

THE KORONIVIA JOINT WORK ON AGRICULTURE AND ADAPTATION METRICS FOR AGRICULTURE

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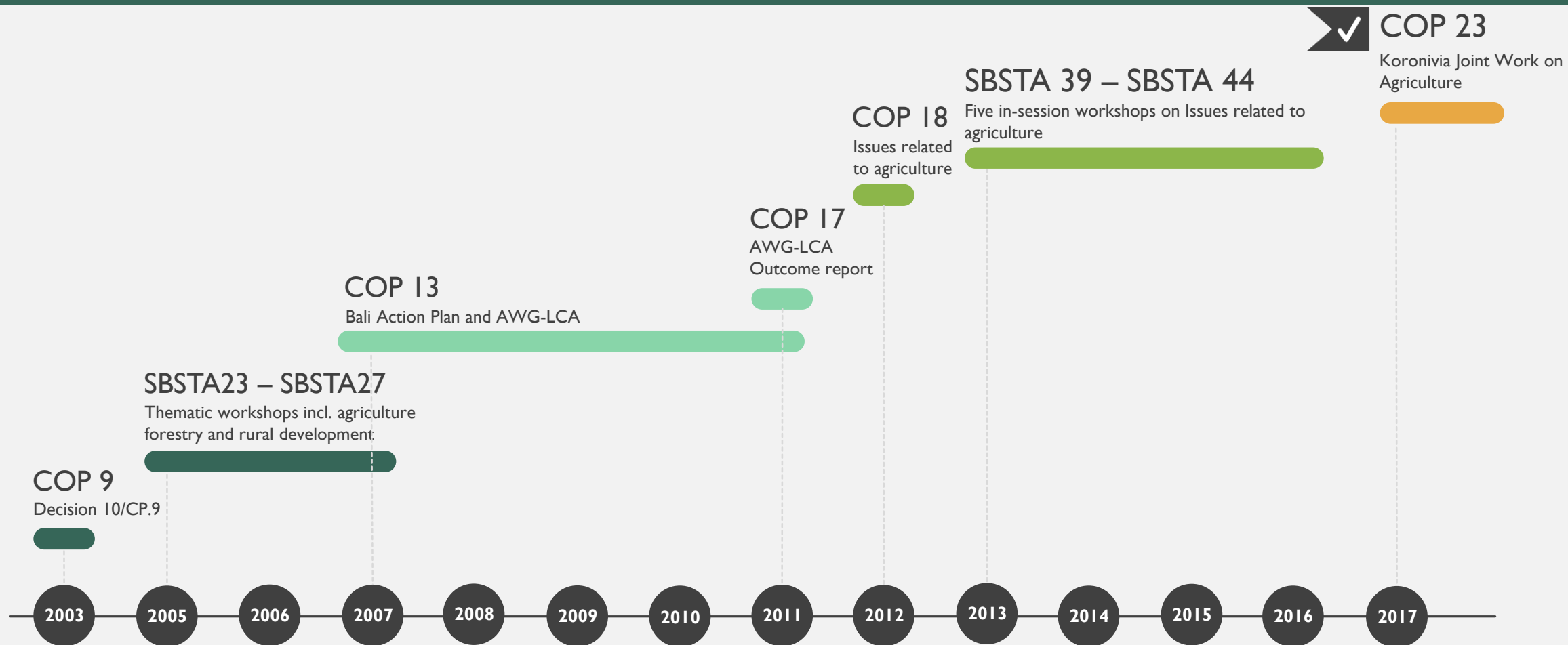


Food and Agriculture
Organization of the
United Nations

KOREA GLOBAL ADAPTATION WEEK

11 April 2019

BRIEF BACKGROUND OF AGRICULTURE IN THE CONVENTION



KORONIVIA JOINT WORK ON AGRICULTURE

Decision 4/CP.23

The decision calls for:

- Joint work on Agriculture under SBSTA and SBI, taking into consideration vulnerabilities of **agriculture** to **climate change** and approaches to address **food security**.

It aims to achieve this through, inter alia:

- Workshops and expert meetings; and
- Collaboration with constituted bodies under the Convention.

SBSTA/SBI are requested to **report back to COP 26** (November 2020).



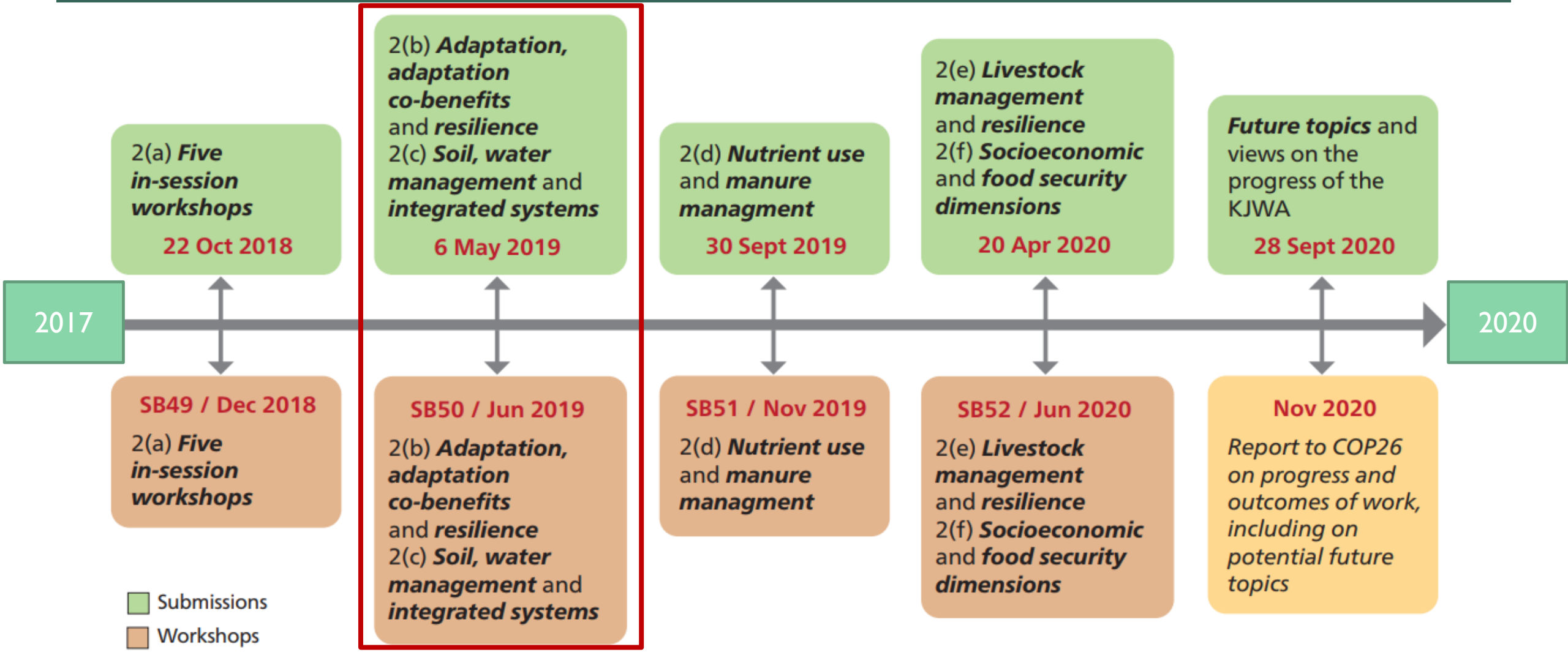
KORONIVIA JOINT WORK ON AGRICULTURE

Six elements of the decision

- (a) **Modalities for implementation** of the outcomes of the **five in-session workshops** on issues related to agriculture and other future topics that may arise from this work;
- (b) **Methods and approaches** for assessing adaptation, **adaptation co-benefits** and **resilience**;
- (c) Improved **soil** carbon, soil health and soil fertility under grassland and cropland as well as **integrated systems**, including **water management**;
- (d) Improved **nutrient use** and **manure management** towards sustainable and resilient agricultural systems;
- (e) Improved **livestock management** systems;
- (f) **Socioeconomic and food security dimensions** of climate change in the agricultural sector.

KORONIVIA JOINT WORK ON AGRICULTURE

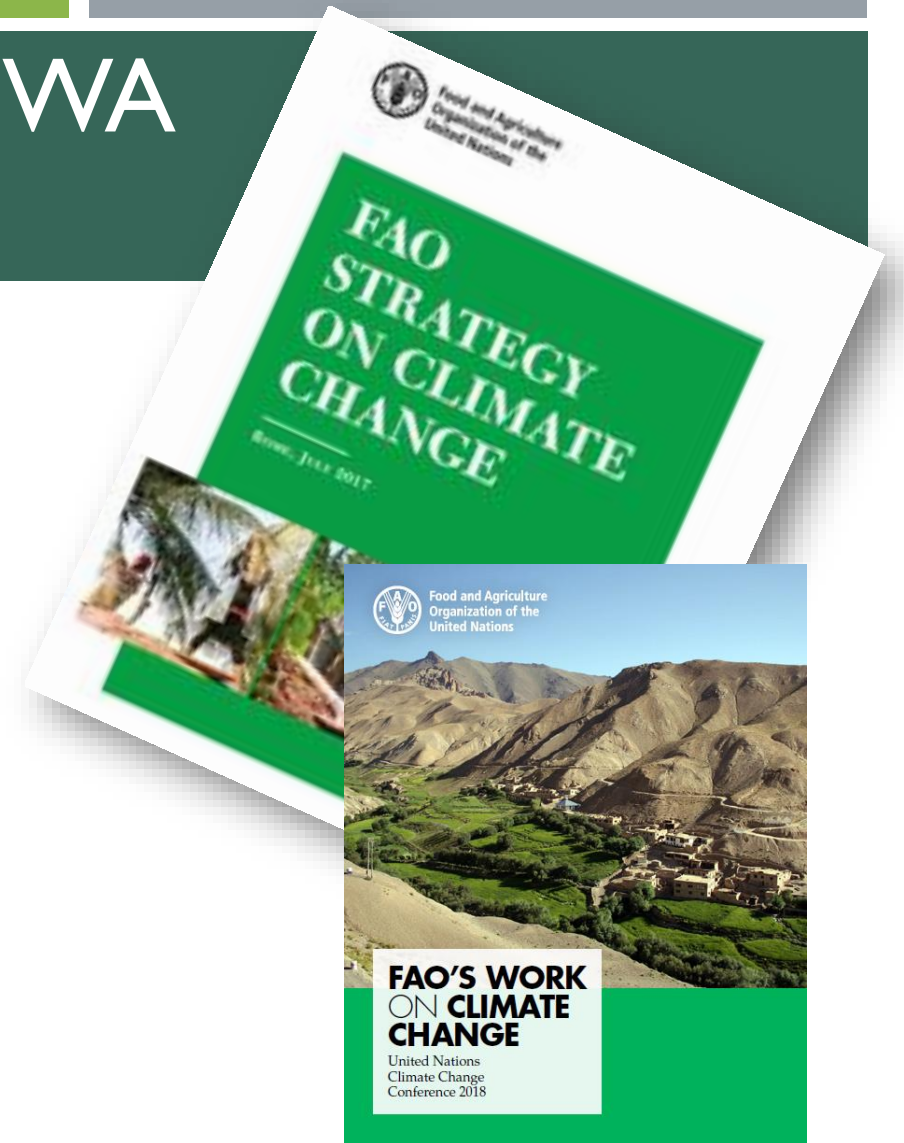
Roadmap



FAO SUPPORT TO ADVANCE KJWA

The Food - Agriculture - Climate Nexus

FAO's Strategy on Climate Change focuses on **supporting countries** toward adapting smallholder production and making the livelihoods of rural populations more resilient.



<http://www.fao.org/3/a-i7175e.pdf>

<http://www.fao.org/3/CA2607EN/ca2607en.pdf>



TRACKING ADAPTATION



HOW CLIMATE CHANGE AFFECTS AGRICULTURE SECTORS

- Decrease in crop yields (incl. wheat, rice and maize)
- Changes in abundance and distribution of aquatic species
- Thermal stress and diseases in livestock
- Changes in forest productivity
- Increase in weeds
- Increases in food prices
- Nutritional quality of food and fodder negatively affected
- Risks to nutrition and food security
- Impacts vary by region, crops and species, with some high-latitude regions seeing positive impacts on e.g. crop yields

GLOBAL CONTEXT FOR TRACKING ADAPTATION

In the Paris Agreement:

*“each Party shall, as appropriate, engage in adaptation planning processes and the implementation of actions, including the development or enhancement of relevant plans, policies and/or contributions, which may include [...], (d) **monitoring and evaluating and learning from adaptation plans, policies, programmes and actions**”* (Decision 1/CP.21.Art.7.9.)

In countries' Nationally Determined Contributions (NDCs):

Most countries emphasize the importance of monitoring and evaluating the impact of their proposed strategies. Where countries **plan to introduce M&E for specific regions or sectors**, they often express the **intention to scale these measures up** to the national level in the long run. (FAO 2016. *The agriculture sectors in the INDCs*, Rome).

What are the opportunities/advantages of M&E of adaptation?

Understand
and learn
from change

Inform
strategic
decisions

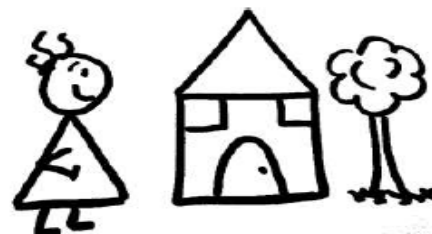
Foster dialogue
and exchange

Transparency
and
Accountability

New
partnerships/
collaborations

Course
adjustments
and
corrections

Reporting-
International
Commitments



Source:
NAP
Global
Network

NAP Technical Guidelines *(LDC Expert Group, 2012)*

The NAP Technical Guidelines recommend the establishment of an M&E system from the outset of a NAP process:

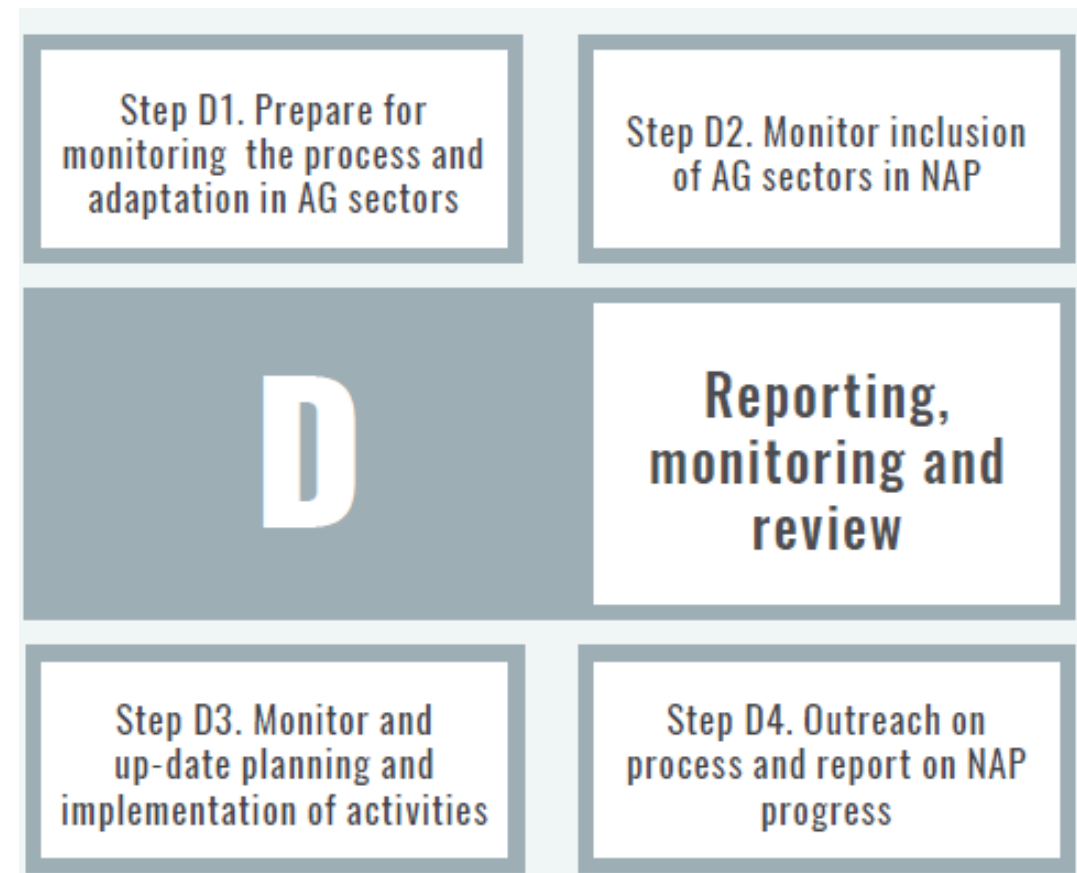
Steps of Element D. Reporting, Monitoring and Review

1. Monitoring the NAP process
2. Reviewing the NAP process to assess progress, effectiveness and gaps
3. Iteratively updating the national adaptation plans
4. Outreach on the NAP process and reporting on progress and effectiveness

FAO NAP Supplementary Guidelines (FAO, 2017)

Focus of a NAP M&E:

1. Assess the **progress, effectiveness** and gaps in **identifying and prioritizing adaptation options** for the agriculture sectors
2. Track national **progress towards adaptation targets and national development goals**, through aggregation of outcomes of adaptation programmes and policies;
3. Monitor and iteratively **update the process of adaptation planning** and implementation in the agriculture sector.



National level

**National level
planning and
budgeting
National
Programmes**

**National
Adaptation
Plan**
(incl. agriculture)

Sector level

**Sectoral
planning and
budgeting
Sector-specific
programmes**

(Climate Smart)
**Agriculture
Strategy** (incl.
adaptation)

Local level

**Sub-national/municipal
level planning and
budgeting
Programmes and
projects**

Impact evaluation of
agriculture and
adaptation programmes

GIZ ADAPTATION INDICATORS FOR AGRICULTURE FROM 10 NATIONAL ADAPTATION M&E SYSTEMS

Climate parameters

- Change in annual temperature
- Mean monthly temperature
- Number of hot days
- Change in annual precipitation
- Monthly precipitation
- Extreme precipitation events

Climate impacts

- Number of households affected by drought, disaggregated by sex of head of household
- % of total livestock killed by drought
- Number of surface water areas subject to declining water quality due to extreme temperatures
- Number of hectares of productive land lost to soil erosion
- % of area of ecosystem that has been disturbed or damaged
- Areas covered by vegetation affected by plagues or fires
- Shift of agrophenological phases of cultivated plants
- Losses of GDP in percentage per year due to extreme rainfall

Unit of measurement
Adaptation relevance
Potential limitations
Data needs
Data sources, collection methods
Calculation of the indicator
Spatial scale
Disaggregation

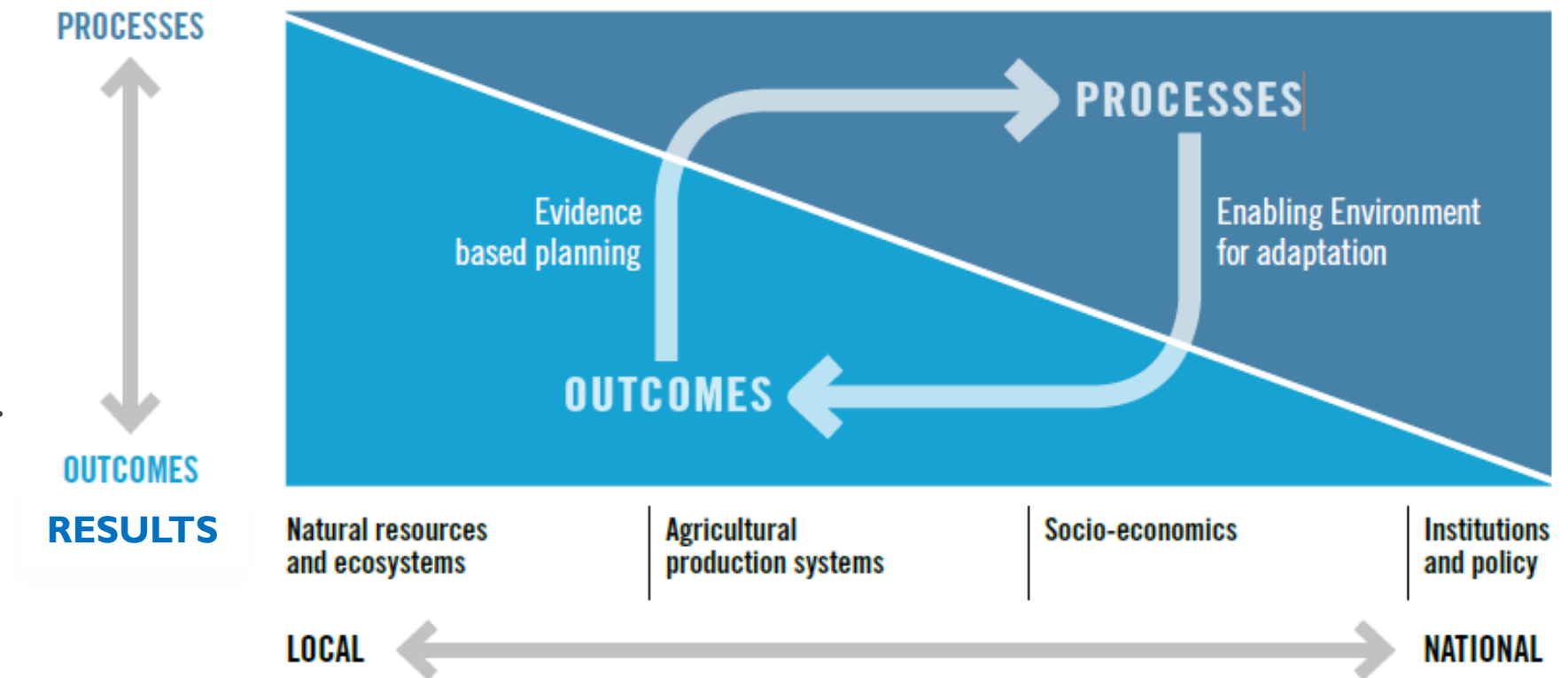
<div>Adaptation</div> <div></div>	<ul style="list-style-type: none"> Percentage of farmers and fisherfolk with access to financial services, disaggregated by sex Total sum of investments in programmes for the protection of livestock Number of inventories of climate change impacts on biodiversity Uptake of soil conservation measures Percentage of treated wastewater Percentage of agricultural land with improved irrigation Number of farmers involved in pilot irrigation messaging projects, Number of women organised in agricultural cooperatives Cultivation of varieties of red wine which like warmth 	<div></div> <div></div>
<div>Adaptation results</div>	<ul style="list-style-type: none"> % of poor people in drought-prone areas with access to safe and reliable water Number of cubic metres of water conserved % of water demand for cash crops being met by existing supply % of water demand for home gardens and cooking being met by existing supply % of livestock insured against death due to extreme weather events % of farmland covered by crop insurance % of additional fodder for grazing livestock Increase in agricultural productivity through irrigation of harvested land Increase in the percentage of climate resilient crops being used % of cultivated surface cultivated with drought resistant varieties Turnover generated by agricultural cooperatives 	

FAO TRACKING ADAPTATION IN AGRICULTURAL SECTORS

Main categories	Subcategories	
Natural resources and ecosystems	1	Availability of, and access to, quality water resources for agriculture
	2	Availability of, and access to, quality agricultural land and forests
	3	Status of ecosystems and their functioning
	4	Status of the diversity of genetic resources in agriculture
Agricultural production systems	1	Agricultural production and productivity
	2	Sustainable management of agricultural production systems
	3	Impact of extreme weather and climate events on agricultural production and livelihoods
	4	Projected impact of climate change on crops, livestock, fisheries, aquaculture and forestry
Socio-economics	1	Food security and nutrition (vulnerability)
	2	Access to basic services
	3	Access to credit, insurance, social protection in rural areas
	4	Agricultural value addition, incomes and livelihood diversification
Institutions and policy making	1	Institutional and technical support services
	2	Institutional capacity and stakeholder awareness
	3	Mainstreaming of climate change adaptation priorities in agricultural policies, and vice versa
	4	Financing for adaptation and risk management

TYPES OF INDICATORS

- **Process indicators** measure progress in implementing adaptation policies, plans, projects or changes in institutional decision-making capacity, which create an enabling environment for adaptation.
- **Outcome/Results Indicators** evaluate whether or not the activity, plan or policy achieved the intended objectives or results.



ELEMENTS OF M&E FOR ADAPTATION IN AGRICULTURE

What are the main challenges for M&E of adaptation?

Adaptation is context specific:
no single approach or metric

Human and Financial resources

Ensure data quality and system flexibility

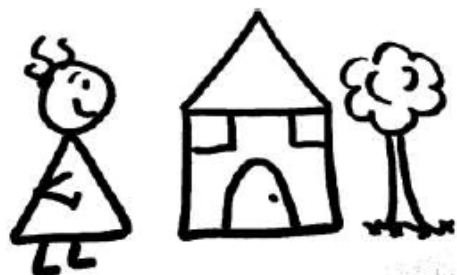
Break silos:
Multi-sectorial collaboration/
articulation in practice

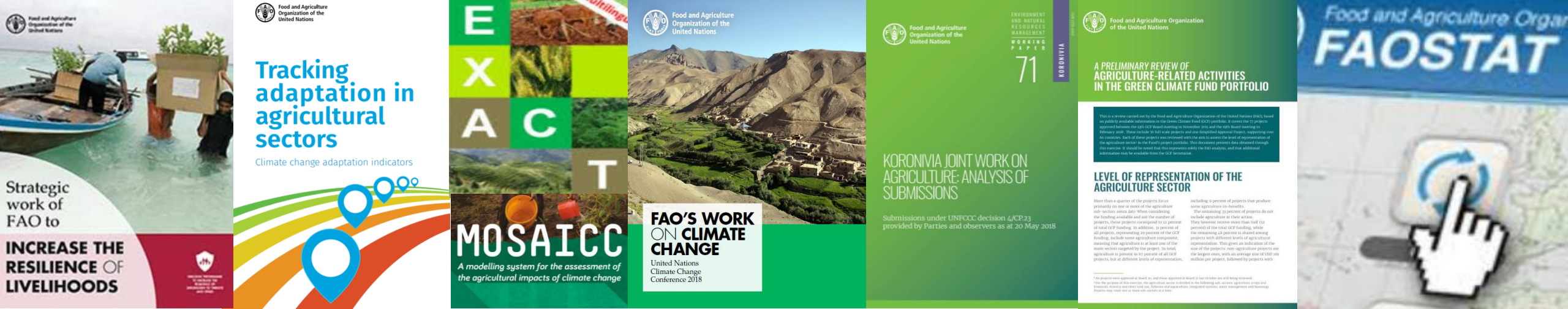
How to account for negative change

Uncertainty and time scales

Gender, trade-offs

Indicators:
what, how, when to measure and how to use it





THANK YOU!

Please visit our website: <http://www.fao.org/climate-change>



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