Is adaptation tracking on track?

Insights from 53 African countries

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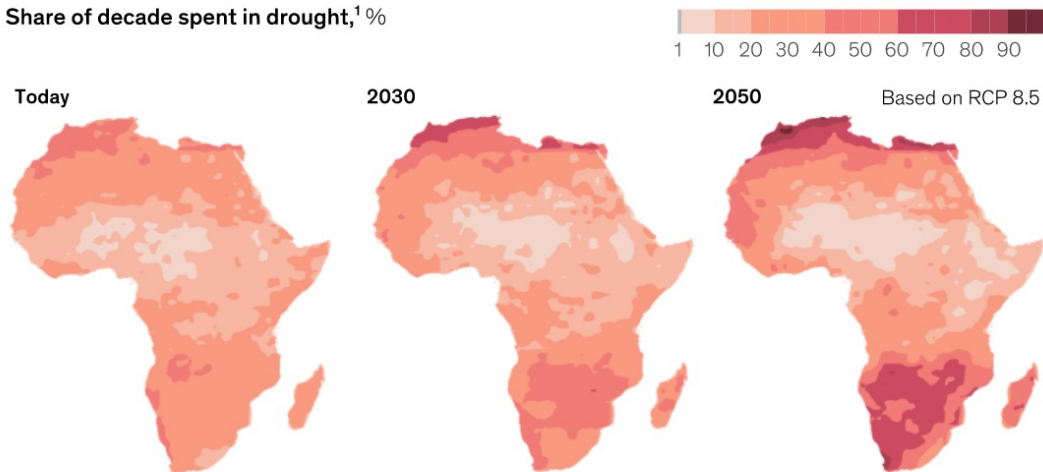Partners: AGNES, BC3, iCatalyst

Climate risks are imminent, climate action for agriculture is not optional

Expected evolution of drought differs by region in Africa, with the most affected areas in the north and south.

Share of decade spent in drought,[1] %

1 10 20 30 40 50 60 70 80 90

Today   2030   2050   Based on RCP 8.5

Note: See the Technical Appendix of the full report for why we chose RCP 8.5. All projections based on RCP 8.5, CMIP5 multimodel ensemble. Heat data bias corrected. Following standard practice, we define current and future (2030, 2050) states as average climatic behavior over multidecade periods. Climate state today is defined as average conditions between 1998 and 2017, in 2030 as average between 2021 and 2040, and in 2050 as average between 2041 and 2060.
[1]Drought is defined as a rolling 3-month period with Average Palmer Drought Severity Index <−2. PDSI is a temperature- and precipitation-based drought index calculated based on deviation from historical mean. Values range from +4 (extremely wet) to −4 (extremely dry).
Source: Woods Hole Research Center; McKinsey Global Institute analysis

Context

(How) Do we know if African agriculture is adapting to climate change?

AICCRA

Accelerating the Impact of CGIAR
Climate Research for Africa

CGIAR

Adaptation tracking means more than counting actions and finance or finding "the perfect indicator"
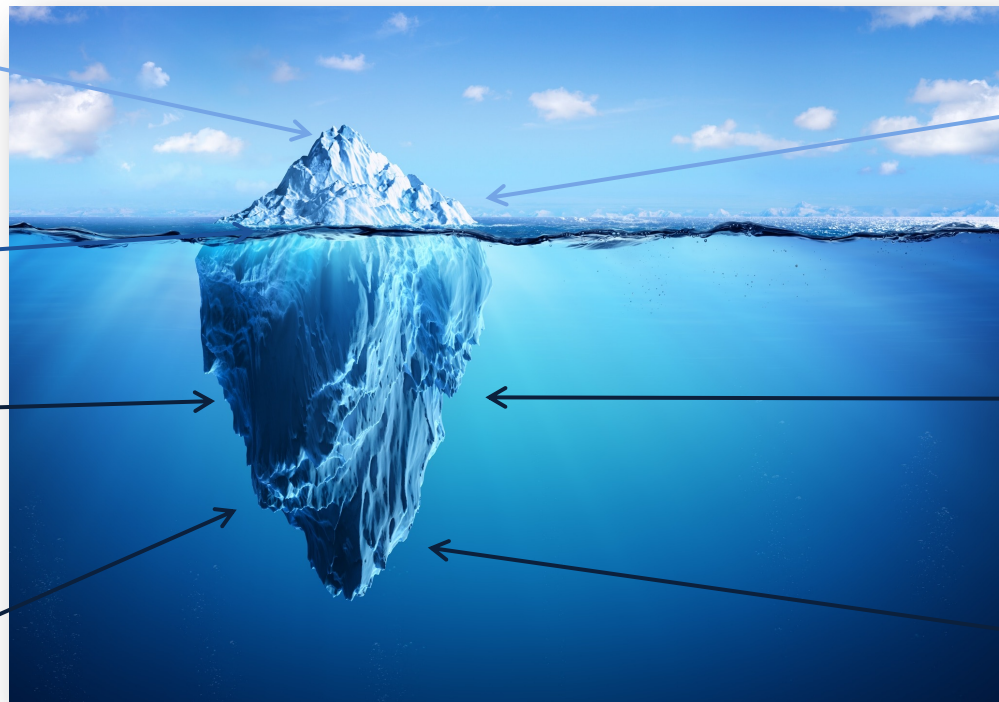

Count actions
(what are we doing to adapt?)

Identify the "best" indicator (proxy)

Understand the climate context
(why adapt?)

Develop coherent impact pathways
(what does a well-adapted system look like?)

Counting finance
(how much $ is being invested in adaptation?)
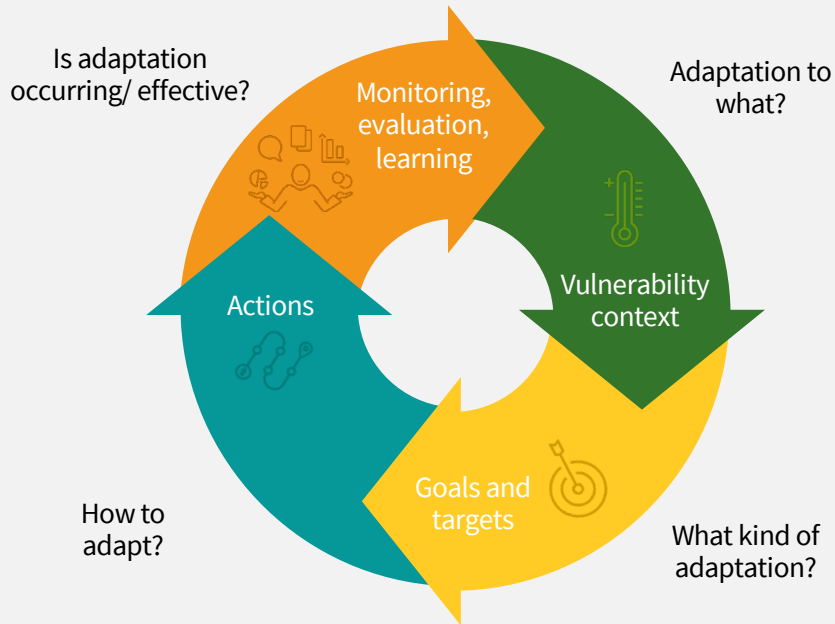
Develop data systems and institutions
(clear data roles and responsibilities)

Allocate finance
(to sustain monitoring and evaluation efforts in time)

Context

A framework for tracking adaptation through adaptation pathways
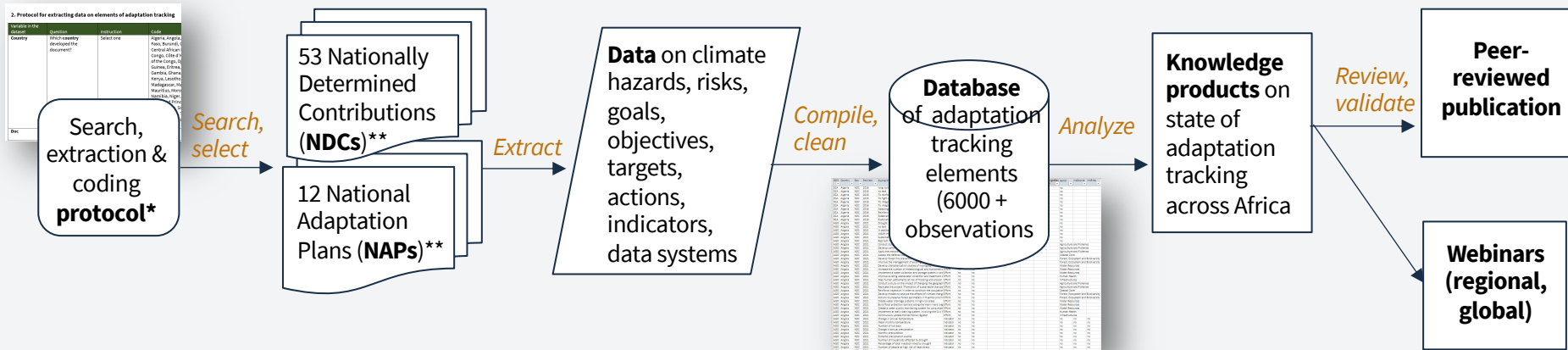

The iterative adaptation cycle*

Is adaptation occurring/ effective?

Monitoring, evaluation, learning

Adaptation to what?

Actions

Vulnerability context

How to adapt?

Goals and targets

What kind of adaptation?

* Adapted from Adaptation Committee, 2019; Park et al, 2012; Berrang-Ford et al., 2019

Approach

The adaptation tracking framework

Adaptation results

DataSystem

Hazards

Vulnerability profile

Indicators

Risks

Actions

Goals

Adaptation efforts

Targets

Objectives

Goals and targets

How is adaptation tracking organized and operationalized across the African continent?

Objectives of the review:

identify **on-going national tracking efforts** that could contribute to the global stocktake and national reporting
assess **entry-points for improvement** of existing systems

Search, extraction & coding **protocol***

Search, select → 53 Nationally Determined Contributions (**NDCs**)**

12 National Adaptation Plans (**NAPs**)**

Extract → **Data** on climate hazards, risks, goals, objectives, targets, actions, indicators, data systems

Compile, clean → **Database** of adaptation tracking elements (6000 + observations)

Analyze → **Knowledge products** on state of adaptation tracking across Africa

Review, validate → **Peer-reviewed publication**

Webinars (regional, global)

* Data extraction and coding protocol based on Berrang-Ford et al (2021), doi 10.1038/s41558-021-01170-y
** Document inclusion criteria: NDCs with Adaptation components (or sections) and NAPs; NDCs and NAPs submitted by African governments by September 30, 2022 and available online (UNFCCC repository).

Approach

Significant foundations exist for understanding if and how African countries and sectors are adapting

Most countries identify hazards and risks, many set goals, objectives and targets, and plan actions to adapt. Many opportunities for improvements exist.

Adaptation tracking elements
across African countries (n=53)

Nr. of elements

8

1

Adaptation tracking elements (% countries, n=53)
All sectors

DataSystems   Hazards
1

Indicators   Risks
1

0.3   0.1

0.5

Actions   Goals
0.9

0.7   0.7

Targets   Objectives
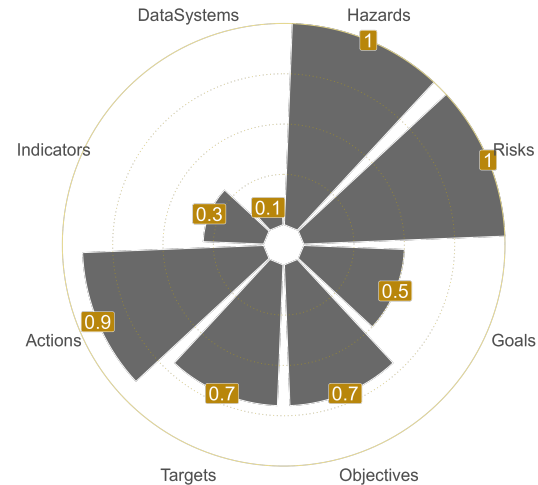
Sector categorization adapted from Berrang-Ford et al (2021) and IPCC AR6 (2022)

Results

Examples of how adaptation elements are featured in NDCs and NAPs

40 of 53 countries explicitly plan for agriculture and cross-cutting sectors*

Adaptation tracking elements for agriculture & cross-cutting sectors, by country (n=40)

*Sector categorization based on Berrang-Ford et al (2021) and IPCC AR6 (2022)

Results

40 of 53 countries explicitly plan for agriculture and cross-cutting sectors*

Adaptation tracking elements for agriculture & cross-cutting sectors, by country (n=40)

Not all data in NDCs and NAPs mapped to a specific sector

21%: Agriculture (food and fiber)

17%: Undefined

13% Cross-cutting (DRR, early warning, gender and social inclusion, governance, etc)

10%: Cities & Infrastructure

10%: Water and sanitation

9%: Terrestrial ecosystems

6%: Health and wellbeing

5%: Poverty and livelihoods

5%: Multiple sectors

4%: Ocean & coastal ecosystems

Sector categorization based on Berrang-Ford et al (2021) and IPCC AR6 (2022)

Results

2000+ adaptation objectives and actions for agriculture across 40 countries, less than half (45%) establish targets

Elements with targets (40 countries, agriculture and cross-cutting sectors)
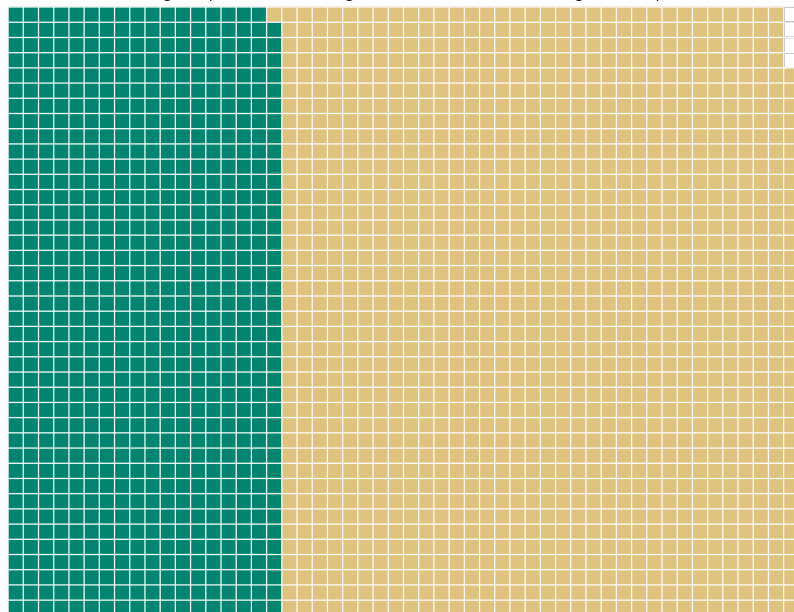
n=2076, 1 square = 1 element

■ with target ■ no target

"Improve livestock diet through **supplementary feeding**"

"**Reduce vulnerability** of the agriculture, livestock and aquaculture sector

"**By 2030, a multi-risk early warning system is put** in place and operational (bush fires, flood, drought)"

"**Establish a national research institution** focusing on new climate smart seed varieties and improving livestock breeding by 2030"

Results

Best-practice examples for target setting exist throughout the continent

Less than half of the countries (24) have agriculture adaptation targets
% of adaptation elements, by country with targets

Results
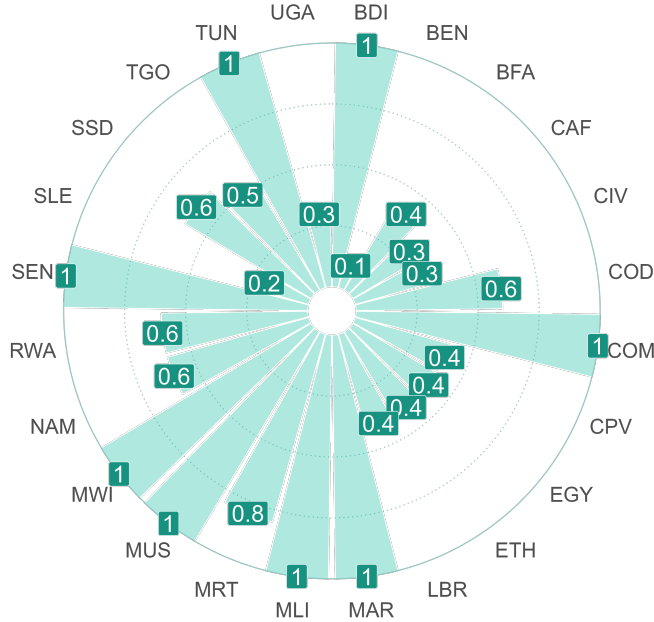
Most targets (75%) set timeframes for achieving adaptation objectives and actions; few are quantitative

Adaptation target types (agriculture & cross-cutting)
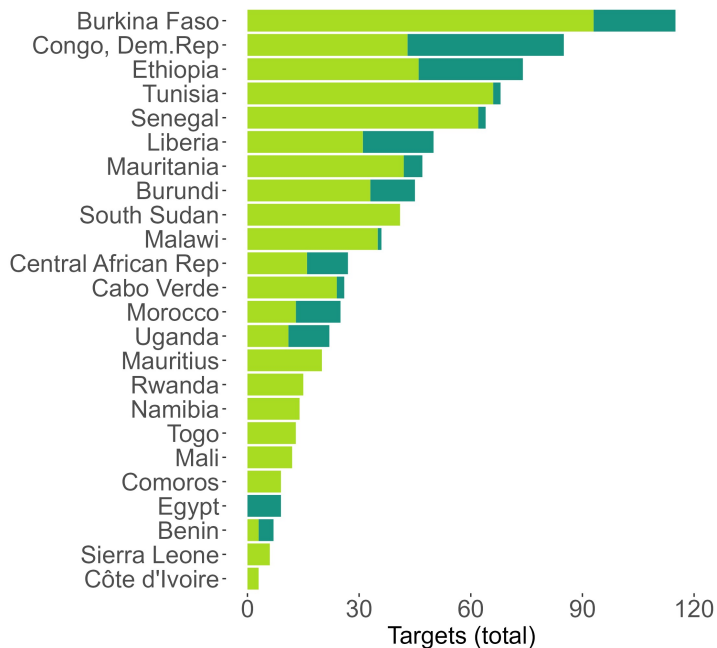
"Develop **750 ha** of irrigated perimeters in the Niger basin"

"**Three** Livestock Production Intensification Areas have been established and are operational. "

"Establish or strengthen crop and livestock insurance systems by **2025** "

"Develop and promote climate smart agriculture practices by **2030**"

"**Establish 100 farmer field schools** and **train 5,000** farmers in climate-resilient agricultural and livestock practices by **2025**"

"By **2030, 100% of farmers use** techniques and varieties adapted to climate change"

Results

Most time-bound targets for agriculture and cross-cutting sectors are set for the next 10 years

Adaptation targets by year and country
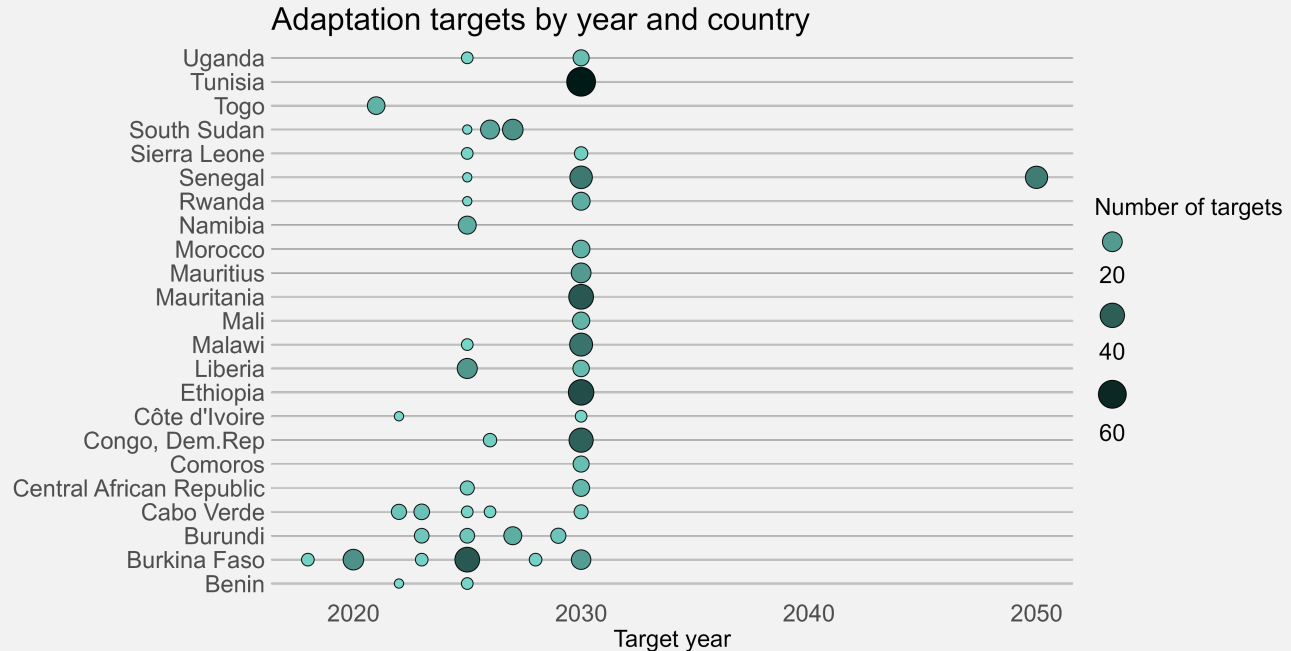
There are more than 250* ways to measure how African agriculture is adapting to climate

Indicators vs adaptation elements (40 countries, agriculture and cross-cutting sectors)

n=2076 1 square = 1 element
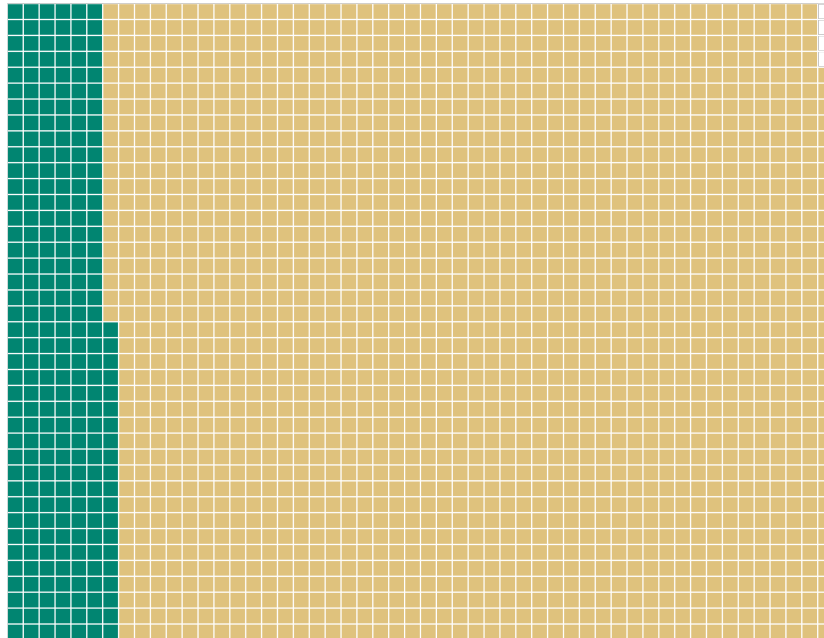
■ indicator element ■ other elements (objectives, actions)

* this represents a third of all indicators suggested for adaptation across the 53 countries (general or other sectors)

Results

Many indicators suggested measure activity implementation and immediate results

Adaptation indicators for agriculture and cross-cutting sectors

Type (% all indicators) ■ input ■ process ■ output ■ outcome ■ unclear
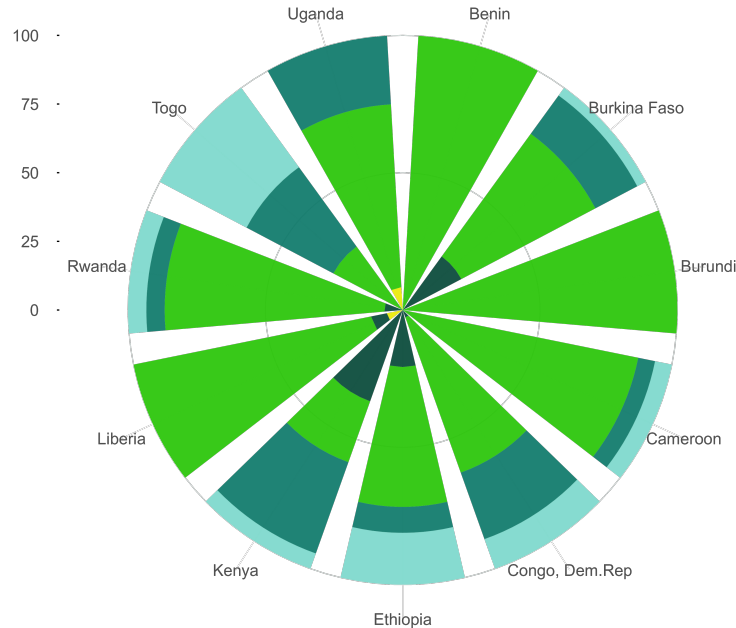
Proportion of the budget allocated to the Climate Change Adaptation in development plans at the national level increased from X% in 2017 to Y% in 2021"

"Progress in the development and implementation of the monitoring system"
"Number of gender strategy and/or action plan developed and implemented"

"Agricultural risk and vulnerability monitoring system deployed"
"Number of staff at the Bureau of National Fisheries trained"

"Rate of recovery and restoration of the fertility of degraded soils"
"Improved anticipation capacities of the early warning system"

"Synthetic index of 11 indicators adaptability proposed by UNEP"
"Spatially develop marine protected areas "

Results

There is limited evidence of existing data systems to operationalize adaptation tracking

Mali NDC

N°	Indicateurs	Institutions responsables	ODD de rattachement
Indicateurs issus de la base de données du SNGIE			
1	Taux d'Accès à l'Electricité Rurale	DNE	ODD 7°et 9
2	Taux d'Accès à l'Electricité Urbaine	DNE	ODD 7°et 9
3	Part des énergies renouvelable dans le mixte énergétique	DNE	ODD 7°et 9
4	Taux d'évolution de la consommation du gaz butane	DNE	ODD 7°et 9
5	Nombre de centrales solaires installées au Mal	AER- Mali	ODD 7°et 9
6	Superficie agricole aménagée en maîtrise totale d'eau	DNGR/DNA	ODD 2
8	Superficies des terres cultivées dans les zones humides	DNA	ODD 15
9	Superficies défrichées annuellement par l'agriculture	DNA/DNEF	ODD 15
10	Quantité de Polluants organiques persistants stockée/utilisée	DNA DNACPN	ODD12
11	Quantité de pesticides utilisée	DNA/DOUANE	ODD 6 :
12	Superficie des terres dégradées	DNA/DNEF	ODD 15
13	Superficie des jachères	DNA/DNEF	ODD12
14	Taux d'accroissement du parc de véhicules routiers	DNTTMF/OT	ODD12
15	Superficie de zones défrichées/an	DNEF/SIFOR	ODD 15
16	Taux de couverture forestière du pays	DNEF/SIFOR	ODD 15
17	Superficies brulées par les feux de brousse	DNEF/SIFOR	ODD 15
18	Production ligneuse des formations boisées	DNEF/SIFOR	ODD 15
19	Superficies reboisées	DNEF/SIFOR	ODD 15

Rwanda NDC

RBME code	Indicator	Source (Metadata)
International and regional good practices (Selected for National communication to UNFCCC)		
07 ECC01	Percentage change in national climate change vulnerability index	Source: Vulnerability Index study report
01 ECC02	Number and Percentage of districts at high risk of suffering major climate change effect	
National framework: (i) NST1; (ii) Sector strategic Plans (SSPs) and District Development Plans (DDSs); and (iii) Programs and Projects		
02 ECC04	Percentage of the rural population living in Green Villages	Source: Green Assessment tool
05 MET06	Average level of satisfaction of major Weather and Climate information institutional users with METEO RWANDA Weather and Climate information	Source: Weather and Climate information Users Survey
LAM20	Percentage of compliance of land use development plans to the NLUDMP	Source: Department of Surveying, land use plans and Mapping, (RLMUA)
GEM23	Number and % of a) Mines, and b) Processors/ Exporters, using appropriate technologies to ensure industry standard recovery rates	Source: Adapted Inspections Process or Mining Sites and Processors Survey/Assessment
WRM05	Water storage per capita	Source: IWRM, Water Monitoring and Development Unit
WRM06	Number (%) of (a) Households, and (b) Institutions with a Rain Water Harvesting (RWH) system installed.	NISR, EICV
FNC10	Proportion of land surface covered by forest [Forest cover]. This excludes agro-forestry area.	RWFA, Forestry department-GIS Report (FMES : IND005)
MET11	Percentage of extreme weather events for which advance warning was provided at least 30 min in advance	Rwanda Meteo, Quarterly high impact weather report
FON07	Total amount of finance mobilized for Green Investments (by major category – Climate Change mitigation; Green Energy production etc.)	MOUs and MINECOFIN Reports
-	Soil erosion and soil loss (To be further elaborated and confirmed)	RWFA/IWRM
-	Ha of crops under insurance (To be further elaborated and confirmed)	MINAGRI

However, most documents mention plans for developing an adaptation-focused M&E system

Results

What does it take to close the gap?

Key reflections

Knowing the destination is key; tracking progress towards it is only possible with benchmarks (**targets**)

The shortest way to the "perfect" indicator is by looking at the *why* (**adaptation pathway**), before the *how*.

More space for dialogue is needed, for learning from **existing approaches** and tracking systems.

National circumstances are key enablers of operational, sustainable tracking systems (see MDGs, SDGs).

Reflections

An agenda for advancing adaptation tracking (preliminary thoughts)

Scale	Convene	Strengthen capacity	Build robust evidence
Global	• Agreement on the Global Stocktake • UNFCCC/GLaSS + national govts.	• Guidance for consistent planning and reporting; Cross-country knowledge sharing; Massive online courses to enable training at scale • UNFCCC + NWP, AGNES, CGIAR, ICAT, others	• Global evidence synthesis and online platform to expose progress on adaptation and tools • IPCC + Adaptation Committee, WASP, AAA/IPAM, CGIAR, GAMI+, others
National and subnational	• Cross-country knowledge sharing and learning dialogues • AGNES + AGN, National Governments, CGIAR, GCA, AAA	• Curriculum and training programs for design of robust policy pathways and tracking systems; • Target setting • Design of data protocols and capacity building to implement them • Government champions + GCA, CGIAR, CCARDESA, ICAT, development partners	• Implementation of data protocols and tracking systems (e.g., TAiLS); • National and subnational governments + development partners (WB, FAO, etc.), research and academia (CGIAR, univ, etc.), Initiatives (LSMS-ISA, 50 x 2030)
Project	• Community of practice • Agreement on tracking definitions and metrics; • Data protocols • Univ. of Arizona, TANGO, USAID, BMGF, IPAM, NGOs, SME Accelerators, others	• Training systems to design pathways, select indicators, and Standard Operating Procedures; capacity building to implement protocols • CGIAR + development partners (WB, FAO, GIZ, Mercy Corps, etc.), others	• Validation studies to evaluate adaptation rationale and impacts (tracking systems) • Data from the field on adaptation and maladaptation; • Research & academia (CGIAR, univ, etc.) + partners (WB, FAO, GIZ, etc.), private sector (incl SMEs), others

Each field contains preliminary suggestions of activities and actors (lead + partners) that could advance the agenda on adaptation tracking at global, national, subnational and project scales. The list is a conversation starter. It is neither definitive nor exhaustive and does not present the information in any preferred order.

Reflections

Thank you!

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