



Food and Agriculture  
Organization of the  
United Nations



## Agrifood systems contribution to the Global Goal of Adaptation:

Unpacking the target and indicators.

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Organisation of the United Nations.**

**Date: 15th May 2024, Workshop under the UAE – Belém work  
programme on indicators**



## Unpacking the target

- a. Significantly reducing climate-induced water scarcity and enhancing climate resilience to water-related hazards towards a **climate-resilient water supply, climate-resilient sanitation and towards access to safe and affordable potable water for all**;
  - b. Attaining climate-resilient food and agricultural production and supply and distribution of food, as well as increasing **sustainable and regenerative production** and **equitable access to adequate food and nutrition for all**;
  - c. Attaining **resilience against climate change related health impacts**, promoting **climate-resilient health services**, and **significantly reducing climate-related morbidity and mortality**, particularly in the most vulnerable communities;
  - d. Reducing climate impacts on ecosystems and biodiversity, and accelerating the use of ecosystem-based adaptation and nature-based solutions, including through their management, enhancement, **restoration and conservation and the protection of terrestrial, inland water, mountain, marine and coastal ecosystems**;
  - e. Increasing the **resilience of infrastructure and human settlements** to climate change impacts to **ensure basic and continuous essential services for all**, and minimizing climate-related impacts on infrastructure and human settlements;
  - f. Substantially reducing the adverse effects of climate change on poverty eradication and livelihoods, in particular by promoting the **use of adaptive social protection measures for all**;
  - g. Protecting cultural heritage from the impacts of climate-related risks by developing adaptive strategies for **preserving cultural practices and heritage sites** and by designing climate-
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## Unpacking the agrifood system target under the UAE framework for Climate Resilience.

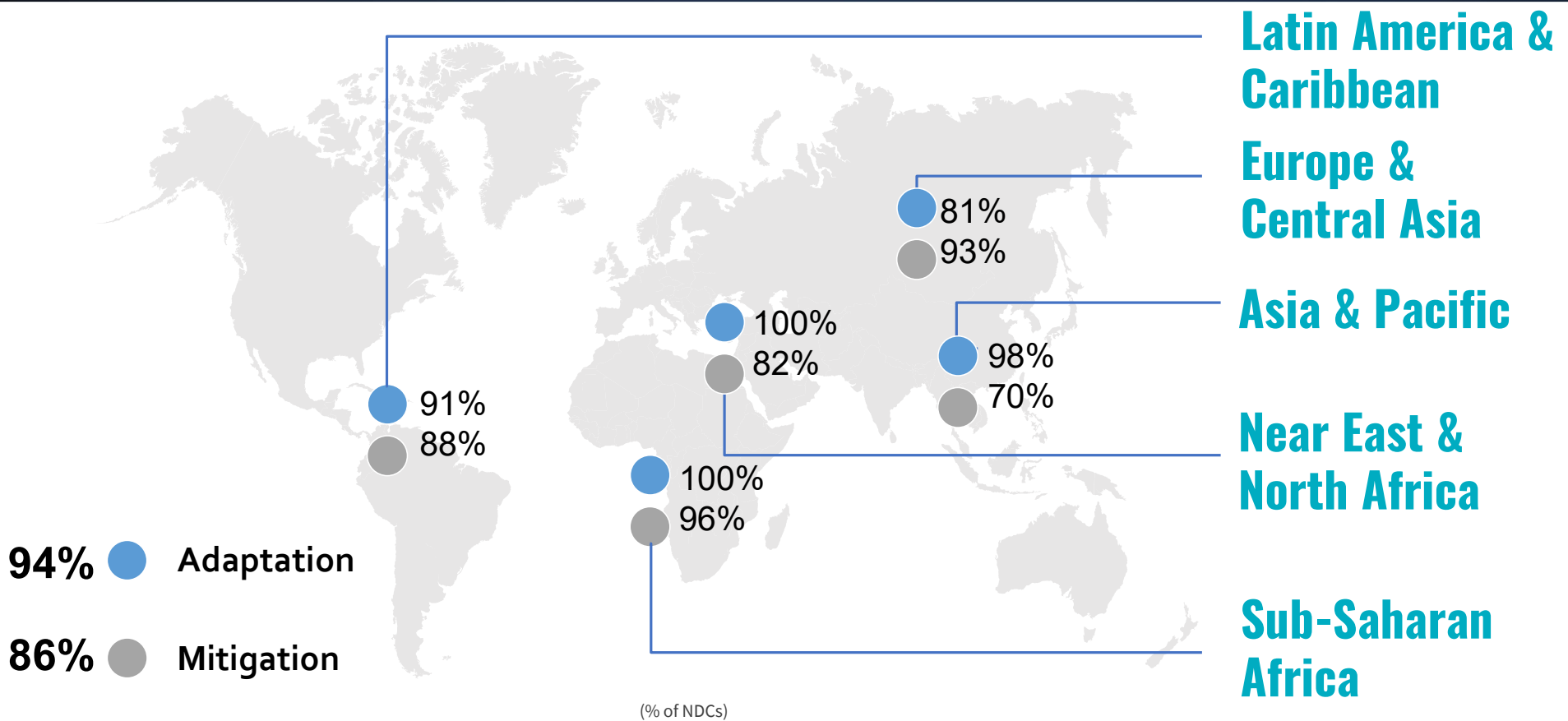
Attaining climate-resilient food and agricultural production and supply and distribution of food

Adaptation actions should aim to (1) build resilience (2) enhance adaptive capacity (3) reduce vulnerability of agrifood systems to climate change impacts.

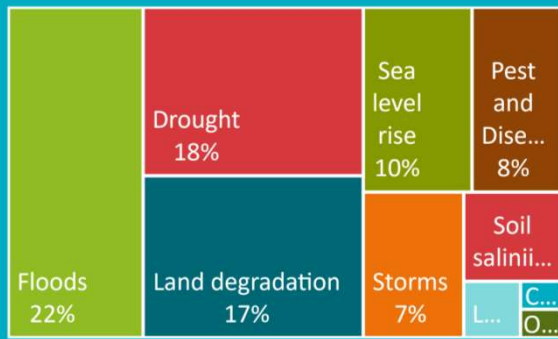
as well as increasing sustainable and regenerative production and equitable access to adequate food and nutrition for all.

And subsequently Adaptation actions should aim to enable development impacts and well being despite of climate change.

# State of play. How are countries setting up agriculture specific adaptation targets in their NDCs



## WHICH HAZARDS ARE DRIVING ADAPTATION RESPONSES IN AFSs?



(% of hazards)

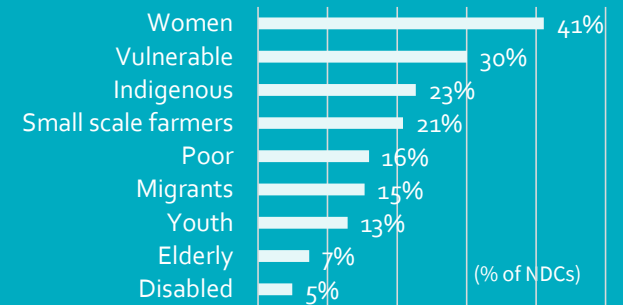
## WHAT IS THE SCALE IS ADAPTATION IN AFSs?

- Ecosystem & Farm level
- Local & Household level
- National level
- Sub-national level
- Cross-boundary



(% of actions)

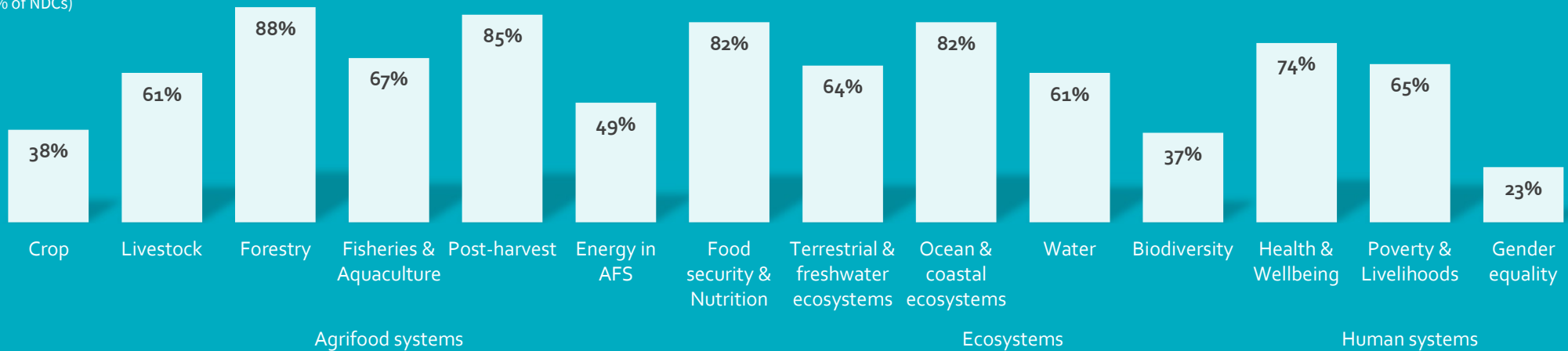
## HOW INCLUSIVE IS ADAPTATION IN AFSs?



(% of NDCs)

## HOW BROAD IS ADAPTATION IN AGRIFOOD SYSTEMS?

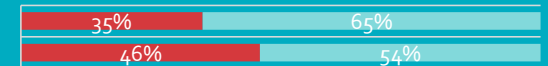
(% of NDCs)



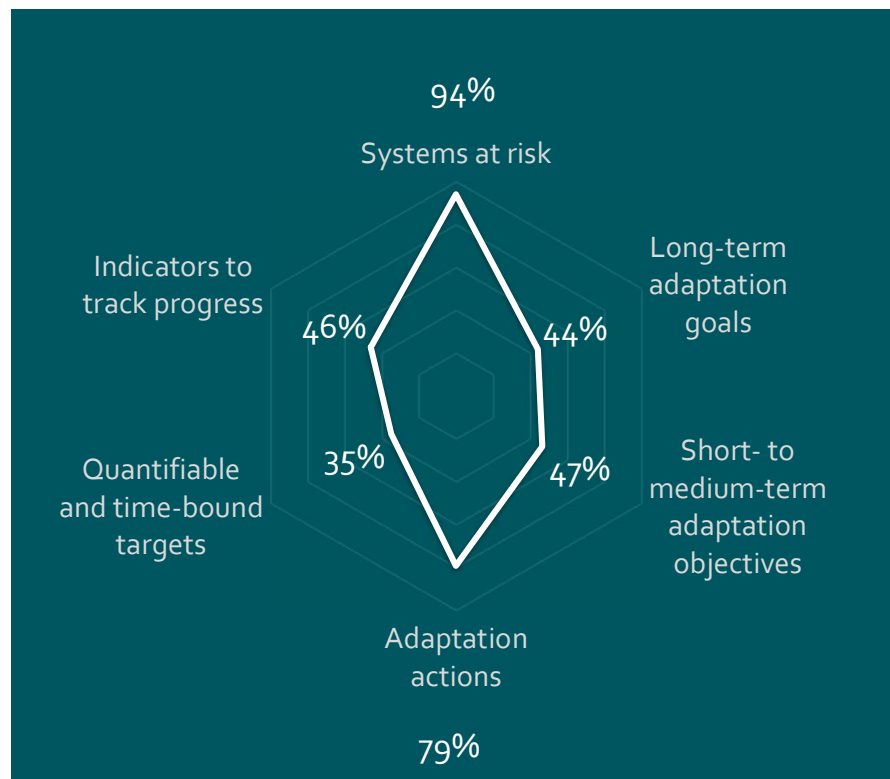
## QUANTIFIED AND TIME-BOUND TARGETS INDICATORS

■ Yes ■ No

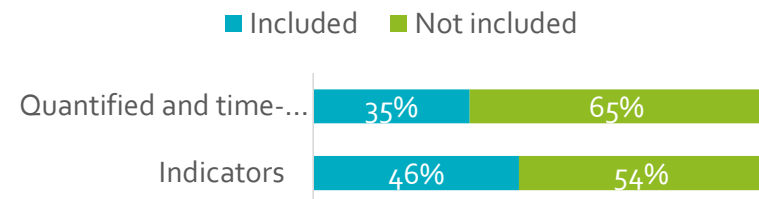
(% of NDCs)



# HOW 'TRACKABLE' IS ADAPTATION IN AGRIFOOD SYSTEMS IN NDCs?



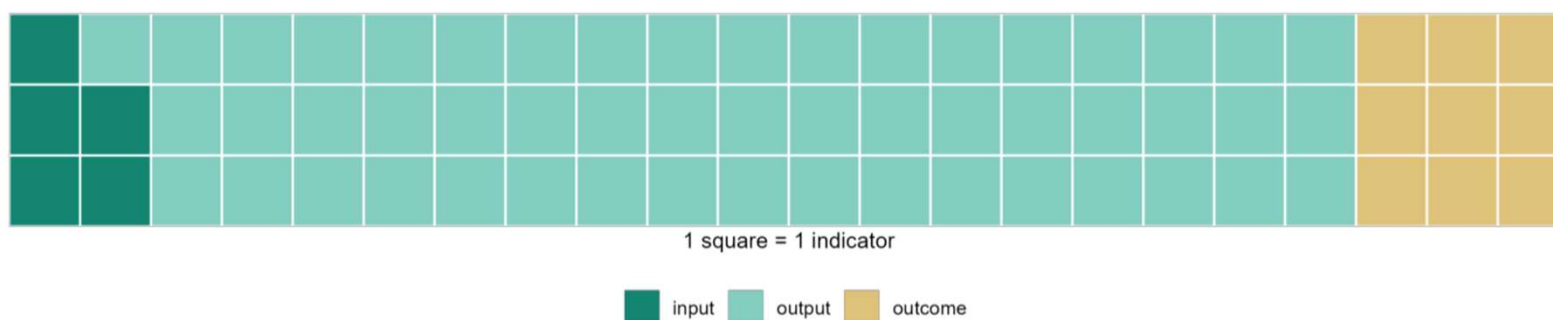
- Elements of adaptation in AFSs primarily consist of the identification of climate risks & near-term adaptation actions
- Less than half of NDCs include indicators for tracking adaptation in AFSs. And only 35% include adaptation targets that are quantified and time-bound.



FAO, 2024



# THE LARGE MAJORITY OF ADAPTATION INDICATORS IN AFSs TRACK ACTIVITY IMPLEMENTATION



“Number of **development plans** taking integrating climate change adaptation”

“Cumulative volume of **finance** [USD millions] mobilized for climate and environmental purposes”

“Number of **plans** developed for the implementation of an early warning system for women in food crops agriculture”

“Rate of women having **benefited from technical and financial support** measures for adapting to climate constraints”

“Number of **new varieties** introduced/ zone”

“Number of **meteorological stations** built “

“**Productivity** of rainfed cropland (based on average for teff, wheat, barley and corn) (quintals/ha) “

“Proportion of increase in **climate service data reliability** (0.85)”

“Percentage **reduction of crop and animal disease cases** (30% reduction from 2022/2023 baseline)”

Source: NDCs & NAPs in Africa (Rosenstock, Njugana, Wamkukoya & Crumpler,

## Examples of types of adaptation sub targets mentioned within the NDCs w.r.t to agrifood systems.

- **By 2030, the technical and human capacities of the specific agriculture programmes will be strengthened to mainstream climate.**
- **By 2030, at least 10,000 households will be using rainwater for agricultural purposes**
- **By 2030, reduce the loss of land productivity by 50%**
- **By 2030, %/ha of degraded land reduced.**
- **By 2030, develop at least 10 food crop varieties adapted to temperature stress.**
- **By 2030 number of seed banks developed**

Targets to improve adaptive capacity

Targets to reduce vulnerability

Targets to improve resilience

Targets to achieve development impacts in agrifood systems





## Where are the gaps and challenges?

Countries adopt context specific targets to build resilient agrifood systems and thereby have context specific indicators to measure adaptation progress with respect to agriculture.

This presents a challenge in terms of defining common targets and indicators within element B

Another challenge is interlinkages between targets in the agrifood systems. Water, Ag and Energy.

Also not all countries are fully taking a food system approach to establishing targets and indicators.

Reporting burdens. Methodologies, climate rationalization of existing indicators.

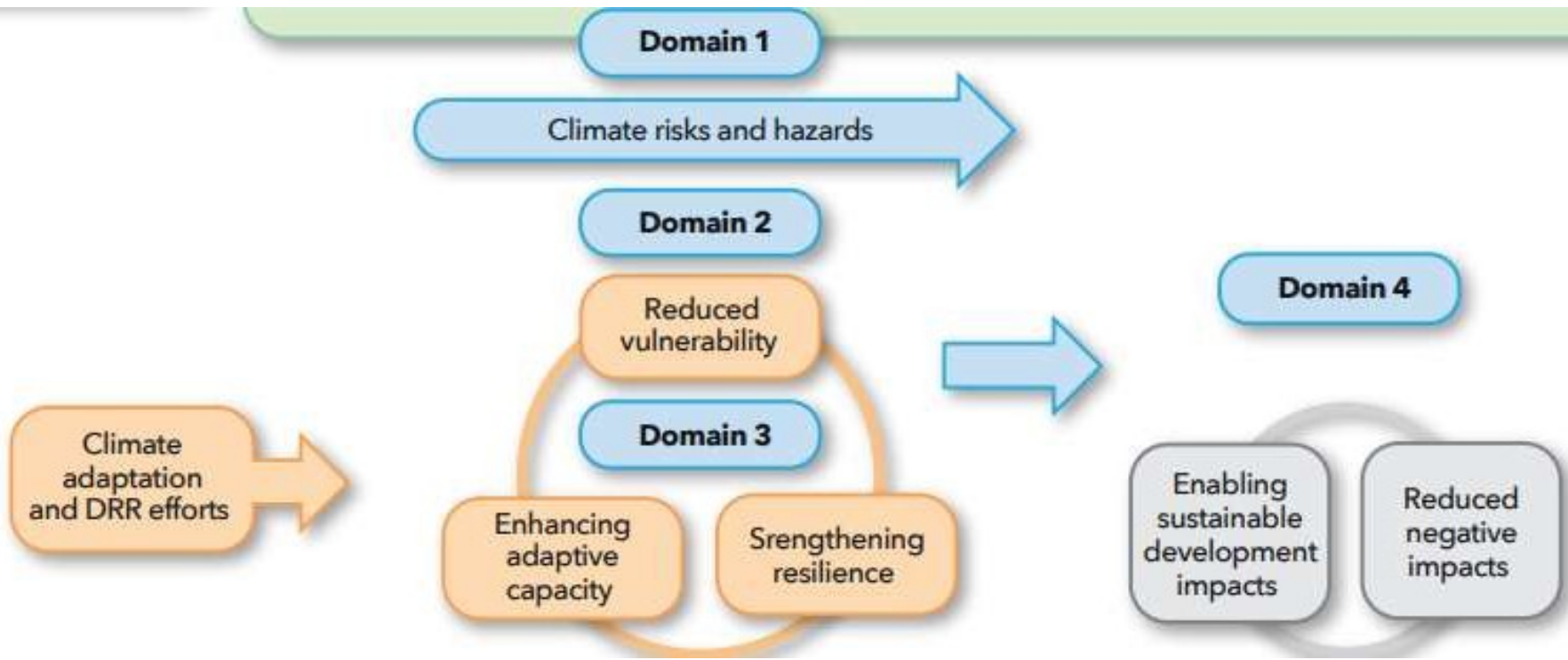


## A framework-based approach to developing indicators on food and agriculture

The overall objective of the Adaptation actions is to **reduce vulnerability and risks** caused by the impacts of climate change by **strengthening the resilience and adaptive capacity** of economic and ecological communities and to promote the mainstreaming of climate change adaptation into the **strategy and planning system** and thereby **enable development impacts**.

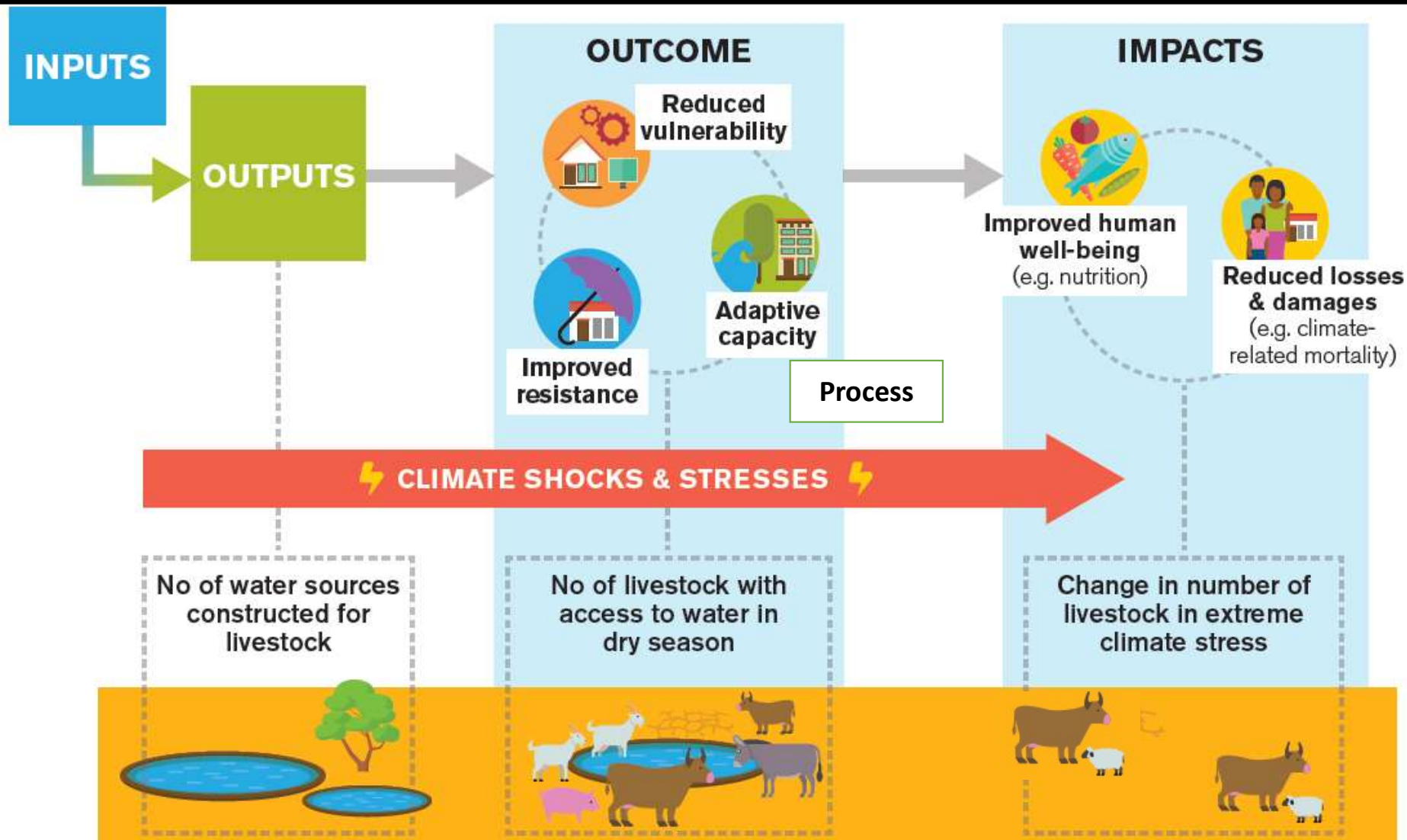


# The GGA domains and the proposed adaptation metric framework



*Adaptation; TAAS framework; Brooks, Nick; Theory of change developed for DFID resilience framework.*

# What should an adaptation indicator framework measure?



## *Suggested metric framework for agriculture using SDG indicators*

### **Domain 1 Climate parameters**

Temperature  
Precipitation  
Extreme climate and weather events

### **Domain 2 Vulnerability Metrics:**

#### Ecological drivers of vulnerability

Availability of water  
Availability and quality of productive lands  
Status of ecosystems supporting agriculture production

#### Socio economic drivers of vulnerability

Income and livelihoods  
Secure land tenure rights

Outcome

### **Domain 3 Resilience & Adaptive Capacity Metrics:**

Agricultural investment  
Change in water efficiency  
**Integration of climate change measures into national policies, strategies and planning**  
Sustainable and resilient ecosystems  
Sustainable and resilient food production systems  
Status of diversity of genetic resources

Outcome and Process

### **Domain 4: Development Impact Metrics:**

Food security  
Impacts on agricultural systems  
Impact on people and society

Impacts



# In other words...indicators should

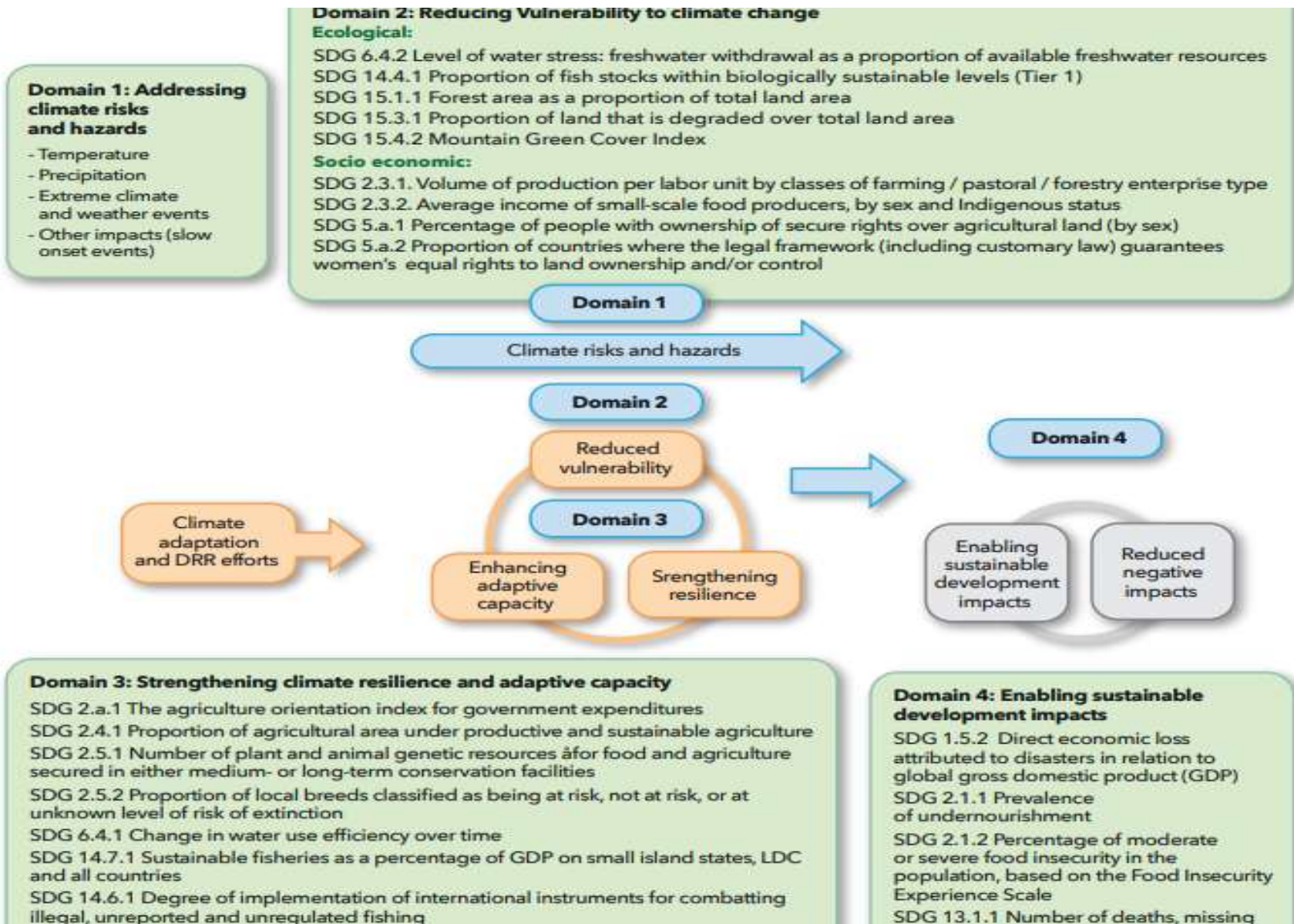
- Measure the **process of adaptation** such as advancement in implementing programs, policies and plans or building individual and institutional capacity
- Measuring **adaptation outcomes**
- Measuring the increases in **adaptive capacity**
- Measuring changes in **the impacts of climate change, quantify damages and losses** (e.g. crop losses), and **vulnerability** to climate change
- Measuring occurrence and frequency of **climate hazards**

## Different levels of M&E

- National
- Sub-national
- Programme and project levels
- Sectoral



# The Metrics and relevant SDG/SFDRR indicators





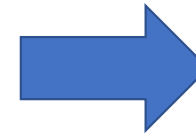
## Drivers of Vulnerability and relevant SDG metrics and indicators

Ecological drivers: natural resources and ecosystems	SDG Indicator
<b>Availability and quality of water</b>	SDG 6.4.1 (FAO) Change in water-use efficiency over time  SDG 6.4.2 (FAO) Level of water stress: freshwater withdrawal as a proportion of available freshwater resources
<b>Availability and quality of productive lands</b>	SDG 15.3.1 (UNCCD) (FAO partner agency) Proportion of land that is degraded over total land area
<b>Status of ecosystems supporting agriculture production</b>	SDG 14.4.1 (FAO) Proportion of fish stocks within biologically sustainable levels  SDG 15.1.1 (FAO) Forest area as a proportion of total land area  SDG 15.4.2 (FAO) Mountain Green Cover Index

# Modalities, Procedures and Guidelines (MPGs) of ETF

## Information to be communicated (MPGs)

1. Introduction
2. National inventory report of anthropogenic emissions
3. Information necessary to track progress made in implementing and achieving NDCs.
- 4. Information related to climate change impacts & adaptation under Article 7**
5. Information on financial, technology development and transfer and capacity-building support provided and mobilized
6. Information on financial, technology development and transfer and capacity-building support needed and received
7. Technical Expert Review
8. Facilitative, multilateral consideration of progress.



**Chapter 1V.  
Climate change impacts  
and Adaptation**



## Using SDG indicators to inform the BTR adaptation section



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Aspects of Element, E, F, H	Metric	SDG and SFDRR indicator and custodian		GGA domain
E. Progress on implementation of adaptation	Availability of water and change in water efficiency	SDG 6.4.2	FAO	Vulnerability
	Availability and quality of productive lands	SDG 15.3.1	UNCCD (FAO partner agency)	Vulnerability
	Status of ecosystems supporting agriculture production	SDG 14.4.1 SDG 15.1.1	FAO FAO	Vulnerability
	Secure land tenure rights	SDG 5.a.1 SDG 5.a.2	FAO FAO	Vulnerability
	Income and livelihoods	SDG 2.3.1. SDG 2.3.2.	FAO FAO	Vulnerability
F. Monitoring and evaluation of adaptation actions and processes	Sustainable and resilient ecosystems	SDG 15.2.1 SDG 14.7.1 SDG 14.6.1 SDG 14.b.1	FAO FAO, UNEP- WCMC FAO FAO	Resilience/ adaptive capacity
	Sustainable and resilient food production systems	SDG 2.4.1.	FAO	Resilience/ adaptive capacity
	Availability of water and change in water efficiency	SDG 6.4.1	FAO	Resilience/ adaptive capacity
	Status of diversity of genetic resources	SDG 2.5.1 SDG 2.5.2	FAO	Resilience/ adaptive capacity
	Integration of climate change measures into national policies, strategies and planning	SDG 13.1.2 SDG 13.1.3 SDG 13.2.1	UNDRR UNDRR UNFCCC	Resilience/ adaptive capacity





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# Using metrics to assess progress towards the Paris Agreement's Global Goal on Adaptation

## TRANSPARENCY IN ADAPTATION IN THE AGRICULTURE SECTORS

This publication provides a comprehensive  
metric framework to assess adaptation progress  
in agriculture sectors



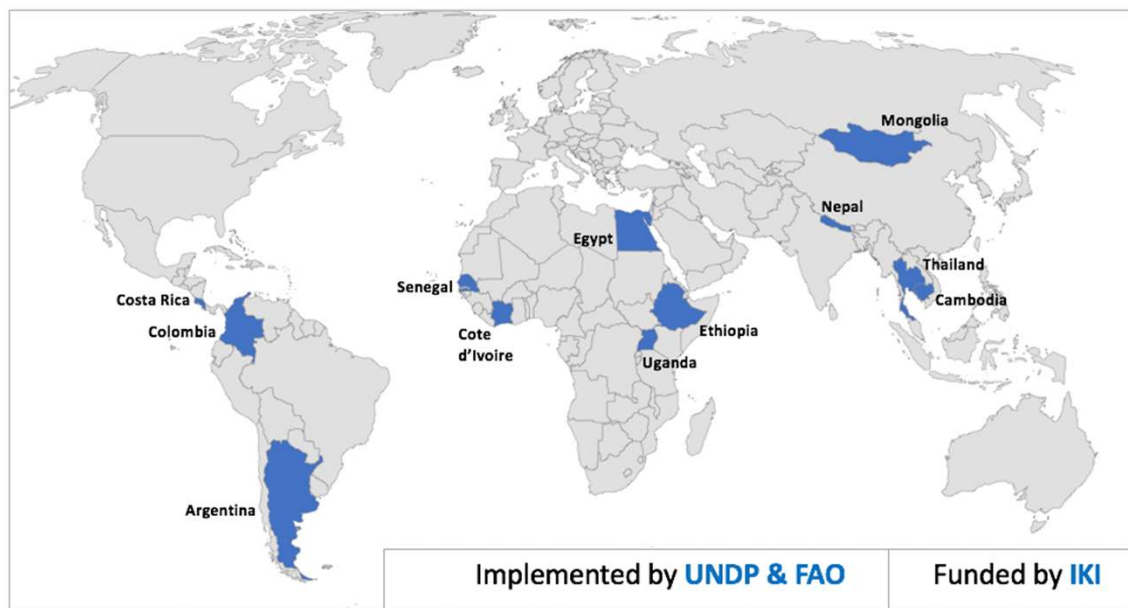
<https://t.ly/ZnDG->

Scan the code with a QR  
code reader to download  
the publication



# SCALING UP CLIMATE AMBITION ON LAND-USE AND AGRICULTURE THROUGH NDCs AND NAPs

## SCALA PROGRAMME



### Goal

Support transformative climate action in the land-use and agriculture sectors to reduce GHG emissions and/or enhance removals, as well as strengthen resilience and adaptive capacity to climate change in participant countries.



Thank you

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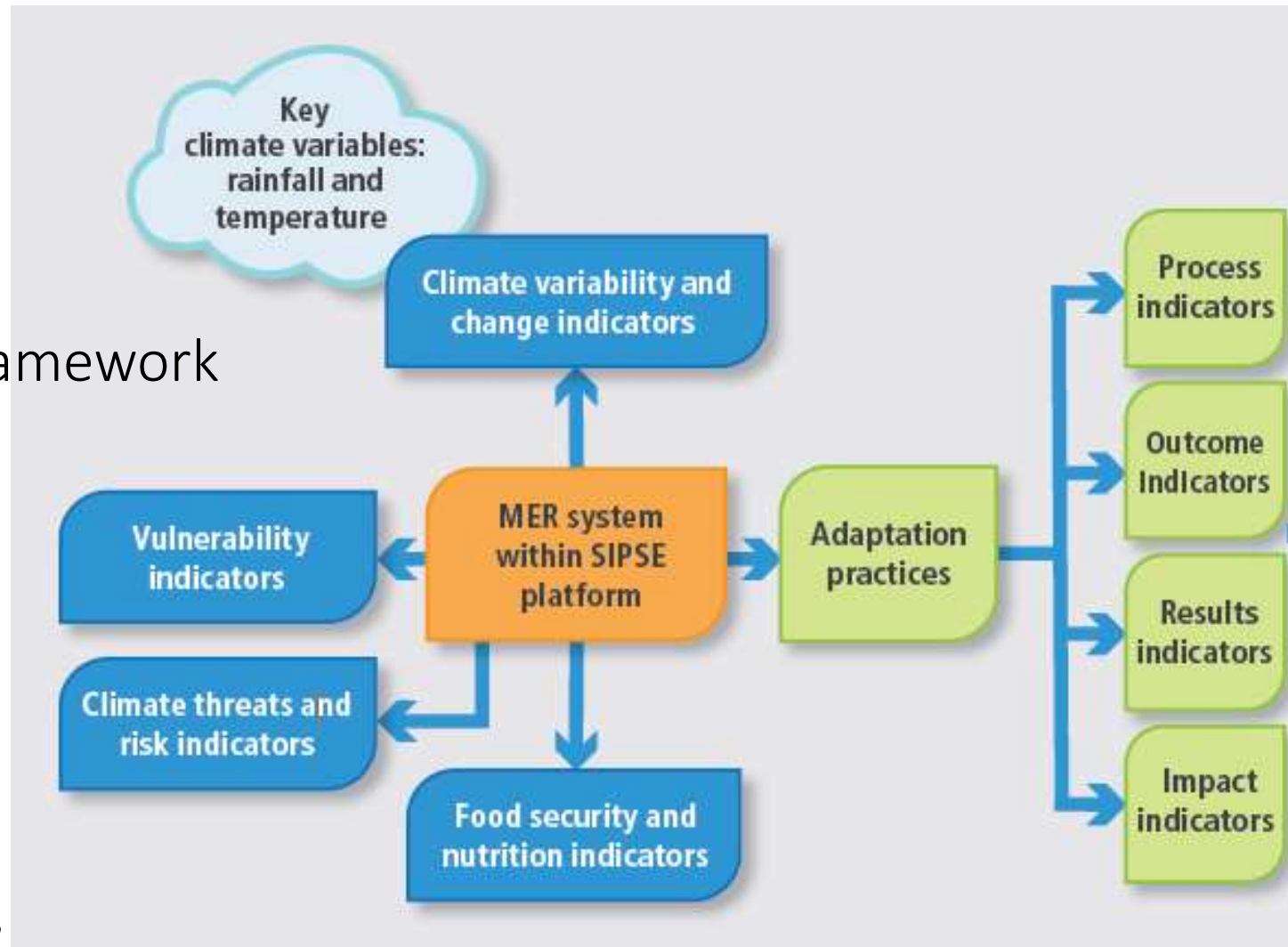


Guatemala

Developing an M&E framework for adaptation

MER-agriculture was designed on the basis of on extensive internal consultation.

Four key agriculture sub-sectors, a cross-cutting theme and five sub-systems



## Step 5: Identifying indicators to track adaptation

MER-agriculture defines indicators for measuring policy goals and actions taken by MAGA and MARN

Sub-system	Indicators (examples)	Baseline
Risks and threats	Deforestation rate	0.50%
	Protected Area coverage (ha)	38.31%
	Forest coverage in ha (by forest type – coniferous)	297,983
Vulnerability	Poverty rate	59.3%
	Rate of emigration	13.91%
	Portion of work force in agriculture	33.10%
Food Security	Production of rice (in millions of tonnes/yr)	33,732,31
	Food security in households	19.2%
	Access to clean water	60.20%
Adaptation practices	Nr of participants in institutional capacity building on climate change (in 2018)	15 women 104 men
	Nr of irrigation projects	10
	Support provided to soil conservation measures (ha)	No data
	Nr of households adopting sustainable agro/forestry practices	No data

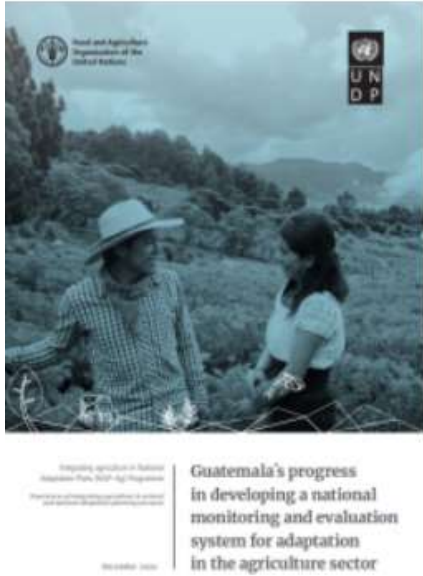




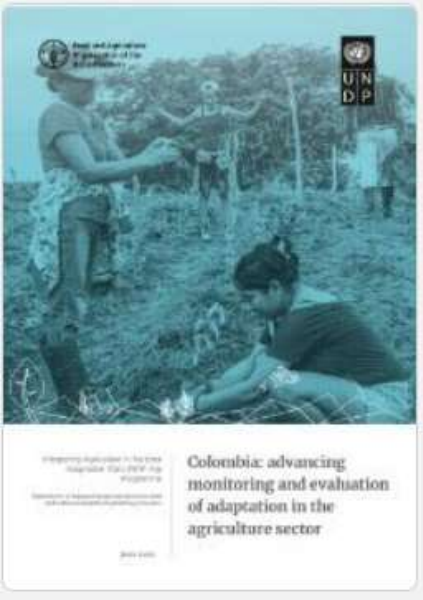
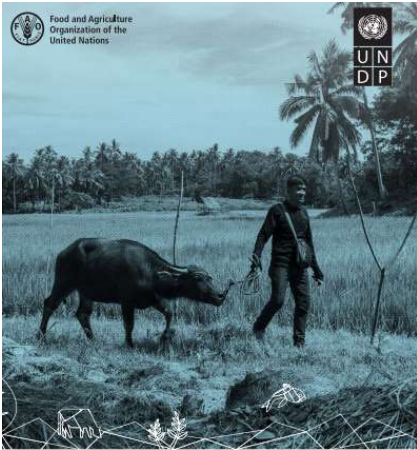
**Guatemala**’s progress in developing a national monitoring and evaluation system for adaptation in the agriculture sector

# CASE STUDIES

**Colombia:** advancing monitoring and evaluation of adaptation in the agriculture sector



Progress in developing a national M&E system for adaptation in the agriculture sector: a **multi-country case study**



# Technical Guidance Note



Empowered lives.  
Resilient nations.

## Steps for developing an M&E system for adaptation in the agriculture sector

<b>Step 1</b>	Understanding the policy context
<b>Step 2</b>	Developing a shared adaptation goal and pathways for integrating adaptation in the agriculture sector
<b>Step 3</b>	Defining the purpose and focus of the M&E framework
<b>Step 4</b>	Developing an M&E Framework for adaptation in the agriculture sector
<b>Step 5</b>	Identifying indicators to track adaptation in the agriculture sector
<b>Step 6</b>	Identifying the sources and type of data and information required for each indicator
<b>Step 7</b>	Operationalising adaptation M&E for decision-making in the agriculture sector

**Accompanied by an M&E Training Package**

Available in: English, French, Spanish

<https://www.fao.org/in-action/naps/resources/learning/monitoring-and-evaluation-guide/en/>



Integrating Agriculture in National  
Adaptation Plans (NAP-Ag) Programme

Safeguarding livelihoods and promoting  
resilience through National Adaptation Plans

March 2019

**Strengthening monitoring  
and evaluation for  
adaptation planning in  
the agriculture sectors**