries can anchor it in a continuous national investment-framework process, institutionalized within the environment, agriculture and finance ministries and built on the CAADP national agriculture investment plans. The NDC, NAP and BTR are then generated from it as periodic outputs rather than commissioned afresh each cycle. A standing process of this kind keeps the continental anchor, the crosswalk and the institutional memory alive between cycles, and turns reporting into a by-product of investment planning rather than a separate, periodic exercise. Peer exchange accelerates this: a country that has already anchored its instruments in CAADP can twin with one drafting its own, so the continental reference travels country to country rather than being rediscovered by each drafting team (developed as a delivery modality in Section C.3.4).

Baseline. About 9 per cent of African NDCs reference CAADP (five of 53); two of 28 NAPs do; none cites Malabo. The two accountability systems measure the same agriculture and fail at the same point, yet share no data pipeline, no indicator and no review moment (Sections A.5.1–A.5.2). Part A costed the consequences: double reporting burdens, invisible continental commitments, and a delivery record that neither system can discipline (A.5.7).

Theory of action. Make the anchor cheaper than its absence. A standard crosswalk template (each adaptation action linked to its NDC paragraph, its

national investment plan line, its BTR finance code and its Biennial Review indicator) plus a harmonized indicator set (the sample of Table A.5.5) lets one act of national measurement discharge four reporting obligations. Countries adopt anchors because anchoring reduces their MRV burden, and not from continental loyalty, the argument Part A grounded and the interviews tested (Q2; Section C.6). The template's financial leg is an AU-standardized set of climate-agriculture tagging codes, so that a BTR finance code extracts directly into a Biennial Review indicator without manual reconciliation.

Program of work. 2026–2028: crosswalk template co-developed with AUC and AUDA-NEPAD, carrying two design features that answer the seam directly, a standardized NDC annex isolating budget lines for the four orphan levers, and a recommended joint environment-agriculture sign-off for revised NDCs and NAPs. A Frontrunner Pilot tests the full crosswalk in four countries chosen for their sub-regional spread and engagement (Ethiopia, Kenya, Morocco and Senegal). In parallel, technical assistance embeds in the NDC 3.0 and NAFSIP (the successor to the NAIP under the Kampala Strategy) drafting processes of eight to twelve volunteer countries, prioritizing those revising both instruments simultaneously. By 2031: at least half of revised NDCs and new NAPs carry the anchor; harmonized indicators piloted in the next Biennial Review cycle and in second-round BTRs. By 2036: anchoring is the norm (proposed target: above 80 per cent of NDCs), and more than twenty countries hold a fully traceable chain, against zero today.

Vehicle and partners. The African Union Commission and AUDA-NEPAD own the continental side; the RECs carry it to member states; the UNFCCC support programs, the NDC Partnership and FAO carry it into the drafting rooms. The Initiative's role is connective: template, advocacy, matchmaking and the annual ministerial review of progress.

Measurement and proposed target. Share of NDCs and NAPs referencing CAADP and carrying a crosswalk, tracked per instrument generation; number of countries with a complete, traceable chain. Proposed 2036 targets: >80 per cent anchoring; >20 traceable chains (finalizing lines 1 and 3 of Table A.11.1).

Risks. Sovereignty sensitivities (a second anchor can be read as a second master): mitigated by the burden-reduction design and by AU ownership. Timing (the NDC 3.0 window closes): mitigated by starting with countries whose revisions are still open and treating NAPs and NAFSIPs as the second wave. Inter-ministerial turf (the environment ministry holds the NDC pen, the agriculture ministry the budget lines, and neither gains by ceding control): mitigated by designing the crosswalk as burden reduction, one measurement discharging several reporting obligations, in place of a transfer of the pen. Institutional bandwidth at AUC/AUDA: mitigated by the Compact of direction C.3.4, which finances the technical work.

C.3.2. Financing the orphan levers through their continental vehicles

The second direction takes Part A's most actionable finding, that the four orphan levers, defined in Section A.4.3.5, are the least converted into quantified targets and financed action even though each possesses a dedicated continental vehicle, and turns the pairing into a financing program. Unconnected describes the orphan levers better than unowned. Connecting them is concrete: a named vehicle, a standard project model, and entry into the country instruments at revision time.

Baseline. Agricultural insurance appears in 28 per cent of NDCs, agroecology in 32, climate-smart agriculture in 58, resilient seeds in 60, none resting on a quantified target (A.4.3.5); in delivery, the four levers combined carry 23 of the 169 adaptation actions reported across the BTRs, fewer than water alone (A.4.5). The vehicles stand ready: the African Risk Capacity for insurance; the Fertilizer and Soil Health Action Plan and the Soil Initiative for agroecology and soils; CAADP and AUDA-NEPAD programs for CSA; the AFSH Plan, regional seed catalogues and genebanks for resilient seeds (Table A.5.3).

Theory of action. Each lever receives a compact between its continental vehicle and a cohort of countries: an investment-ready project model co-signed by the vehicle, inclusion of the lever in the country's revised instruments (riding direction C.3.1), and a preparation slot in the Compact of

C.3.4. For insurance (the thinnest lever and the most institutionalized vehicle) the flagship move is fiscal: treating premium subsidy as a budgeted adaptation line in place of an emergency expense (A.8.5), which converts insurance from a donor product into a national policy. Regional differentiation applies: risk transfer and heat-proofing first in the Sahel; soils and agroecology first where degradation is highest; seeds everywhere the catalogues can reach.

Program of work. 2026–2028: four lever-vehicle compacts signed and announced at the ministerial conference; model projects prepared for two to three countries per lever. By 2031: each lever present in at least half of revised instruments; ARC country coverage and farmer-level products expanding on budgeted premium lines; measurable area under soil-restoration and agroecological practice rising toward the AFSH Plan's 30 per cent trajectory. By 2036: no statistical orphans, every lever covered by at least 70 per cent of instruments, each vehicle channeling finance at portfolio scale, and the BTRs recording it.

Vehicle and partners. The four continental vehicles lead their levers; the Initiative convenes the compacts, brokers the country cohorts and reports progress annually; financiers plug in through C.3.4's preparation continuum. Farmer and producer organizations co-design the project models, since the adoption constraint lives on the ground, as the interview program (P-module) documents.

Measurement and proposed target. Per-lever instrument coverage and BTR-recorded actions and finance, each cycle; ARC coverage and payouts; area under restored soils and agroecology. Proposed 2036 target: all four levers ≥70 per cent coverage with quantified targets, and lever-specific finance visible in every reporting cycle.

Risks. Uneven vehicle capacity (ARC is mature; others vary): mitigated by sequencing flagships where vehicles are strongest. Label inflation, with CSA meaning everything and nothing (Part A's caution, A.8.4): mitigated by IPAM-verified definitions and metrics (C.3.3). Donor faddism: mitigated by anchoring each lever in a continental plan with dated targets in place of a program cycle.

The pairing only works once it reaches a budget line. The crosswalk below gives, for each lever, the continental vehicle that leads it, the NAIP line it should anchor to, and the indicator that shows it moved.

Orphan lever	Continental vehicle	NAIP budget-line anchor	Indicator that proves it moved
Agricultural insurance (28%)	African Risk Capacity (ARC)	Risk-transfer / premium-subsidy line	ARC country coverage and payouts; insurance finance line in the BTR
Agroecology (32%)	Africa Fertilizer & Soil Health (AFSH) Action Plan	Soil-health and land-restoration line	Area under restored soils; agroecology action in the NAP and BTR
Climate-smart agriculture (58%)	CAADP Strategy & Action Plan 2026-2035 (Kampala)	CSA program line tagged to a Kampala objective	IPAM-verified CSA metric; matching CAADP Biennial Review indicator
Resilient seeds (60%)	Genetic-resource and CAADP seed-system frameworks	Seed-system and variety-release line	Certified resilient-variety release and uptake; seed action in the BTR

Anchoring sequence, for national planning units

1. Name the lever in the revised NDC and attach a quantified target (riding the anchoring of C.3.1).
2. Cost the action and open a dedicated NAIP budget line for it, naming the continental vehicle as delivery partner.
3. Tag that line to a CAADP / Kampala objective and to the matching Global Goal on Adaptation indicator.
4. Co-design an investment-ready project model with the vehicle and producer organizations (the preparation slot in C.3.4).
5. Record finance and results against the line every reporting cycle, in the BTR and the Biennial Review, so the lever stops being a statistical orphan.

Table C.3.2. Operational crosswalk for the four orphan levers: from continental vehicle to a budgeted, measurable NAIP line.

Source: author's synthesis (Part C).

C.3.3. Making IPAM the African standard for adaptation metrics

The third direction is the Initiative's most distinctive asset played at its highest stakes. Adaptation finance ultimately flows to what can be verified, and the indicators that will define verification for decades are being negotiated now, in the follow-up to the Global Goal on Adaptation indicators adopted at COP30. Either African agricultural realities shape that machinery from inside, or the continent will spend the 2030s reporting against metrics designed elsewhere, with its specificities (rain-fed systems, informality, data scarcity, indigenous practice) treated as noise.

Baseline. IPAM, whose secretariat the Foundation holds, has grown into a platform of some 190 experts across most of the continent and beyond, with nine of them inside the UAE-Belém work-programme groups, a policy paper launched at COP30 and formal contributions to the work programme (B.5). The analytical ground exists: the two accountability systems converge on measurement as their shared missing layer (A.5.4), and the harmonized indicator sample of Table A.5.5 shows what a serviceable set looks like.

Theory of action. Credibility compounds: methodologies accepted in the UNFCCC process legitimize indicators; indicators adopted by reporting systems (Biennial Review, BTRs) create demand for methodologies; funds that verify against them lower perceived risk, feeding the finance link of the theory of change. IPAM's niche, African anchorage plus process access plus scientific network, is the combination no competing standard holds. The credibility conditions themselves (governance, country ownership, fund recognition) form an explicit interview question (Q5): the direction is tuned to what financiers said they require (Section C.6).

Program of work. 2026-2028: African methodological contributions delivered into the GGA indicator operationalization; pilot indicator sets embedded in the second-round BTRs of five to ten volunteer countries and in the next Biennial Review cycle, riding the crosswalk of C.3.1. By 2031: IPAM-derived indicators visible in the BR and several BTRs; recognition by at least one major fund in its results frameworks; an annual African adaptation-metrics report established as the reference publication. By 2036: the standard, what African states report with, what the continental review reads, what funds verify against.

Vehicle and partners. IPAM and the Scientific Committee lead; WMO, FAO and the CGIAR system provide scientific depth; AUC/AUDA connect to the Biennial Review; the ministerial conference provides the political carriage. The Foundation's role is stewardship: keeping the platform independent, funded and African-led.

Measurement and proposed target. Adoption counts (funds recognizing IPAM-derived indicators, BTRs and BR cycles using them) plus methodological output and the platform's own vitality (experts, countries, publications). Proposed 2036 target: adoption by the continental review, by a critical mass of BTRs and by at least one major fund.

Risks. Standards competition and fragmentation: mitigated by working inside the UNFCCC machinery rather than beside it. Scientific credibility is a stock that one bad methodology can drain: mitigated by Scientific Committee gatekeeping. Platform funding: addressed in C.4 as a core, multi-year funded function in place of a project.

This is why IPAM matters beyond its technical output. The diagnostic of Part A showed that the chain breaks less for want of metrics than for want of metrics that every actor trusts and uses in common. IPAM's value is therefore as much social as technical: a neutral African space in which policymakers, practitioners, funders and reporting systems co-develop and socialize a shared set of adaptation metrics, so that a measure agreed once is accepted across the NDC, the NAP, the BTR and the CAADP review, turning measurement from a reporting burden into connective tissue.

C.3.4. Building the project-preparation capacity the chain lacks

The fourth direction finances the missing middle of the chain: preparation. Part A located the break precisely: between declared ambition and fundable projects stands an unfinanced layer of assessments, costings and readiness that no single project can pay for and no country budget prioritizes. The direction's premise is arithmetic: closing the

continental assessment gap costs tens of millions; the finance it conditions is counted in tens of billions.

Baseline. Forty-three countries express technology-transfer demand, yet only eleven hold a Technology Needs Assessment recent enough to serve their current NDC, with most standing assessments dating from earlier GEF/UNEP phases and some predating Paris, and six hold an active GCF Readiness program (A.7.1–A.7.2). A TNA costs on the order of USD 0.5–1 million; completing them continent-wide would run to perhaps USD 20–40 million. Four NAPs in ten lack a complete financing module (Module C, 61 per cent; A.4.4), and Burkina Faso's fully costed NAP shows that the constraint is support and not capability. Continent-wide Readiness disbursements to date, about USD 251 million, have been real yet fragmented, a median of roughly USD 4.6 million per country.

Theory of action. Preparation is a public good and should be financed as one, through a continental Preparation Compact. This is no new fund but a coordinated window across the existing facilities (GCF Readiness, the multilateral banks' project-preparation facilities, the NDC Partnership, bilateral TA), offering a single pipeline view, common standards inherited from the Initiative's investment-plan heritage, and priority routing toward the orphan levers and the Module C gaps. As the Compact's broker and standard-setter, the Initiative never implements: the model is train-and-embed, building national preparation units in place of consultant dependency, the substitution lesson of C.2.3.

Peer-led delivery. African peer preparation is the Compact's primary modality. Countries that already hold a complete NDC–NAP–BTR chain, among them Burkina Faso, Burundi, Ghana, Kenya and Zambia, twin with those still building theirs. Operating through embedded exchanges of focal points, shared templates and joint costing clinics, the twinning is convened via the Initiative's existing focal-point network and the regional training begun in 2025. Such an approach keeps the capability continental and resident, builds the CAADP anchor in from the drafting stage, and eases reliance on external preparation support. Peers complement specialist technical work: they carry process discipline,

anchoring and institutional memory, while deep engineering, Tier-2 inventories, hydrology, and the financial structuring of bankable projects continue to draw on specialist facilities. Twinning is budgeted as a standing line within the Compact, not left to ad hoc goodwill.

Program of work. 2026–2028: Compact convened; TNAs completed or updated for a first cohort of fifteen countries prioritized on orphan-lever potential and water/heat exposure (the regional geography of C.1.2); Module C costing assistance for eight to ten NAPs. **By 2031:** current-TNA coverage at thirty-five countries or more; Module C completeness above 80 per cent; a tracked preparation-to-approval conversion rate published annually, the direction's own accountability. **By 2036:** assessment quasi-universal, financing modules above 90 per cent complete (finalizing line 2 of Table A.11.1), and 'bankable' retired as the vocabulary of refusal.

Vehicle and partners. The facilities themselves deliver; AUC/AUDA and the RECs set priorities; FAO, UNDP/UNEP and the banks execute country work; the Initiative brokers, standardizes and reports. Financial institutions join through the F-module commitments of the interview program.

Measurement and proposed target. The metrics are TNAs completed; NAPs with complete Module C; readiness coverage; and the conversion rate from prepared to approved finance, which tests the theory of change itself and serves as its falsification criterion in Table C.2.1. Proposed 2036 targets set Module C above 90 per cent; a published preparation-to-approval conversion rate rising to at least 50 per cent of prepared, costed projects securing finance within twenty-four months (from an effectively untracked baseline near zero today)*; and preparation no longer cited as the binding constraint in fund refusals. A further metric tracks peer preparation directly, counting countries in active twinning partnerships, from none institutionalized today toward every under-planned country paired by 2031, with the share of mentored countries completing a full chain reported each year.

Risks. The first is facility fragmentation persisting under a new name, mitigated by making the Compact a reporting and routing layer in place of a structure. The second is capacity substitution, mitigated by the train-and-embed design and national units. The third is the absorption objection, where prepared projects still go unfunded. Open monitoring through the conversion rate addresses

this; should it stall, the theory of change says so and the roadmap adjusts.

C.3.5. Carrying a unified African voice to COP31 and beyond

The fifth direction is the Initiative's founding business, now matured: turning continental weight into negotiated outcomes. Listed last because it is transversal, it forms the upstream condition of the other four. Finance goals set the volumes that direction C.3.4 prepares for; agriculture work programmes set the agenda that direction C.3.1 anchors to; the GGA indicator machinery is the arena where direction C.3.3 plays out; and the asymmetry case is strongest when carried by one voice.

Baseline. Over ten years, declarations have moved from agenda-setting to costed, dated demands (Table B.4.1); agriculture entered the UNFCCC process from COP22 onward and stayed there (B.3); the NCQG sets USD 300 billion per year by 2035 with a USD 1.3 trillion aspiration; and the heat asymmetry of C.1.2 (one state versus twenty-four facing a month of dangerous heat, depending on global mitigation) gives the African case its hardest empirical edge yet.

Theory of action. A unified position is manufactured through a defined process: the annual ministerial conference produces it, the African Group of Negotiators carries it, the AAI and the Climate Commissions echo it, and the Initiative's analytical corpus arms it, with every ask traceable to evidence and every claim sourced, in the manner of this report. What changes in the next decade is accountability. Each COP cycle ends with a published reading of which African agricultural asks were reflected in outcomes, which were not, and what that implies: advocacy with a scoreboard.

Program of work. For 2026–2028: COP31 positions built from the 6th declaration; agriculture and adaptation-share priorities pressed into NCQG implementation; the Rome anniversary event and the FAO partnership leveraged for a joint agricultural-adaptation platform. **By 2031:** the agriculture work programme renewed with African priorities embedded, and the adaptation share of climate finance visibly rebalancing in OECD and fund reporting. **By 2036:** a decade-long outcomes register showing African agricultural asks consistently reflected in COP decisions, and, where they were not, the record saying so plainly.

Vehicle and partners. The ministerial conference is the forge and the AGN the carrier; AAI, the Climate Commissions, the Abidjan Initiative and the FAST Partnership act as the echo chamber, with FAO and the UN system as the multilateral relay. The Initiative provides the evidence, the convening and the continuity between COPs that negotiating groups structurally lack.

Measurement and proposed target. The outcomes register records asks tabled versus outcomes obtained, per COP; adaptation's share in tracked finance; and agriculture's standing in work programmes. Proposed 2036 target: the register exists, is public, and shows a majority of tabled asks reflected over the decade.

Risks. The geopolitical pressures of Section A.1.3 (donor retrenchment, multilateral fatigue) form the operating environment, no surprise, and the response is the asymmetry case and the South-South widening of coalitions. Dividing roles as set out above, agreed rather than assumed, mitigates voice fragmentation among African institutions. The structural risk named in C.2, negotiated text without delivery, is answered by the very existence of the other four directions.

Together the five directions form one system. Anchoring (C.3.1) gives the orphan levers (C.3.2) and the preparation Compact (C.3.4) their entry point into country instruments; metrics (C.3.3) verify what the first three deliver and arm the voice (C.3.5); and the voice secures the volumes and mandates the others exploit. Withdraw any one and the chain reopens at exactly the joint Part A diagnosed. What this system costs, who finances it and what the Initiative itself must become to run it are the subject of the next section.

C.4. The means: financing and partnerships



Credit: Toomko / Shutterstock.com

This section sets out what the decade costs, who pays for what, and what the Initiative brings in kind. Its account traces the preparation-to-investment continuum at the point where Part A showed it breaks; the role of each partner family (climate funds, multilateral banks, bilaterals, private capital and insurance, foundations); the instruments to be mobilized, from the USD 0.5–1 million Technology

Needs Assessment to the national climate-smart investment plan; and the Initiative's own contribution, namely ministerial convening, IPAM, and the analytical corpus of this report. Preparation costs are stated precisely because they are modest and controllable; investment volumes are framed through the Kampala Strategy and the corpus, not promised.

C.4.1. What actually flows: the same scarcity through three independent lenses

A credible financing strategy starts from measured flows rather than from pledges. Three independent measurement systems now exist, and this report has worked through all three. Take first the tracked-finance lens: total climate finance reaching Africa rose from USD 29.5 billion a year in 2019/20 to USD 43.7 billion in 2021/22, crossing USD 50 billion in 2022 for the first time; adaptation took 32 per cent of it, a higher share than any other region but a falling one (39 per cent two cycles earlier); within adaptation, agriculture, forestry and land use was the largest sector at 27 per cent. That puts tracked adaptation finance to African AFOLU in the range of USD 3.5–4 billion a year¹⁴².

142 CPI, Landscape of Climate Finance in Africa 2024: total climate finance to Africa USD 29.5 bn/yr (2019/20) → USD 43.7 bn/yr (2021/22 average), crossing USD 50 bn in 2022; adaptation 32% of 2021/22 flows (39% in 2019/20), the highest regional share; AFOLU 27% and water 15% of adaptation finance; 51% of climate finance to Africa in debt instruments, with 82% of market-rate debt from public actors; adaptation in LDCs 61% grant-financed.

The donor-commitment lens tells the same story from upstream. The Initiative's analysis of the OECD Rio-marker microdata (every development commitment to African states, line by line, 2022 to 2024) finds USD 39–41 billion a year of total commitments, of which USD 9.7–10.2 billion a year carries an adaptation marker. Of that, agriculture receives about USD 1.7 billion a year, and only some USD 0.46 billion a year is marked with adaptation as its principal objective. Put another way, among donors' own declared intentions, adaptation of

African agriculture as a primary purpose is a half-billion-dollar-a-year activity. The country-reported lens closes the triangle: the Biennial Transparency Reports record a cumulative total of roughly USD 2.1 billion reaching agriculture (Section A.4.5). Three systems, three scopes (flows tracked, commitments marked, receipts reported) yield one convergent order of magnitude: against agriculture's annualized declared need of about USD 7.4 billion, between a quarter and a half is financed on the most generous reading, and six per cent on the strictest¹⁴³.

Lens	What it measures	Headline	Agricultural reading
Tracked flows (CPI)	All climate finance reaching Africa, public and private, 2021/22 average	USD 43.7 bn/yr total; 32% adaptation	≈USD 3.5–4 bn/yr adaptation finance to AFOLU
Donor commitments (OECD CRS Rio markers)	Development commitments to African states, line-level, 2022–2024	USD 39–41 bn/yr; USD ~10 bn/yr adaptation-marked	≈USD 1.7 bn/yr to agriculture; ≈USD 0.46 bn/yr with adaptation as principal objective
Country reports (BTRs)	Finance recorded as received across the 24 BTRs (23 carry finance lines)	USD 8.2 bn cumulative, all purposes (≈2.8 bn adaptation and cross-cutting)	≈USD 2.1 bn cumulative reaching agriculture

Table C.4.1. Three independent measurements of the same scarcity. Scope differences (flows vs commitments vs receipts; tracked years; marker definitions) are documented in Annex 7. The report's headline delivery figures use the country-reported lens (BTR receipts), the most conservative of the three.

Sources: CPI, Landscape of Climate Finance in Africa 2024; author's analysis of the OECD CRS Rio-marker microdata (2022–2024); Part A, Section A.4.5.

The structure of the money compounds its scarcity. Half of climate finance to Africa arrives as debt, split between concessional and market-rate, with 82 per cent of even the market-rate lending coming from public institutions, on a continent where more than half of the assessed countries are already at high risk of debt distress or in it (Section A.6.8). Grants concentrate where they should (adaptation in least-

developed countries is 61 per cent grant-financed), but the aggregate instrument mix still deepens the climate-debt cycle that Section A.1.4 described. Private capital remains marginal across every lens. None of this argues that the money cannot be found; it is the measured description of the machine the next decade must rewire.

¹⁴³ Author's analysis of the OECD CRS Rio-marker microdata, commitments to African states, 2022–2024 (current USD): totals 40.9 / 38.3 / 39.2 bn; adaptation-marked (significant or principal) 10.2 / 9.7 / 9.7 bn; agriculture (purpose codes 311xx) within adaptation ≈1.8 / 1.9 / 1.4 bn, of which adaptation-as-principal ≈0.51 / 0.49 / 0.38 bn. One record per project (marker row), markers scored 1–2; 'not screened' excluded. Conventions in Annex 7.

C.4.2. Pricing the connective layer: small money, deliberately placed

No new fund is required for the Initiative's decade. What it requires is a thin layer of deliberately placed money at the joints Part A identified. Cheap relative to everything it conditions, that layer is the only part of the financing problem the Initiative proposes to cost precisely. Investment volumes themselves belong to states, funds and the Kampala Strategy, and this roadmap does not promise what it does not control.

Function	Unit cost	Decade order of magnitude	Channel
Technology Needs Assessment, completed or updated	≈USD 0.5–1 m per country	≈USD 20–40 m for continental currency	GEF/UNEP global phases; Compact routing (C.3.4)
NAP financing module (Module C) costing support	single-digit USD m per NAP	low tens of USD m for the 39% of NAPs lacking one	Readiness funds; banks' preparation facilities; FAO/UNDP TA
Readiness and institutional preparation	observed median ≈USD 4.6 m per country	scaling existing programs, prioritized by the Compact	GCF Readiness; bilateral TA
Crosswalk and anchoring assistance (C.3.1)	templates and embedded TA, coordination, not capital	minor; rides NDC 3.0 and NAFSIP processes	AUC/AUDA-NEPAD; NDC Partnership; FAO
IPAM as a core, multi-year function (C.3.3)	low single-digit USD m per year	core funding across the decade	Foundation partners; scientific institutions
Accountability products (conversion rate; outcomes register)	analytical staff function	part of the Initiative's own running costs	Foundation; partners in kind

Table C.4.2. The preparation layer, priced. The entire connective layer is of the order of one to two hundred million dollars across the decade, well under one per cent of a single year's declared adaptation need, and every line runs through existing channels.

Sources: Part A, Sections A.4.4 and A.7; GCF country-level data; Section C.3.

C.4.3. Who finances what: the partner families and the African share

Partner family	What it finances in this roadmap	What the Initiative asks of it
Climate funds (GCF, Adaptation Fund, L&D Fund)	Readiness and preparation at scale; first-loss and grant windows for the orphan levers	Recognize IPAM-derived metrics; simplify African access (the standing ask of the declarations)
Multilateral banks and AfDB	Preparation facilities; investment volume behind prepared pipelines; non-debt instruments where distress is high	Co-convene the Preparation Compact; publish conversion rates
Bilateral partners	The largest marked-adaptation envelope today (CRS lens); technical assistance in drafting windows	Shift the agriculture share of adaptation portfolios; mark adaptation as principal, not co-benefit
Private capital and insurance (incl. ARC ecosystem)	Risk transfer at sovereign and farmer level; blended tickets once preparation de-risks entry	Join lever compacts (C.3.2); price against IPAM-verified outcomes
Foundations and philanthropy	The connective layer itself, fast, flexible, small tickets where funds are slow	Core-fund IPAM and the accountability products
African public finance	Budgeted premium subsidy; counterpart financing; the growing unconditional share that Section A.4.3 argued is the decade's real maturation metric	Make adaptation lines visible in budgets and Biennial Review reporting

Table C.4.3. The division of financial labor across the five directions.

Source: synthesis of Sections A.6, C.3 and the partnership record of Part B.

One family deserves emphasis precisely because every lens shows it smallest: African public finance. The roadmap does not ask African budgets to replace external finance. It asks them to do the two things only they can do, making adaptation visible as budget lines (premium subsidies, counterpart funds, preparation co-financing), and growing the unconditional share of declared ambition that signals seriousness to every other family at the table. Domestic revenue effort across the continent remains structurally constrained, which is exactly why the asks placed on it here are small, symbolic in the best sense, and chosen for their leverage on everyone else's confidence. As a concrete, symbolic first step within reach of national budgets, the roadmap proposes that, by 2031, at least ten African countries carry a dedicated agricultural-adaptation budget line in their National Agriculture Investment Plans, a small fiscal signal whose value lies less in the sums it moves than in the seriousness it conveys.*

C.4.4. What the Initiative brings, and what it will not do

The Initiative's contribution to this architecture comes in kind, and no other actor supplies it: the annual ministerial convening that turns positions into one voice; IPAM and its scientific network; and the analytical corpus of this report, maintained as a living instrument whose needs database, finance lenses, conversion rate and outcomes register are refreshed and read publicly each year at the ministerial conference. Sustaining that contribution requires modest, multi-year core funding for the Foundation itself, on the order of single-digit millions per year for its secretariat, IPAM stewardship and analytical function. This roadmap names that need plainly in place of burying it in project lines, because a connective platform financed project-by-project dies between projects, as the first decade's lessons (C.2.3) showed.

Equally plainly, the Initiative will not manage funds, will not implement projects, and will not duplicate the mandates of the institutions it connects. The light-platform discipline that explains its survival is the same discipline that makes it credible as an honest broker. Every dollar discussed in this section flows through existing channels; the Initiative's role is to make those channels point at the same joints, at the same time, with the same measure of success. What that success looks like, line by line, is the subject of the final framework that follows.

C.5. Results framework and accountability



Where the Initiative's method begins, the roadmap ends: measurement. Table A.11.1 is finalized here into a full results matrix (2026 baselines, 2031 milestones, 2036 targets, each with its verification source in the existing reporting systems: Biennial Transparency Reports, CAADP Biennial Review, IPAM) and a standing annual review at the ministerial conference. The Initiative asks of itself what it asks of the continent: a traceable chain from commitment to delivery.

A note on what metrics are for. Two uses of adaptation metrics are too often conflated, and a connective system must serve both. Metrics for reporting and accountability tell the convention and funders what was promised and what was delivered; they are the currency of the Biennial Transparency Report and the CAADP Biennial Review. Metrics for learning and adaptive management tell practitioners and policymakers what is actually working, where implementation is blocked and how a strategy should be adjusted. A well-designed indicator, read once, can do both satisfying an accountability requirement while feeding a learning loop, and designing such indicators is a central task of IPAM (Section C.3.3).

C.5.1. The results matrix

The matrix below finalizes the draft metrics planted in Part A (Table A.11.1) into the roadmap's results framework. Every line keeps the discipline of the five directions: a measured 2026 baseline from this report, a 2031 milestone chosen to be readable in the existing reporting cycles, a 2036 target, and a named verification source that already exists.

By design the framework creates no new reporting machinery, because a roadmap about connecting instruments that began by inventing another instrument would refute itself. Targets marked with an asterisk are proposed: vetted in the decision-maker interviews (Section C.6), they stand as this report's proposals, open to refinement as the Initiative and its partners take them up. A cross-cutting reading accompanies the matrix, its indicators reported gender-disaggregated wherever the underlying instruments permit. The annual review reads the gender-productivity and youth-employment baselines of Section A.9 (Tables A.9.1 and A.9.2) alongside the connective lines, so that the mandate's benefits are tracked for those who farm, not only for the systems that report.

Direction	Indicator	Baseline 2026	Milestone 2031	Target 2036	Verification
C.3.1	NDCs referencing CAADP / carrying a crosswalk	9% (5 of 53) of NDCs; 2 of 28 NAPs	≥50% of revised NDCs and new NAPs	>80% of NDCs*	NDC/NAP reviews; IPAM annual report
C.3.1	Countries with a traceable NDC-NAIP-BTR-BR chain	0 (the eleven socle countries hold the instruments; none yet crosswalks them)	≥8	>20*	BTR and Biennial Review crosswalk
C.3.2	Orphan-lever coverage in country instruments	insurance 28% · agroecology 32% · CSA 58% · seeds 60%	each lever ≥50%	every lever ≥70%, with quantified targets*	NDC/NAP coverage analysis, per generation
C.3.2	Lever delivery recorded in BTRs	23 of 169 adaptation actions; finance barely visible	lever actions and finance visible each cycle	portfolio-scale finance through each continental vehicle*	BTR cycles; vehicle reporting (incl. ARC)
C.3.3	IPAM adoption	contributions to the UAE-Belém program; 9 experts in its groups	indicators in one BR cycle, several BTRs, one major fund	the African reference: BR, critical mass of BTRs, ≥2 funds*	Adoption count; annual metrics report
C.3.4	Current Technology Needs Assessments	11 recent enough to serve the post-2020 NDCs	≥35 countries current	quasi-universal currency*	UNFCCC TNA portal; author's review
C.3.4	NAPs with a complete financing module (Module C)	61%	>80%	>90%*	NAP module review, per generation
C.3.4	Preparation-to-approval conversion rate	not measured anywhere	published annually from 2028	rising trend over three consecutive readings*	The Initiative's annual reading (C.4.4)
C.3.4	Countries in active peer-preparation twinning partnerships	none institutionalized (ad hoc only)	≥15 countries paired	every under-planned country twinned; majority completing a full chain*	Initiative's twinning register; focal-point network reports
C.3.5	African agricultural asks reflected in COP outcomes	no systematic record	outcomes register public from COP31	majority of tabled asks reflected over the decade*	The outcomes register, per COP
System	Adaptation finance reaching African agriculture	≈USD 1.7 bn/yr committed; ≈USD 2.1 bn cumulative received	visible rebalancing across all three lenses	>USD 10 bn/yr*	The three lenses of Table C.4.1
System	Countries with a dedicated agricultural-adaptation budget line in their NAIP	not systematically tracked	≥10 countries	majority of NAIPs*	CAADP Biennial Review; NAIP budget review

Table C.5.1. The results matrix of Roadmap to 2036: baselines from this report, milestones readable in existing cycles, targets proposed by this report (*), verification through systems that already exist.

Source: Parts A–C; finalizes Table A.11.1.

Two lines deserve a word of caution. Reaching more than USD 10 billion a year for African agricultural adaptation by 2036, the systemic finance line, is not a target the Initiative can deliver; it is the target the whole architecture exists to serve, and the matrix includes it because a results framework that omitted the outcome everything else conditions would be an exercise in modesty at the expense of meaning. The conversion-rate line, by contrast, sits entirely within reach and remains entirely novel: nobody today publishes the rate at which prepared African projects become approved finance. The Initiative will, and that single annual number will test the theory of change of Section C.2 more rigorously than any narrative.

C.5.2. The review cycle: reading the decade in public

Accountability is a calendar before it is a framework. Each year, the ministerial conference carries a standing agenda item: the reading of the matrix, line by line, with movement since last year and the year's four analytical products (the refreshed needs and finance lenses; the conversion rate; the outcomes register; the IPAM metrics report). In 2031, a mid-decade review aligns deliberately with the cycles around it (the next NDC generation, the Biennial Review rhythm and the Kampala Strategy's mid-term) and becomes the moment to revisit targets in either direction: ambition that proved too timid is raised as openly as ambition that proved unreachable is restated. In 2036, the twentieth-anniversary report does for the connective decade what this report has done for the founding one, with the difference that it will be measured against a published matrix rather than reconstructed from archives.

C.5.3. The rules the Initiative sets for itself

Three rules govern how results will be claimed. First, contribution, not attribution: the Initiative connects, convenes and measures; when an anchored NDC unlocks finance, the achievement belongs to the country and its partners, and the matrix will say so. The Initiative's own success is read on the connective lines, not the systemic ones. Second, falsification carried forward: the criteria of Table C.2.1 are part of the annual reading; if crosswalked

countries convert no faster, if prepared projects stall unfunded, if IPAM finds no adopters, the reading says so and the strategy adjusts in public, at the conference, not in a drawer. Third, data discipline inherited from this report: every number in the matrix carries the caveats of Annex 7, and the same standard applies to every annual reading thereafter. A roadmap that asks the continent's instruments to become traceable must be, itself, the most traceable document in the room. In practice, this means the Initiative reports its results on the connective lines it can credibly claim, the crosswalks facilitated, the preparation routed, the indicators adopted, while naming the country and its partners as the authors of every financed project and delivered outcome that follows. It facilitated the connection; they earned the result.

C.5.4. Overarching risks, and how they are managed

Beyond the risks specific to each direction (Section C.3), four risks bear on the roadmap as a whole. First, finance may not follow: partners may not provide the connective layer or the investment it conditions. Mitigation is built in, since the layer is small and routed through existing channels, so progress on traceability, costing and harmonization, which need coordination rather than capital, does not depend on new money; the annual public results matrix makes any shortfall visible early. Second, political will may waver across electoral and budget cycles; the agenda is anchored, in response, in instruments states have already adopted (Kampala, the Global Goal on Adaptation, the NDC cycle) and kept on the table each year by the ministerial conference. Third, geopolitical fragmentation and fiscal stress may deepen, as the 2025–2026 aid retrenchment and the 2022 input-price shock show; the roadmap is deliberately cheap and designed to raise the return on the finance that does arrive in place of assuming more of it. Fourth, the African Union's own coordinating capacity is stretched (Section A.5.10); to mitigate this the Initiative's role stays facilitative, a reporting and routing layer that supports the Union in place of a parallel structure. The roadmap is falsifiable on all four counts: the results matrix and the criteria of Table C.2.1 will state, in public and each year, whether these risks are materializing.

A wager underpins the roadmap: connection and

	Connections NOT built	Connections built
No new capital	Status quo, the current path (USD 510 bn import bill by 2043).	Better-targeted delivery: absorption rises and orphan levers reach budgets, but the headline gap persists without more finance.
New capital arrives	Money leaks: finance untraceable and duplicated, orphan levers still unfunded, capital without absorptive capacity.	The transformation path: +USD 354 bn of GDP and 59 m fewer people in extreme poverty.

Table C.5.2. The connective wager: connections and capital are complements, not substitutes.

capital are complements. The matrix below sets out what each combination delivers.

The framework is now complete: the world that demands action (C.1), the theory that organizes it (C.2), the directions that operationalize it (C.3), the means that finance it (C.4) and the matrix that judges it (C.5). One voice is missing, the one that decides whether any of this happens. The final section listens to it.

C.6. The voice of decision-makers

The roadmap is the Initiative's own, but it is not written alone. A structured interview program (spanning seven categories of African and international decision-makers and stakeholders, conducted under the protocol documented in Annex 9) tests every pillar of this Part against the judgment of those who will deliver it. This section presents the program: the convergence map across categories, which forms the validated backbone of the roadmap; the divergences, reported plainly as the open choices the next decade must arbitrate; anonymized verbatims, attributed by role, that give the roadmap its human voice; and the register of commitment intentions collected at interview close.

Conducted in June–July 2026, the program comprised thirteen interviews, nine recorded conversations and four sets of written answers. Eleven voices form the external panel; two more, the Initiative's own Secretary General and the President of its Scientific Committee, answered the same protocol and are reported separately (Section C.6.5), so that the panel's independence is preserved. This section distils what the panel's voices do to the report's argument: what they confirm, what they qualify, and what they put on the table. Quotations from recorded interviews have been checked against the recordings; the written answers are quoted verbatim.

C.6.1. The protocol and the panel

Every participant answers the same core questions, and the questions mirror the report's spine: the binding constraint behind the 1.5 per cent delivery rate; the connective mandate and who should own the crosswalk; why the orphan levers stay orphans; the delivery model for project preparation; whether an African-anchored metrics standard would move finance; the 2036 targets; the role only the Initiative can play after Kampala; and one concrete commitment for the next twelve to twenty-four months. The protocol, consent arrangements and processing method are documented in Annex 9. The first panel spans adaptation science, hydrology and water science, soil science and land restoration, research, finance, the CGIAR system, environmental training, green-growth delivery, commercial banking and sustainable finance, and the negotiation of the continent's agricultural position; the two institutional questions are not put to purely academic panelists. Two members of the panel also serve on the Initiative's Board (identified in Table C.6.1); their answers are reported on the same footing as the others' and, like every participant's, in a personal capacity. National finance ministries and producer organizations remain absent from the completed panel; two late additions narrow the gap, a pan-African commercial bank (Bank of Africa) bringing the private-financier perspective the panel had lacked, and the coordinator of the African Group of Negotiators on agriculture bringing the voice that carries the continent's agricultural position into the UNFCCC, though the panel still draws largely on the Initiative's professional orbit, and the convergences below should be read with that selection in mind. Interviewees speak in a personal capacity: their views do not constitute official positions of their institutions, and quotations appear only once validated by the interviewee.



Rafik Aini



Mohamed Ait Kadi



Amal Benaissa



Ayman Cherkaoui



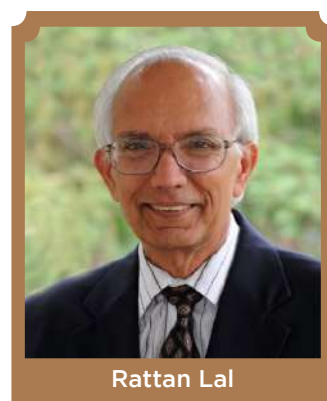
Ismahane Elouafi



Shenggen Fan



Malla Fofana



Rattan Lal



Hussein Alfa Nafo



Anand Patwardhan



Ousmane Seidou



Catherine Simonet



Bart van den Hurk

Interviewee	Role and institution
Rafik Aini	Lead Coordinator, African Group of Negotiators (AGN) on agriculture and climate change
Mohamed Ait Kadi	President of the Scientific Committee, AAA Initiative
Amal Benaissa	Director of Sustainability Advocacy, Bank of Africa – BMCE Group (a pan-African commercial banking group present in some twenty countries across West, East and Central Africa, plus France)
Ayman Cherkaoui	Director, Hassan II International Center for Environmental Training
Ismahane Elouafi	Executive Managing Director, CGIAR
Shenggen Fan	Chair Professor and Dean, Academy of Global Food Economics and Policy, China Agricultural University; member of the AAA Initiative Board; former Director-General, IFPRI
Mallé Fofana	Deputy Executive Director and Head of the Green Growth Implementation Directorate, Global Green Growth Institute (GGGI)
Rattan Lal	Distinguished Professor of Soil Science and Director, CFAES Rattan Lal Center for Carbon Management and Sequestration, The Ohio State University; 2020 World Food Prize laureate; member of the AAA Initiative Board
Hussein Alfa Nafo	Secretary General, AAA Initiative
Anand Patwardhan	Co-Chair, Science Committee of the World Adaptation Science Programme (WASP); Co-Chair, Adaptation Research Alliance
Ousmane Seidou	Professor and Director of the Hydraulics Laboratory, Department of Civil Engineering, University of Ottawa; Co-Chair of the Water Committee, IPAM
Catherine Simonet	Lead Adaptation Expert, Climate and Nature Division, Agence française de développement (AFD), AdaptAction program
Bart van den Hurk	Co-Chair, Working Group II (Impacts, Adaptation and Vulnerability), IPCC

Table C.6.1. The interview panel: thirteen interviews, June–July 2026. Members of the Initiative’s Board are identified; the Secretary General’s and the Scientific Committee President’s interviews are reported separately (Section C.6.5).

Source: the Initiative’s interview program (Annex 9); functions as communicated by the interviewees.

C.6.2. What the voices confirm

The diagnosis survives contact with the practitioners. On the binding constraint, no interview located the problem in ambition; all placed it downstream, in the machinery that turns declared need into finance. Mallé Fofana’s written answer is the sharpest statement of the report’s own finding: “The main constraint is not lack of plans. It is weak project bankability at country level. Many NDCs and NAPs are not translated into investable, risk-adjusted pipelines that financiers can actually fund at scale.” Catherine Simonet reads the same gap from the financing side, a banker who reads a NAP does not find in it a project ready to finance, which is why AFD’s AdaptAction program now speaks of “operationalizable” and “bankable” NAPs. Anand Patwardhan widens the frame: unless resilience is anchored in the country’s overall development strategy, adaptation investment remains marginal by construction. The interviews fault both sides of the counter at once, donor access conditions that developing countries struggle to meet, and technical

limits in assembling solid, bankable proposals. Rattan Lal pushes the frame as far as dependence itself: after six decades of donor support, “donor fatigue” is already legible in the 1.5 per cent, and domestic, national and continental resources, disciplined by accountability, must progressively carry the load. A commercial-bank voice sharpens the same finding from the supply side of capital: Amal Benaissa (Bank of Africa) is categorical that “capital does not invest in concepts, it invests in clarity”. The binding constraint for a lender, she argues, is not the availability of capital but the absence of a common, operational definition of adaptation, of credible metrics and of replicable business models that let a banker identify, assess and price an adaptation project. She reframes adaptation for a financial institution as protecting economic activity, value chains and clients rather than saving the planet, and names IPAM directly as the platform that must convert that ambition into banker-oriented taxonomies feeding project-preparation methodologies, the demand-side confirmation of Direction C.3.3¹⁴⁴.

144 Written communication from Mallé Fofana, Deputy Executive Director and Head of the Green Growth Implementation Directorate, GGGI, to the AAA Initiative interview program, July 2026; quoted verbatim. Interview register in Annex 9.

FIVE CONVERGENCES

- Structural constraint, not a capacity gap
- Connect, don't duplicate
- Anchor to the continental agenda
- A named owner per orphan lever
- One African measurement standard (IPAM)



THE EMERGING VISION

Connect, don't duplicate: anchor national plans to the continental agenda, give every orphan lever a named owner, and measure delivery with one African standard.

ONE OPEN DESIGN CHOICE

How preparation gets delivered — regional hubs · a continental facility
· national facilities · or a convener.

Figure C.6.1. The roadmap that emerges from the interview program: five points of convergence, one open design choice.

Source: The Initiative's interview program, June–July 2026 (Annex 9); author's synthesis of Section C.6.

On the connective mandate, the voices converge on the report's institutional reading. Shenggen Fan is categorical that the crosswalk between CAADP and the Paris instruments is one the African Union is uniquely positioned to lead, member states should formally invite the Union to take it forward. Catherine Simonet, unprompted, reaches the report's own conclusion that objectivized financial flows require a neutral, authoritative institution, naming the African Union Commission as the natural first line. Rattan Lal reaches the same junction from the policy side, calling for NDCs to liaise with CAADP in one cohesive continental program under policies that are “pro-nature, pro-agriculture and pro-farmer”. Ayman Cherkaoui adds two riders that the report adopts: the connection should extend beyond the Paris chain to the other Rio conventions in a super-COP year, and synergies must never become an argument for providing less finance. And the anchoring gap itself walked into the interviews: even within expert communities, the continental guidelines are not always known, one interviewee encountered CAADP for the first time in the conversation itself, and interviewees noted that continental frameworks unaccompanied by finance struggle to command attention. The 9 per cent has a face. From the assessment side, Bart van den Hurk reports that IPCC Working Group II is updating its technical guidelines for assessing impacts and adaptation and, in doing so, is reviewing guidance that sits outside the climate instruments, the FAO's among others, precisely to find the commonalities, in principles and even in indicators, on which such a connection can be built. The crosswalk thus

has a scientific counterpart already under way, though the IPCC's role is to map synergies, not to adjudicate between the systems. The confirmation carries particular weight from the negotiating side: Rafik Aini, who coordinates the African Group of Negotiators on agriculture, states that the African Union's CAADP Strategy and Action Plan and the draft Kampala Declaration “can play a significant role in both NDCs and NAPs, enhancing the means of implementation”, and that the Paris instruments “encompass more than just Nationally Determined Contributions”, with National Adaptation Plans “particularly beneficial for agriculture”. The crosswalk of Direction C.3.1 is thus endorsed by the body that carries the continental position into the UNFCCC.

On preparation, the convergence is operational. The costed assessment gap is confirmed as trivially small against what it unlocks, and three design principles recur across four interviews: the support should be automatic and programmatic rather than competitive and project-by-project; it should be African-owned, an African Union body or an African platform, not an external facility; and it should be distributed, regional hubs and REC-level platforms with embedded technical partners, or country platforms where national leadership is strong enough to organize a pipeline. Rafik Aini names the institutional precondition in one line: African countries “need more accredited entities at the national level to manage project preparation and implementation effectively”, which is the accreditation face of the preparation gap costed in Direction C.3.4.

On measurement, all accept the premise that finance flows to what can be measured, and the credibility conditions given are mutually consistent and adoptable as IPAM's design brief: country ownership, alignment with existing science and methodologies, a track record, the historic, scientific and geographic legitimacy attributed to IPAM directly in one interview, and a direct linkage from indicators to investment decision tools. Shenggen Fan states the floor plainly: a commonly agreed standard is what makes it possible to know whether a target is achieved. Bart van den Hurk, Co-Chair of IPCC Working Group II, supports an African-anchored standard while naming the paradox honestly, that the same measure must be context-specific and standardized at once, so some imperfection has to be accepted. The recent IPCC expert meeting on impact and adaptation metrics settled on principles, indicators must be measurable, tied to an explicit purpose, connected to distributional effects and grounded in local evidence, that IPAM can adopt as design criteria. On the Initiative's role, finally, the panel independently describes the connective mandate of Section C.2: orchestration across fragmented systems, the bridge between the agriculture and adaptation worlds, synthesis and advocacy on a thin cost base, network-making, and a clear focus on its facilitation and coordination role, complementing the implementation mandates of the AU, the RECs and the funds. The interviews also hand IPAM a scientific brief on the newly adopted global indicators: several scientific voices judged the set insufficiently comprehensive, since fifty-nine indicators cannot describe the state of a system, and, in places, too loosely formulated to compute. Robustness, focus and computability are the gap set for IPAM, provided, the warning is explicit, IPAM invests massively enough to become a research center in its own right instead of a commentary on the process. Rattan Lal completes the brief with the incentive dimension: under IPAM's auspices, measurement should mature into payment, rewarding farmers for ecosystem services, soil-carbon sequestration first, so that credible metrics become a farm-level incentive, not only a reporting device.

C.6.3. What they qualify, and what it changes

The interviews also push back, and the pushback is useful. First, on the needs framing: Anand Patwardhan distinguishes adaptation that is more of the same, adaptation done differently and

adaptation that is genuinely new, and cautions that a material share of the declared USD 566 billion may belong to the first category, development finance carrying a climate label. Accepting the observation, the report holds its conclusion: the finding strengthens the case for anchoring the climate instruments in national development strategies and domestic budgets (Sections A.6.8 and C.3.1). It also sharpens the reading of the headline as a reporting total, not a measure of incremental adaptation cost (Box A.8). Bart van den Hurk presses the point from the finance side: adaptation lacks the clear business case that carried solar and wind, and the debt burden many recipient countries carry is itself a structural brake on bankability, which is why he welcomes the reframing, voiced by African leaders, of the continent as an investment partner instead of a permanent victim.

Second, on where the gap bites: Ismahane Elouafi argues that the deeper constraint is implementation, programs that are financed and still do not execute, for want of human resources and functioning institutions, citing development banks' own experience that money is often not the limiting factor. The report's answer is definitional and practical: the preparation layer of C.3.4 is costed to include institutional readiness and implementation capacity, not document production alone; the interviews make that inclusion explicit and non-negotiable. The panel also diverges, productively, on the delivery model for preparation itself: regional hubs with embedded partners (Mallé Fofana), an African Union-run programmatic facility (Shenggen Fan, Anand Patwardhan), national preparation facilities in every country (Ousmane Seidou), and a convener that structures the space without operating it (the Secretary General, Section C.6.5). The report's design principles, automatic, African-owned, distributed, are compatible with each; the choice of vehicle is left open as a design decision for the Initiative and its partners.

Third, on negotiation strategy, Catherine Simonet warns against importing finance into the GGA discussions, arguing that the Global Goal on Adaptation should objectivize progress while means of implementation are pursued in the finance negotiations, where the adaptation agenda item deserves more sustained attention than it currently receives. This does not contradict the report's two-purposes doctrine for metrics (Section A.5.9); it sequences it, and Section C.3.5's advocacy program adopts the sequencing.

Fourth, and most consequential for the results framework: asked for a single 2036 target, the panel reaches past the draft matrix's instrumental indicators toward sectoral outcomes, six per cent agricultural growth in the Maputo tradition, the yield gap as the lever that reconciles productivity, land and emissions, food security as the most natural adaptation outcome and a GGA target in its own right, resilience to water scarcity (Ousmane Seidou) as the continent's binding resource constraint. From Rattan Lal come concrete input and land floors, fertilizer use doubled, irrigated area doubled, degraded soils restored as carbon sinks, with the four orphan levers recombined into a single regenerative-agriculture package. Mallé Fofana makes the opposite, complementary choice: "NDCs anchored to CAADP" as the system-level enabler. A proposed amendment therefore attaches to the draft matrix of Table C.5.1: each connective target retained, and paired with a small set of sectoral outcome anchors, productivity, food security, water, soil, so that the Initiative is judged both on the chain it connects and on what the connected chain delivers.

Fifth, on the quality of finance rather than its volume. Rafik Aini grounds the point in Decision 3/CP.27, paragraph 2, which recognizes the high vulnerability of agriculture and food security to climate change: adaptation in agriculture, on that reading, is overwhelmingly a grant question, and finance delivered as loans does not answer it. The observation cuts directly into this report's own

delivery arithmetic. The 1.5 per cent ratio counts finance recorded as received without distinguishing instruments, and Section A.6.2 shows that 73 per cent of public climate finance in 2023, and 67 per cent in 2024, arrived as debt. Read through the quality lens, the delivery gap is therefore wider than the headline ratio suggests, and a debt-financed adaptation response compounds the fiscal bind documented in Section A.6.8. He also gives the most institutional answer to the single-target question: the measure of success by 2036 is the implementation of the Koronivia and Sharm el-Sheikh joint work outcomes at local, national and regional level, an implementation test rather than a sectoral outcome, and the natural complement to the connective targets of Table C.5.1.

C.6.4. What they put on the table

Every conversation ended on the same question, one concrete thing in the next twelve to twenty-four months, and none ended empty. Recorded as stated, the offers below carry no commitment of the institutions concerned beyond what the interviewees themselves expressed; they form the opening stock of the partnership pipeline of Section C.4.3. (Academic panelists are recorded for the expertise and ideas they offered rather than institutional pledges; the Secretary General's and the Scientific Committee President's entries are the Initiative's own commitments, set out in Section C.6.5.)

Voice	On the table (as stated)	Where it lands
Rafik Aini (African Group of Negotiators, agriculture)	Enhanced support to African nations in project design, resource mobilization and capacity building; and continued support to the agriculture negotiating group so that it can keep unifying the African agricultural voice at all meetings and COPs, a role he considers the Initiative can fulfil effectively	C.3.1 · C.3.4 · C.3.5
Mohamed Ait Kadi (Scientific Committee, AAA Initiative, internal)	A Technical Alignment Unit within the IPAM Secretariat, a small team of senior experts on the order of USD 3 to 5 million a year, co-financed by member states, the Green Climate Fund and bilateral partners, to embed CAADP indicators in national NDCs during the revision cycle now open; and the Scientific Committee's four research axes offered as a cooperation platform between African academies and research institutions, as already practised between the Hassan II Academy of Science and Technology of Morocco and the National Academy of Science and Technology of Senegal	C.6.5 · C.3.1 · C.3.3
Amal Benaissa (Bank of Africa – BMCE Group)	Openness to exploring partnership with the Initiative on making adaptation bankable, and the bank's convening, capacity-building and advocacy roles put behind common definitions, banker-oriented taxonomies and metrics that feed project-preparation methodologies; Bank of Africa's transition-finance work with the Cambridge Institute for Sustainability Leadership and the Institute of Finance for Sustainability offered to the Initiative	C.3.3 · C.3.4 · C.4.3
Ayman Cherkaoui (Hassan II International Center)	Connection to the African Youth Climate Hub, agriculture already the most represented sector across its four editions, and to its networks	C.3.5 · A.9
Ismahane Elouafi (CGIAR)	Introduction to the CGIAR Africa strategy leadership; data, models and policy analysis in support of national systems	C.3.3 · C.3.4

Voice	On the table (as stated)	Where it lands
Shenggen Fan (AGFEP, China Agricultural University)	A South–South cooperation channel, Chinese experience, practices and research capacity, and staff-level contribution to IPAM; reciprocal participation in the September 2026 events	C.3.3 · C.3.5
Mallé Fofana (GGGI)	Co-developing a regional pipeline of bankable adaptation projects linked to CAADP-aligned NDC priorities; investment-design capacity and finance-network links	C.3.1 · C.3.4
Rattan Lal (The Ohio State University)	A COP31 agriculture agenda for the Initiative, solar-powered irrigation for smallholders, post-harvest and food-waste reduction, urban and nutrition-sensitive agriculture, and nutrient-dense orphan crops	C.3.2 · C.3.5
Hussein Alfa Nafo (Secretary General, AAA Initiative, internal)	The Initiative's own commitments (Section C.6.5): a single bottom-up measurement methodology written into IPAM's terms of reference by 2030; a convening, not operating, role on preparation with the accountability framework held by the Initiative; and a political mandate for IPAM sought at the next ministerial conference, with the newly approved Côte d'Ivoire climate-smart agriculture project as the pillar's first proof point	C.6.5 · C.4.3
Anand Patwardhan (WASP / Adaptation Research Alliance)	A "Risk Information for All" concept, granular climate-risk information as a global public good, proposed for incubation toward COP31	C.3.5
Ousmane Seidou (University of Ottawa; IPAM Water Committee)	Hydrology and water, resilience expertise as Co-Chair of IPAM's Water Committee, water scarcity framed as the continent's binding resource constraint and a metric IPAM must build, and support to country-level project-preparation capacity	C.5.1 · C.3.4
Catherine Simonet (AFD)	Better valorization of pilot agricultural projects with the Initiative, starting with a Guinea agriculture and loss-and-damage project now in preparation; a North Africa research call including agriculture and food security	C.3.2 · C.3.4
Bart van den Hurk (IPCC, Working Group II)	No institutional commitment, but a science interface: the report routed into the IPCC AR7 assessment, to the Working Group II agriculture and finance chapter authors, and the Initiative's community invited to review the AR7 first draft, opening a channel to raise the African agricultural voice in the assessment	C.3.5 · C.5.2

Table C.6.2. Offers recorded in the interviews, and where each lands in the Roadmap's architecture.

Source: the Initiative's interview program, June–July 2026; offers as stated by the interviewees.

C.6.5. The view from inside: the Secretary General and the Scientific Committee

Separately from the external panel, the Initiative's Secretary General, Hussein Alfa Nafo, answered the same protocol. These are recorded not as validation, since he is answerable for the Roadmap; his answers stand as the Initiative's own commitments, made in public and against the same questions the panel received.

On the diagnosis, he converges with the panel from the inside. The binding constraint, in his reading, is dedicated resource-mobilization capacity, finance is a profession, and the continent has not built that skill set at scale for agriculture, compounded by a methodological gap he assigns to IPAM directly: there are no agreed rules for the accounting of climate finance, so declared needs cannot simply be added across NDCs. His institutional program is the report's connective agenda stated from within: one bottom-up methodology, national indicators on which NDCs and NAPs are built, aggregated

at CAADP level, with CAADP informing the GGA, written into IPAM's terms of reference between now and 2030; a convening rather than operating role on preparation, with the accountability framework held by the Initiative; and, on metrics, the judgment that IPAM's credibility is established and the missing ingredient is a political mandate, to be sought at the next ministerial conference and carried to the African Union. Asked for a single 2036 target, he gives the results framework its bluntest formulation: double or triple the agricultural adaptation finance recorded as received, a decade of implementation and impact. He cautions, as several panelists do, against the proliferation of planning vehicles: go straight into the pipelines that exist and take the quick wins.

He also brings the decade's most concrete early proof point: at the Green Climate Fund Board preceding the interview, the first project drawn from the Côte d'Ivoire climate-smart agriculture investment plan was approved, a plan the Initiative helped design ten years ago, now bearing fruit. In his words, it is the direction of travel for the pillar he commits himself to on the road to COP31 and the

African-hosted COP32. Closing the section naturally is his mandate boundary: his job, as he puts it, is to push the Initiative to be as implementation- and impact-oriented as possible, and his mandate ends where the Initiative's begins.

The Initiative's Scientific Committee offers a second reading from inside. Its President, Mohamed Ait Kadi, endorses the diagnosis and presses it further: the execution deficit is not uniform, since some states, in the Sahel and East Africa, have real implementation capacity but are held back by financing and donor coordination, while others, better resourced, are held back by internal coordination and governance constraints. A 1.5 per cent realization rate is, in his words, the signature of an international financing architecture not calibrated to African realities. On the connective mandate he is the most explicit of any voice that the Initiative should position itself as the operator of the bridge: a common indicator reference framework co-validated by the African Union and the UNFCCC so that one national measurement discharges both reporting obligations; technical accompaniment for agriculture ministries and NDC focal points in aligning their planning; and advocacy so that projects submitted to the Green Climate Fund, IFAD and the African Development Bank are labeled in both systems. The 9 per cent, in his reading, is an anomaly that a dedicated technical-assistance function can correct. Among the orphan levers he ranks resilient and adapted seeds first, as the most universal entry point, since the other levers deliver only if the seed in the ground is suited to today's and tomorrow's climate, with agricultural insurance a parallel institutional priority, the safety net without which farmers will not risk a new variety. He reads several of the 2036 targets as sound in magnitude but conditional: the readiness costing is a seed cost, to which he would add a

capacity envelope over the decade; the anchoring target is reachable across the two revision cycles only if "anchored" is defined rigorously, at least one CAADP indicator formally carried into the NDC with a shared monitoring mechanism, not a mention; the traceable-chain target he would front-load with a 2030 cohort of pioneer countries chosen for institutional capacity; and the finance target he would pair with domestic budget effort and the emerging markets in sovereign green bonds and agricultural carbon credits, not international donors alone. Asked for the single highest-impact move of the next twelve months, he proposes the most concrete institutional step of any interview: a Technical Alignment Unit within the IPAM Secretariat, a small team of senior experts, on the order of USD 3 to 5 million a year, co-financed by member states, the Green Climate Fund and bilateral partners. Its sole task would be to embed CAADP indicators in national NDCs during the revision cycle now open, turning the connective mandate into an operational reality with a result countable by 2027.

Read together, the external voices do three things to Part C. They confirm the wager of Section C.2, none disputed that the chain, not the ambition, is the constraint. They discipline it, the qualifications above are absorbed as design constraints, not noted and set aside. And they put concrete offers on the table: a pipeline offer, a South-South channel, a data platform, a youth network, a COP31 concept, an openness to scientific exchange with the IPCC assessment process, a pan-African commercial bank open to exploring partnership on making adaptation bankable, and a standing relationship with the African Group of Negotiators on agriculture. Any further conversations will be added to this section on the same structure.

Conclusion: the end of declaration, the beginning of delivery

The paradox at the heart of the report

This report opened with a stark arithmetic: against a declared adaptation need of roughly USD 566 billion, barely 1.5 per cent has been recorded as received. After reading such a figure, the natural temptation is to diagnose a crisis of ambition, or a failure of political will. The evidence assembled across the preceding pages refutes both diagnoses emphatically. The crisis facing African agricultural adaptation is neither a shortage of stated intent nor a lack of technical solutions. It is a crisis of connection.

Over the past decade, African states have sharpened their ability to articulate what they need. Through the African Union, they have built a sophisticated continental architecture in CAADP, the Kampala Strategy, and the thematic plans on soil, water and early warning. They have submitted nationally determined contributions, formulated adaptation plans, and, increasingly, begun to report on what they have actually done. Each of these is a real achievement. Yet these achievements remain parallel, like railways built to different gauges that cannot share a single track. A result is still declared in an NDC, costed (if at all) in a NAP, financed (if at all) through channels that are nearly impossible to trace, and accounted for in a continental review that shares no data pipeline with the global framework. The same action is counted differently in four different rooms; no single room can see the full journey from pledge to farm.

Two systems, one verdict, one gap

The report's core diagnostic is the convergence of two independent accountability systems. The African Union's CAADP Biennial Review, built from within the continent, by agriculture ministries, against a political scorecard, finds that no member state is on track. The Paris chain of NDCs, NAPs and BTRs, built under a global treaty, by environment

ministries, against a financial ledger, finds that about 1.5 per cent of declared need has been delivered. Two systems, built by different institutions, on different timetables, with different methods, reach the same verdict. That convergence is not coincidence; it is corroboration. And it locates the constraint precisely at the same joint: the handoff from plan to finance, from intention to implementation, from a declaration in a conference hall to a sack of fertilizer in the Sahel.

Leaving them unconnected carries a cost that is not abstract. It is measured in the USD 510 billion import bill that awaits Africa on its current path; in the 59 million people who would remain in extreme poverty on that path; in the continent's largest carbon sink, the Congo Basin, left unmeasured, unrewarded and virtually invisible to the delivery ledger; and in the four orphan levers, named across the instruments yet almost never translated into a quantified target or a financed action, despite each having a dedicated continental vehicle waiting to carry them.

What the first decade proved, and what it did not

The AAA Initiative, over its first decade, proved that a continental platform can be built, sustained and given permanent institutional form. It proved that a light-touch convening model can outlast the political moment that created it, surviving donor retrenchment, a pandemic and a decade of successive shocks. Through the International Platform for Adaptation Metrics, it proved that Africa can help write the rules by which adaptation is measured, rather than merely reporting against metrics designed elsewhere. And through its annual ministerial conferences, it proved that a unified African voice on agricultural adaptation is not a rhetorical aspiration but a repeatable political fact.

What the first decade proved is the power of sustained advocacy to put African agricultural adaptation on the global agenda; what it did not prove, and what this report states plainly, is that advocacy, on its own, delivers finance. The ministerial declarations grew more precise and more fully costed; the coalition of countries and partners grew wider; yet the delivery figures of Part A remained stubbornly thin. This is no counsel of despair. It is the sobering lesson that a second decade cannot

simply repeat the tactics of the first. The binding constraint has shifted. The decade from 2016 to 2026 was the decade of declaring the problem; the decade to 2036 must be the decade of connecting the solution.

The connective mandate: affordable, falsifiable, and already funded in principle

The roadmap set out in Part C is deliberately bounded. It does not ask for a new institution, a new fund or a new mandate. It asks for something far more difficult and far cheaper: that the instruments, institutions and frameworks that already exist be made to work together. A crosswalk that links each adaptation action to its NDC paragraph, its national investment-plan line, its BTR finance code and its CAADP indicator. A harmonized indicator set that lets one measurement discharge four reporting obligations. A Preparation Compact that treats Technology Needs Assessments and NAP costing as the public goods they are, in place of costs to be borne project by project. And a political discipline, exercised through the annual ministerial conference, that reads the results matrix in public, line by line, direction by direction, and adjusts course when the evidence demands it.

Concretely, the Roadmap organizes this connective work into five strategic directions: anchoring the climate instruments to the continental agenda; financing the four orphan levers through the continental vehicles already mandated to carry them; making IPAM the African reference standard for adaptation metrics; building the project-preparation capacity the chain lacks; and carrying a single African voice to COP31 and beyond. While the diagnosis is continental, the prescription is regional: costing support where the agricultural slice of declared need is thinnest in East Africa, heat-proofing and risk transfer in the Sahel, forest measurement in Central Africa, and water efficiency in the north and south-west, so that each region repairs the link that constrains it most.

This connective layer is affordable. Its cost over the decade, on the order of one to two hundred million dollars, is well under one per cent of a single year's

declared adaptation need. It is the price of the keys, not of the fuel: it unlocks delivery, while the investment capital for resilience itself remains in the tens of billions a year. It is also falsifiable. The theory of change that underpins it states clearly what would prove it wrong: if crosswalked countries do not convert prepared projects to finance at least fifty per cent faster than comparable countries without a crosswalk; if fewer than half of the prepared, costed projects in the pipeline secure finance within twenty-four months; if IPAM-derived indicators are not adopted by at least one major fund. These are not aspirations; they are tests. And they will be read in public each year at the ministerial conference.

The quantified fork

The future that awaits African agriculture is not a single, predetermined outcome. It is a fork, and both futures are already priced by the same models. On the current path, the one in which today's policies and investment levels persist, the continent's agri-food import bill heads toward USD 510 billion by 2043; cropland expands into forests by an area roughly the size of France; cereal self-sufficiency recedes; and the young, growing workforce leaves rural areas that investment never reached. On the transformation path, the same models show an economy USD 354 billion larger, 59 million fewer people in extreme poverty, and an import bill USD 212 billion lower. The difference is not technology, not knowledge and not ambition, each is already abundant. The difference is delivery: the connection of plans to money, of instruments to institutions, of measurement to accountability.

The final word

Africa does not need another declaration. It does not need another framework. It does not need another promise at a Conference of the Parties. What it needs, and what this report sets out, is the political and institutional will to connect the machinery that already exists. The African Union has the architecture. The climate funds have the mandate. The ministries have the plans. The farmers have the need. The only missing piece is the connective tissue that binds them together, so that a need declared is a plan costed, a plan costed is a project financed, a project financed is an outcome delivered, and an

outcome delivered is counted once, in one ledger, against one set of indicators, in one continent.

The AAA Initiative does not promise to deliver that transformation alone. It promises to convene, to measure, to advocate and to hold itself, and the process it serves, accountable. It promises to build the crosswalks, to broker the Preparation Compact and the lever compacts, and to read the results each year in public. And it promises to do so without ever losing sight of the people for whom this entire architecture exists: the smallholder farmer whose

field is the final test of every declaration, every plan, every dollar and every metric.

That test is now before us. The decade to 2036 is not a horizon; it is a choice, between a future that has already been priced and a future that must still be built. The evidence is clear. The instruments are in place. The means are affordable. The only question that remains is whether the will to connect them will match the scale of the need.

Africa has declared what it needs. Now is the time to deliver it.

References

Where a source is publicly available online, its location is given in the entry or the footnotes. The primary datasets underlying this report are openly accessible: the UNFCCC NDC, NAP and BTR registries (unfccc.int), the OECD climate-finance statistics (oecd.org), the Climate Funds Update database (climatefundsupdate.org), FAO's climate strategies and programs including SCALA (fao.org/in-action/scala) and the CAADP Biennial Review (au.int).

1. AAA Initiative (2026). Analysis of African NDCs: agricultural adaptation in the NDCs of 53 African Union states (and workbook). May 2026. <https://unfccc.int/NDCREG>
2. AAA Initiative (2026). Analysis of NAPs of African countries, 28 NAPs (and workbook). May 2026. <https://napcentral.org/submitted-NAPs>
3. AAA Initiative (2026). Analysis of the BTRs of African countries, 24 BTRs (and workbook). May 2026. <https://unfccc.int/first-biennial-transparency-reports>
4. AAA Initiative (2026). Strategic Triangulation, NDC ↔ NAP ↔ BTR. May 2026. <https://unfccc.int/NDCREG> ; <https://napcentral.org/submitted-NAPs> ; <https://unfccc.int/first-biennial-transparency-reports>
5. AAA Initiative (2026). Timeline of the global climate negotiations, 1992–2025 (internal compilation, IISD/ENB-sourced). <https://enb.iisd.org>
6. Accelerating the Private Sector for Food Systems Transformation in Africa (2024).
7. African Development Bank & Global Center on Adaptation (2021). Africa Adaptation Acceleration Program (AAAP). <https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/africa-adaptation-acceleration-program>
8. African Development Bank (2024). Digital Transformation Action Plan 2024–2028. Abidjan: AfDB. <https://www.afdb.org>
9. African Risk Capacity (2012). Sovereign disaster-risk insurance for African Union member states. <https://www.arc.int/>
10. African Union (2014). Malabo Declaration on Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods. <https://au.int>
11. African Union (2022). Climate Change and Resilient Development Strategy and Action Plan 2022–2032. Addis Ababa: African Union Commission. <https://au.int>
12. African Union (2024). Africa Fertilizer and Soil Health Action Plan (Africa Fertilizer and Soil Health Summit, Nairobi, May 2024). <https://au.int>
13. African Union (2024/2025). CAADP Strategy and Action Plan 2026–2035; Kampala CAADP Declaration (Extraordinary Summit, January 2025). <https://au.int>
14. African Union (2026). Africa Water Vision 2063 and Policy (39th Ordinary Session of the AU Assembly). <https://au.int>
15. African Union / NEPAD (2003). Maputo Declaration on Agriculture and Food Security (CAADP). <https://au.int>
16. African Union / WMO (2023). Early Warning for All (EW4All) Action Plan for Africa, November 2023. <https://wmo.int>
17. African Union Commission (2018). Post-Harvest Loss Management Strategy. Addis Ababa: AUC. <https://au.int>
18. African Union Commission (2025). Fifth CAADP Biennial Review Report, 2024 measurement year (and the CAADP indicator-level extraction, CAADP Analysis, 2026). <https://au.int>
19. AU-IBAR (2015). Livestock Development Strategy for Africa (LiDeSA) 2015–2035. Nairobi: African Union Interafrican Bureau for Animal Resources. <https://www.au-ibar.org>
20. Aviva (2024). Climate-Ready Index Report: Results, Analysis and Methodology. November 2024. <https://www.aviva.com>
21. CCAFS/CGIAR. Climate Change, Agriculture and Food Security sub-sector classification. <https://www.cgiar.org>
22. Ceccarelli, S. (1996). Positive Interpretation of Genotype by Environment Interactions in Relation to Sustainability and Biodiversity. International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, Syria (mimeo).

23. Climate Funds Update (2026). Multilateral Climate Funds database, data current as of February 2026. climatefundsupdate.org.
24. Climate Policy Initiative (2024). Landscape of Climate Finance in Africa 2024. London and San Francisco: CPI. <https://www.climatepolicyinitiative.org>
25. Epule, T. E., Chehbouni, A., Dhiba, D., & Moto, M. W. (2021). The Readiness Index for Climate Change Adaptation in Africa: The Role of Climate and Adaptive Capacity Proxies (ClimAdaptCap Index). *Applied Sciences*, 11(19), 9413. <https://doi.org/10.3390/app11209413>
26. European Training Foundation (2025). Impact of USAID Withdrawal on Global Education and Skills Development. Turin: ETF. <https://www.etf.europa.eu>
27. FAO (2022). FAO Strategy on Climate Change 2022–2031; FAST Partnership (COP27). Rome: FAO. <https://www.fao.org/climate-change>
28. FAO (2023). Using Metrics to Assess Progress towards the Paris Agreement's Global Goal on Adaptation: Transparency in Adaptation in the Agriculture Sectors. Rome: FAO (cc2038en). <https://www.fao.org>
29. FAO (2024). Post-harvest management: bridging gaps and embracing innovations. Rome: FAO. <https://www.fao.org>
30. FAO (2026). Navigating climate action on agriculture and food security under the United Nations Framework Convention on Climate Change (UNFCCC). Technical note. Rome (cd9937en). <https://www.fao.org>
31. FAO, AUC, ECA and WFP (2025). Africa Regional Overview of Food Security and Nutrition 2025. Accra and Rome: FAO. <https://www.fao.org/publications>
32. FAO–UNDP (2014–2015). Integrating Agriculture in National Adaptation Plans (NAP–Ag) program. <https://www.fao.org/in-action/naps>
33. FERDI (2025). Comment la fermeture de l'USAID va affecter l'allocation de l'aide. Policy Brief No. 284, June 2025. <https://ferdi.fr>
34. Global Shield against Climate Risks (2022). Launched at COP27.
35. Green Climate Fund, Private Sector Facility (2015).
36. GSMA (2023). The Mobile Economy: Sub-Saharan Africa 2023. London: GSMA. <https://www.gsma.com>
37. IFPRI (2025). Global Food Policy Report 2025. Washington, DC: International Food Policy Research Institute. <https://www.ifpri.org>
38. ILO (2024). Global Employment Trends for Youth 2024. Geneva: International Labour Organization. <https://www.ilo.org>
39. IMF (2026). Global Debt Database (DataMapper): central and general government debt, per cent of GDP. Washington, DC: International Monetary Fund. <https://www.imf.org/external/datamapper/datasets/GDD>
40. Institute for Security Studies (ISS), African Futures program. Africa Agriculture Futures (thematic projections). <https://futures.issafrica.org>
41. InsuResilience Global Partnership (2017). Launched at COP23.
42. IPCC (2022). Climate Change 2022: Impacts, Adaptation and Vulnerability, Working Group II contribution to the Sixth Assessment Report, Chapter 9 (Africa). Geneva: IPCC. <https://www.ipcc.ch/report/ar6/wg2/>
43. Morsy, El-Shal and Woldemichael (2019). Women Self-Selection out of the Credit Market in Africa. African Development Bank Working Paper 317. Abidjan: African Development Bank.
44. OECD (2025). Official development assistance levels and projections, 2024–2025. Paris: OECD. <https://www.oecd.org/en/topics/official-development-assistance-oda.html>
45. OECD (2026). Climate Finance Provided and Mobilized by Developed Countries in 2013–2024. Paris: OECD. <https://www.oecd.org/en/topics/climate-finance-and-the-usd-100-billion-goal.html>
46. Property Rights Alliance (2025). International Property Rights Index 2025. Washington, DC: Property Rights Alliance.
47. Ross, K., Hite, K., Waite, R., Carter, R., Pegorsch, L., Damassa, T. and Gasper, R. (2019). Enhancing NDCs: Opportunities in Agriculture. Working Paper. Washington, DC: World Resources Institute (WRI). <https://www.wri.org>
48. Sharm el-Sheikh Adaptation Agenda (2022). COP27 Presidency initiative.
49. UN DESA (2024). World Population

Prospects 2024. New York: United Nations Department of Economic and Social Affairs. <https://population.un.org/wpp/>

50. UN DESA (2025). World Urbanization Prospects 2025. New York: United Nations Department of Economic and Social Affairs. <https://population.un.org/wup/>

51. UN Women (2019). The Gender Gap in Agricultural Productivity in Sub-Saharan Africa: Causes, Costs and Solutions. Policy Brief No. 11. New York: UN Women. <https://www.unwomen.org>

52. UNCTAD. UNCTADstat, Merchandise: intra-trade and extra-trade of country groups by product, annual. Geneva: UNCTAD. <https://unctadstat.unctad.org>

53. UNEP (2025). Adaptation Gap Report 2025: Running on Empty. Nairobi: United Nations Environment Programme. <https://www.unep.org/resources/adaptation-gap-report-2025>

54. UNFCCC (2010–2024). Decisions establishing the Green Climate Fund, the Adaptation Fund, the Loss and Damage Fund and the New Collective Quantified Goal (Baku, 2024). <https://unfccc.int>

55. UNFCCC (2015/2023). Paris Agreement, Article 7; UAE Framework for Global Climate Resilience; Emirates Declaration on Sustainable Agriculture and Resilient Food Systems (COP28). <https://unfccc.int>

56. UNFCCC (2017). Decision 4/CP.23, Koronivia Joint Work on Agriculture. Bonn. <https://unfccc.int>

57. UNFCCC (2022). Decision 3/CP.27, Sharm el-Sheikh joint work on implementation of climate action on agriculture and food security. <https://unfccc.int>

58. UNFCCC (2023). UAE Framework for Global Climate Resilience and the UAE–Belém Work Programme (COP28 / CMA5). <https://unfccc.int/topics/adaptation-and-resilience/workstreams/global-goal-on-adaptation-gga>

59. UNFCCC (2025). COP30 (Belém) outcomes: adoption of ~59 Global Goal on Adaptation indicators. <https://unfccc.int>

60. UNFCCC (2025). Global Goal on Adaptation: draft decision -/CMA.7 (Belém), FCCC/PA/CMA/2025/L.25. <https://unfccc.int>

61. UNFCCC Least Developed Countries Expert Group (2025). National Adaptation Plans:

2025 Progress in the Process to Formulate and Implement National Adaptation Plans. Bonn: UNFCCC. <https://unfccc.int/topics/adaptation-and-resilience/workstreams/national-adaptation-plans>

62. United Nations (2015). Paris Agreement, Article 7 (Global Goal on Adaptation) and the Enhanced Transparency Framework. <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

63. University of Notre Dame Global Adaptation Initiative (2024). ND-GAIN Country Index Technical Report. Notre Dame, IN. <https://gain.nd.edu>

64. WMO (2025). State of the Climate in Africa 2024. WMO-No. 1370. Geneva: World Meteorological Organization. <https://wmo.int>

65. World Bank (2023). Digital Africa: Technological Transformation for Jobs. Washington, DC: World Bank. <https://www.worldbank.org>

66. World Bank (2025). Global Findex Database 2025. Washington, DC: World Bank.

67. World Bank (2025). International Debt Statistics and International Debt Report 2025. Washington, DC: World Bank. <https://www.worldbank.org/en/programs/debt-statistics>

68. World Bank (various years). Country Climate and Development Reports (CCDRs). Washington, DC: World Bank. <https://www.worldbank.org/en/publication/country-climate-and-development-reports>

69. World Bank and IMF (various years). Joint Debt Sustainability Analyses; IMF, Regional Economic Outlook: Sub-Saharan Africa. Washington, DC. <https://www.imf.org>

70. World Bank, FAO and NRI (2011). Missing Food: The Case of Postharvest Grain Losses in Sub-Saharan Africa. Washington, DC: World Bank. <https://www.worldbank.org>

71. WRI (2023). Aqueduct 4.0 Water Risk Atlas. Washington, DC: World Resources Institute. <https://www.wri.org/aqueduct>

72. WWF and IIED. Africa's Food Systems and Environmental Sustainability (IMPACT-model projections). <https://wwfint.awsassets.panda.org/downloads/analysis-of-the-implications-of-africa-s-food-systems-development-on-environmental-su.pdf>

Annexes

The annexes carry the granular data underlying the body. Each annex is source-traceable: every table is generated by script from its source file, each caption names that source, and Annex 6 additionally carries page-level references; Annex 7 documents the conventions and reconciliations.

Annex 1. CAADP Biennial Review scorecards

This annex sets out the scorecards of the Fifth CAADP Biennial Review (2025 cycle, 2024 measurement year, data covering 2015–2024), the terminal review of the Malabo decade and the continental accountability record against which Part A reads the Paris-chain instruments. Forty-five

Member States submitted validated national reports; the remainder could not, owing to suspension from AU processes, active conflict, or reports arriving too late for validation in this cycle. The benchmark to be on track in 2025 is 9.40 out of 10; no Member State, region or the continent as a whole meets it. Source throughout: author’s analysis of the Fifth CAADP Biennial Review Report (continental scorecard and country scorecards). Two score types are used throughout: a T-score (thematic) measures progress on a single Malabo commitment, scored 0 to 10 against that cycle’s rising benchmark, while an O-score (overall) aggregates the seven thematic scores into one figure; a country or region is on track only where its score reaches the benchmark.

Malabo commitment area	T-score (/10)	2025 benchmark	Progress
1. Recommitment to the CAADP process	8.04	10.0	Not on track
2. Enhancing investment finance in agriculture	4.22	9.50	Not on track
3. Ending hunger by 2025	3.38	9.24	Not on track
4. Halving poverty through agriculture	4.41	9.11	Not on track
5. Boosting intra-African agricultural trade	2.97	9.00	Not on track
6. Enhancing resilience to climate variability	6.30	9.55	Not on track
7. Mutual accountability for actions and results	7.71	9.40	Not on track
Overall (O-score)	5.25	9.40	Not on track

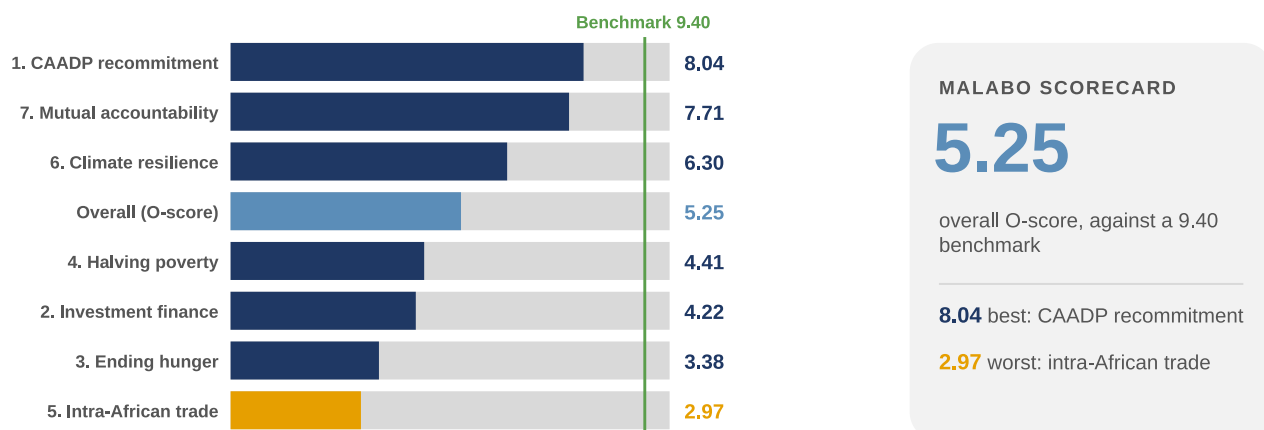
Annex Table 1.1. Continental scorecard of the Fifth CAADP Biennial Review: the seven Malabo commitment T-scores against their 2025 benchmarks. Source: Fifth CAADP Biennial Review Report (2025), continental scorecard.

Region	Overall score (/10)
Central Africa	3.04
Eastern Africa	5.60
Northern Africa	5.02
Southern Africa	5.77
Western Africa	5.48
Africa (continental)	5.25

Annex Table 1.2. Regional overall scores, Fifth Biennial Review (benchmark 9.40; none on track). Source: Fifth CAADP Biennial Review Report (2025), regional scorecards.

Member state	O-score	Member state	O-score
Morocco	8.15	Botswana	5.54
Rwanda	8.04	Namibia	5.50
Egypt	7.47	Burundi	5.31
Kenya	7.17	South Africa	5.21
Benin	7.15	Somalia	5.10
Tanzania	7.01	Seychelles	5.08
Uganda	7.01	Guinea	4.97
Malawi	6.88	Eswatini	4.88
Zimbabwe	6.83	Lesotho	4.79
Tunisia	6.65	Mauritania	4.67
Ethiopia	6.52	Senegal	4.34
Ghana	6.52	Liberia	4.33
Nigeria	6.47	Chad	3.83
Sierra Leone	6.29	Gabon	3.83
Mauritius	6.28	Cameroon	3.75
Madagascar	6.02	South Sudan	3.75
Zambia	5.93	Central African Rep.	3.40
Côte d'Ivoire	5.83	Guinea-Bissau	2.88
Cabo Verde	5.77	Algeria	2.37
Djibouti	5.73	Comoros	0.91
Togo	5.61	Libya	0.79
Mozambique	5.58	São Tomé & Príncipe	0.41
Gambia	5.57		

Annex Table 1.3. Overall country scores (O-scores), Fifth Biennial Review; benchmark 9.40, no state on track. Source: Fifth CAADP Biennial Review Report (2025), country scorecards.



Annex Figure 1.1. Continental scores by Malabo commitment, each against its cycle benchmark; continental average 5.25, no Member State on track. Source: Fifth CAADP Biennial Review Report (2025), country scorecards.

Annex 2. NDC adaptation-needs database

This annex reproduces the country-level adaptation-needs database extracted from the 53 African NDCs, the basis of Section A.4.3. Amounts are declared needs in USD billion over each NDC implementation period; the agriculture column reports needs explicitly attributable to agriculture, and the conditional share the portion contingent

on international support. Seven countries declare no quantified adaptation need (shown as blank cells). The TOTAL row reports the aggregate, need-weighted conditional share (77 per cent); the country-average share used in the body is 73.9 per cent (median 79 per cent). Source throughout: author's analysis of the 53 African NDCs (2026). Two further views close the annex: the adaptation-mitigation balance of the declared needs and the technical depth of the corpus by sub-region (Annex Figures 2.3 and 2.4).

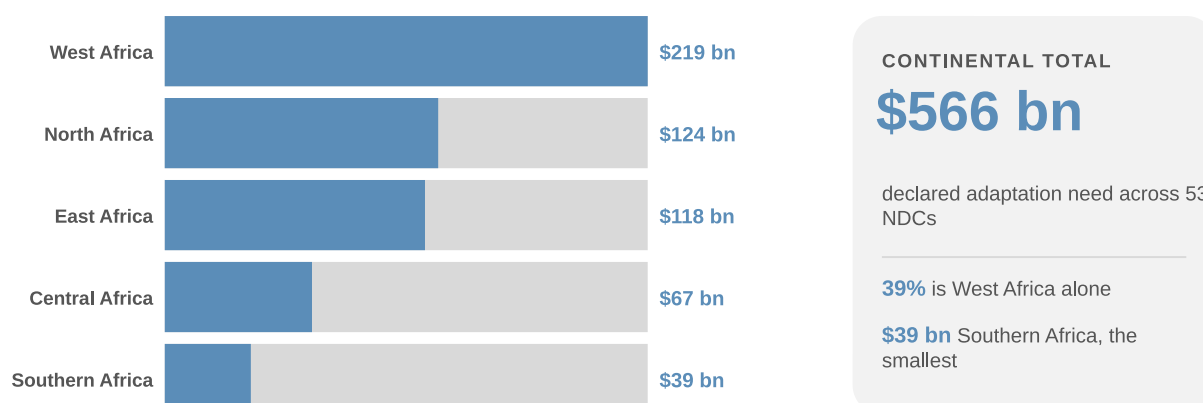
Country	Sub-region	Adapt. need (USD bn)	of which agri (bn)	Agri share	Conditional	NDC period
Algeria	North					
Egypt	North	50.00	15.00	30%	100%	2015–2030
Mauritania	North	5.81	1.88	32%	85%	2025–2035
Morocco	North	36.09	3.53	10%	7%	2026–2035
Tunisia	North	31.99	9.85	31%		2026–2035
Benin	West	1.80	1.48	83%	68%	2021–2030
Burkina Faso	West	5.06	1.09	22%	29%	2026–2030
Cabo Verde	West	0.70				2026–2030
Côte d'Ivoire	West	31.83	17.11	54%	98%	2025–2035
Gambia	West	0.32	0.01	4%	100%	2021–2030
Ghana	West	4.96	1.85	37%		2020–2030
Guinea	West	8.40				2026–2035
Guinea-Bissau	West					2021–2030
Liberia	West	0.49				2021–2025
Mali	West	8.00				2020–2030
Niger	West	6.74			64%	2021–2030
Nigeria	West	141.50			80%	2026–2035
Senegal	West	4.30	0.68	16%	67%	2020–2030
Sierra Leone	West	1.95	0.53	27%	79%	2025–2035
Togo	West	2.78	0.81	29%	82%	2020–2030
Cameroon	Central	31.86	1.81	6%		2021–2030
Central African Rep.	Central	2.66	0.34	13%	79%	2025–2035
Chad	Central	5.00			75%	2021–2030
Congo	Central	2.51	0.60	24%	66%	2025–2035
DR Congo	Central	23.08	10.08	44%	98%	2021–2030
Equatorial Guinea	Central	0.11	0.04	39%		2022–2030
Gabon	Central	1.12	0.39	35%		2025–2035
São Tomé and Príncipe	Central	0.41	0.06	13%		2025–2035
Burundi	East	3.94	0.06	1%	90%	2025–2035
Comoros	East	6.60				2025–2030
Djibouti	East	1.41			67%	2024–2030
Eritrea	East	0.78	0.36	46%	52%	2025–2030
Ethiopia	East	40.00				2025–2035
Kenya	East	17.70				2031–2035

Country	Sub-region	Adapt. need (USD bn)	of which agri (bn)	Agri share	Conditional	NDC period
Madagascar	East	11.63				2022–2030
Rwanda	East	7.07	2.46	35%	77%	2025–2035
Somalia	East	6.33	1.90	30%		2025–2035
South Sudan	East	0.38	0.03	7%		2021–2030
Sudan	East	3.85	0.83	22%	85%	2021–2030
Tanzania	East	0.50				2021–2030
Uganda	East	17.70			86%	2020–2030
Angola	Southern	0.23	0.10	43%	52%	2025–2035
Botswana	Southern	2.50			90%	
Eswatini	Southern	1.49	0.62	42%		2025–2035
Lesotho	Southern					2025–2035
Malawi	Southern	4.55	0.48	11%	53%	2020–2040
Mozambique	Southern					
Namibia	Southern	6.01	1.51	25%	90%	2021–2030
South Africa	Southern	13.89	0.07	0%		2026–2035
Zambia	Southern					2025–2030
Zimbabwe	Southern	10.31	4.77	46%		2023–2030
Mauritius	Southern					2026–2035
Seychelles	Southern					
TOTAL (53)		566.33	80.35	14%	77%	

Annex Table 2.1. Declared adaptation needs of the 53 African NDCs: total, agricultural component, conditionality and implementation period. Source: author's analysis of the 53 African NDCs (2026).

Sub-region	Countries	Adapt. need (USD bn)	Agri need (USD bn)	Avg agri share	Avg conditional
North Africa	5	123.89	30.26	24%	64%
West Africa	15	218.82	23.58	11%	74%
Central Africa	8	66.75	13.32	20%	80%
East Africa	13	117.88	5.63	5%	76%
Southern Africa	12	38.99	7.56	19%	71%
TOTAL AFRICA	53	566.33	80.35	14%	74%

Annex Table 2.2. Regional aggregation of declared needs across the NDC corpus. Source: author's analysis of the 53 African NDCs (2026).



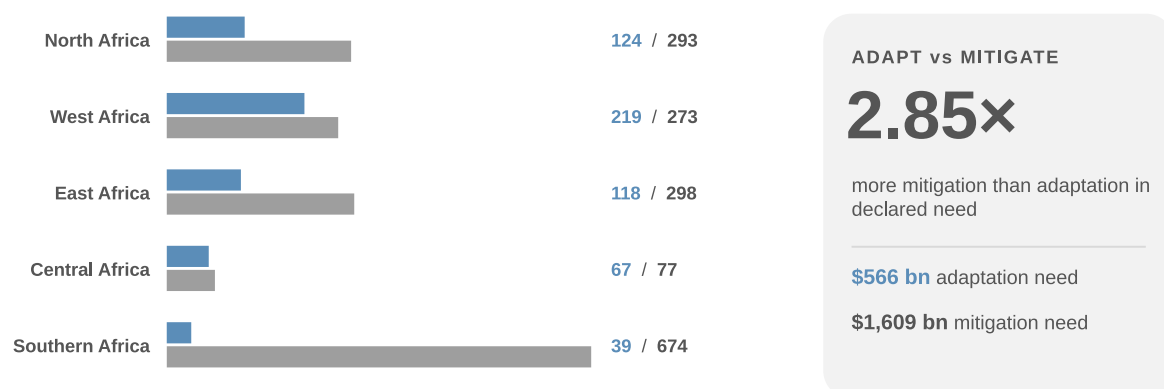
Annex Figure 2.1. Declared adaptation needs by sub-region: total stock. Source: author's analysis of the 53 African NDCs (2026).

Key indicator (NDC dashboard)	Value
Countries analyzed	53
Total declared adaptation needs	USD 566.3 bn (~USD 56.3 bn/yr)
of which agriculture	USD 80.3 bn (14.2%)
Average conditional share	73.9% (median 79%)
Countries citing an institutional framework	42 of 53
Declared mitigation need	USD 1,614.4 bn (2.85× adaptation)

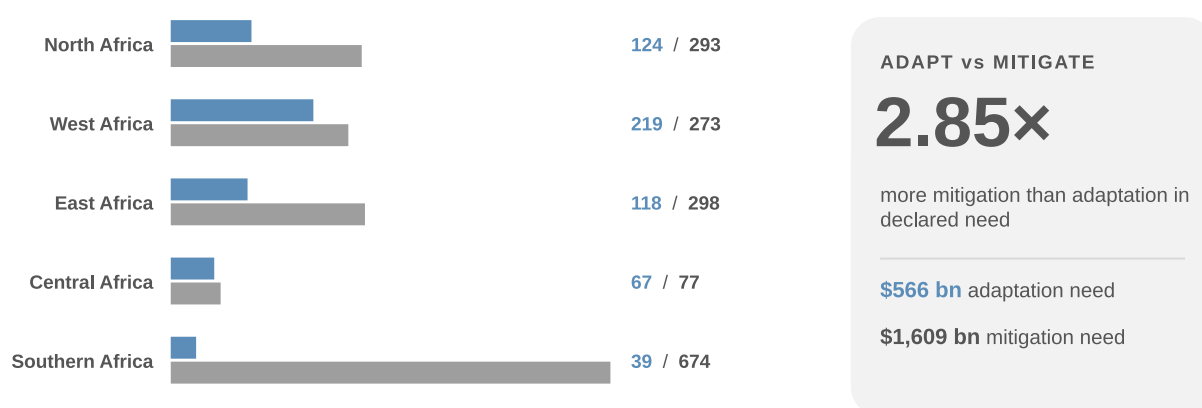
Annex Table 2.3. Key indicators of the NDC corpus. Source: author's analysis of the 53 African NDCs (2026).

Data gap	Countries affected
No quantified adaptation need	7 of 53 (13%)
No isolated agricultural need	22 of 53 (42%)
No unconditional/conditional breakdown	32 of 53 (60%)
No mitigation data	8 of 53 (15%)

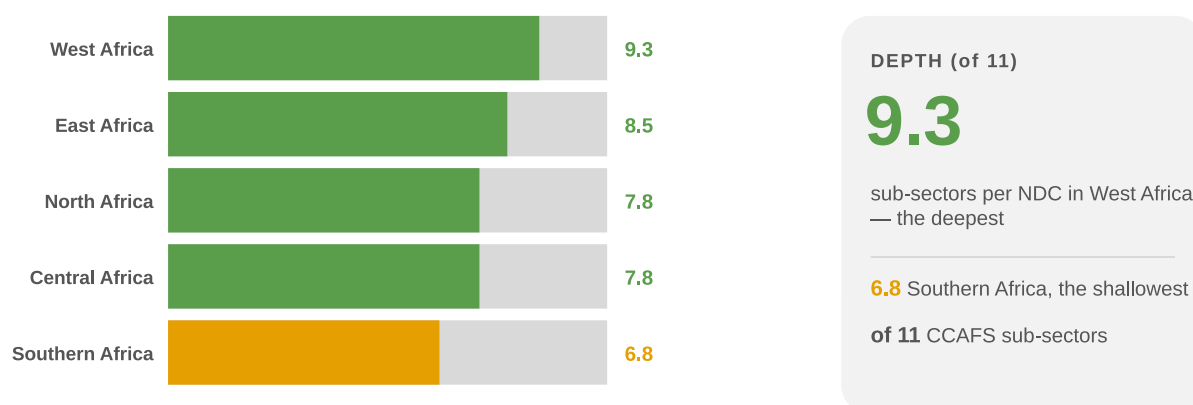
Annex Table 2.4. Data gaps in the NDC corpus: what the declared figures cannot show. Source: author's analysis of the 53 African NDCs (2026).



Annex Figure 2.2. The ten largest declared needs: concentration at the top of the corpus. Source: author's analysis of the 53 African NDCs (2026).



Annex Figure 2.3. Adaptation versus mitigation in the declared needs, by sub-region: mitigation outweighs adaptation 2.85 to 1 continentally (USD 1,614 bn against 566 bn). Source: author's analysis of the 53 African NDCs (2026).



Annex Figure 2.4. Technical depth by sub-region: average number of CCAFS sub-sectors covered per NDC (of 11). Source: author's analysis of the 53 African NDCs (2026).

Annex 3. NAP readiness and module-completeness matrix

This annex sets out the readiness record of the 28 African National Adaptation Plans analyzed in Section A.4.4. The first table reports the NAP-readiness index: completeness of the five LEG modules (A–E), coverage of the eleven UAE-Framework GGA targets, the seven NAP guiding principles, and four inclusion dimensions (G gender, Y youth, I indigenous knowledge, D disability), combined into a confidence-weighted index out of 100. The second table reports the extraction coverage that underpins the corpus statistics. Source throughout: author's analysis of the 28 African NAPs (2026). The annex closes with the inclusion trajectory of the corpus (Annex Figure 3.2) and its loss-and-damage mapping (Annex Table 3.3).

Index construction. The index is built in three steps. First, each of the four components is scored on its own scale: module completeness out of five (a completed module counts one, a partial module one-half), GGA-target coverage out of eleven (on the same full/half convention), guiding principles out of seven, and social inclusion out of four (gender, youth, indigenous knowledge and disability, detected by keyword against the plan text). Second, each component is normalized to a 0–1 range and combined into a base score out of 100 using fixed weights: one-third each to modules

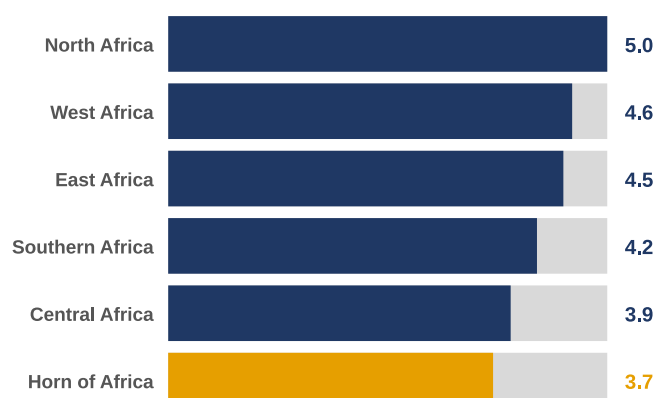
and GGA targets, and one-sixth each to principles and inclusion. These weights are the original 30/30/15/15 split after a fifth component, NDC–NAP cost alignment, was dropped, because only a minority of countries report both an NDC and a NAP cost, and the remaining weights were rescaled to sum to one. Third, each country's base score is multiplied by the mean confidence flag attached to its underlying entries (high-confidence evidence counts fully, medium one-half and low zero), so that scores resting on weaker or reconstructed evidence are discounted; this confidence-weighted score, not the raw base score, is the ranking basis. Extraction and scoring were carried out by a single analytical team (OCR followed by manual review, with the source page recorded for each entry), so the index reports no inter-reviewer-agreement statistic; the confidence weighting, the partial-credit convention and the explicit flagging of OCR-poor sources are the safeguards against over-reading ambiguous or missing evidence. Because the composite is dominated by the two larger blocks, the ranking is robust to modest changes in the smaller weights; even so, the confidence-weighted score is best read as an ordinal readiness signal rather than a cardinal measure, and countries separated by only a few points should be treated as equivalent. The full component scores, weights and confidence flags underlying each country's index are reproduced in Annex Table 3.1.

Rank	Country	Modules A-E (/5)	GGA targets (/11)	Principles (/7)	Inclusion (GYID)	Index (/100)
1	Kenya	5	10	7	GYID	97
2	Niger	5	10	7	GY-D	89
3	Zimbabwe	4.5	10	7	GYID	88
4	Ghana	4.5	10	7	GY-D	87
5	Togo	5	10	7	GY-D	86
6	Tanzania	5	11	7	G---	85
7	Somalia	5	10	6	GY-D	84
8	Mozambique	4.5	10	7	GY-D	84
9	Ethiopia	4.5	10	7	GYID	82
10	Madagascar	4.5	10	7	GY-D	81
11	Uganda	5	9	7	GYI-	80
12	Senegal	4	8	7	GYID	79
13	Cabo Verde	4.5	10	7	GY-D	79
14	DR Congo	4.5	10	7	G-I-	77
15	Zambia	4	10	6	GYID	77
16	Benin	4.5	11	7	G-ID	76
17	Sudan	4.5	9	7	G---	75
18	Morocco	3.5	11	7	GYI-	72
19	Sierra Leone	4.5	9.5	7	G---	72
20	Burundi	4	9	7	GYID	72
21	Cameroon	4.5	10	7	G---	70
22	Lesotho	4.5	11	7	GY--	70
23	Chad	2.5	9	6	GYI-	66
24	Burkina Faso	5	10	7	GY-D	64
25	Liberia	4	9	7	G---	64
26	South Africa	4	10	7	G---	63
27	Central African Rep.	3.5	10	7	GYID	57
28	South Sudan	3	9	7	G--D	42

Annex Table 3.1. NAP-readiness index of the 28 African NAPs: module completeness, GGA coverage, principles, inclusion, and the confidence-weighted composite. Source: author's analysis of the 28 African NAPs (2026).

Country	Hazards	Adaptation measures	Projects	Financing sources	M&E indicators	Loss & damage chapter
Benin	8	3	1	1	28	N
Burkina Faso	5	9	10	6	10	N
Burundi	7	10	6	3	1	N
Cabo Verde	9	4	12	2	13	N
Cameroon	10	4	20	4	8	N
Central African Rep.	6	5	5	1	1	N
Chad	6	49	1	1	1	N
DR Congo	7	6	13	3	7	N
Ethiopia	8	18	1	5	19	N
Ghana	9	1	7	1	1	Y (mentions)
Kenya	3	9	18	1	9	N
Lesotho	10	8	6	1	1	N
Liberia	7	13	1	1	11	N
Madagascar	9	12	12	7	9	N
Morocco	11	5	1	3	1	Y
Mozambique	8	16	16	4	2	Y
Niger	7	11	15	6	10	N
Senegal	7	7	10	1	1	N
Sierra Leone	9	16	18	7	1	N
Somalia	9	8	5	7	1	N
South Africa	8	9	1	7	12	N
South Sudan	7	12	1	1	1	N
Sudan	9	12	8	5	1	N
Tanzania	9	16	36	9	1	N
Togo	10	6	19	11	7	N
Uganda	7	21	21	7	6	N
Zambia	4	1	1	1	4	N
Zimbabwe	8	17	8	1	1	N
Total (28)	217	308	273	107	168	3 Y / 25 N

Annex Table 3.2. Extraction coverage per NAP: hazards, measures, project pipeline, financing sources, M&E indicators and loss-and-damage treatment. Source: author's analysis of the 28 African NAPs (2026).



NAP READINESS

5.0

North Africa's NAP readiness — the highest (of 5)

3.7 Horn of Africa, the lowest

/5 confidence-weighted index

Annex Figure 3.1. The NAP-readiness ranking: module completeness, GGA coverage, principles and inclusion, confidence-weighted. Source: author's analysis of the 28 African NAPs (2026).



RISING INCLUSION

3.4

inclusion score for the newest NAPs (of 4), up from 2.1

+62% since the 2015–19 cohort

/4 four-dimension index

Annex Figure 3.2. Social inclusion by adoption cohort: each NAP generation scores higher on the four-dimension inclusion index. Source: author's analysis of the 28 African NAPs (2026).

Country	L&D addressed	Onset type	Insurance / risk transfer	Santiago Network link
Benin	Yes	Both	No	No
Burkina Faso	No		No	No
Burundi	No		No	No
Cabo Verde	No		No	No
Cameroon	Yes	Both	Yes	No
Central African Rep.	No		No	No
Chad	No		No	No
DR Congo	No		No	No
Ethiopia	No		Yes	No
Kenya	Yes	Both	Yes	No
Lesotho	Yes		No	No
Liberia	No		No	No
Madagascar	No		No	No
Morocco	Yes	Both		
Mozambique	Yes	Both	No	No
Niger	No		Yes	No
Senegal	Yes	Both	Yes	
Sierra Leone	Yes	Both	No	No
Somalia	No		No	No
South Africa	No		No	No
South Sudan	No		No	No
Sudan	No		No	No
Tanzania	Yes		Yes	No
Togo	No		No	No
Uganda	Yes	Both	Yes	No
Zambia	No		No	No
Zimbabwe	Yes	Both	Yes	No
Ghana	Yes	Both	Yes	No

Annex Table 3.3. Loss and damage in the 28 NAPs: 12 address it, 9 mention insurance or risk transfer in that context, and 0 link to the Santiago Network. ; * = not elaborated. Source: author's analysis of the 28 African NAPs (2026).

Annex 4. BTR finance ledger

This annex assembles the delivery-side ledgers behind Section A.4.5: the inventory of the 24 African Biennial Transparency Reports, the AFOLU finance ranking for the fourteen countries whose agricultural finance is traceable end to end, and the Green Climate Fund dashboards (Readiness

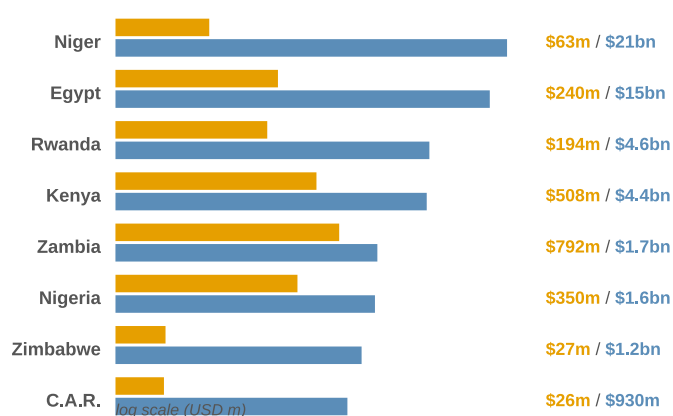
program and funded activities) that frame the access question examined in Sections A.6–A.7. Sources: author's analysis of the 24 African BTRs (2026); GCF country-level database (Readiness and funded-activities sheets). It also carries the full country-level GCF ledger across African states (Table 4.6) and the fifteen largest recipients of funded-activity financing (Figure 4.3).

Country	Sub-region	Language	Submitted	AFOLU tier	Pages	Adaptation chapter
Central African Rep.	Central	French	2024	2		Yes
Burkina Faso	West	French	2024	2		Yes
Algeria	North	French	2024	1		Yes
Burundi	East	French	2025	2		Yes
Côte d'Ivoire	West	French	2024	1		Yes
Egypt	North	English	2025	2		Yes
Eswatini	Southern	English		2		No
Gabon	Central	French	2024	3		Yes
Ghana	West	English		2		Yes
Guinea-Bissau	West	English	2025	1		Yes
Kenya	East	English		1		Yes
Madagascar	East	French	2026	1		Yes
Malawi	Southern	English	2025	1		Yes
Mauritius	Southern	English	2024	2		Yes
Morocco	North	French	2026	2		Yes
Namibia	Southern	English	2024	2		Yes
Niger	West	French	2025	2		Yes
Nigeria	West	English	2024	2		Yes
Rwanda	East	English	2024	2		Yes
Seychelles	Southern	English	2025	1	466	Yes
South Africa	Southern	English	2024	2		Yes
Tunisia	North	French	2024	2		Yes
Zambia	Southern	English	2025	2		Yes
Zimbabwe	Southern	English	2024	1		Yes

Annex Table 4.1. Inventory of the 24 African BTRs: submission, inventory tier and adaptation content. Source: author's analysis of the 24 African BTRs (2026).

Rank	Country	Projects	AFOLU received (USD m)	AFOLU need (USD m)	Gap (USD m)	Absorption
1	Zambia	7	792.2	1,669.9	877.7	47.4%
2	Kenya	1	508.0	4,376.0	3,868.0	11.6%
3	Nigeria	1	350.0	1,590.7	1,240.7	22.0%
4	Egypt	2	239.5	15,000.0	14,760.5	1.6%
5	Rwanda	8	194.3	4,609.0	4,414.7	4.2%
6	Niger	8	62.5	21,009.1	20,946.6	0.3%
7	Zimbabwe	1	26.6	1,226.5	1,199.9	2.2%
8	Central African Rep.	4	25.8	930.3	904.5	2.8%
9	Gabon	3	25.4	0.0	-25.4	n/a
10	Mauritius	13	24.3	3.0	-21.3	809.8%
11	Guinea-Bissau	3	17.4	286.0	268.6	6.1%
12	Tunisia	2	16.6	829.4	812.8	2.0%
13	Madagascar	1	9.5	0.0	-9.5	n/a
14	Côte d'Ivoire	1	0.8	0.0	-0.8	n/a
TOTAL (14)			2,292.9	51,530.0	49,237.1	4.4%

Annex Table 4.2. AFOLU finance received versus declared need, the fourteen finance-traceable countries. Negative gaps indicate finance received without a stated AFOLU need; they reflect a country recording AFOLU finance in its BTR while not isolating an AFOLU adaptation need in its NDC, so the ledger sets a real receipt against a blank need rather than showing genuine over-funding. Source: author's analysis of the 24 African BTRs (2026).



THE GAP, LOGGED

0.3%

Niger: \$62m received against a \$21bn AFOLU need

47% Zambia, the best absorber

1–3× orders of magnitude short

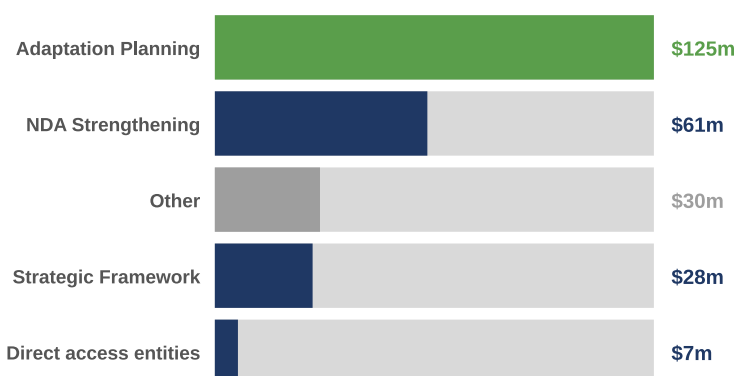
Annex Figure 4.1. Received versus needed, in log scale: the AFOLU delivery gap country by country. Source: author's analysis of the 24 African BTRs (2026).

GCF Readiness, activity area	Grants	Financing (USD m)
Adaptation Planning	56	125.2
NDA Strengthening, including country programming (SP, NDA, CP)	90	60.6
Other	51	30.0
Strategic Framework (SF)	48	27.9
Support for direct access entities (ES)	29	6.6

Annex Table 4.3. GCF Readiness program across the Africa region: 274 grants, about USD 251 million in total. Source: author's analysis of the GCF country-level database. GCF data extracted 4 July 2026.

Top-10 recipients (Readiness)	Grants	Financing (USD m)
Kenya, Uganda, Tanzania, Botswana, Côte d'Ivoire, Senegal, Sierra Leone, Seychelles, Nigeria, Ghana, Guinea, Rwanda, Djibouti, Zimbabwe, Zambia	1	6.96
Chad, Djibouti, Kenya, Sierra Leone, Liberia, Zambia, Gabon, Eswatini, Comoros (the), South Sudan, Sudan, Democratic Republic of the Congo (the), Benin, Central African Republic (the), Madagascar, Mali, Nigeria, Seychelles, Togo, Niger (the), Equatorial Guinea, Angola, Guinea	1	6.86
Rwanda	9	6.63
Somalia, Guinea, Burundi, Ghana, Mali, Mozambique, Tunisia, Sierra Leone, Central African Republic (the), Malawi, Eswatini, Congo, Morocco, Chad, Zambia	1	6.16
Eswatini	8	5.93
Burkina Faso	8	5.86
Côte d'Ivoire	9	5.82
Benin	8	5.70
Togo	7	5.55
Senegal	8	5.30

Annex Table 4.4. Largest Readiness recipients. Source: author's analysis of the GCF country-level database. The ten largest grants total about USD 61 million, roughly a quarter of the USD 251 million continent-wide. GCF data extracted 4 July 2026.



READINESS SUPPORT

\$250 m

GCF Readiness financing across 274 grants

\$125 m adaptation planning (50%)

274 grants in total

Annex Figure 4.2. GCF Readiness financing by activity area. Source: author's analysis of the GCF country-level database. GCF data extracted 4 July 2026.

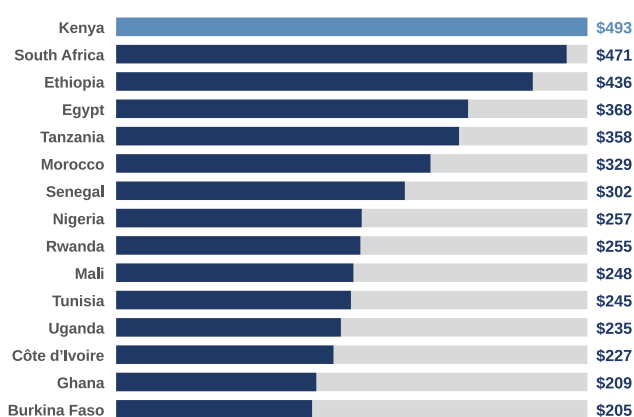
Dimension	Category	Activities	Financing (USD m)
By theme	Adaptation	70	2,787.5
	Mitigation	26	2,220.1
	Cross-cutting	52	4,636.5
By delivery channel	Public	104	5,128.4
	Private	44	4,515.7
By reach	Single-country (African)	93	3,225.4
	Multi-country / regional	55	6,418.7
Total portfolio		148	9,644.1

Annex Table 4.5. Composition of the GCF funded-activity portfolio to Africa: 148 activities, USD 9,644.1 million (average USD 65.2 m; 59 of 148 activities are Micro or Small). Source: author's analysis of the GCF funded-activities database (Data of Funded activities sheet). Multi-country / regional programs are counted once at portfolio level. GCF data extracted 4 July 2026.

Country	Readiness grants	Readiness (USD m)	Funded activities	Funded (USD m)
Algeria	2	3.2	0	
Angola	5	5.5	3	43.0
Benin	13	7.1	12	94.6
Botswana	6	2.3	4	92.9
Burkina Faso	10	6.0	17	204.8
Burundi	6	4.5	5	56.1
Cabo Verde	6	5.8	0	
Cameroon	5	3.8	9	81.4
Central African Republic (the)	7	2.8	2	109.1
Chad	12	5.4	9	128.7
Comoros (the)	5	5.1	5	78.6
Congo	5	2.0	1	29.0
Côte d'Ivoire	12	7.3	20	227.2
Democratic Republic of the Congo (the)	10	3.7	11	126.4
Djibouti	6	4.4	7	74.8
Egypt	3	4.2	9	367.9
Equatorial Guinea	9	5.1	0	
Eritrea	3	3.5	2	21.1
Eswatini	10	6.5	2	17.5
Ethiopia	5	4.3	14	435.5
Gabon	7	3.3	6	58.4
Gambia	6	4.1	4	60.2
Ghana	7	5.7	13	209.3
Guinea	10	6.1	8	70.9
Guinea-Bissau	6	3.9	4	32.0
Kenya	8	6.3	28	492.6
Lesotho	5	4.3	4	26.9
Liberia	6	4.4	4	47.1
Libya	3	2.1	0	
Madagascar	6	3.1	11	190.8
Malawi	5	4.4	9	142.9
Mali	12	5.2	14	248.0
Mauritania	4	4.0	9	115.9
Mauritius	8	4.5	6	87.4
Morocco	11	5.5	16	328.6
Mozambique	8	5.8	10	109.2
Namibia	7	5.3	11	147.0
Niger (the)	8	4.8	12	154.7
Nigeria	6	4.9	19	256.7
Rwanda	10	6.9	17	255.3
Sao Tome and Principe	5	6.0	2	29.3
Senegal	13	7.1	19	301.8
Seychelles	7	4.8	4	34.3
Sierra Leone	8	4.6	8	72.2
Somalia	3	4.6	7	182.0
South Africa	4	1.7	12	470.9

Country	Readiness grants	Readiness (USD m)	Funded activities	Funded (USD m)
South Sudan	2	0.6	4	100.4
Sudan	4	3.3	3	44.8
Tanzania	4	4.3	12	358.4
Togo	11	6.9	11	160.8
Tunisia	9	5.6	10	245.4
Uganda	3	4.6	21	234.9
Zambia	9	5.0	12	183.7
Zimbabwe	7	5.0	4	72.4

Annex Table 4.6. Country-level GCF engagement across African states: Readiness grants and financing, and funded-activity counts and financing. Source: author's analysis of the GCF country-level database. Regional / multi-country programs are attributed to each participating country, so the columns sum to more than the continental unique totals of 275 Readiness grants (USD 251.1 m) and 148 funded activities (USD 9,644.1 m; Table 4.5); funded-activity financing is apportioned across participating countries. GCF data extracted 4 July 2026.



TOP RECIPIENT

\$493 m

Kenya, the largest single recipient (USD m)

Top 3: Kenya, S. Africa, Ethiopia

\$205–493m range across the top 15

Annex Figure 4.3. The fifteen largest African recipients of GCF funded-activity financing (USD m), pre-apportioned per country. Source: author's analysis of the GCF country-level database. GCF data extracted 4 July 2026.

Annex 5. Triangulation crosswalk

This annex documents the triangulation of the three Paris-chain instruments developed in Section A.4.6: the crosswalk for the eleven countries holding all three instruments (none of which yields a fully comparable, fully costed chain), the country

readings that follow from it, and the independent World Bank CCDR lens used as the external check in Section A.4.6.5. Sources: author's triangulation NDC-NAP-BTR (May 2026); author's analysis of the World Bank CCDRs. Annex Table 5.4 adds the CCDR investment estimates and vulnerability scores country by country.

Country	NDC need	NAP costed	BTR rec.	Plan gap	Absorp.	NAP costing	BTR data quality
Burkina Faso	5.06	4.88	n/a	-0.18		Full	Low (no finance line)
Burundi	3.94	0.05	0.00	-3.90	0%	Partial	Low
Central African Rep.	2.66	NE	0.03		1.0%	None	Low
Ghana	NE	22.64	NE	NE	NE	Full	Medium
Kenya	17.70	38.26	0.51	+20.56	2.9%	Full	High (all-AFOLU)
Morocco	36.09	35.00	0.00	-1.09	0%	Full	Low (no finance line)
Madagascar	11.63	0.27	negl.	-11.36		Partial	Low
Niger	6.74	6.37	0.09	-0.38	1.3%	Full	Medium
South Africa	13.89	55.00	n/a	+41.11		Full	Low
Zambia	NE	NE	0.84			None	Medium (AFOLU-tagged)
Zimbabwe	10.31	NE	0.09		0.9%	None	Medium

Annex Table 5.1. Triangulation crosswalk for the eleven countries holding all three instruments, not all fully costed (USD bn unless indicated; NE = not established). Source: author's NDC-NAP-BTR triangulation (2026).

Country	NDC need	NAP costed	BTR received	Reading
Kenya	17.70	38.26	0.51	Sufficient-planning + highest readiness; delivery beginning (1.3% execution).
Niger	6.74	6.37	0.09	Quasi-aligned, early delivery (1.4%), expected to rise next cycle.
Morocco	36.09	35.00	0.00	Cleanest planning alignment, but no traceable received finance in the BTR ledger.
Nigeria	141.50	n/a	0.55	Largest need, no costed NAP, 0.4% absorption, the scale of the implementation gap.
Madagascar	11.63	0.27	negligible	Severe under-planning (~43×) despite mid-table readiness, points to NDC inflation.
Burkina Faso	5.06	4.88	n/a	Quasi-aligned planning; BTR finance not traceable, coherent plan, unobservable delivery.
South Africa	13.89	55.00	n/a	Sufficient-planning at scale (4.0×); a case for NDC - NAP alignment dialogue.
Egypt	50.00	n/a	1.94	Large need and finance, but no NAP and mitigation-tilted flows, chain cannot be closed.

Annex Table 5.2. Chain readings for the principal triangulated countries: what the gap, readiness and execution pattern says in each case. Source: author's NDC-NAP-BTR triangulation (2026).

Country	Agri share of GDP	Modeled climate GDP loss	Flagship reform identified by the CCDR
Angola	9%	5.8%	Fuel subsidy reform with social protection; integrated water-energy-agriculture
Benin	27%	15%	Rural land titling; agriculture diversification to cocoa, pineapple, cashew
Botswana	2%	7%	Water governance and equitable access; agricultural productivity enhancement
Burkina Faso	25%	6.8%	Land tenure reform and liberalize fertilizer supply
Cabo Verde	5%	10%	Food security via CSA/irrigation; blue economy; 100% renewable energy target
Cameroon	38%	7.5%	Land rights formalization; climate-smart agriculture; forest conservation
Central African Republic	n/a	7.8%	Structural economic reforms; climate-resilient agriculture; governance strengthening
Chad	33%	n/a	Water management and pastoralist-farmer conflict resolution mechanisms
Comoros	36.4%	2.1%	Climate-smart agriculture; renewable energy transition; blue economy; fiscal reforms
Congo	n/a	20%	Economic diversification away from oil; forest conservation; agriculture private sector
Côte d'Ivoire	22%	12.9%	Cocoa sustainability and climate adaptation; forest protection; land tenure formalization
DRC	20%	12.9%	Forest conservation with livelihoods; agricultural productivity; institutional capacity...
Djibouti	1%	6%	Energy/ICT pricing reform; water management (44% urban from desalinization); regional...
Egypt	11.5%	6%	Water use efficiency in agriculture (80%+); agricultural productivity; labor market...
Ethiopia	38%	5%	Irrigation expansion (0.5% to 2%); watershed management; irrigation development
Gabon	5.8%	5.3%	Land tenure clarity; forest-agriculture integration policy
Ghana	20%	6%	Irrigation expansion; land tenure security; CSA adoption
Guinea	29%	11.6%	Secure agricultural land tenure; inter-ministerial climate coordination
Guinea Bissau	45%	7.3%	Land formalization in cashew zones; water/rice productivity; climate-risk management
Kenya	35%	7.25%	Irrigation expansion and water management; pastoral land tenure; rainfed resilience
Liberia	38%	2.5%	Land tenure security (estate/smallholder interface); rubber certification; food crop...
Madagascar	22%	5.8%	Mainstream climate in public financial management; economic diversification
Malawi	23%	3.2%	Irrigation expansion and water management; land tenure formalization; maize diversification
Mali	35%	6.4%	Women's land rights and integrated water management
Mauritania	23%	n/a	Fisheries sustainability regulation and marine spatial planning
Mauritius	3.8%	0.08%	Agricultural diversification from sugar; water security via desalinization;...
Morocco	13%	4.2%	Irrigation expansion and water management; land consolidation and tenure security; drought...
Mozambique	24%	9%	Land tenure formalization and integrated water-agriculture planning
Namibia	8%	5.6%	Market contestability and infrastructure access reforms
Niger	39%	11.9%	Liberalize fertilizer supply and integrate water-agriculture planning
Rwanda	28%	7%	Soil conservation and conservation agriculture adoption
Senegal	17.4%	9.4%	Transition from rainfed to more resilient agriculture systems
Seychelles	2%	4.6%	Diversification away from tourism; infrastructure climate-proofing
Sierra Leone	30%	9%	Improve agricultural productivity
Somalia	n/a	13%	Resilient rural livelihood systems and climate-smart development

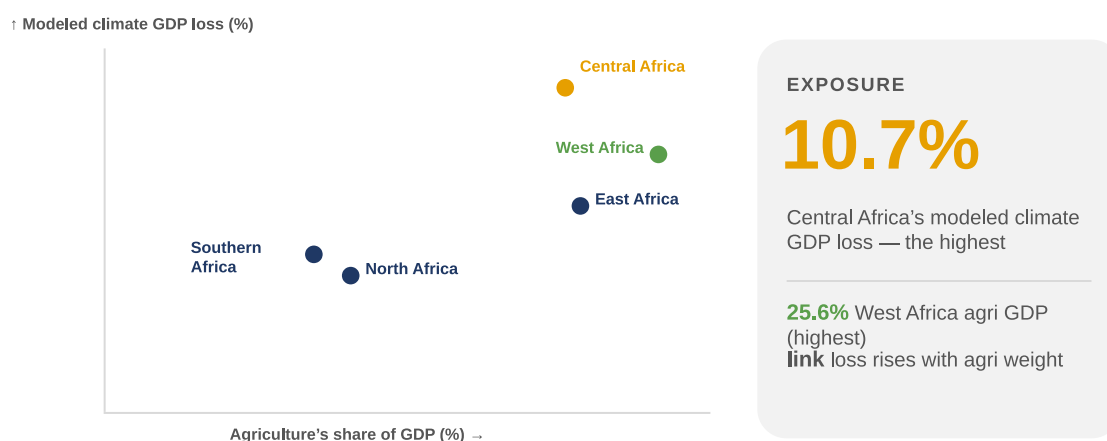
Country	Agri share of GDP	Modeled climate GDP loss	Flagship reform identified by the CCDR
South Africa	2.9%	1.2%	Green hydrogen development and export
South Sudan	9.6%	13%	Resilient agricultural systems amid fragility
Tanzania	24%	4%	Shift from subsistence to commercial agriculture; private investment mobilization
Togo	n/a	4.8%	Formalize vulnerable employment; strengthen land and water tenure
Tunisia	9.6%	3.4%	Water efficiency and irrigation modernization
Uganda	23.8%	5.6%	Structural economic transformation away from subsistence agriculture
Zambia	3%	5%	Agriculture sector transformation (3% to 10% GDP target)
Zimbabwe	12%	10%	Conservation agriculture and large-scale land restoration

Annex Table 5.3. The independent lens: agriculture's economic weight, modeled climate GDP losses and the flagship reform, per World Bank CCDR. n/a = not quantified in the country report. Source: author's analysis of the World Bank CCDRs (43 African countries).

Country	Investment estimate (USD bn)	Share of GDP (%)	Basis	Horizon
Angola	5		Total climate	
Benin	0.052	0.8		Annual
Botswana	6.2	1.4	Total climate	
Burkina Faso	1.34		Total NDC	Cumul 2030
Cabo Verde	5.8		Total climate	Cumul 2030
Cameroon	0.395		Agri-specific	
Central African Republic				
Chad	6.7		Total NDC	Cumul 2030
Comoros	1.7		Total climate	Cumul 2030
Congo	15.5	22	Total climate	
Côte d'Ivoire	10.9		Total climate	Cumul 2050
DRC	5.85	9	Total climate	Annual
Djibouti	2.7		Total NDC	Cumul 2035
Egypt	50	6.4	Total climate	
Ethiopia	3.7		Agri-specific	
Gabon	2.019		Total climate	
Ghana	0.097		Agri-specific	Annual
Guinea Bissau	0.3		Agri-specific	Cumul 2030
Guinea	21.6		Total climate	
Kenya	5.53		Agri-specific	Cumul 2050
Liberia	1.3		Agri-specific	
Madagascar	7.5		Total climate	
Malawi	4.05		Total climate	Cumul 2050
Mali	4.34		Total NDC	Cumul 2030
Mauritania	34.26		Total NDC	
Mauritius	5.6		Total climate	
Morocco	1.9		Agri-specific	
Mozambique	37.2		Total climate	Cumul 2030
Namibia	15.07		Total climate	

Country	Investment estimate (USD bn)	Share of GDP (%)	Basis	Horizon
Niger	3.17		Total NDC	Cumul 2030
Rwanda	11	8.8	Total climate	Cumul 2030
Senegal	1.36		Total climate	Annual
Seychelles	0.532		VAN clim.	
Sierra Leone	2.76	6	Total climate	Cumul 2030
Somalia	2.5		Agri-specific	Cumul 2030
South Africa		1.7		Cumul 2050
South Sudan	14	1.7	Total climate	Cumul 2050
Tanzania	19.23		Total climate	
Togo	1.9		Agri-specific	NPV
Tunisia	19.4		Total NDC	Cumul 2030
Uganda	28.1		Total NDC	Cumul 2030
Zambia	14.4		Total climate	
Zimbabwe	3.56		Agri-specific	NPV

Annex Table 5.4. The CCDR investment lens, country by country: climate-investment estimates as published in each report. Bases differ, agriculture-specific where flagged, otherwise NDC-wide or total-climate figures, and horizons mix annual, cumulative-2030/2050 and unspecified; interpret across countries with caution. ‘-’ = not stated in the CCDR. Source: author’s synthesis of the 43 World Bank CCDRs (2026).



Annex Figure 5.1. Exposure in two dimensions: agriculture's GDP weight against modeled climate GDP losses, per World Bank CCDR. Source: author's analysis of the World Bank CCDRs.

Annex 6. AU thematic-plan targets registry

This annex registers the quantified targets and dated milestones of the three African Union thematic action plans that Part A maps against the country instruments (Sections A.3.2–A.3.4 and A.5.3). Each entry stays close to the plan’s own wording and carries its page reference in the source document. Sources: Africa Fertilizer and Soil Health Action Plan (Nairobi, 2024); Africa Water Vision 2063 and Policy; Early Warning for All Action Plan for Africa (November 2023).

Plan	Target / milestone (close to source wording)	Horizon	Source
Fertilizer & Soil Health Action Plan (2024–2034)	Triple fertilizer use from 18 kg/ha (2020, nutrient terms) to 54 kg/ha, with significantly improved use efficiency	2034	p. 12 (g)
Fertilizer & Soil Health Action Plan (2024–2034)	Contribute to doubling cereal crop productivity from 1.7 t/ha (2020) to 3.5 t/ha	2034	p. 12 (h)
Fertilizer & Soil Health Action Plan (2024–2034)	Expand agricultural land under sustainable soil-management practices from 8.2% (2021) to 30%	2034	p. 13 (l)
Fertilizer & Soil Health Action Plan (2024–2034)	Operationalize a soil-health fund within the Africa Fertilizer Financing Mechanism	within 10 years	p. 12 (b)
Fertilizer & Soil Health Action Plan (2024–2034)	Context recalled by the plan: the 50 kg/ha Abuja Declaration target (2006) has not been reached continentally		p. 5
Africa Water Vision 2063 and Policy	Raise water mobilized for agricultural production from the current 160–180 km ³ /year along the Roadmap trajectory	2063	p. 13
Africa Water Vision 2063 and Policy	Untreated industrial discharge into water bodies reduced by 50% (milestone); zero untreated wastewater discharge (target)	2033 / 2063	p. 35
Africa Water Vision 2063 and Policy	Groundwater mapping completed (milestone); water-smart agriculture boosting yields (milestone)	2033 / 2043	p. 36
Africa Water Vision 2063 and Policy	National development plans systematically feature water as a cross-cutting input	2040	p. 47
Africa Water Vision 2063 and Policy	Irrigation modernization, wastewater reuse and climate-proofed utilities mainstreamed in lending	2043	p. 48
EW4All Action Plan for Africa (2023–2027)	Every person in Africa covered by multi-hazard early-warning systems (continental implementation of the UN goal)	2027	pp. 2, 16
EW4All Action Plan for Africa (2023–2027)	All people covered by early-warning information through local or national dissemination (Sendai Target G, G-3)	2027	p. 28
EW4All Action Plan for Africa (2023–2027)	All national and local governments hold up-to-date, tested anticipatory-action and contingency plans (G-4)	2027	p. 34
EW4All Action Plan for Africa (2023–2027)	AMHEWAS operationalized in the RECs and member states, with situation rooms	2030	p. 40

Annex Table 6.1. Registry of quantified targets and milestones across the three AU thematic plans. Source: the three plan documents cited above.

Annex 7. Methodology and data reconciliation

Country sets and corpora. The analyses rest on four corpora of different sizes: 53 NDCs (46 of them carrying a quantified adaptation need), 28 NAPs, 24 BTRs, and the 45 member states reporting to the Fifth CAADP Biennial Review. Continental statements are made only where coverage supports them; regional and country-pair claims are computed on whichever states hold the relevant documents. The triangulation set comprises the eleven countries holding all three instruments (an NDC, a NAP and a BTR).

Currency and units. All amounts are expressed in current US dollars as declared in the source instruments; no inflation adjustment or PPP conversion is applied. This treatment is deliberate, for three reasons. First, a declared need is a forward-looking planning estimate, frequently expressed in future nominal dollars, rather than a transaction at a historical price level, so re-basing it to a constant year would be conceptually unsound. Second, the corpus is recent and tightly clustered: 30 of the 53 NDCs date from 2025–2026 and only one predates 2020, so the vintage spread corresponds to roughly 15–18 per cent of cumulative US inflation, well within the order-of-magnitude framing of the analysis. Third, the direction of any residual bias works against, not for, the central finding: the delivery ratio divides recent finance received (BTRs, 2024–2026) by a slightly older declared need, so deflation to constant dollars would lower the real delivery rate below 1.5 per cent rather than raise it. Where instruments declare needs in euros or local currency, the conversion used is the one stated in the instrument itself; where none is stated, the need is flagged rather than converted. Amounts in the annex tables are rounded to two decimals in USD billion (Annex 2) or one decimal in USD million (Annex 4); columns may not sum exactly to totals owing to rounding.

Annualization. Declared needs are stocks over each country's NDC implementation period. Annual flows divide each country's stock by the length of its stated period (five to twenty-one years, median ten; see the NDC-period column of Annex Table 2.1) and are then summed. The continental figure of about USD 56.3 billion per year is therefore a sum of

country-specific annualizations, not a single division of the continental stock.

Denominator choices. Three recurrent ratios use different denominators by design: the absorption ratio divides finance received by the declared NDC need; the execution ratio divides it by the costed NAP; and the agricultural readings use the narrower AFOLU envelope where a country isolates it. The same country can therefore look very weak on one denominator and respectable on another (Section A.4.5); both readings are reported wherever they diverge materially.

Source dataset and a sensitivity bound. All figures in this report (body, annexes and roadmap) come from a single source: the consolidated author's analysis workbooks of May 2026 (total declared adaptation need USD 566.3 billion; agriculture USD 80.3 billion, 14.2 per cent; average conditional share 73.9 per cent; mitigation-to-adaptation ratio 2.85). During verification, a stricter attribution variant of the NDC extraction was examined: narrowing the agricultural attribution to needs explicitly isolated in NDC text (and revising two large North African entries) lowers the aggregates to USD 549.8 billion overall and USD 43.6 billion agricultural (7.9 per cent; ratio 2.79). The difference is one of attribution rules, not of source data, and no qualitative finding changes under either rule. The report therefore retains the consolidated extraction throughout as its headline: the agricultural component of declared need is about USD 80 billion, 14 per cent of the total, drawn directly from the NDC, NAP and BTR analyses. The stricter text-only variant (about USD 44 billion, 8 per cent) is reported as a conservative lower bound, not a competing figure; estimates taken from external publications are used only for comparison, never as inputs to the report's own aggregates. The GCF Readiness and funded-activity statistics were extracted from the GCF country-level database on 4 July 2026.

External anchors. One external figure is used as a check, not an input: the preliminary figures cited by the 6th Ministerial Conference declaration (USD 550 billion; 2.8:1), which drew on an early reading of the same corpus. Fertilizer baselines differ by metric: the 21.39 kg/ha continental figure of the Fifth Biennial Review (2025) measures inorganic fertilizer in product terms against the Abuja target,

while the Fertilizer and Soil Health Action Plan's 18 kg/ha baseline is expressed in nutrient terms, so the two are not contradictory.

Verification protocol. Every figure carried from a workbook into the body or an annex is regenerated by script from the workbook rather than retyped, and the annex aggregates are recomputed and compared with the body's figures before each release. Each figure's primary-source citation is recorded in the Annex 8 register.

Annex 8. Source register and bibliography

This register consolidates the primary sources behind the quantified claims in Part A. Figures verified against primary documents are marked accordingly; every quantified claim in the body is tied to a primary source in a footnote, a table caption or the register below.

Verified primary sources. African Union Commission, Fifth CAADP Biennial Review Report (2025), 2024 measurement year, benchmark 9.40/10; no Member State on track; continental average 5.25; the 10 per cent budget commitment met by four states (Burundi, Ethiopia, Mauritania, Zimbabwe); continental inorganic-fertilizer use 21.39 kg/ha against the 50 kg/ha Abuja target; regional scores (Southern Africa 5.77, Eastern Africa 5.60, Western Africa 5.48, Northern Africa 5.02, Central Africa 3.04). CAADP indicator-level extraction (CAADP Analysis, 2026). Notably, none of the highest overall scorers, Morocco (8.15), Rwanda (8.04), Egypt (7.47), is among the four: overall transformation performance and the fiscal pledge move separately.

Author's internal studies (2026): Analysis of African NDCs (53), NAPs (28) and BTRs (24), and the Strategic Triangulation NDC-NAP-BTR, source of the USD 566 bn declared need, the USD 8.2 bn received, the 1.5 per cent delivery rate, the 9 per cent CAADP-anchoring figure, the coverage funnel and the orphan-lever findings. AU thematic plans: Africa Fertilizer and Soil Health Action Plan (Nairobi, 2024); Africa Water Vision 2063 and Policy (39th AU Assembly, 2026); Early Warning for All Action Plan for Africa (November 2023). OECD (2026), Climate Finance Provided and Mobilized by Developed Countries in 2013–2024: loans 73 per

cent (2023) and 67 per cent (2024), p. 10. UNEP, Adaptation Gap Report 2025: Running on Empty (developing-country needs, flows and gap to 2035). AAA Initiative compilation of the global climate-negotiations timeline (1992–2025), from IISD/ENB and UNFCCC decisions.

Source-verification note. Every quantified claim in the body is tied to a primary source in a footnote, a table caption or the register below. The macroeconomic figures of Section A.1.3 (the 23.1 per cent fall in ODA in 2025 and the termination of about 83 per cent of USAID programs) are confirmed against the OECD preliminary 2025 data (April 2026) and the FERDI and European Training Foundation (ETF) analyses (2025); page references for the Fifth CAADP Biennial Review have been populated from the complete BR report presented to the February 2026 AU Assembly.

Source verification. Every quantified claim in the body is tied to a primary source in a footnote, a table caption or this register. Confirmed sources include: the USAID program cancellations (FERDI Note brève No. B284, June 2025, p. 2; European Training Foundation 2025, p. 12); the post-harvest loss ranges and valuation of Section A.8.1 (FAO 2024, pp. 20–21; AU Post-Harvest Loss Management Strategy 2018, p. 8); the 2024 food-security figures of Section A.1.2 (FAO et al., Africa Regional Overview of Food Security and Nutrition 2025, p. 10); the digital figures of Section A.8.6 (AfDB Digital Transformation Action Plan 2024–2028, pp. 11–21 and 40; World Bank Digital Africa 2023); the public climate-finance composition of Sections A.1.4 and A.6.2 (OECD 2026, p. 12); the UNEP adaptation-finance figures of Sections A.1.4 and A.6.8 (Adaptation Gap Report 2025, pp. x, xiii, 45 and 59); per-country GDP baselines (World Bank, World Development Indicators, GDP current USD, 2023 download held in the project corpus) and population (UN World Population Prospects 2024); the LiDeSA livestock contribution range (verified against the strategy text, note 106). All other quantified claims in Parts A and B carry their source in a footnote, a table caption or this register.

Annex sources. Annex 1 is extracted from the Fifth CAADP Biennial Review Report (continental scorecard, Table 3.1; country scorecards) via the CAADP indicator-level extraction (2026). Annexes

2 and 3 are generated directly from the author's NDC and NAP analysis workbooks (May 2026). Annex 4 combines the author's BTR workbook with the GCF country-level database (Readiness and funded-activities sheets). Annex 5 combines the author's triangulation with the World Bank CCDR synthesis (43 countries). Annex 6 is extracted from the three AU plan documents with page references. No figure in these annexes is retyped by hand; each table is generated by script from its source file.

Annex 9. Interview methodology and protocol

Documentation of the Roadmap to 2036 interview program: the interview guide and its eight core questions derived from Part A findings; the seven interviewee categories and targets; the ethics and attribution rules (role-based attribution, anonymized verbatims, consent protocol); the coding sheet and the convergence-map method; and the aggregate results feeding Section C.6. Source: AAA Initiative Roadmap to 2036 interview program (guide of June 2026; campaign conducted June–July 2026).

Annex 10. Instrument-coverage matrix: the three Paris instruments and the complementary TNA

This annex sets the three-instrument socle of Section A.4.6 against a wider technology-planning lens. Every African state has submitted an NDC; 28 have a NAP and 24 a BTR; eleven hold all three, Burkina Faso, Burundi, the Central African Republic, Ghana, Kenya, Madagascar, Morocco, Niger, South Africa, Zambia and Zimbabwe. A further column records the Technology Needs Assessment, shown as a complementary indicator rather than a fourth instrument: unlike the NDC, NAP and BTR, the TNA is not a reporting obligation under the Paris Agreement but a voluntary, GEF-supported process (established under the technology-transfer framework, COP7 Marrakesh, 2001), and is therefore not counted toward the socle. On this corpus 39 of the 53 states hold a TNA, several dating from earlier global phases that predate the current NDC. Thirty-nine states hold a TNA of some vintage (2001–2023); eleven hold one recent enough, 2019 or later, to serve the current NDCs.

Country	NDC	BTR	NAP	Three-instrument socle	TNA (complementary)
Algeria	✓	✓			
Angola	✓				
Benin	✓		✓		✓
Botswana	✓				✓
Burkina Faso	✓	✓	✓	✓	✓
Burundi	✓	✓	✓	✓	
Cabo Verde	✓		✓		✓
Cameroon	✓		✓		
Central African Republic	✓	✓	✓	✓	
Chad	✓		✓		✓
Comoros	✓				✓
Congo (Rep.)	✓				✓
Congo (DRC)	✓		✓		✓
Côte d'Ivoire	✓	✓			✓
Djibouti	✓				✓
Egypt	✓	✓			
Equatorial Guinea	✓				
Eritrea	✓				
Eswatini	✓	✓			✓

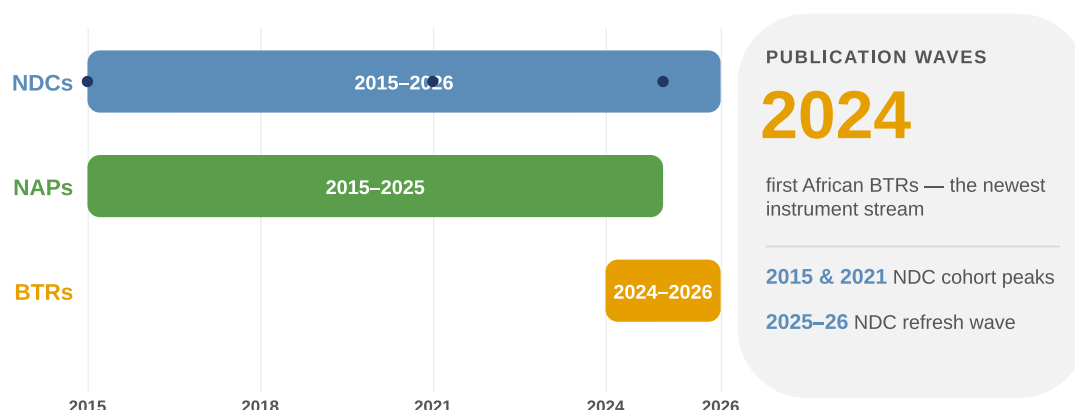
Country	NDC	BTR	NAP	Three-instrument socle	TNA (complementary)
Ethiopia	✓		✓		✓
Gabon	✓	✓			
Gambia	✓				✓
Ghana	✓	✓	✓	✓	✓
Guinea	✓				✓
Guinea-Bissau	✓	✓			✓
Kenya	✓	✓	✓	✓	✓
Lesotho	✓		✓		✓
Liberia	✓		✓		
Madagascar	✓	✓	✓	✓	✓
Malawi	✓	✓			✓
Mali	✓				✓
Mauritania	✓				✓
Mauritius	✓	✓			✓
Morocco	✓	✓	✓	✓	✓
Mozambique	✓		✓		✓
Namibia	✓	✓			✓
Niger	✓	✓	✓	✓	✓
Nigeria	✓	✓			
Rwanda	✓	✓			
Sao Tome and Principe	✓				✓
Senegal	✓		✓		✓
Seychelles	✓	✓			✓
Sierra Leone	✓		✓		
Somalia	✓		✓		✓
South Africa	✓	✓	✓	✓	✓
South Sudan	✓		✓		
Sudan	✓		✓		✓
Tanzania	✓		✓		✓
Togo	✓		✓		✓
Tunisia	✓	✓			✓
Uganda	✓		✓		✓
Zambia	✓	✓	✓	✓	✓
Zimbabwe	✓	✓	✓	✓	✓
Total (53 states)	53	24	28	11	39

Annex Table 10.1. Per-country coverage of the three Paris-Agreement instruments (NDC, NAP, BTR), the resulting three-instrument socle, and the complementary Technology Needs Assessment, across the 53 African states. Sources: NDCs, NAPs and BTRs from the UNFCCC registry; TNAs from the project TNA corpus; author's compilation, June 2026.

Reading: a check mark denotes the instrument is present. The 'three-instrument socle' column marks the eleven states holding an NDC, a NAP and a BTR simultaneously. The TNA column is complementary and not part of the socle. NDC, NAP and BTR reflect the documents available on the UNFCCC registry as of 17 June 2026; the TNA corpus spans 2001-2023 and follows a different, voluntary coverage logic, so its country set does not map onto the reporting instruments.

Annex 11. Instrument publication timeline, all 53 African states

This annex charts the publication rhythm of the reporting instruments across the 53 states, making visible the continental publication waves: the 2015 and 2021 NDC cohorts and the 2024–2026 BTR wave.



Annex Figure 11.1. Instrument publications by year across the 53 states, 2015–2026. Source: author's compilation from the UNFCCC registries and the World Bank, 24 June 2026.

Annex 12. National circumstances of the 53 African states

Country	Geography & climate	Agriculture	Climate vulnerability
Algeria	Five agro-ecological zones (littoral, sub-littoral plains, interior/high cereal plains and high plateaus, steppic high plains, Saharan/oasis); three bioclimatic stages: sub-humid (coast/Tell Atlas), arid (high plains/Saharan Atlas), desert/	Winter cereals (wheat/barley), vegetables/market gardening, fruit trees (olives, citrus, dates/date palms), industrial crops, pulses, fodder, viticulture; oasis cultivation; Sheep -17 million head (50% local Ouled Djellal breed), goats >2	Maghreb warming faster than global average (1.5–2 deg C over 20th century vs 0.74 global); +0.5 deg C/decade max temps, +0.2 deg C/decade min temps (1970–2019); gradual rainfall decline; deficits West 20%, Centre 13%, East 12%; semi-arid/st
Angola	n/a (text describes relief: coastal plain, escarpment transition, central plateau >1,500 m up to Morro do Moco 2,619 m; vegetation from dense humid forest through savannah, steppe to Namib desert); Highest 1,500–1,700 mm/yr (northern Cabin	Cassava, maize, beans, sweet potatoes, potatoes, sorghum, millet, rice, peanuts; cash crops coffee, sugar cane, sisal, sunflower; fruit (citrus, pineapple, banana, mango, avocado) and vegetables; Cattle, goats/sheep (small ruminants), pigs	After 1976 minimum temperatures rose 0.27C and maximum 0.25C per decade; long-term mean rise -0.162C (1901–2009 max recorded) / 0.075C; fastest warming after 1970; 2018/19 rainy season one of driest in nearly 40 years in southern Angola, ca
Benin	8 agro-ecological zones (ZAE); climate ranges from sub-equatorial in the south (two rainy / two dry seasons) to tropical-continental in the north (one rainy / one dry season), with a bimodal-to-monomodal transition zone between 7N and 8.5N	Cash crops: cotton, cashew, pineapple, oil palm. Food crops: cereals (rice, maize, sorghum), roots and tubers (cassava, yam), grain legumes (groundnut, cowpea, soybean). Cotton -600,000 t (2017–2018 season); cashew -280,516 t and pineapple	Longer dry spells reducing pasture and soil productivity; late and violent rains shifting planting dates; excessive heat and lengthened dry season drying water resources and affecting transhumance; disrupted agricultural calendar, lower yie
Botswana	five agricultural regions (Southern, Gaborone, Central, Francistown, Maun); erratic, highly variable; southwest <220 mm/yr (lowest), northeast ~500 mm/yr (highest); general declining trend 1970/71–2013/14; recurrent droughts (moderate-sev	maize, sorghum, millet (pearl millet), cowpea; horticulture; cattle (beef industry only sub-sector constantly significant to GDP), goats, sheep, poultry, dairy, piggery; national cattle herd ~2.2 million; irrig: n/a (limited; computer-con	declining rainfall with high inter-annual variability; rising temperatures; recurrent drought; national cattle herd peaked 2002 then declined ~33% (lowest in 2007); rangeland-based livestock highly vulnerable to climate shocks; temperature

Burkina Faso	Three climatic zones: Sahelian, Sudano-Sahelian and Sudanian; two phytogeographical domains (Sudanese type in south/center, Sahelian type in north) subdivided into 4 phytogeographical sectors; Average annual precipitation ranges from 439.4	Agriculture essentially rainfed; economy based on agriculture and gold mining; cotton a key export crop; rice and cereals cultivated; n/a on full crop list; Livestock (cattle/animal husbandry) and fisheries are key rural livelihoods; n/a o	Increase in average temperatures and decrease in average annual precipitation across all three climatic zones; northward migration of isohyets/isotherms; ND-GAIN index (2022): Burkina Faso extremely vulnerable to water-related stressors; R
Burundi	Marked relief diversity: Imbo plain/Lake Tanganyika lowlands (774–1,000 m), Mumirwa fault escarpments (1,000–2,000 m), Congo-Nile crest mountains (2,000–2,670 m), central plateaus (1,350–2,200 m), eastern depressions Kumboso (1,200–1,400 m)	Food crops (hillside food crops cover ~30% of national area) and cash crops (~4%); cash/industrial crops include coffee and oil palm; food crops cited include maize, sorghum, rice, potatoes, vegetables; Cattle (bovines), goats (caprines),	Decline in agricultural production over the past decade from rainfall deficits or excesses mixed with hail and violent storms; warming trend at all reference stations; drought-prone provinces: Kirundo, Cibitoke, Buzanza, Makamba, Bujumbura;
Cabo Verde	Dry sub-tropical climate; arid to semi-arid; ~41,000 ha arable land (of which 36,000 ha cultivated, 2015 census); highest proportion of arable soils in semi-arid/arid areas; ~23% of surface reforested; volcanic soils, shallow and low in org	Maize and beans (rainfed monoculture, often intercropped); >90% of arable land is rainfed/dryland, a little more than 5% irrigated; irrigated agriculture in valley/stream alluvial soils; Ruminants (mainly goats and sheep), bovine cattle, s	Marked trend toward disappearance of the transition season (dry-season characteristics prevail); increasing temperature extremes; reduced and more irregular rainfall; agricultural productivity highly sensitive to inter-annual rainfall variability
Cameroon	5 agro-ecological zones (IRAD 2000): (1) Soudano-Sahelian (north, savanna, semi-arid); (2) High Savannas (Adamawa plateau); (3) High Plateaus (West/North-West); (4) Monomodal Forest / coastal plain (wettest zone); (5) Bimodal Forest / South	Cereals: maize (most consumed, produced nationwide esp. West), millet/sorghum (North), rice (Far North); cassava (staple in humid zones); cash/export crops: cocoa (5th-largest world producer, ~400 kg/ha, ~14% of non-oil exports), coffee, co	Over past 4–5 decades mean temperatures rose avg 0.18 C per decade; greater rainfall irregularity and rising temperatures observed for >3 decades; northern regions show widest thermal amplitude (3 to >12 C) By 2050 mean annual temperature p
Central African Republic	Five phytogeographic/climatic domains from south to north: Congo-Guinean (dense humid forest); Soudano-Oubangui (forest-savanna mosaic); Soudano-Guinean (covers ~half the territory, ~290,000 km ²); Medio-Soudanian (>1/3 of territory, ~170,	Food crops: maize, sorghum, millet, groundnuts, beans/legumes, cassava. Cash/export crops: cotton, coffee, cocoa, sesame. Coffee plantations in the high-rainfall southern forest zone.; Cattle herd of ~3.7 million head; livestock largely tr	Steady rise in air temperature (observed surface temperature baseline 1961–1990 = 25.6 C annual); increasing frequency of heavy rains and floods; persistent drought in the north; growing rainfall irregularity (erratic onset/cessation of rain)
Chad	Three main bioclimatic zones (six sub-zones): Saharan/desert zone in the north (~47% of territory, only oasis farming and camel/small-ruminant herding); Sahelian zone in the center (~43% of territory, pastoral transhumance in the north, rai	Cereals dominate (millet, sorghum, maize, rice, wheat), cereals are >90% of total cropped area and provide 80–90% of dietary calories; tubers/roots (cassava, sweet potato, potato); industrial/cash crops (groundnuts, cowpea, tiger nut/chufa	Increasingly elevated air temperatures; more frequent droughts and floods; reduced and poorly distributed rainfall; marked decline of major river inflows and shrinking of Lake Chad; notable land degradation. Major recent production drops (2
Comoros	Tropical humid maritime climate with marked local microclimates driven by relief; volcanic soils (andosols, brown and red ferralitic soils, hydromorphic soils, permeable black volcanic soils). Natural forests mostly above 1,000 m altitude (	Food crops (mainly for self-consumption ~80%); banana, cassava, sweet potato, maize, tomato. Cash/export crops: vanilla (largest export by value, ~43%), cloves, and ylang-ylang (annual output 80–90 t, ~70% of world demand);. Mainly ruminant	Mean annual temperature rising ~0.28 C per decade; sea-level rise ~4 mm/yr; annual rainfall declining ~63.3 mm per decade; increasing intensity of atmospheric convection driving violent winds and torrential rains. Land degradation: 65,335 h
Côte d'Ivoire	Four main climatic/vegetation zones from humid south to dry north: tropical humid forest (south & south-west); semi-deciduous transition forest (center); humid then dry savanna (center-north & north); mountain climate (west, Man/Mont Nimba)	Cocoa (world's leading producer, ~2.2 million t), coffee, cashew (anacarde), rubber (hevea), oil palm, coconut; food crops: rice, yam, cassava, maize, millet, sorghum, cotton, market gardening; Cattle, sheep, goats, pigs (largely free-rang	Mean annual temperature +0.7 deg C (1979–2016); general decline in annual rainfall since 1960 (esp. north/east); more frequent heat waves and floods; intensifying coastal erosion since 1990s (>2/3 of coastline retreating 1–2 m/yr); desertif
Democratic Republic of the Congo	Straddles the equator; ecosystems from western mangroves to dense central/eastern tropical rainforest, montane forests, Miombo woodland, and the savannas of Uele, Haut-Katanga, Kasai, Bandundu, Bas-Congo and Kinshasa; central Congo basin (c	Cassava, maize, rice, beans, groundnuts, sweet potato, banana/plantain, sorghum, cowpea (food crops for self-sufficiency); cocoa, oil palm, sugar cane in places; Small ruminants, pigs, poultry (mostly free-ranging); cattle in extensive ran	Perceptible climate impacts: persistent heat, violent rains, ravine erosion and land degradation, longer dry season, more dry spells in rainy season, floods, resurgence of certain diseases; high forest-cover loss degrading soils; Congo Bas

Djibouti	Hot semi-arid country in the Horn of Africa; varied relief (coastal plains, desert plains, mountain masifs up to ~2,020 m); about 94% of national land area suitable only for pastoral use; Very low and highly irregular; ~131-150 mm/year av	Oasis-type, family/subsistence production of fruits and vegetables (irrigated); national production covers under 8-10% of fruit and vegetable needs; very limited cereals; Predominantly pastoral; herd dominated by small ruminants (mainly go	Annual mean temperature rose ~1.24-1.33 C over ~50 years (~0.21-0.33 C/decade); rainfall declining trend (about -39.7 mm / -6.6 to -11 mm in some series over 56 years 1961-2016); falling water tables and saltwater intrusion since 2007; Tem
Egypt	Hot arid climate; Nile Valley and Delta support 95% of population on ~4% of land; Mediterranean coast wetter, Upper Egypt very arid; cultivated land 'Oldland' (Nile Valley/Delta, ~65%) and reclaimed 'Newland' (~35%); Minimal: 0-200 mm/year	Wheat, maize (yellow/green corn), rice, cotton, sugarcane, clover/berseem (trefoil), palm/dates, vegetables (potatoes, tomatoes, onions, watermelon), oil seeds (sunflower), legumes and fodder; Cattle, buffalo (dairy), poultry; livestock and	Crop yields already reduced by up to 28% and agricultural water demand up ~8% due to heatwaves, droughts and erratic rainfall; Mediterranean sea surface temperatures near Delta rose 1-2 C (2001-2011); flash floods increasing since 2010; Ab
Equatorial Guinea	Tropical rainforest climate (Köppen) with tropical savanna features at easternmost tip; continental and insular regions; ~62.5% dense tropical forest; Insular: ~1,961 mm rainy season (Mar-Oct, 85% of annual) + ~341 mm dry season (Nov-Feb);	Cocoa and coffee (formerly main exports, now minimal ~1,000 t cocoa on Bioko); food crops: bananas/plantains, cassava (yuca), cocoyam (malanga), yams, potatoes, nuts, palm oil, vegetables; Underdeveloped; hindered by epidemics, pests, low	Annual forest loss ~0.69% (1990-2010); 2018 studies: 0.3% deforestation, 0.9% degradation; global sea-level rise; Temp increase ~1C (2011-2040), ~2C (2041-2070), >2.5C (2071-2099); foreseeable rainfall decrease; impacts on crop cycles, phy
Eritrea	Six AEZs: Sub-Humid (1%), Arid Highland (3%), Moist Highland (7%), Moist Lowland (16%), Arid Lowland (34%), Semi-Desert (39%); two physiographic zones (highland and lowland); Summer rains (Jun-Sep) in Highlands and Western Lowlands 400-700	Sorghum (most important, 49% of cultivated area, 46.4% of production), barley (2nd), pearl millet, wheat; drought-tolerant cereals; sorghum yield 0.55 t/ha, barley 0.75 t/ha; Cattle, camels and others; sources of milk, meat, manure, draught	Mean annual temperature rose 1.7C since 1960; crop production dwindling, some crops reduced in diversity or extinct; forest cover fell from ~30% a century ago to <1%; soil loss 12-20 t/ha/yr; crop yield declining 0.5%/yr from erosion; malar
Eswatini	Four: Highveld (~30%), Middleveld (~25%), Lowveld, and Lubombo Plateau (~1,500 km ²); Highveld 900-1500 mm (highest); Middleveld and Lubombo Plateau 700-1000 mm; Lowveld <500 mm (drought-prone); overall declining trend; Drought, extreme he	Maize (staple, 84% of SNL cropped area), sugarcane (commercial, irrigated), cotton, groundnuts, legumes, sweet potato, sorghum; citrus and pineapples; Cattle and goats (red meat livestock); low productivity from overgrazing and poor nutrit	Declining rainfall over past decade; rising temperatures (2011-2020 hottest on record); declining river flows; Mean annual rainfall projected to decline with more intense high-rainfall events; ~40% decline in streamflow by 2050 threatening
Ethiopia	Over 30 agro-ecological/sub-agro-ecological zones; traditional classification of 6 (Wurch, Dega, Woina Dega, Kola, Bereha, plus extreme highlands) by altitude/temperature/crops; High spatial variability; main rainy season (Kiremt) = 50-80%	Cereals (teff, wheat, barley, maize, sorghum, finger millet), pulses, oil seeds, coffee (29.5% of export earnings), khat; cereals = 81.5% of cultivated land; Largest livestock population in Africa: 60 million cattle, 31.3 million sheep, 32	Mean annual temperature up 0.2-0.28 C/decade over six decades; SW/southern/SE rainfall fell 15-20% (1970s-2000s); recurrent drought and flood; increasing temperature trend; Temperature to rise 0.5-2 C by 2050s; 15-20% rainfall reduction co
Gabon	Equatorial climate; dominant vegetation forest (23.5 million ha, 88% of territory) and savannah (1.56 million ha, 7.3%); varied relief of mountains, plains, plateaus and hills; 1,500-3,000 mm/year depending on region; mean temperature 22-3	Mainly subsistence (vivrière) farming; sugarcane and maize noted in inventory; production grouped into peri-urban food crops, intensive food crops, and agro-industrial export chains; no national crop-area statistics available; Livestock ra	Recurrent flooding in Libreville linked to wetland occupation and unplanned land use; associated public-health/sanitation risks; n/a (NC3 vulnerability assessment focuses on the health sector in Libreville; no quantified agricultural-yield
Gambia	Low-lying coastal Sahelian country; forest cover 52% of land area (84% savannah woodland), cropland 32% of land area, settlements 2%; protected area 352 km ² (3.3%); Average annual rainfall 700-1,000 mm (1,000 mm in South/Southeast declinin	Groundnuts (key export), millet (early/late), sorghum, maize, swamp rice and upland rice (incl. NERICA cultivar), sesame, cashew, horticultural crops; Cattle, plus traditional pastoral livestock systems (largely unchanged); livestock a key	Area with average cumulative JAS rainfall below 800 mm rose from 36% (1965) to 93% of the country; progressive drying; soil salinisation/acidification intensifying in lowlands; By 2050 yield changes: millet -17 to 0%, sorghum -25 to -15%,
Ghana	12 distinct vegetation zones; analysis grouped into 6 agro-ecological/ecological zones (forest, transition, savanna, coastal); Annual rainfall ~1,300-2,200 mm; highly variable inter-annually and inter-decadally; north one rainy season (May	Cocoa (key export), maize, rice, cassava, soybean; cocoa, gold, timber and crude oil are main exports; Sheep, goats, cattle (climate-smart livestock under Rearing for Food and Jobs); livestock emissions 3.03 MtCO ₂ e (8% of net); irrig: Ver	Air temperature rose 1.0 C between 1960-2003 (~0.21 C/decade); 22 major hydrometeorological events in 50 years affected 16 million people, 400+ deaths; 5 disasters cost >USD 120 million; Temperatures +at least 3 C by 2080 nationwide (savann

Guinea	Four natural regions: Lower Guinea (coastal, mangroves), Middle Guinea (Fouta Djallon highlands), Upper Guinea (wooded savanna), Forest Guinea (dense humid forest); National annual average 1,958.8 mm (1961–2020); ranges -1,100 mm in Upper	Food crops: rice (~2.3 million t/yr), cassava, maize, fonio, sorghum, groundnut, potato. Cash crops: cashew (77,288 t in 2018), coffee (50,000 t), cocoa (31,054 t); Cattle (~6.0–6.8 million head; Upper and Middle Guinea), sheep, goats, pig	1961–2020: rising temperatures (national mean 25.4 °C; 2016 hottest year amid strong El Niño) and progressive decline in rainfall, especially in Middle and Upper Guinea; reduced river flows; rainfall decreasing from south to north and west
Guinea-Bissau	No completed national agro-ecological zoning; three geomorphological areas (western coastal zone, central undulating plateaus, Gabu plateaus/hills); humid tropical climate; Spatial range -1,400 mm (north) to -2,500 mm (south); regional obs	Cashew nuts (dominant; 223,000 ha cultivated, 130,000 t raw nuts in 2012; ~80–90%+ of exports), rice; also vegetables, cereals, peanuts, fruits, tubers; Extensive livestock farming associated with cashew and rice; (livestock population tab	Gradual decline in precipitation since the 1970s with strong inter-annual variability; delays in first rains, more extreme precipitation events; rising minimum temperatures, more warm nights and heat waves; Crop yields projected to fall -2
Kenya	Seven agro-ecological zones; three main climatic zones (arid and semi-arid, tropical, temperate); National average -680 mm; arid 200–500, semi-arid 600–1,000, coastal 1,000–1,250, temperate highlands 950–3,000; ranges from <250 in northern	Tea, coffee, flowers, vegetables, pyrethrum, wheat, maize (highland cash crops); Cattle and pastoralist livestock (range-land-based in arid zones); livestock production across highlands; irrig: Largely rainfed; area under irrigation increa	Mean annual temperature +1.0 °C since 1960 (0.21 °C/decade); increased aridity and drought; more frequent/intense extreme rainfall; sea level rise -4.0 mm/yr on Western Indian Ocean (vs 3.4 global); high rainfall variability; Temperature pro
Lesotho	Four zones: Mountains (59% of land area, >2000 m); Foothills (15%, 1800–2000 m); Senqu River Valley (9%, 1388–2000 m, driest, rain-shadow); Lowlands (17%, 1400–1800 m, northern lowlands are main food-producing region); Average annual -720	Maize, wheat, sorghum and dry bean (2014 production: maize 90,072; wheat 12,401; sorghum 9,844; dry bean 2,400 tonnes); mostly rain-fed/dryland; lowlands have highest area planted; Extensive grazing; wool and mohair (sheep/goats) very impo	General warming trend country-wide (statistically significant temperature rise 1967–2010); increasing frequency/intensity of climate hazards; recurring droughts; documented decrease in area planted and yield of cereal crops; declining wool/m
Liberia	n/a (described as flat-to-rolling coastal plains rising to rolling plateau and low mountains in the north; equatorial/tropical climate); n/a (no numeric annual rainfall stated; heavy rainfall May–Oct, heaviest in June, lightest in December	Rice (staple), cassava (secondary staple), oil palm, cocoa, coffee, rubber, sugarcane, potatoes, coconut, kola nuts, fruits; Cattle, goats, pigs, chickens, ducks (limited private farms; livestock and fish largely imported); irrig: Irrigat	Increased average annual temperatures of 0.8°C; 15.7% increase in hot nights; decline in mean annual rainfall; more frequent/unpredictable intense rainfall; rising sea level; intense rainfall and flooding events increasing since 1960; Agric
Madagascar	Five major climatic regions: humid hot eastern coast; high-altitude tropical Central Highlands (cold winter); hot dry West (hot humid summer); semi-arid extreme South-East; monsoon-type Sambirano (North-West); Annual rainfall 350–3,700 mm;	Rice/paddy (dominant; 11,401 km ² of 17,557 km ² cultivated; paddy production 3,392,459 t in 2005, yield 2.72 t/ha), sugarcane, vanilla, cloves, coffee, sugar; Cattle/zebu (9,500,139 head), pigs (1,247,043), sheep (695,229), goats (1,218,848	Over the last 30 years: rising annual mean temperature; generally decreasing precipitation (non-uniform); cyclone number stable but intensity increasing; for -10 years rice/agriculture affected by climatic imbalance, more variable rainfall,
Malawi	Four physiographic zones: alluvial plain, escarpment, plateau, highland; agriculture organized in ADDs (Agricultural Development Divisions); Mean annual 500 mm (Shire Valley/lakeshore) to over 3,000 mm (high-altitude plateaus e.g. Nyika);	Export cash crops: tobacco, tea, sugar; main food crops: maize and rice (also sorghum, beans, groundnuts); Cattle, goats, sheep, pigs, poultry; irrig: Largely rain-fed (~31% of land suitable for rain-fed agriculture at traditional managem	Temperature +0.9 °C 1960–2006 (-0.21 °C/decade) and +0.9 °C 1996–2017; more frequent hot days/nights; rainfall shows no statistically significant total trend but mostly decreasing seasonal trends 1996–2017; 10 of 14 stations decreasing rainfall
Mali	Four bioclimatic zones: Saharan (~51% of territory, <200 mm/yr), Sahelian (~26%, 200–600 mm/yr), Sudanian (~14–17%, 600–1,200 mm/yr), Sudano-Guinean (~6%, >1,200 mm/yr); Desert north <130 mm/yr; central Sahel 200–500 mm/yr; humid south -1,	Cereals (rice, maize, wheat, millet, sorghum, fonio; cereal output 10,098,303 t in 2022); cotton (main export crop); oilseeds/pulses (groundnut, cowpea, sesame, soya); tubers (cassava, yam, sweet potato); vegetables; fruit (mango, citrus, c	Agricultural yields declined (~24% in 2014, ~25.6% in 2017); pasture availability fell ~30% over two decades; cotton output dropped due to floods and jasside pest; recurrent droughts, floods, rainfall variability and heat waves already affe
Mauritania	Four agro-ecological/production zones: northern Sahara (mining + pastoral, oasis date palms); sahelian agropastoral South-East (rainfed + behind-dam crops, extensive transhuming livestock); Senegal River valley in far south (flood-recession	Traditional cereals (sorghum, millet), rice and wheat (irrigated, Senegal River valley), date palms (northern oases); rainfed itinerant crops, flood-recession (decrue) crops, behind-dam and lowland (bas-fond) crops; coastal market gardening	Constant rainfall reduction over past three decades; Sahel mean annual rainfall fell >30% since early 1970s, major river flows down 40–60%; severe droughts 1972–73 and 1983–84 destabilised agro-sylvo-pastoral systems; isohyets shifting sout

Mauritius	Mean annual rainfall 2,377 mm (2015); central plateau recharge zone declined from max 4,000 to 3,800 mm/year (1951–2014); Temperature rise (-1.2 C, 1951–2014); declining rainfall (-8% decrease); sea level rise (5.6 mm/year); tropical cyclo	Sugar cane (dominant; ~50,694 ha harvested, ~400,000 t sugar in 2014); food crops on ~8,200 ha producing ~110,000 t/year; fruits and flowers for export; Cattle, goat, sheep, pig, deer, poultry, rabbit (~5,000 farmers); local meat productio	-8% decline in annual precipitation since 1950s with rising variability; sea level rise 5.6 mm/year; beach erosion up to 10 m over eight years; poultry mortality, pests and crop diseases; saltwater intrusion into coastal farms; in Rodrigues
Morocco	Transitional climate between temperate and desert/tropical zones; Mediterranean in the north, oceanic in the west, continental inland, Saharan in the south; vast arid and semi-arid regions; mountains (Rif, Middle and High Atlas), Atlantic a	Cereals (durum wheat, soft wheat, maize, barley) dominant and rainfall-dependent; tree crops/arboriculture growing (olives, 447,000 ha planting under an olive program; fruit trees); declining share of cereals in agricultural value added (-1	Statistically significant decline in annual rainfall of -16% over 1961–2017 (spring rainfall down 43%, winter rainfall down 26%); significant rise in mean annual temperature, with observed warming up to 2.6 degrees C at Oujda and 2.5 degree
Mozambique	10 agro-ecological zones; Spatially variable: north 800–1,200 mm (up to 1,500 mm in Zambezia/Niassa highlands and Gorongosa); central and coastal 800–1,000 mm; south generally below 800 mm, down to 300 mm at Pafuri (Gaza); parts of Tete as	Cereals (maize, sorghum, millet, rice); cash crops cotton, sugarcane, tobacco; also cassava, peanuts, beans; Cattle (beef), goats, sheep, pigs, plus small animals (rabbits, chickens, ducks); irrig: Of 3 million ha with irrigation potential	Average annual temperature rose 0.6 C between 1960–2006 (-0.13 C per decade); precipitation trends not significant due to high inter-annual variability; crop losses of 1,199,762.91 ha from extreme events 2005–2014; 2000–2015 floods affected
Namibia	No formal AEZ classification given; one of the driest countries in southern Africa, arid to hyper-arid; ecosystems range from deserts (Namib) to subtropical wetlands and savannas; Mean annual rainfall ranges from just above 600 mm in the N	White maize, wheat, pearl millet; commercial irrigated crops include maize, wheat, grapes (table grapes export) and horticulture; Cattle, goats, sheep; beef a significant export product; irrig: Commercial crops grown primarily under irrig	Average annual temperature increased -1.2C (1901–2022), most pronounced since 1960s and inland (now frequently >22C); shifts to more erratic, less predictable rainfall; recurrent prolonged droughts; occasional intense rainfall causing flood
Niger	Four agro-climatic zones: Saharan/desert (77% of country, <150 mm/yr), Sahelo-Saharan (12%, 150–300 mm/yr), Sahelian (10%, 300–600 mm/yr), Sahelo-Sudanian (-1%, 600–800 mm/yr); climate semi-arid in south, arid center-to-north; 150 mm/yr in	Rainfed food crops (millet, sorghum, maize, rice, wheat) on 80% of cultivated area; cash crops (cowpea, groundnut, cotton); cereals provide 80–90% of caloric needs; National herd -57,329,696 head all species (22,941,671 TLU) plus -19,209,0	Continuous rise in maximum temperatures since 1995 and minimum since 2004; recurrent droughts; forest area fell from 16,096,400 ha (13% of territory, 1983) to 11,504,825 ha (9.1%, 2019), -127,544 ha/yr lost; 2009 drought cut fodder producti
Nigeria	From coast inland: salt- and fresh-water swamps (mangrove), lowland rainforest, Guinea savanna, Sudan savanna, Sahel savanna; Mean annual rainfall -1,800 mm to over 3,500 mm (highest along the coast); far north much less; rainy season decr	Subsistence: maize, cassava, sorghum, yam, beans, rice, groundnut, and to lesser extent millet, soyabean, cocoyam. Cash crops: palm oil, cotton seed, cocoa, cashew, sugarcane; Cattle (est. 20.6 million head in 2016, largest herd in Africa)	October 2012 flooding put -23 million people at risk, direct damage/loss -N1.48 trillion (USD 9.5 billion), total -N2.6 trillion (USD 16.9 billion); desertification a long-standing challenge in northern Nigeria along the Sudano-Sahelian belt
Republic of Congo	Equatorial country straddling the equator; ~65% forest cover (Congo Basin); main agricultural zones: Niari Valley, Bateke Plateaus, Cataracts Plateau; central Congo basin (cuvette -196,689 km ²); Equatorial bimodal regime; -1,300 mm in vall	Cassava, maize, rice, groundnut, soybean; perennial crops (oil palm, fruit trees); market gardening; Small ruminants, pigs, poultry, cattle, small exotic livestock	Rainfall and temperature regime shifts affecting rural areas (Niari Valley, Bateke Plateaus); increased evapotranspiration (+0.3 mm/day) worsening water deficit for shallow-rooted annual crops; flow deficits in Congo and Kouilou basins post
Rwanda	Four main zones: eastern plains, central plateau, highlands (Congo-Nile Ridge and Birunga volcanic chains), and regions around Lake Kivu/Bugarama plains; altitude 900–4,507 m; Central plateau 1,100–1,300 mm; highlands 1,300–1,600 mm; Lake	Banana (23% of cultivated area), cassava (21%), beans (20%), maize (12%); coffee and tea main export crops; Goats (owned by 51% of households), cattle (50%), chickens (46%); cattle concentrated in eastern and central regions; Girinka one-c	Progressive warming across the country 1961–2016; period 1961–1991 wetter than 1991–2016; more frequent flooding, soil erosion and landslides; mean annual temperature 20–22 C; Decline in mean rainfall and number of rainy days 2017–2050 (so
Sao Tome and Principe	Many microclimatic zones defined by rainfall, temperature and relief; 'ecological arrangement of crops'; lowland forest ecosystems (mangroves, savanna, shade/secondary forest) and altitude forest zones (1,000–2,000 m and fog forest above 1,	Cocoa (main export crop), coconut, coffee, chili pepper, palm oil; also vegetables, fruits, vanilla and pepper grown by small farmers. Organic cocoa exports -1,020 tonnes in 2015; Cattle, swine (pigs, ~35,320 head in 2017), sheep/goats, po	Mean annual temperature rose -0.6 C between 1960 and 2016 (Sao Tome Airport station), -0.01 C/year warming; tendency to reduced annual rainfall in observed and CMORPH series; accelerating sea level rise already causing coastal degradation a

Senegal	Eco-geographic zones (ZEG): Littoral/Niayes, Niayes horticultural zone, groundnut basin (bassin arachidier), sylvo-pastoral zone (Ferlo), agro-sylvo-pastoral zone (East), Casamance forest zone, Senegal River valley; Sudano-Sahelian climate	Mainly rainfed; cash crops groundnut, cotton, sugarcane; food cereals millet, rice, maize, sorghum; cowpea (niebe), market gardening in Niayes (tomato, onion, potato, green bean); Dominated by cattle and sheep (also goats); mostly extensiv	Rainfall decline ~30% since 1950s with high interannual variability and southward isohyet shift; rising temperatures; declining cultivated areas in years of poor rainfall; soil salinization reducing rice areas in Fatick, Kaolack, Ziguinchor
Seychelles	Small island state, three major soil types; granitic islands (Mahe, Praslin, Silhouette, La Digue) with steep terrain plus low-lying coral-line islands; tropical maritime climate with SE monsoon (May-Oct, main vegetable-growing season) and N	Crop production is dominant sub-sector: horticultural crops by small-scale farmers; fruits, leafy vegetables, tree crops, roots and tubers; vegetables grown mainly in SE monsoon season; Livestock (incl. poultry and pigs) second to crops; s	Warming temperatures (narrowing min-max gap), prolonged droughts and water shortages, emerging new rainfall distribution patterns, sea-level rise ~+0.54 cm/yr (Point La Rue) accelerating to +0.61 cm/yr last decade, sea-level monitoring ~2.3
Sierra Leone	Tropical climate; coastal areas hot and humid, inland more temperate; lies in the squall line / ITCZ belt; uplands and lowlands; mangrove/coastal and forest zones; Annual average ~2,746 mm (1961-1990); ranges from ~3,659 mm at Bonthe (sout	Rice (staple); cassava, sweet potatoes, yams (roots/tubers); cash crops groundnut, cowpea, cotton, tiger nut, sugarcane, tobacco, cocoa, coffee, cashew; vegetables (onion, tomato, pepper, aubergine); oil palm; Cattle, sheep, goats, poultry	More erratic precipitation over last 50 years; delayed onset of rains and water shortages (esp. Free-town) then heavy rains causing flooding; stronger pre-monsoon winds/storms; impacts already felt on agriculture, water and sanitation; Biop
Somalia	Generally arid and semi-arid; fertile agricultural zone between the two main rivers (Juba/Jubba and Shabelle); northern maritime plains; central semi-arid rangelands; coastal strip; Bi-modal (Gu Apr-Jun major; Deyr Oct-Nov minor; Jilaal &	Sorghum and maize (staple food crops); rice, maize and sesame main irrigated crops in Shabelle/Jubba riverine areas; cowpeas; bananas (major cash/export crop); Camels, cattle, sheep and goats; predominantly nomadic free-range grazing; Soma	GHA temperatures +1.0C over a century; high rainfall variability tied to floods/droughts; alternating flash floods and droughts in recent decades; rangeland degradation, soil erosion and deforestation reducing carrying capacity; >94% rural
South Africa	Eight biomes (e.g. coastal forests of KwaZulu-Natal to arid Karoo); mostly summer-rainfall zone except south-western Cape (winter rainfall); diverse from lush coastal to arid interior; Dry country, ~500 mm average annual rainfall; 21% of t	Field crops and horticultural goods (specific staples not itemised in national-circumstances text; references to staple crops, citrus farming in Eastern/Western Cape, and emerging hemp/cannabis); Cattle and sheep (also goats, poultry); pas	Warming -0.16C/decade (significant); 2021 -13th hottest year since 1951; more frequent/intense droughts, floods and wildfires; >11% of land degraded; long-term droughts in Northern/Eastern Cape; quarter of South Africa affected; Substantia
South Sudan	Seven livelihood zones (e.g. Green Belt, Ironstone Plateau, Hills and Mountains, plus clay plain/flood-plain zones); climate ranges from hot-dry (SE near Kenya, NE near Sudan) to temperate southern highlands; semi-humid; Annual rainfall ~20	Cereals sorghum and maize (production expected to increase); wide range of food and cash crops possible; cereal output potential 2.5 million t if 96% of unused land cultivated (vs ~1.04 million t needed); One of the largest livestock popul	Warming ~2.5x the global average rate (~0.4C per decade) since the 1960s; increasing rainfall variability and shifting onset; annual flooding now common; rising poverty (51% in 2014 to 64% in 2016); Warming of 1.5–3.1C by 2060 (relative to
Sudan	Diverse agro-ecological zones: desert, semi-desert, low-rainfall savannah, high-rainfall savannah; sandy soils in north/west-central (grazing, pearl millet, peanuts, sesame), clay soils in central region (irrigated/rainfed/mechanized); five	Major crops: sorghum, millet, wheat, cotton, sesame, groundnuts, sunflower; also gum arabic, vegetables; rainfed areas dominated by millet, sorghum, sesame, groundnut; Over 100 million cattle, sheep, goats and camels relying on rangelands;	Recurrent drought since the 1970s; declining precipitation and southward desertification (North Darfur, North Kordofan); rangeland area decline and degradation; sorghum/millet yield fluctuations driven almost solely by rainfall; high povert
Tanzania	Four main climatic/topographical zones (Lowland Coastal, Highlands, Plateau, Semi-Arid); seven agro-ecological zones (AEZ-I to AEZ-VII) referenced in crop analysis; Annual rainfall 550 mm (central) up to ~3,690 mm (south-western highlands)	Maize (most important, >20% of total GDP), sorghum, rice; food crops ~65% of agricultural GDP, cash crops ~10%; ~22.8 million cattle, 15.6 million goats, 7 million sheep, 2.01 million pigs, 35.5 million local chickens; ranks third in Afric	General decline in agricultural productivity and agro-diversity; increased crop pests and diseases; declining rainfall and frequent droughts in southern and northern highlands; rising mean max temperatures; Declining trends in maize and so
Togo	Five ecological zones (Ern 1979): Zone 1 northern plains, Zone 2 northern mountains, Zone 3 central plain, Zone 4 southern Togo Mountains, Zone 5 southern coastal plain; organized in 5 economic regions (Savanes, Kara, Centrale, Plateaux, Ma	Cereals (maize, largest at 886,630 t in 2017/18, sorghum 277,240 t, paddy rice 145,489 t), tubers (cassava 1,089,472 t, yam 858,783 t), legumes (beans 207,552 t, groundnut 43,842 t); cash crops coffee, cocoa, cotton (133,000 t in 2015); A	Disruption of agricultural calendar, crop devastation by pests (fall armyworm Spodoptera frugiperda on maize), disappearance of certain cultivars, declining yields, erosion of cultivable land; 2014 dry-spell yield losses in Plateaux Est: ma

Tunisia	Bioclimatic stages north to south: sub-humid (far north), semi-arid (north-west and Cap Bon), arid (central Tunisia), Saharan (entire south); Rainfed zones receive 600–1,000 mm/yr in the north and ~400–600 mm/yr on the Dorsale highlands; p	Cereals (durum wheat, soft wheat, barley) and arboriculture dominated by olives (oléiculture); ~1.5 million ha cereals and 1.9 million ha arboriculture (rainfed); Semi-extensive and intensive livestock dependent on natural rangelands; herd	+2.1 C warming (1978–2012); land degradation/erosion; rangeland degradation; rising production costs; abandonment of traditional oases; By 2100 favorable areas decline: cereals -16% (soft wheat -26%) under RCP8.5, olives -14%, pastoral pl
Uganda	Multiple agro-ecological zones and farming systems; 'cattle corridor' is the dominant pastoral/drought-prone belt; not given as a single fixed number in extracted text; Observed annual rainfall 500–2,800 mm; bimodal in most of the country,	17 major food crops: cereals (maize, millet, sorghum, rice), root crops (cassava, sweet potatoes, Irish potatoes), pulses (beans, cow peas, field peas, pigeon peas), oil crops (groundnuts, soya, sim sim), plantain bananas (matooke); cash cr	97% of land area under some form of human-induced degradation; soil erosion, declining fertility; 8 of 10 most severe floods/droughts since 1900 occurred in the last 20 years; livestock losses from drought/floods, reduced pasture and water
Zambia	Three major Agro-ecological Regions (AERs): AER I (least rainfall, drought-prone, south), AER II (IIa/IIb, moderate rainfall, variable), AER III (high rainfall, higher temperatures); Tropical climate with three seasons; nationwide decrease	Maize (staple), soybeans, groundnuts, cotton, horticultural produce; Beef cattle 4,469,120 head (2023 Livestock survey); dairy cattle; also goats, sheep, poultry, pigs; fisheries/aquaculture; irrig: Predominantly rainfed; irrigation note	Mean annual temperature +1.3 C since 1960; declining and more variable rainfall; intensifying droughts/floods; drought-year maize yield decline of -20%; declining cattle numbers in drought years; Continued rainfall reduction 2010–2099 unde
Zimbabwe	Country divided into Natural Regions (agro-ecological zones); a new agro-ecological zone map developed; spatial extent of Natural Regions shifting due to climate change (exact NR count not stated in extracted text, conventionally five); An	More than 23 food and cash crops; maize (most extensively grown grain), small/future grains (sorghum, pearl millet, finger millet), wheat, groundnuts, beans; cash crops tobacco, cotton, sugarcane, soya bean, tea, coffee, horticulture; ~6,00	Increasing drought frequency/severity vs the 1990–2000 decade; depressed national maize yield (1.39 t/ha); soil erosion losses (1.6M t N, 15.6M t organic matter, 0.24M t P/yr); shifting Natural Regions; Continued shift of agro-ecological z

Annex Table 12.1. National circumstances of the 53 African states: geography and climate, agriculture, and climate vulnerability, as reported in the National Communications. Relocated here from Section A.4.2 to keep the body readable; the continental synthesis remains in the body.

Annex 13. African external-debt and debt-distress statistics

This annex sets out, country by country, the external-debt position behind Table A.6.3 and the debt argument of Sections A.1.4 and A.6.8: the external debt stock and its burden ratios from the World Bank International Debt Statistics (2024 country tables; Eritrea reconstructed from the February 2025 IDS database), the IMF–World Bank

LIC-DSF rating of the risk of external debt distress (37 countries verified against the joint DSAs; Chad, Eritrea and Sudan carried from the March 2025 LIC-DSF list), and central-government debt from the IMF Global Debt Database. Namibia, Seychelles and South Sudan do not report to the World Bank Debtor Reporting System, so only the IMF measure is available for them; Libya, outside the report's 53-state corpus, stood at 142.7 per cent of GDP in 2017, the latest IMF figure. ‘,’ = not applicable or not published.

Country	Ext. debt 2024 (USD m)	Debt/GNI (%)	Service/exports (%)	Multilateral (%)	DSA external risk	Gov. debt (% GDP, IMF)
Algeria	6,898	2.7	0.8	10.4		46.2 (2024)
Egypt	155,973	42.0	49.2	19.7		
Mauritania	4,460	41.8	9.7	49.2	Moderate	44.9 (2024)
Morocco	67,994	44.7	12.9	31.7		70.0 (2024)
Tunisia	40,460	77.7	26.2	31.5		83.1 (2024)
Benin	14,163	66.6	26.8	28.6	Moderate	54.0 (2024)
Burkina Faso	10,845	48.8	13.6	42.4	Moderate	52.7 (2024)
Cabo Verde	2,360	86.9	12.6	47.1	Moderate	113.7 (2024)
Côte d'Ivoire	40,561	48.8	24.7	20.3	Moderate	59.3 (2024)
Gambia	1,643	66.4	8.1	38.0	High	73.5 (2024)
Ghana	37,415	46.9	9.4	23.4	High	70.5 (2024)
Guinea	5,388	23.2	3.7	35.3	Moderate	47.8 (2024)
Guinea-Bissau	1,433	67.1	13.3	48.2	High	82.3 (2024)
Liberia	2,235	50.5	9.1	56.8	Moderate	56.5 (2024)
Mali	6,440	24.9	6.2	63.9	Moderate	51.8 (2024)
Niger	5,309	27.5	19.0	71.0	High	47.2 (2024)
Nigeria	108,758	60.0	21.9	21.9		49.7 (2024)
Senegal	47,146	150.7	41.8	20.2	Moderate	113.7 (2024)
Sierra Leone	2,330	31.1	9.5	39.5	High	43.0 (2024)
Togo	4,294	43.2	13.8	32.1	Moderate	70.6 (2024)
Cameroon	15,771	31.3		38.5	High	39.5 (2024)
Central African Rep.	1,046	35.9	13.4	16.3	High	60.7 (2024)
Chad	3,348	16.4		22.7	High	33.8 (2024)
Congo	6,728	44.9	13.6	19.9	In Debt Distress	
DR Congo	12,485	18.3	1.3	32.7	Moderate	
Equatorial Guinea	1,220	13.6		5.4	High	36.2 (2024)
Gabon	6,817	36.0		26.0		73.4 (2024)
São Tomé and Príncipe	326	42.7	3.5	22.6	In Debt Distress	43.5 (2024)
Burundi	1,024	47.1		39.0	High	43.2 (2024)
Comoros	386	24.8	17.3	36.7	High	30.8 (2024)
Djibouti	3,424	83.0	2.5	26.8	In Debt Distress	33.3 (2024)
Eritrea	726 (2023)			73.8	Not published	260.4 (2019)
Ethiopia	36,548		11.5	43.1	Moderate	
Kenya	42,886	35.0	27.2	46.6	High	65.6 (2024)
Madagascar	6,654	39.2	7.2	56.5	Moderate	50.4 (2024)

Country	Ext. debt 2024 (USD m)	Debt/GNI (%)	Service/exports (%)	Multilateral (%)	DSA external risk	Gov. debt (% GDP, IMF)
Rwanda	13,050	93.9	8.0	42.7	Moderate	67.2 (2024)
Somalia	1,799	14.9	0.7	12.6	Moderate	
South Sudan					High	54.3 (2024)
Sudan	22,021	45.4		10.0	In Debt Distress	272.0 (2024)
Tanzania	36,343	47.3	12.1	45.2	Moderate	
Uganda	20,534	39.2	13.9	42.2	Moderate	51.8 (2024)
Angola	58,733	79.6	28.9	10.6		62.5 (2024)
Botswana	2,318	11.9	4.7	74.7		32.8 (2024)
Eswatini	1,239	27.8	7.7	45.6		37.2 (2024)
Lesotho	1,773	65.4	6.9	44.8	Moderate	59.8 (2024)
Malawi	3,744	35.2	10.6	70.3	In Debt Distress	74.4 (2024)
Mozambique	69,765	350.6	46.5	6.4	High	96.6 (2024)
Namibia						67.7 (2024)
South Africa	175,896	44.8	16.3	5.2		76.4 (2024)
Zambia	28,118	114.2	30.5	16.1	Moderate	114.9 (2024)
Zimbabwe	14,404	33.0		12.5	In Debt Distress	94.6 (2024)
Mauritius	20,364	123.2	8.5	5.1		
Seychelles						57.8 (2024)
TOTAL (53)	1,175,595					

Annex Table 13.1. External debt, burden ratios and official risk ratings of the 53 African states. Source: author's analysis of World Bank International Debt Statistics, IMF–World Bank LIC-DSF ratings and the IMF Global Debt Database.



**The State of African
Agricultural Adaptation**
2016–2026 Assessment and Roadmap to 2036

