Food and Agriculture Organization of the United Nations

Essential SDG metrics to assess progress towards the global goal on adaptation with a focus on the agriculture sectors

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"Not everything that can be counted counts, and not everything that counts can be counted"

Albert Einstein

Outline

- Why assessing adaptation in Agricultural Sectors is pertinent for measuring the GGA and SDGs?

- Highlight the references to adaptation in the SDGs

- Unpack the GGA to assess its achievements

- SDG metrics and indicators to assess Vulnerability

- SDG metrics and indicators to assess Adaptive Capacity and Resilience

- SDG metrics and indicators to assess Development Impact

- Coherence between Guatemala National Adaptation Monitoring, Evaluation and Reporting System for Agriculture and SDGs

Agenga 2030 and Adpatation

- Nearly all the 169 SDG targets are at threat from near-term climate change

- Adaptation actions in the agriculture sectors and ecosystem management can help achieve targets for 13 out of 17 SDGs

- Agriculture sectors are uniquely places to deliver on both adaptation and development goals

- Agriculture sectors are also recognized as a key in meeting the GGA and in measuring its progress

- Key SDGs for agriculture and adaptation: 1 (poverty reduction), 2 (end hunger), 5 (gender equality), 6 (clean water), 13 (climate action), 14 (life below water), 15 (life on land)

Synergies between adaptation priority areas towards SDGs identified in NDCs

Reference to adaptation in the SDGs

Agenda 2030 refers **to the concept of climate resilient food systems**, namely:

SDG 1 aims at building the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events

SDG 2 aims at ensuring sustainable food production systems and implement resilient agricultural practices that increase productivity and production, help maintain ecosystems, strengthen capacity for adaptation to CC, extreme weather,…

Agenda 2030 gives **explicit indications of the importance of addressing climatic-related hazards and disasters**, namely:

SDG 15 aims to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

SDG 14 aims to conserve and sustainably use the oceans, seas and marine resources for sustainable development and minimize and address the impacts of ocean acidification, ..

Several SDG goals have a strong focus on **ecological resilience and protection and restoration of ecosystems and their services**:

- **SDG 14** aims to sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience

- **SDG 6** aims to protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.

- **SDG 15** aims to ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services

Some SDGs underscore **conservation and sustainable use of biodiversity and genetic resources**:

- **SDG 2** aims to maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species

- **SDG 15** aims to take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity, protect and prevent the extinction of threatened species

Reference to adaptation in the SDGs (cont.)

Some SDGs also highlight the importance of **ensuring availability and quality of water and productive land**:
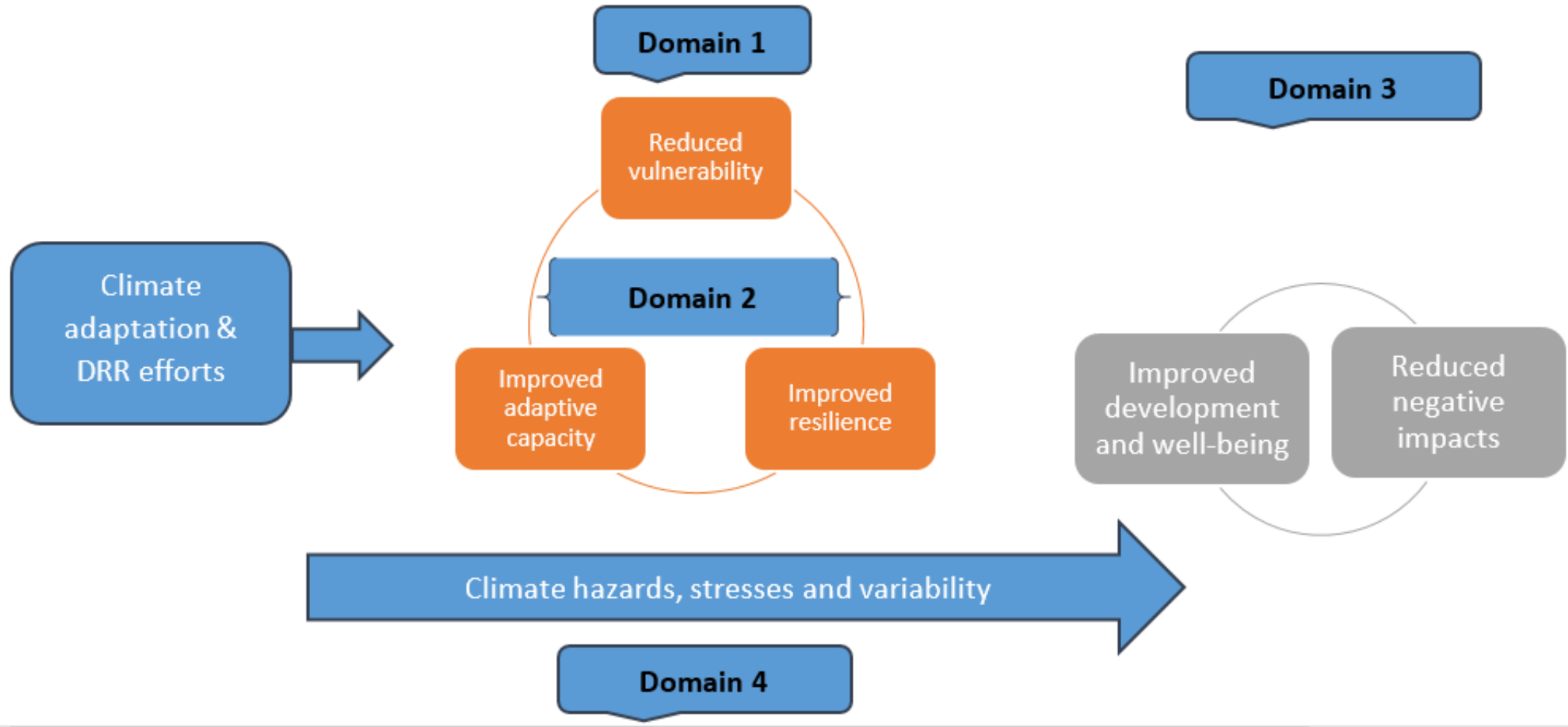
- SDG 1 aims to ensure equal rights to economic resources, as well as access to basic services, ownership and control over land
- SDG 2 aims to double the agricultural productivity and incomes of small-scale food producers, …, including through secure and equal access to land
- SDG 5 aims to undertake reforms to give women equal rights to economic resources, and access to ownership and control over land
- SDG 6 aims to substantially increase water-use efficiency across all sectors, ensure sustainable withdrawals and supply of freshwater to address water scarcity, and implement integrated water resources management at all levels

"Indeed, it is clear that progress towards many of the SDGs – on hunger, water, gender and ecosystems – is likely to increase resilience " (UNFCCC, 2018)

Drivers of Vulnerability and relevant SDG metrics and indicators

Ecological drivers: natural resources and ecosystems	SDG Indicator
Availability and quality of water	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
Availability and quality of productive lands	SDG 15.3.1 (UNCCD) (FAO partner agency) Proportion of land that is degraded over total land area
Status of ecosystems supporting agriculture production	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

Drivers of Vulnerability and relevant SDG metrics and indicators

Socio-economic drivers	SDG Indicator
Access to land	SDG 5.a.1 (FAO) Percentage of people with ownership of secure rights over agricultural land (by sex) SDG 5.a.2 (FAO) Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control
Income and livelihoods	SDG 2.3.1. (FAO) Volume of production per labor unit by classes of farming / pastoral / forestry enterprise type SDG 2.3.2. (FAO) Average income of small-scale food producers, by sex and indigenous status

Resilience, adaptive capacity and relevant SDG metrics and indicators

Resilience and adaptive capacity of ecosystems, institution, governance and infrastructure	SDG Indicator
Sustainable and resilient ecosystem	SDG 15.2.1 (FAO) Sustainable forest management SDG 14.7.1 (FAO, UNEP-WCMC) Sustainable fisheries as a percentage of GDP on small island states, LDC and all countries SDG 14.6.1 (FAO) Degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing SDG 14.b.1 (FAO) Degree of application of a legal/ regulatory/ policy/institutional framework which recognizes and protects access rights for small-scale fisheries
Sustainable and resilient food production systems	SDG 2.4.1. (FAO) Proportion of agricultural area under productive and sustainable agriculture

Resilience, adaptive capacity and relevant SDG metrics and indicators

Resilience and adaptive capacity of ecosystems, institution, governance and infrastructure	SDG Indicator
Status of diversity of genetic resources	SDG 2.5.1 (FAO) Number of plant and animal genetic resources for food and agriculture secured in either medium or long-term conservation facilities (Tier 1) SDG 2.5.2 (FAO) Proportion of local breeds classified as being at risk, not-at-risk or at unknown level of risk of extinction
Integration of climate change measures into national policies, strategies and planning	SDG 13.1.2 (UNDRR) Number of countries that adopt and implement national DRR strategies in line with the SFDRR SDG 13.1.3 (UNDRR) Proportion of local governments that adopt and implement local DRR strategies in line with national DRR strategies SDG 13.2.1 (UNFCCC) Number of countries with NDC, LTS, NAP and adaptation communications, as reported to the secretariat of the UNFCCC
Agricultural investment	SDG 2.a.1 (FAO) The agriculture orientation index for government expenditures

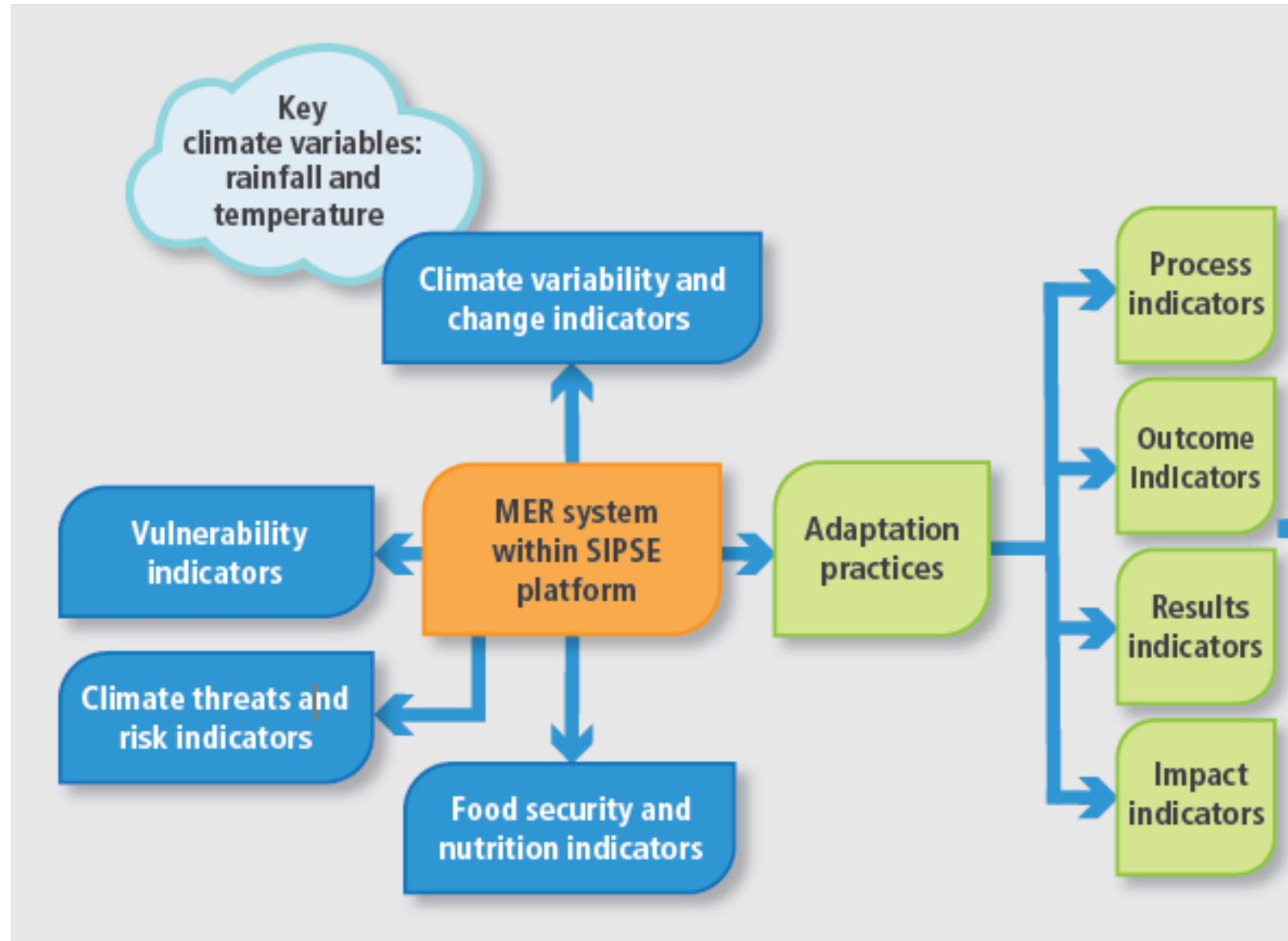# Develpment impact and relevant SDG metrics and indicators

Development impact indicators	SDG Indicator
Food security and nutrition status	SDG 2.1.1 (FAO) Prevalence of undernourishment (Tier 1) SDG 2.1.2. (FAO) Percentage of moderate / severe food insecurity in the population
Impacts on agricultural systems	SFDRR C-2 Direct agricultural loss attributed to disasters (FAO)
Impact on people and society	SDG 1.5.2 (UNDRR, (FAO partner agency) Direct economic loss attributed to disasters in relation to global gross domestic product (GDP) SDG 13.1.1 (UNDRR) Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population

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

Four key agriculture sectors (agriculture, livestock, forestry and fisheries), and five sub-systems

MER-agriculture sub-system	Indicator	Relevant SDG Indicator
Vulnerability	Minimum wage for agricultural, non-agricultural activities	Income of small-scale food producers SDG. 2.3.2
	- Budget allocation according to the Strategic Plan for Food and Nutritional Security - Public investment in areas with high and very high rates of the Index of Vulnerability & Nutritional Food Insecurity	Public investment in agriculture SDG 2.a.1
Risks and threats	- Proportion of the forest area in the total extension of the country (%) - Forest cover (ha) by forest type	Forest area SDG 15.1.1
	- Annual deforestation rate -national and departmental - Forest fires: type of fire and area affected (ha) - Forest fires by forest type and affected area (ha)	Progress towards sustainable forest management SDG 15.2.1
	Protected Areas: quantity and extension (ha) by management category	Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type SDG 15.1.2

MER-agriculture sub-system	Indicator	Relevant SDG Indicator
Food security and nutrition	Prevalence of food and nutrition insecurity (in households)	Severity of food insecurity SDG 2.1.2
	- Proportion of children < five years who are underweight for age -Global malnutrition - Proportion of children < five years with chronic malnutrition	Prevalence of undernourishment SDG 2.1.1
Adaptation practices	Ha under improved agricultural productive systems	Proportion of agricultural area under productive and sustainable agriculture SDG 2.4.1
	Vulnerable families affected by agroclimatic phenomena and others	Number of deaths and directly affected persons attributed to disasters SDG 13.1.1

Comparison of the monitoring frameworks of the three Agreements

	SDGs (Agenda 2030)	SFDRR	Paris Agreement
Quantitative goals or targets at global level	17 global goals with several targets each. Countries may define additional national targets.	7 global targets. Countries may define additional national targets.	For mitigation (well below 2°C and pursuing efforts to 1.5°C). The global goal on adaptation is qualitative. Countries define their own targets (NDCs).
Development of global M&E framework	By an 'Inter-Agency and Expert Group on Sustainable Development Goal Indicators', adopted by UN General Assembly.	By an 'open-ended intergovernmental expert working group' comprising experts nominated by States and supported by the UNISDR; adopted by UN General Assembly.	Modalities, procedures and guidelines (MPG) for national reporting under the transparency framework for action and support (Art. 13) and Adaptation Communications (Art. 7); Parties may develop country-specific adaptation M&E systems (Art. 7).
Mention of adaptation objectives	Climate action and DRR are cross cutting, mentioned in SDG 1, SDG 5, SDG 6, SDG 11, SDG13, SDG 14, SDG 15	Recognizes CC as a driver of disaster risk, and points to the opportunity to reduce disaster risk in a meaningful and coherent manner	Articles 7 and 8 explicitly focus on adaptation, DRR and sustainable development objectives

Adaptation information to be communicated under MPGs of the ETF

A. National circumstances, institutional arrangements and legal frameworks relevant to adaptation

B. Impacts, risks and vulnerabilities

C. Adaptation priorities and barriers

D. Adaptation strategies, policies, plans, goals and actions to integrate adaptation into national policies and strategies

E. Progress on implementation of adaptation

F. M&E of adaptation actions & processes

G. Info related to averting, minimising and addressing loss and damage associated with climate change impacts.

H. Cooperation, good practices, experience and lessons learned

G. Any other info related to impacts & adaptation

Chapter IV. Climate change impacts and Adaptation

The use of SDG indicators for adaptation reporting under different elements of the MPGs and relevant sections of the BTR the ETF

SDG Indicator	Metric	Element of the MPG	
2.1.1 2.1.2	Food security and nutrition status	A. and B.	
2.3.1 2.3.2	Income and livelihoods	B.	
2.4.1.	Sustainable and resilient food production systems	A. and B.	
2.5.1 2.5.2	Status of diversity of genetic resources	E.	
2.a.1	Agricultural investments	E.	
5.a.1 5.a.2	Access to land	A.	

SDG Indicator	Metric	Element of the MPG	
6.4.1 6.4.2	Availability and quality of water	B.	
14.4.1	Status of ecosystems supporting agriculture production	B.	
14.6.1 14.7.1 14.b.1	Sustainable and resilient ecosystems	D. and E.	
15.1.1 15.4.2	Status of ecosystems supporting agriculture production	A. and B.	
15.2.1	Sustainable and resilient ecosystems	D. and E.	
15.3.1	Availability and quality of productive land	B.	

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https://www.fao.org/in-action/naps/en/
- SCALA
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