

From data to decisions: How Monitoring, Evaluation and Learning (MEL) systems inform policy, investment and adaptive management for climate resilience

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Some key components of a MEL system

- 1 Clear objectives and scope
- 2 Logic model (ToC, logframe, results framework)
- 3 Indicator framework
- 4 Baselines, targets, and IVRA outputs
- 5 Data collection, management, and analysis
- 6 Institutional arrangements and capacities
- 7 Evaluation, reporting, and learning mechanisms
- 8 Integration with national and international reporting

GESI and subnational actors cut across all components. They shape what you measure, how, and for whom.



The Purpose of Indicators in MEL for Adaptation

Indicators provide a structured way to assess and report progress against adaptation objectives.

Within a MEL system, they translate policy intentions into observable, trackable elements, not because they capture the full complexity of adaptation, which is inherently localised and multidimensional, but because they offer a consistent, comparable signal of whether change is occurring in a defined direction.

Indicators do not function in isolation, however: they interact with the broader MEL system at every stage.

Track Policy Direction

Provide continuous, structured data that governments can use to confirm whether policies and actions are moving as intended.

Support Accountability

Underpin transparency commitments under the Paris Agreement and supply evidence for international reporting processes.

Enable Comparability

Support reporting to Adaptation Communications, Biennial Transparency Reports, and the UAE Framework for Global Climate Resilience.

Structure Learning

When embedded in a functioning MEL system, indicators make the theory of change visible, testable and actionable over time.



Types of indicators across an adaptation theory of change

Each level of the results chain captures a fundamentally different type of change, requiring a different type of evidence. Process indicators tell you whether activities and outputs are on track; they say nothing about whether those outputs are generating the outcomes that matter. A programme can be well implemented without being effective, and a MEL system needs to distinguish between the two.

Indicator Type	Purpose	Example in Practice
Input	Track resources, institutional capacities, and enabling conditions mobilised to support policy design and implementation	Public budget allocated to adaptation; ministries with designated climate focal points
Output	Track direct products and services delivered	Early-warning systems installed; communities covered by climate-risk mapping
Outcome	Assess short- to medium-term effects or behavioural changes	Percentage of farmers adopting climate-resilient practices; proportion of households with resilient water access
Impact	Measure long-term resilience and reduced vulnerability	Reduction in climate-related losses; improvement in food security or livelihoods
<i>Process</i>	Track whether policy processes are unfolding as intended in terms of quality, participation, and coordination. Process indicators can be used at different time scales and across the results chain.	Degree of cross-ministerial coordination on NAP implementation; quality of stakeholder consultations
<i>Context/Parameters</i>	Track external political, socioeconomic and climatic conditions shaping the policy environment which is essential for interpreting results	Climate trend data; institutional capacity assessments; political economy mapping

Qualitative indicators are equally essential alongside quantitative ones. Adaptation progress often involves behavioural or institutional change: shifts in how decisions are made, who is included or how risk is perceived that numbers alone cannot capture.



Limitations Every MEL Practitioner Must Understand

Indicators are a powerful MEL tool, but they carry inherent limitations that a well-designed system must actively compensate for. Recognising these limitations is not a reason to abandon indicators: it is a reason to use them wisely.

Attribution Is Inherently Difficult

Indicators signal whether change is occurring but cannot account for why. In complex adaptive systems, linking outcomes to a specific policy or action is rarely straightforward.

Output Bias Skews What Gets Counted

Most adaptation indicator sets concentrate on what is easy to count: trainings delivered, policies adopted, projects completed. These say little about whether resilience has actually improved.

Short Reporting Windows Miss Long-Term Change

The change that matters most in adaptation materialises over years or decades, long after funding cycles close. Indicators tracked within short windows can confirm activities happened without revealing whether they worked.

Data Quality Is a Real Constraint

Weak statistical systems, inconsistent definitions and infrequent data collection can render even well-designed indicators unreliable in practice: a particular challenge in many country contexts.

- ❏ Indicators are meaningful only within a full MEL system. Without a theory of change, reliable data collection and structured review processes, they cannot fulfil their intended function and should never substitute for evaluation and learning.



Principles for Selecting Adaptation Indicators

Good indicator design requires both technical rigour and contextual sensitivity. The principles below provide a practical framework for ensuring that indicators are meaningful, feasible and equitable.

Apply SMART Criteria

Indicators should be Specific, Measurable, Achievable, Relevant and Time-bound while also being feasible to monitor within existing institutional capacities and sensitive to differentiated social experiences of climate risk.

Integrate GESI Throughout

Indicators should be disaggregated by gender, age and other social dimensions to capture differentiated vulnerabilities and ensure equitable adaptation outcomes. Disaggregation must be planned at design stage, not added retrospectively.

Maintain a Clear Adaptation Rationale

Distinguish clearly between indicators of adaptation progress and broader sustainable development indicators. Each indicator should trace a logical, defensible link to reductions in climate risk, exposure or vulnerability.

Respond to Context First

National and local contexts should drive indicator selection. Alignment with international frameworks such as the Global Goal on Adaptation is valuable, but only where it is coherent with domestic priorities and data availability.

Start Small, Pilot and Expand

Begin with a limited, high-quality indicator set. Pilot in one sector or geography, learn from implementation experience and expand progressively as Rwanda's phased approach to national adaptation MEL demonstrates.

Mix Qualitative, Quantitative, Process, Results and Climate Parameters

Measuring resilience and vulnerability reduction often requires qualitative judgement alongside quantitative data. Both process and results indicators as well as climate parameters should feature in a comprehensive indicator set.

59 Voluntary Indicators: From COP28 to Belém

COP28 (December 2023): UAE Framework adopted with 11 GGA targets

COP30 Belém (late 2025): 59 voluntary indicators agreed after hard-won compromise

- Initial scoping: 10,000 indicators
- Narrowed to: 100 indicators by the set of technical experts with the UAE-Belém work programme
- Adopted in Belém: 59 voluntary indicators

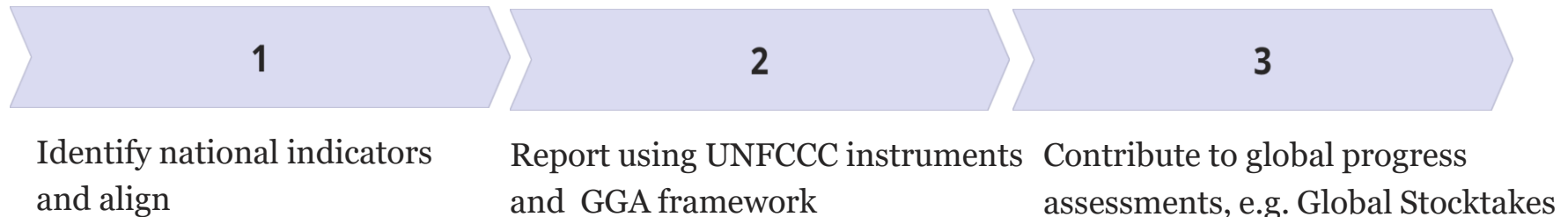
Key Design Principles

Voluntary & Non-Prescriptive: Countries choose which indicators to report on

No Additional Burden: Aligned with existing national systems and NAP processes

Further Technical Work: Metadata and methodologies under development via Belém-Addis Vision

For Countries



Key Takeaways: Indicators That Work for Adaptation

Start with Objectives, Not Indicators

Indicator selection must be driven by the Theory of Change. Without a clear results framework, indicators risk measuring activity rather than progress.

Indicators Need a System

Indicators fulfil their function only when embedded in a MEL system with reliable data collection, structured review, and a live theory of change.

Build on What Exists

Before designing new collection mechanisms, inventory what exists: integration into national platforms reduces burden and improves sustainability.

Results Chain Thinking Is Essential

Organising indicators across the full results chain ensures implementation and effectiveness are tracked separately and never collapsed into one another.

Context, Equity and Quality Come First

SMART, GESI-responsive, contextually grounded indicators designed with partners and piloted before scaling will always outperform large, poorly owned indicator portfolios.

Validate Before You Scale

Stakeholder validation and a rigorous pilot phase are not optional. They are the quality gates that determine whether the system will function in practice not just on paper.

Align with GGA Indicators Strategically

The 59 voluntary GGA indicators agreed at COP29 are a reference point, not a mandate. Use them to contextualise national selection and support international reporting without duplicating effort.

Indicators Do Not Replace Learning

Over-reliance on indicators risks crowding out the interpretive work that genuine learning requires. Evaluations, peer learning, and structured reflection are irreplaceable complements.

Treat the MEL System as a Living Cycle

Iterative review, anchored to NAP cycles and scheduled evaluations, keeps the system relevant as risks, priorities, and data landscapes evolve.

□ A well-functioning MEL system uses indicators as one input amongst several, alongside evaluations, peer learning and structured reflection processes that can address the questions indicators alone cannot answer.



Thank you!

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