



WEBINAR SERIES
2026–2027

October 8, 2026

Adaptation Metrics Within Global Development Goals

Alignment of UN Frameworks and Non-Government Actions with Climate Change Adaptation

SDGs

SEND AI

CBD

UNCCD

NON-STATE

PRESENTED BY

Joel B. Smith; Samraj Sahay; Fatima zahra Moussaid; Charles Tonui; Humphrey Agevi; Karl Schultz

OVERVIEW

Ch. 1

Introduction

Adaptation Metrics Within Global
Sustainable Development Goals



THE QUESTION

Do UN frameworks for sustainable development account for a changing climate?

*** If yes, how well do they do so?**

*** Should the development and application of metrics relevant to adaptation across the frameworks be better coordinated?**

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What the Chapter Addresses

THE QUESTION

Do UN Frameworks that Address Sustainable Development Account for Changing Conditions Resulting from Climate Change?

We examine



2030 Sustainable Development Goals



Sendai Disaster Risk Reduction



Convention on Biological Diversity



Convention to Combat Desertification

Also



Non-governmental actors

Presentations

OVERVIEW

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SDGs

01

2030 Agenda for Sustainable Development and Adaptation

Sustainable Development Goals



THE QUESTION

Does adaptation only advance the SDGs, or can it also make them climate-resilient?

17

Sustainable
Development Goals

169

targets

234

unique indicators

PRESENTED BY

SS

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Climate impacts and SDGs

SDGs



15%

Achieving 169 Targets under the 17 SDGs by 2030 — only 15% of targets are on track (UNDESA 2026).

86%

146 of 169 SDG targets directly hindered by short-term climate impacts (*extreme temperature and precipitation, flooding, cyclone, and storm surges*)

37%

are likely to be affected by long-term impacts (*sea level rise, ocean acidification, warming trend*)



Most affected: targets related to poverty, justice and equity, hunger and malnutrition, livelihood and employment, food, energy and water, and health

Climate impacts



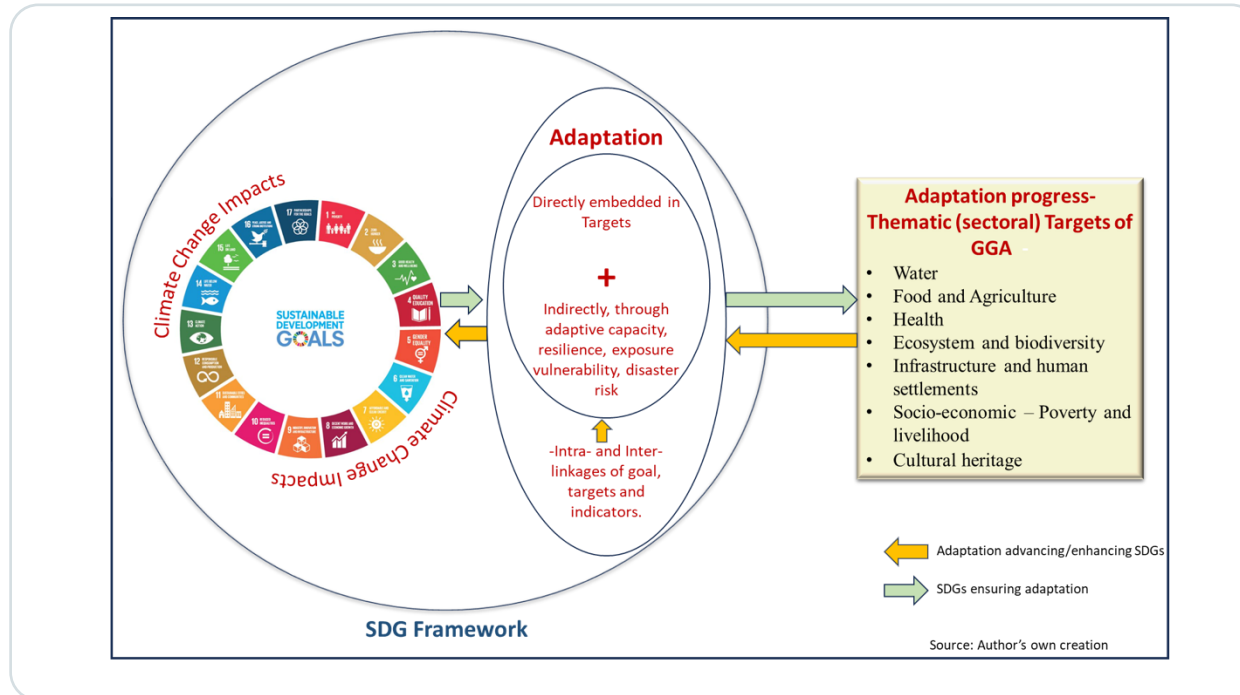
Ecosystem and socio-economic sectors



SDG targets

Climate related hazards and disasters → mass displacement (SDG 8.8, 10.7), worsen gender inequalities (SDG 4.1, 4.2, 4.5), vulnerability to violence (SDG 5.1, 5.2), and unequal access to economic resources (SDG 5.4, 5.5, 5.a–5.c).

Adaptation and SDGs



Mutually reinforcing

SDGs and adaptation cannot be treated in silos in national planning.



A bi-directional relationship

Sectoral adaptation facilitates achieving SDG targets; achieving SDG targets directly or indirectly ensures achieving adaptation goals.



Synergy or trade-off

Interaction between SDGs, targets and indicators can have a positive outcome (synergy) or a negative impact (trade-offs).



Feeds the GGA

Synergy of the SDGs, targets and indicators has a synergistic impact on achieving thematic (sectoral) targets for the GGA under the UAE-FGCR.

234

unique indicators in the SDG framework

Need for leveraging synergies at the indicators level in achieving adaptation goals

Adaptation 'enhances' and 'advances' achievement of SDG Targets

SDGs

The mutual interaction between adaptation and SDG targets leads to three outcomes:

82 targets

Advancement

- Adaptation facilitates progress of the targets, or 'advances' them, through a synergistic (positive correlation) relation
- Targets are unaffected by climate impacts

54 targets

Enhancement

- Adaptation 'advances' targets through a synergistic (positive correlation) relation
- Targets are also impeded by climate impacts
- Adaptation 'enhances' SDG targets by increasing the resilience of the targets

23 targets

Potential enhancement

- Targets that are impeded by climate impacts but have no synergistic relationship

Example

SDG 6.1–6.4 – safe and affordable drinking water, equitable sanitation, ... water-use efficiency across all sectors.
Target 9a for GGA, in addition to this, would make these SDG targets resilient to water-related hazards.

Challenges and Way forward

Challenges

Limited evidence on how adaptation can 'enhance' SDG targets by ensuring climate resilience. This is largely due to:

- SDG indicators assume that targets will not be affected by climate change.
- Lack of adequate indicators that measure the 'enhancement' attributable to adaptation.
- Indicators for SDG targets impeded by climate change focus on synergies causing 'advancement' and ignore 'enhancement', the contribution of adaptation to climate resilience.
- Adaptation has mostly been treated as a separate effect: adaptation indicators are at a nascent stage, and strong connectivity with other targets in terms of 'advancement' and 'enhancement' has not yet emerged.

Way forward

The development of indicators that:

- + **Identify and consider** the 'enhancement' of SDG targets by adaptation (and vice-versa)
- + **Complement the existing SDG indicators** by measuring the 'enhancement' of climate resilience attributable to adaptation

SENDAI

02

Sendai Framework for Disaster Risk Reduction

2015–2030



THE QUESTION

**How much of what Sendai already measures
can serve adaptation, and what is missing?**

7

global targets

38

indicators

2030

Sendai ends

PRESENTED BY



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One storm, one coastline: what do our frameworks see?

SENDAI



An early warning goes out

People move to safety in time



Mangroves absorb the surge

The storm hits the town softer



The town is protected

Fewer deaths, less damage

HOW IS THIS DAY RECORDED?

SENDAI COUNTS

Deaths, people affected, economic losses

THE CBD COUNTS

Hectares of mangrove

MISSING

The link to adaptation: what worked, and who it protected



The losses are counted. **The protection that worked is not.**

Targets that build capacity fit adaptation; targets that count losses do not

SEND AI

Builds capacity

Strong fit with adaptation

Early warning systems

Target G

National & local strategies

Target E

International cooperation

Target F

Protects infrastructure

Partial fit

Critical infrastructure & basic services

Target D

Counts losses

Weak fit with adaptation

People affected

Target B

Deaths

Target A

Economic losses

Target C



Back in the coastal town: deaths stayed low thanks to evacuation. Good news, but the indicator cannot tell whether anything changed in where people live or how risk is created.

Sendai is a strong asset for adaptation data, but it has three blind spots

SENDAI

Where it helps



Early-warning data

Reported every year: adaptation data in all but name



Disaggregation

By hazard, place and income: shows who is vulnerable



Infrastructure baselines

A starting point adaptation can build on

Where it falls short



Built for sudden events

Sea-level rise, drought and ecosystem loss fall outside



Counts damage, not action

No measure of investment in adaptation



No climate attribution

Cannot tell a climate-related disaster from others

Two reporting pipelines, often describing the same storm

SENDAI

DISASTER RISK REDUCTION



Same storm, same town

National disaster
management focal point



Sendai Monitor (since 2018)



Global & regional platforms

The gap: national Sendai reports often cite climate change as a barrier, yet the format has no systematic way to capture it.

CLIMATE ADAPTATION

National climate change
focal point



**NAPs, Adaptation
Communications, BTRs**



UNFCCC processes

Five pathways to make adaptation visible in Sendai

SENDAI

1

Climate attribution module

Let countries flag losses where climate change was a significant driver in the Sendai Monitor.

2

Bridge outcomes and process

Map Sendai outcome indicators to GGA indicators, now concrete with the Belém Adaptation Indicators.

3

Slow-onset supplement

Add indicators for sea-level rise, drought and ecosystem loss, in Sendai's own style.

4

Use MCR2030

Making Cities Resilient 2030 as a channel for disaggregated urban adaptation data.

5

One calendar

Harmonise Sendai and UNFCCC reporting: report once, use twice.

Why now

COP30 adopted the Belém Adaptation Indicators

A ready-made list to map Sendai against.

Sendai ends in 2030

Build adaptation into its successor, rather than bolting it on later.

CBD

03

Convention on Biological Diversity

Kunming-Montreal Global Biodiversity
Framework



THE QUESTION

As COP17 takes stock of the biodiversity framework, will adaptation be counted?

COP17

Yerevan, 19–30 Oct

1st

global review of the
GBF

2030

GBF deadline

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FM

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The CBD sees biodiversity as both exposed to climate change and part of the answer

CBD

Vulnerable

Track climate impacts on species and ecosystems

Solution

Ecosystem-based adaptation reduces people's vulnerability



Like the town's mangroves

WHY IT MATTERS NOW

COP17 · Yerevan

19–30 October 2026

The first global review of the Kunming-Montreal framework, halfway to 2030.

Target 8, the climate target, is where the two roles meet.

What this review counts will shape how visible adaptation is until 2030.

Adaptation is strong in the climate targets, and almost absent from finance

CBD

Strong

Adaptation built in

Climate solutions

Target 8

Restoration

Target 2

Nature's contributions

Target 11: benefits to people

Partial

Helps, but not designed for it

Protected areas (30x30)

Target 3: protects nature, not people's climate risk

Weak

Adaptation barely visible

Financial resources

Target 19

At COP17: finance is a core agenda item, and the slowest part of progress.

Our ask: track the adaptation benefits of biodiversity finance, so nature spending also counts as resilience spending.

The CBD measures the supply of ecosystem services, not who is protected

CBD

SUPPLY Measured well

-  Hectares conserved and restored
-  Ecosystem condition and resilience
-  Species and genetic diversity

DEMAND Barely measured

-  Who is actually protected
-  Climate risks people face
-  Reduction in people's vulnerability



The town's mangroves

Same size as a degraded belt, so same score. Very different protection from the storm surge.

Healthy mangroves
Strong protection

Degraded mangroves
Weak protection

Almost every national plan mentions climate; only one in three acts on it

CBD

Almost all

Mention climate change



About 1 in 3

Set concrete ecosystem-based adaptation targets



Each dot = 10% of national plans (NBSAPs) reviewed: 170 NBSAPs submitted after 2010 (Whitehorn et al., 2019)

At COP17: the global review is built from countries' new national plans and reports.
If ecosystem-based adaptation is not written in, it will not show up in Yerevan.

UNCCD

04

Convention to Combat Desertification

Land Degradation Neutrality (LDN) and
drylands



THE QUESTION

**Can land degradation neutrality serve as
evidence for climate adaptation?**

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CT

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What the Convention to Combat Desertification set out to do

UNCCD

2 billion+

Drylands are home to over 2 billion people



Adopted in 1994

One of the three Rio Conventions, the CCD tackles land degradation and drought — and their knock-on effects for biodiversity loss, climate impacts, and livelihoods.



Land Degradation Neutrality

It introduced Land Degradation Neutrality (LDN) and built local-community participation into how degradation is combated.

Measuring progress: LDN's three core indicators

UNCCD

Sustainable Land Management (SLM) — now embedded in many national action programmes — is tracked through three standardized, satellite-derived indicators:



01

INDICATOR 1

Land cover change

Deforestation, afforestation & conversion across forest, grassland, cropland and urban area.



02

INDICATOR 2

Land productivity dynamics

Net Primary Productivity trends flag degradation (declining) vs. healthy or recovering land.



03

INDICATOR 3

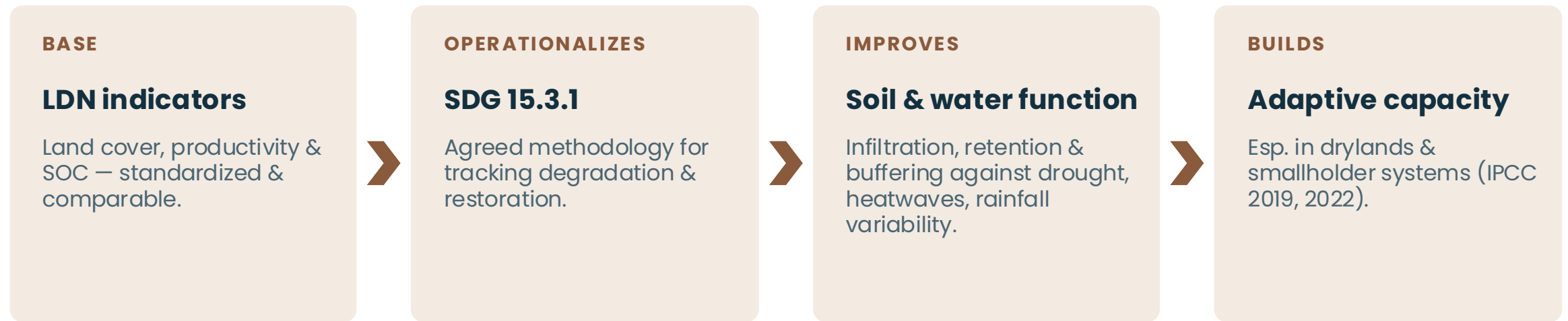
Soil organic carbon

Below-ground carbon stock signals fertility, erosion risk and sequestration potential.

LDN as an evidence base for climate adaptation

UNCCD

Because LDN's indicators are biophysical and comparable across countries, they operationalize a global metric — and gains in productivity or soil carbon translate directly into adaptive capacity.



Depends on

Institutional alignment & governance quality. Reporting that favors process (plans, institutions) over biophysical outcomes misaligns with LDN — and reactive interventions that ignore land tenure, extension services, or community participation risk undermining restoration goals.

Complementing UNFCCC reporting through NAPs and NDCs

UNCCD

Alignment is strongest where adaptation is judged on measurable outcomes rather than procedural inputs — the direction UNFCCC's 2024 guidance is pushing toward: **reduced vulnerability, strengthened resilience, avoided losses.**

REPORTING GAP

UNFCCC's traditional emphasis

Planning & institutional readiness — process indicators that don't map cleanly onto land condition.



LDN'S CONTRIBUTION

Spatially explicit evidence

Land-based adaptation outcomes via NAPs & NDCs, especially for agriculture- and ecosystem-dependent livelihoods.

Dual-purpose indicator

Soil organic carbon sequesters carbon (mitigation) while improving fertility, moisture regulation & drought resistance (adaptation) — bridging the two agendas.

Positioning LDN within the GGA

LDN's methodological maturity, global coverage and spatial explicitness make it well placed to inform the GGA's ecosystem-related components — while strengthening coherence across CCD, UNFCCC, CBD and SDG reporting.



Ecosystems

Land cover; productivity trends as direct ecosystem-health evidence.



Food & water security

Productivity dynamics link land condition to agricultural and water outcomes.



Livelihoods

SOC; land cover trends anchor resilience in agriculture-dependent communities.



Risk

If GGA frameworks lean toward process-based indicators, they align poorly with LDN's biophysical base — risking fragmented, overlapping reporting. **Integrated MRV systems, spatially explicit indicators, and participatory monitoring can keep tracking coherent instead.**

NON-STATE

05

Non-governmental actors and global adaptation goals

Chapter 1: Adaptation Metrics Position
Within Broader Global Goals



THE QUESTION

What role can non-state metrics play in global adaptation measurement?

PRESENTED BY



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Global goals depend on action beyond formal agreements

NON-STATE

Treaty systems set shared objectives. Non-state actors often deliver, test, and measure adaptation in practice.

The chapter identifies non-state actors as an essential part of adaptation governance.



Implementation and resources

- They act through companies, civil society, philanthropy, city networks, and sectoral alliances.
- Deliver adaptation while mobilising finance, expertise, networks and implementation capacity.



Measurement innovation

Develop flexible, context-specific approaches to measuring vulnerability, adaptation and resilience.



Non-state initiatives create adaptation metrics outside treaty systems

NON-STATE

EXAMPLE

Race to Resilience

Multi-stakeholder campaign launched under the Marrakech Partnership. Its **Metrics Framework** supports partners to track adaptation progress and aggregate evidence in usable ways.

- ✓ Partners categorise and count people reached.
- ✓ Quantitative reporting is combined with qualitative case evidence.
- ✓ Cumulative and disaggregated results appear in the Data Explorer and annual reports.

It demonstrates voluntary adaptation measurement at scale:

“Increasing the resilience of four billion people to the impacts of climate change by 2030.”

OTHER EXAMPLES



C40 Cities

Urban adaptation metrics



Global Alliance for Climate Smart Agriculture

Agricultural adaptation Monitoring, Evaluation and Learning



Climate-related financial disclosure (ISSB)

Investment decision support:

Their differing goals, incentives and evidence create both innovation and challenges for comparability.

Independence creates both value and a measurement challenge

NON-STATE

Non-state actors bring innovation and implementation reach. **The wider task is to connect their evidence with global adaptation goals.**

Value of independence

Voluntary initiatives can be...

- + **Flexible**
- + **Sector-specific**
- + **Responsive to conditions on the ground**
- + **Able to pioneer new metrics**

Challenge for global assessment

- Participation and disclosure may be voluntary.
- Metrics may differ in scope, transparency, quality, and comparability.
- Results cannot automatically be aggregated into treaty-based progress.

Linkages with the GGA, SDGs, Sendai, CBD, and UNCCD can turn parallel activity into shared learning and more coherent assessment.

Non-governmental actors: A practical agenda for all global-goal regimes

NON-STATE

1

Recognize non-government contributions

Support non-state actors as important sources of adaptation implementation, evidence and innovation.

2

Build bridges

Link credible non-government actors with the GGA, SDGs, Sendai, CBD, and UNCCD.

3

Learn (without over-standardising)

Use non-state experience to improve context-sensitive measurement while preserving flexibility.

The objective: greater coherence and shared learning without imposing a single centralised reporting system.

CONCLUSIONS

06

Conclusions

What the chapter found and what it means for policy



THE QUESTION

What did we find about how well the UN frameworks consider climate change and address adaptation?

If there are shortcomings, what can be done about it?

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Conclusions

CONCLUSIONS



Most goals and targets in the UN Frameworks and non-government activities **align with climate change adaptation**
Some do not **align with climate change adaptation**

There are impediments and gaps, including:



Measuring static, not changing conditions



Focusing on acute, rather than long-term climate impacts



Not distinguishing climate vs. non-climate causes of success or failure



Little coordination across these frameworks and activities

Policy Relevant Findings



01

Improve coordination on adaptation metrics across frameworks and non-government activities

E.g., harmonize metrics, indicators, and data gathering



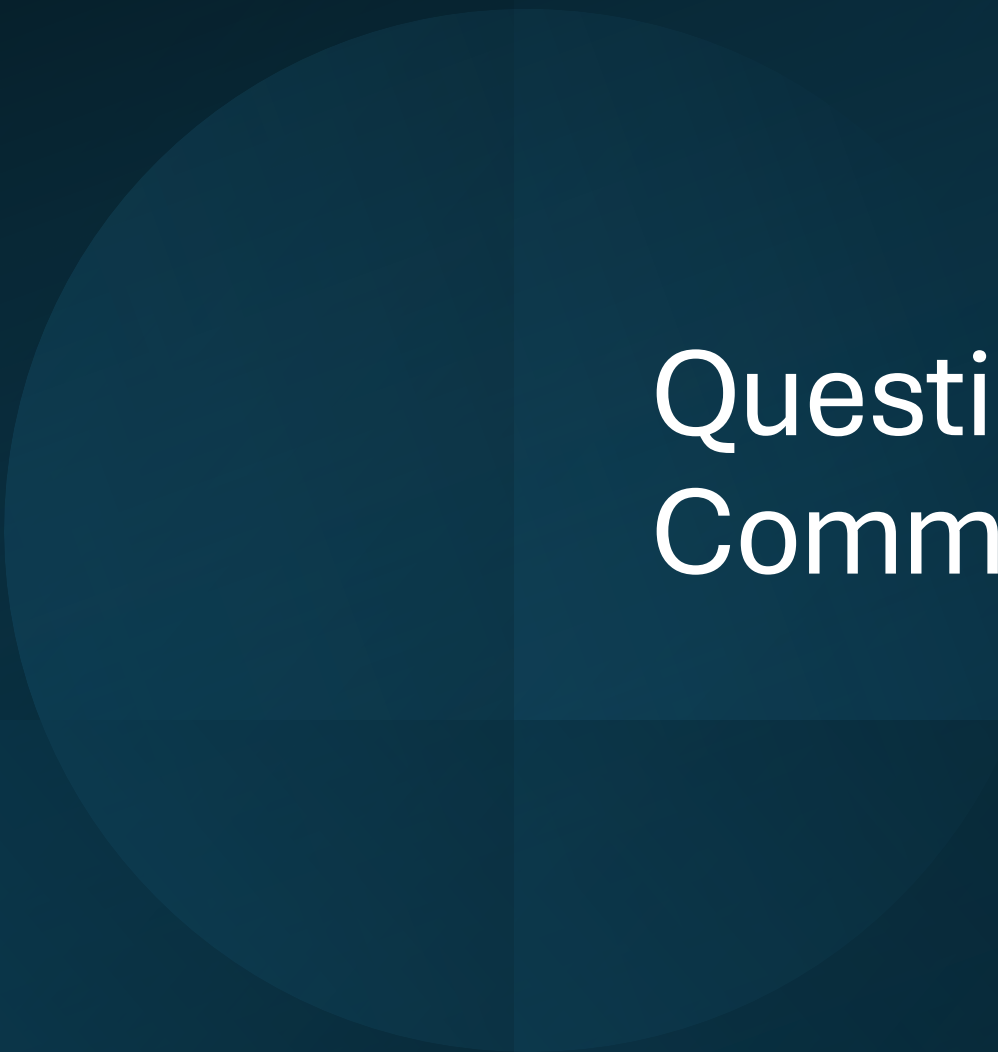
02

Examine contributions of climate change adaptations toward meeting development framework objectives and non-government goals



03

Develop adaptation metrics that can measure adaptation effectiveness and evolve with changing conditions that affect sustainable development



Questions and
Comments?