



# *Climate change action: Findings and lessons from FAO evaluations*

[Serdar Bayryyev](#)  
[Senior Evaluation Officer](#)  
[serdar.bayryyev @fao.org](mailto:serdar.bayryyev@fao.org)

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## Context for FAO work on climate action

- **Climate change** alters the basics of productive ecosystems, impacts on natural resources and affects food security, livelihoods and sustainable development;
- **Agriculture and food systems** are partly responsible for climate change, and at the same time appropriate actions in agriculture, forestry and fisheries can mitigate greenhouse gas emissions and promote climate change adaptation.
- **NDCs** 90% of countries in intended national determined contributions to climate mitigation include agriculture, land use and forestry sector in their mitigation and/or adaptation contributions.



# TRANSFORMING FOOD AND AGRICULTURE TO ACHIEVE THE SDGs

TECHNICAL REFERENCE DOCUMENT

20 interconnected actions to guide decision-makers

## Climate change-related work at FAO

- Estimated 25 percent of **the project portfolio of FAO** are dedicated to, or significantly associated with climate change;
- In 2015, work on climate change was adopted as a **cross-cutting theme** of the FAO Strategic Framework;
- In 2017, FAO endorsed its **Strategy on Climate Change** – in response to recommendations from the Evaluation of FAO's contribution to climate change adaptation and mitigation.

# Featured Climate Action-related evaluations

- ❖ Evaluation of FAO's Contribution to Integrated Natural Resource Management for Sustainable Agriculture (2018)
- ❖ Evaluation of FAO's contribution to climate change adaptation and mitigation (2015)
- ❖ Evaluation of the Global Agenda of Action in Support of Sustainable Livestock Sector Development (2018)
- ❖ FAO Forest and Farm Facility Evaluation (2016)
- ❖ Country Programme Evaluation in the Arab Republic of Egypt (2018)
- ❖ Various country-level evaluations



# What do we learn from evaluations

## *Examples of focus areas:*

- Promotion and application of sustainable food and agriculture (SFA) principles;
- Generation of data in support of decision-making in the areas of sustainable production and natural resource management;
- The use of integrated, multi-sectoral and transboundary approaches.
- Ecosystem-based approaches (Crops, Livestock, Fisheries and Aquaculture, Forests);
- Climate-smart Agriculture (CSA) and Conservation Agriculture (CA);

## *Examples of key Challenges:*

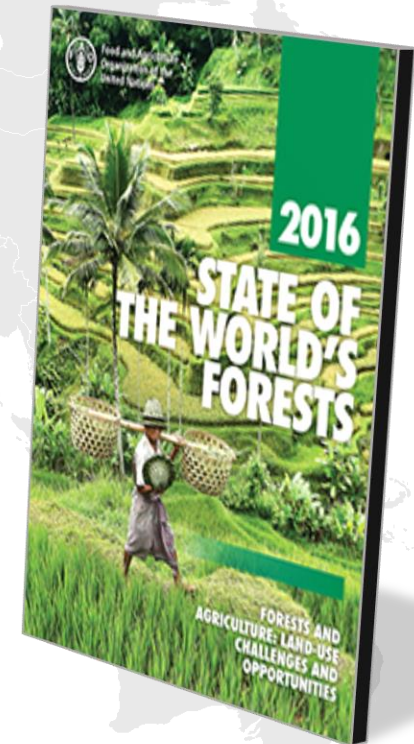
- Slow adoption, limited sustainability and scaling-up;
- Issues of trade-offs (economic, environmental, resource use efficiency);
- Need for better adaptation to local contexts and priorities.

# Policy discourse on sustainable food and agriculture

FAO contributes to policy discourse through global platforms and events, often hosted in FAO, to bring together various stakeholders and highlight sustainable production issues in the global debate:

- Commission on Genetic Resources for Food and Agriculture;
- Global Agenda for Sustainable Livestock;
- Global Alliance for Climate-Smart Agriculture
- Biodiversity Mainstreaming Platform;
- Collaborative Partnership on Forests;
- Global Framework on Water Scarcity;
- Various contributions to UNFCCC policy dialogues on the role of food and agriculture towards climate action and the Paris Agreement
- Global conferences, such as Symposium on Agroecology for Food Security and Nutrition.

**[Evaluation: Contribution to Integrated Natural Resource Management for Sustainable Agriculture, 2018](#)**



## Generation of data in support of decision-making for sustainable production and resource management

FAO supports generation of knowledge and data in support of decision-making in the areas of sustainable production and natural resource management

- Global and strategic knowledge products, such as State of Food and Agriculture, State of Food Security and Nutrition, State of World Fisheries and Aquaculture, State of the World's Forests, OECD-FAO Agricultural Outlook and Global Perspectives, address sustainability issues.
- FAO's global statistical databases such as FAOSTAT and AQUASTAT are recognized as authoritative sources of information on agricultural, forestry and fisheries statistics used for decision-making.
- Open Foris, a global data source, is an FAO-Google partnership initiative to support national efforts in gathering, producing and disseminating reliable information on the state of forest resources, is used for international reporting within the framework of REDD+ monitoring, reporting and verification and FAO Forest Resource Assessment process.
- MOSAICC (Modeling System for Agricultural Impacts of Climate Change), a software to simulate climate change scenarios was piloted in Morocco, and then rolled-out globally.

**(Evaluation: Contribution to Integrated Natural Resource Management for Sustainable Agriculture, 2018)**





## Multi-sectoral approaches for sustainable food and agriculture are increasingly prioritized and applied

- The integrated, multi-sectoral approaches are increasingly being applied since adoption of the Sustainable Food and Agriculture principles in 2014; Some countries (Bangladesh, Morocco, Rwanda) have used these approaches in planning frameworks on food and agriculture;
- These approaches are proposed by FAO as potential solutions to addressing the complexity of economic, social and environmental problems behind food insecurity, hunger, poverty, land degradation, loss of biodiversity and climate change.
- FAO's ability to access climate change-related funding (e.g. through Global Environment Facility) also contributed to its role as a facilitator of cross-sectoral policy discussions globally and in various countries. Through these global mechanisms, FAO together with the government and various partners are able to design and implement various projects tackling sustainable production and climate change adaptation.

**(Evaluation: Contribution to Integrated Natural Resource Management for Sustainable Agriculture, 2018)**

## Conservation agriculture and climate-smart approaches are introduced, but with slow adoption and limited scale up

- Adoption of climate-smart practices has been very slow, particularly in food insecure and vulnerable regions of sub-Saharan Africa and Southeast Asia. Barriers to adoption included Lack of land tenure security and limited property rights; low levels of investment/support for agriculture research and extension; high up-front operational costs.

### (Evaluation: Contribution to Integrated Natural Resource Management for Sustainable Agriculture, 2018)

- Conservation agriculture approaches used in Morocco resulted in reduced use of mechanized labour, and hence lower labour and energy costs. However, investment costs were required to purchase seeder equipment and herbicide costs increased.
- Climate-smart techniques require a long-term approach to see the benefits. Adoption was also challenging for farmers, as it involves special expertise and knowledge of a new system for managing crops and soil.

### (Evaluation: Assessment of water harvesting in Uganda, Burkina Faso and Morocco, 2016)

- In Zambia, adoption of Conservation Agriculture approaches also faced barriers of labour-intensive techniques, high costs of inputs (herbicides), and limited market opportunities.

### (Evaluation of the Conservation Agriculture Scaling-Up in Zambia, 2018)

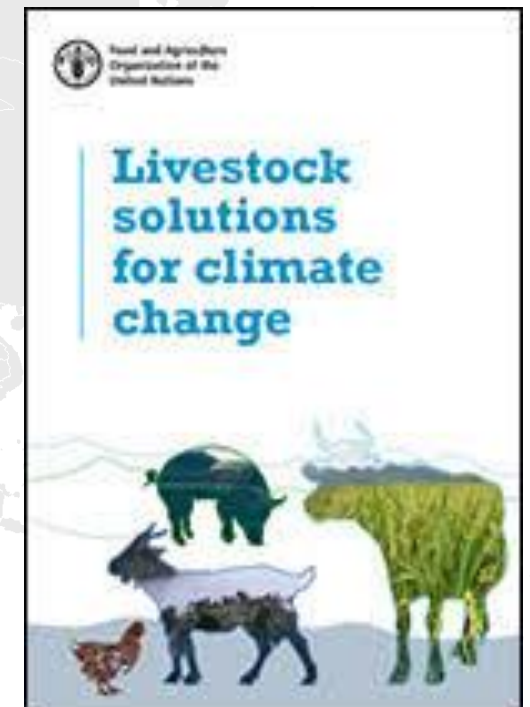
## Sustainable Forest and Land Restoration Initiatives

- As a member of the Global Partnership on Forest and Landscape Restoration (GPFLR), FAO plays an increasingly active role in supporting global forest and land restoration work, with a particular focus on the poorest and highly degraded countries.
- Integrated landscape and forest restoration approaches (e.g. in Transboundary Agro-ecosystem Management Programme for the Kagera River Basin in Africa) generate multiple local and global benefits including: restoration of degraded lands, carbon sequestration, climate change mitigation, agro-biodiversity conservation and sustainable agricultural production;
- In Lebanon, FAO contributed to climate resilience of vulnerable forest ecosystems, while promoting the resilience and livelihoods of rural communities through reforestation, sustainable forest management and ecotourism.
- In Gambia, FAO Forest and Farm Facility (FFF) played a key advocacy role in the government's decision on the transfer of forest tenure to local communities, leading to their improved use and management of forest resources, and participation in the forest-based value chain development processes.
- In Guatemala, FFF was successful in facilitating the development of Forest Law providing incentives for forest and landscape restoration to smallholders, indigenous peoples, community forests and the private sector.

**[\(Evaluation of the Forest and Farm Facility programme, 2016, and other global and country evaluations\)](#)**

# Livestock sustainability: Addressing gaps in global discourse

- Poor livestock keepers are among the most vulnerable to climate change;
- Livestock sector produces significant share of GHG emissions but has a large mitigation potential, through reduction of emissions intensity and soil carbon sequestration;
- FAO through its support to the Global Agenda for Sustainable Livestock (GASL) contributes to addressing a gap in the global discourse on livestock sustainability
- GASL is a unique forum for policy dialogue on the sustainability in the livestock sector, with a broad membership involving a large number of international organizations, as well as private sector, civil society, academia and national governments.
- Countries and regions increasing using GASL's principles to adopt policies and legislation on sustainable livestock development.



## Evaluation: Global Agenda of Action in Support of Sustainable Livestock Sector Development, 2018

## Addressing water scarcity through sustainable resource management

- In the Arab Republic of Egypt, the Water Scarcity Initiative promoted multi-disciplinary approaches bringing together the Ministries of Agriculture, Water and Environment to identify and streamline policies and innovative, cost-effective practices in agricultural water management.
- FAO supported piloting the use of solar energy for water pumping in irrigation, and introducing more efficient irrigation techniques to rationalize the use of the scarce water resources.

### **(Evaluation: Country Programme Evaluation in the Arab Republic of Egypt, 2018)**

- Promoting modern irrigation and climate-smart cropping practices was relevant to farmers in the Republic of Yemen, creating alternatives to previous systems, which were based on expensive groundwater irrigation.

### **(Evaluation: water use management in the Sana'a basin to sustain water resources and rural livelihoods, 2018)**

- Water harvesting in Morocco is embedded in a strategy that combines erosion control, soil moisture enhancement, water storage in reservoirs, and drainage of surplus water combined with biological measures, such as agroforestry, cover crops and reforestation. However, the suitability and adoption of these various techniques varies greatly between regions and communities.

### **(Evaluation: Assessment of water harvesting Morocco, 2016)**

## Trade-offs are inherent and key for promoting sustainable approaches

- Trade-offs are inherent for sustainable development, and the main challenge is to acknowledge and manage these within the context of national and local priorities;
- Key question is how to effectively intervene in support of reducing poverty through sustainable increases of productivity, while acknowledging difficult and context-specific trade-offs between different dimensions of resource use efficiency and productivity – between land, water, use of fertilizers and labour productivity;
- Addressing the trade-offs and their effects requires a holistic approach, which takes into consideration technical aspects of production, as well as institutional, political, social and environmental considerations.

**Evaluation: Contribution to Integrated Natural Resource Management for Sustainable Agriculture, 2018**

**Examples of sustainability trade-offs explored by FAO**

<b>Sustainability Dimensions</b>	<b>Themes</b>	<b>Trade-offs</b>
<b>Economic</b>	Land productivity	Intensification vs diversification
	Farm profitability	Sustainable approaches vs marketing and commercial interests
	Financial resilience	Resilience vs efficiency
<b>Environmental</b>	Soil and water health	Environmental protection vs water use for irrigation Crop growth (fertilizers/pesticides) vs soil and water quality Clean energy vs increasing use of natural resources
	Biodiversity	Agricultural expansion vs forest protection Organic agriculture vs productivity
<b>Social</b>	Decent work and well-being	Better productivity vs better nutrition
	Access to land	Scale economy (favoring large farms) vs smallholder protection

**Evaluation: Contribution to Integrated Natural Resource Management for Sustainable Agriculture, 2018**

## Engagement with the private sector

- ▶ **Across all evaluations:** FAO partnerships with the private sector in climate change action are generally limited in scope, geographical coverage and magnitude; Limitations in partnering with the private sector are due to lengthy procedures, risk management and due diligence, and limited understanding of the private sector interests;
- ▶ Yet, some promising examples of partnerships:
  - With **IKEA** on reducing forest degradation through sustainable practices;
  - With **Google** in assessing changes in global land and forest resources;
  - With **COFIDES** (Export Credit Agency in Spain) on climate smart livestock production.







# Thank you!

Contact us

<http://www.fao.org/evaluation/>