2nd Conference on
Agriculture, Food and Nutrition
Policies

FAO and climate change

Ankara, 6 November 2018

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Food and Agriculture Organization of the United Nations
Office for Central Asia (SEC)
LAND&WATER

- FAO's Mandate
- FAO around the world
- Our Office in Ankara
- FAO's work on Climate Change
- Climate Change component in almost all FAO projects

FAO Goal

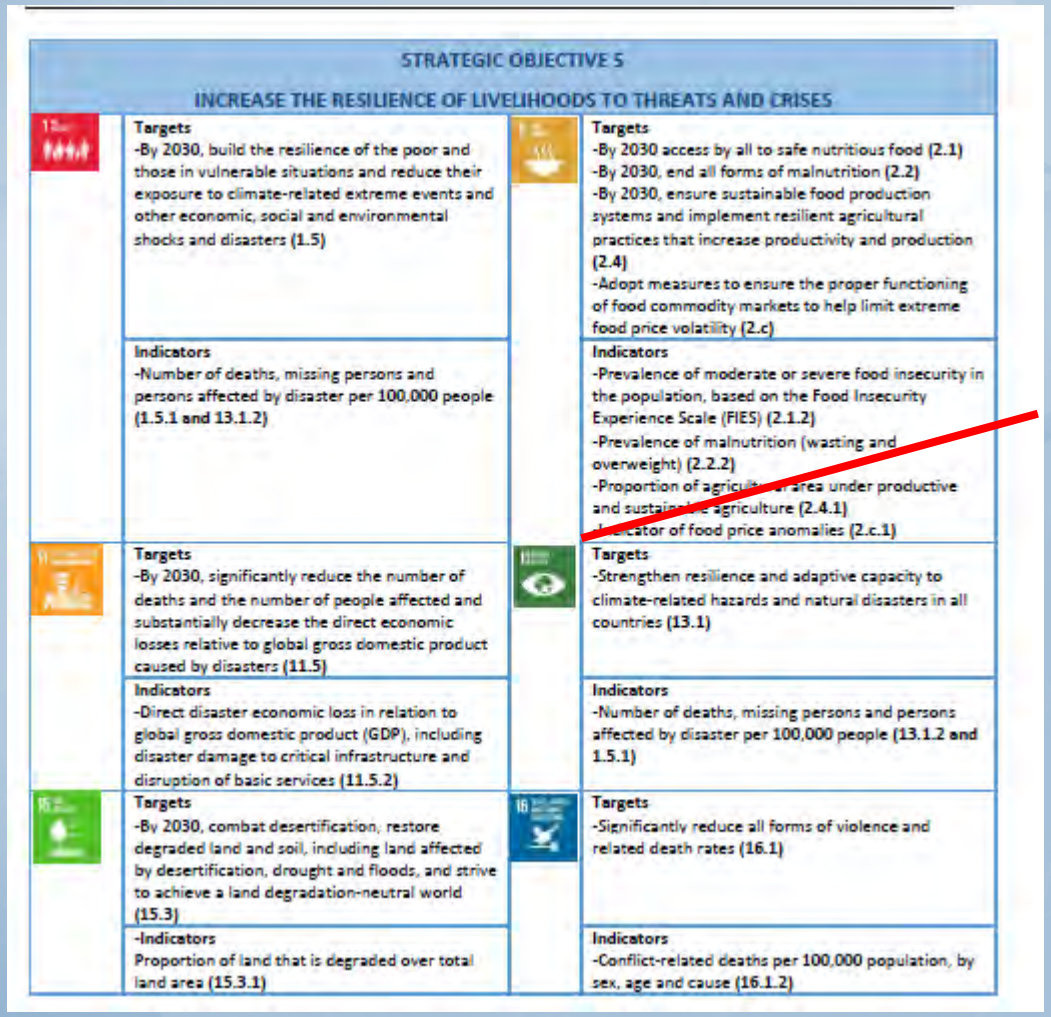
Our goal is to achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives. With over 194 member states, FAO works in over 130 countries worldwide.

To achieve our goal, our activities are driven by 5 major Strategic Objectives

Climate Change is cross cutting

Climate-smart agriculture (CSA) is an approach that helps to guide actions needed to transform and reorient agricultural systems to effectively support development and ensure food security in a changing climate. CSA aims to tackle **three main objectives**: **sustainably increasing agricultural productivity** and incomes; **adapting and building resilience to** climate change; and **reducing and/or removing greenhouse gas emissions**, where possible.

The strategic objectives are linked with the 17 SDG goals



STRATEGIC OBJECTIVE 5 INCREASE THE RESILIENCE OF LIVELIHOODS TO THREATS AND CRISES	
Targets -By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure to climate-related extreme events and other economic, social and environmental shocks and disasters (1.5)	**Targets** -By 2030 access by all to safe nutritious food (2.1) -By 2030, end all forms of malnutrition (2.2) -By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production (2.4) -Adopt measures to ensure the proper functioning of food commodity markets to help limit extreme food price volatility (2.c)
Indicators -Number of deaths, missing persons and persons affected by disaster per 100,000 people (1.5.1 and 13.1.2)	**Indicators** -Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES) (2.1.2) -Prevalence of malnutrition (wasting and overweight) (2.2.2) -Proportion of agricultural area under productive and sustainable agriculture (2.4.1) -Indicator of food price anomalies (2.c.1)
Targets -By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters (11.5)	**Targets** -Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries (13.1)
Indicators -Direct disaster economic loss in relation to global gross domestic product (GDP), including disaster damage to critical infrastructure and disruption of basic services (11.5.2)	**Indicators** -Number of deaths, missing persons and persons affected by disaster per 100,000 people (13.1.2 and 1.5.1)
Targets -By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world (15.3)	**Targets** -Significantly reduce all forms of violence and related death rates (16.1)
-**Indicators** Proportion of land that is degraded over total land area (15.3.1)	**Indicators** -Conflict-related deaths per 100,000 population, by sex, age and cause (16.1.2)

SDG 13 on Climate Action

FAO around the world

Worldwide Offices

The Food and Agriculture Organization (FAO) has embarked on the most significant reorganization since its founding. The fundamental objective is to bring FAO as close as possible to its Members. The reorganization requires more decentralized structure; a management system with increased delegation of authority; and an environment that encourages creativity and initiative.

FAO office in Turkey

FAO Regional Office for Europe and Central Asia

FAO in Europe and Central Asia | Regional Initiatives | News | Events | Resources | Programmes and projects | Partners

FAO's Subregional Office for Central Asia is located in Ankara, Turkey.

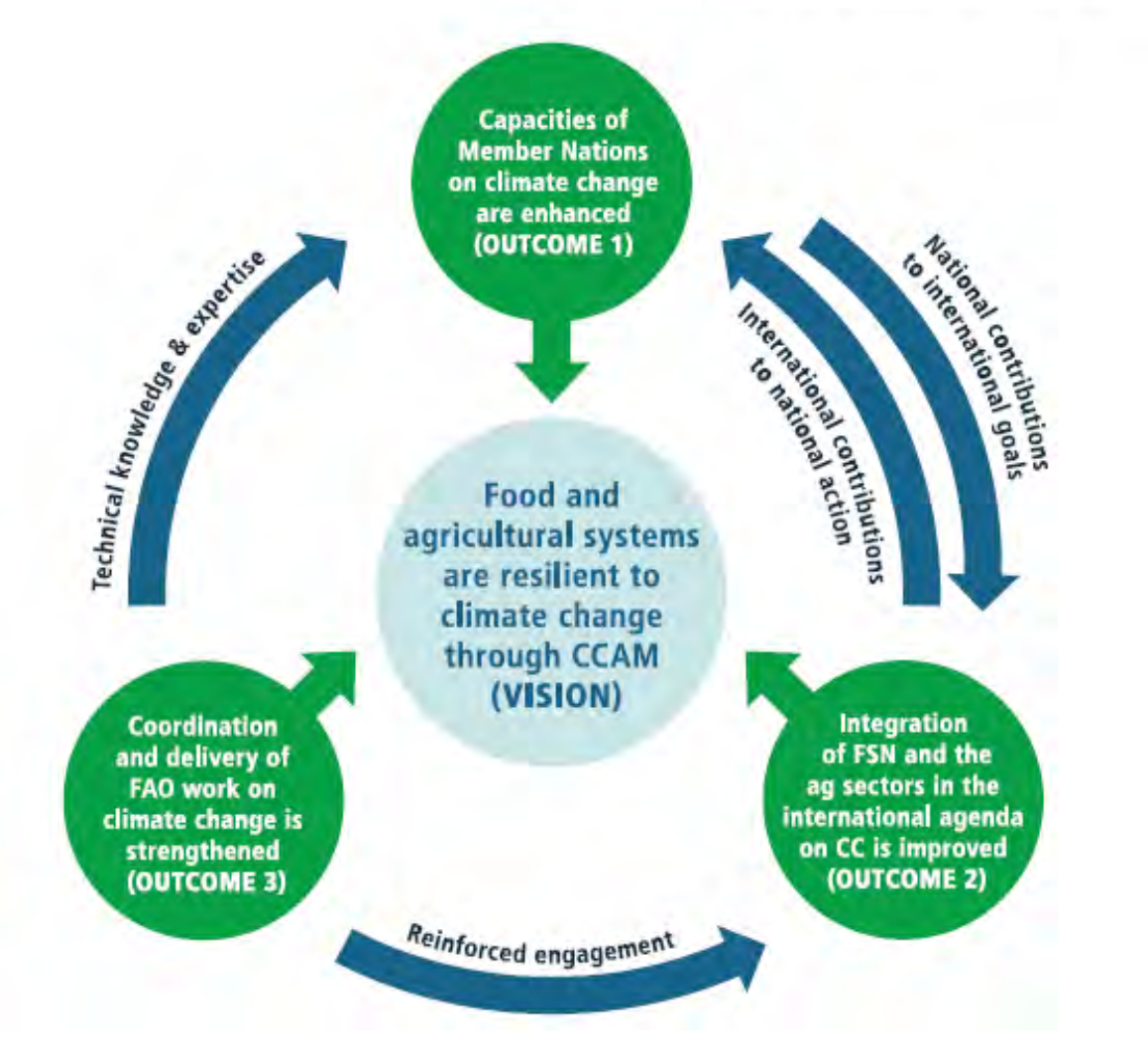
Establishment of the office in 2006 enhanced FAO's ability to respond to the priority needs of the countries in the subregion – Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkey, Turkmenistan and Uzbekistan.

Challenges of Land and Water Resources Management in Central Asia

- Severe **land degradation** (including salinization of irrigated land)
- **Water scarcity** (physical and economical)
- **Water demand** (Low efficiency of canal irrigation systems and low agricultural water productivity)
- **Skill gap**
- High **vulnerability of livelihoods** to climate change impacts, particularly extreme weather events (e.g. droughts and floods)
- …

Climate Change

FAO STRATEGY ON CLIMATE CHANGE guides FAO action to achieve 3 outcomes:



FAO's programmes on Climate Change

Climate change has both direct and indirect effects on agricultural productivity including changing rainfall patterns, drought, flooding and the geographical redistribution of pests and diseases.

FAO is supporting countries to both **mitigate** and **adapt** to the effects of climate change through a wide range of research based and practical programmes and projects, as an integral part of the 2030 agenda and the Sustainable Development Goals.

Strategic Programmes

NEW: Economic and Policy Analysis of Climate Change

Globally Important Agricultural Heritage Systems (GIAHS)

Adapting Irrigation to Climate Change (AICCA)

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FAO TOOLS:

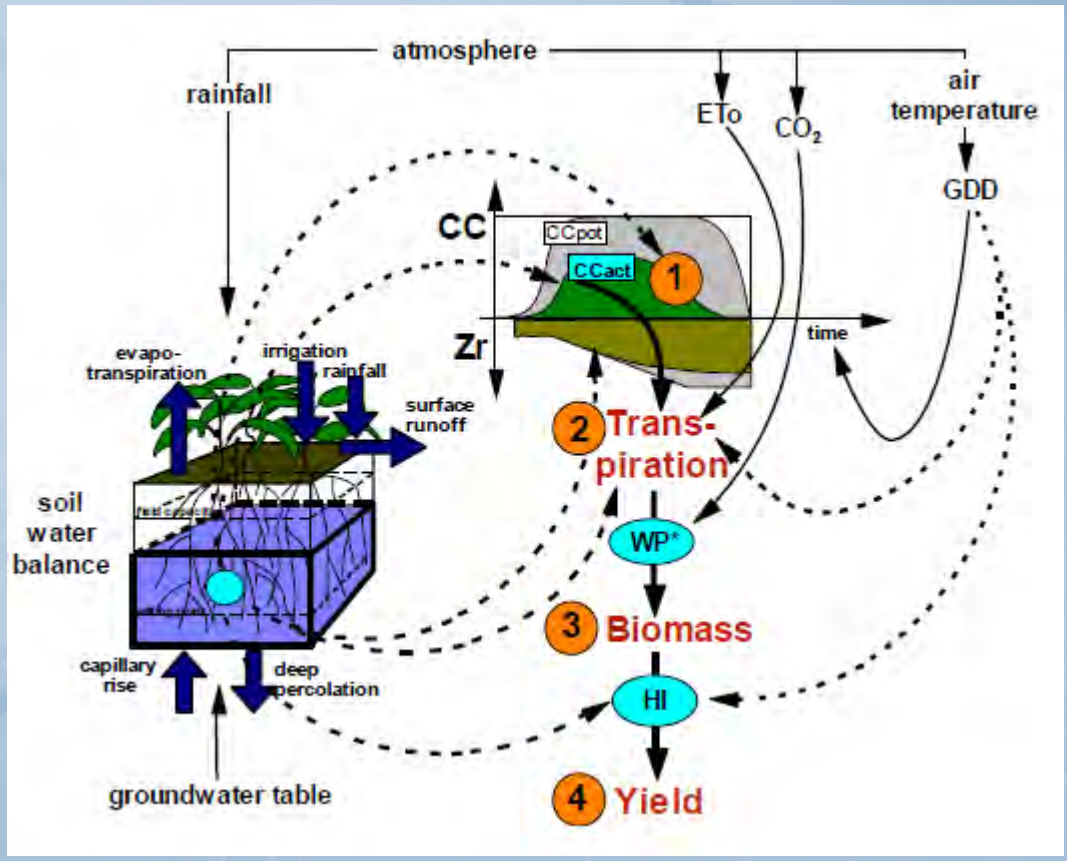
SHARP

The Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists (SHARP) tool developed by FAO is designed as an instrument to assess the resilience of farmer and pastoralist households to climate change.

AquaCrop

is a crop growth model to address food security and to assess the effect of environment and management on crop production.

AquaCrop simulates **yield response to water** of herbaceous crops, and is particularly suited to address conditions where water is a key limiting factor in crop production.



We may study the effect of climate change on food production
(for example by running AquaCrop with both historical and future weather conditions)

Global Framework on water scarcity – a global framework for action in a Changing Climate

using innovative techniques to address issues of water security and agriculture, including the use of treated wastewater

need to find smarter, more efficient ways to use water, and make agriculture more productive, to meet the rising demand for food and achieve the 2030 SDG and

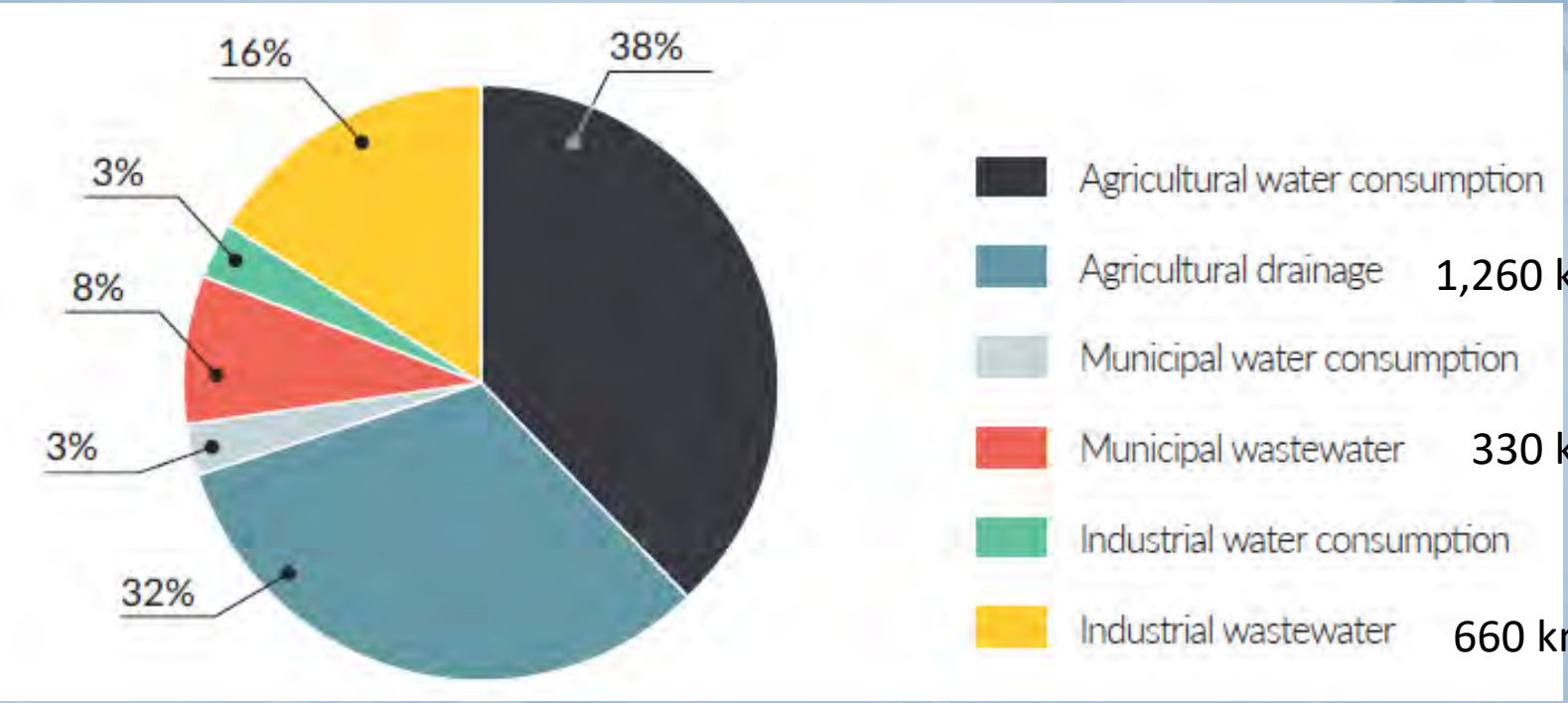
need to do this while preserving the natural resource base and the integrity of ecosystems.

→ this is where the Global Framework for Action to Cope with Water Scarcity in Agriculture in the Context of Climate Change – launched by FAO and partners at the climate meeting in Marrakech in late 2016 – comes in.

Relevant Projects:
e.g. TCP on WW Reuse

Background:

The globe at a glance:



- The AQUASTAT database of FAO estimates global freshwater withdrawals at **3,928 km³ per year.**
- Agriculture share of this withdrawals is **70% (2,750 Km³)**
- **About 56% (2,212 km3 per year)** of this withdrawal is released into the environment as wastewater in the form of municipal and industrial effluent and **agricultural drainage**

the TCP Project…

Example: Expansion of the Safe Use of Wastewater (Recycled Water) in Agriculture and Agroforestry with Innovative Fit for Purpose Methodologies

Cabo Verde –
a joint project with UNEP/UNDP

On Farm Awareness Raising and Farmers Field School under the project

on farm

Strategic Programmes

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Globally Important Agricultural Heritage Systems (GIAHS)

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NEW: Economic and Policy Analysis of Climate Change

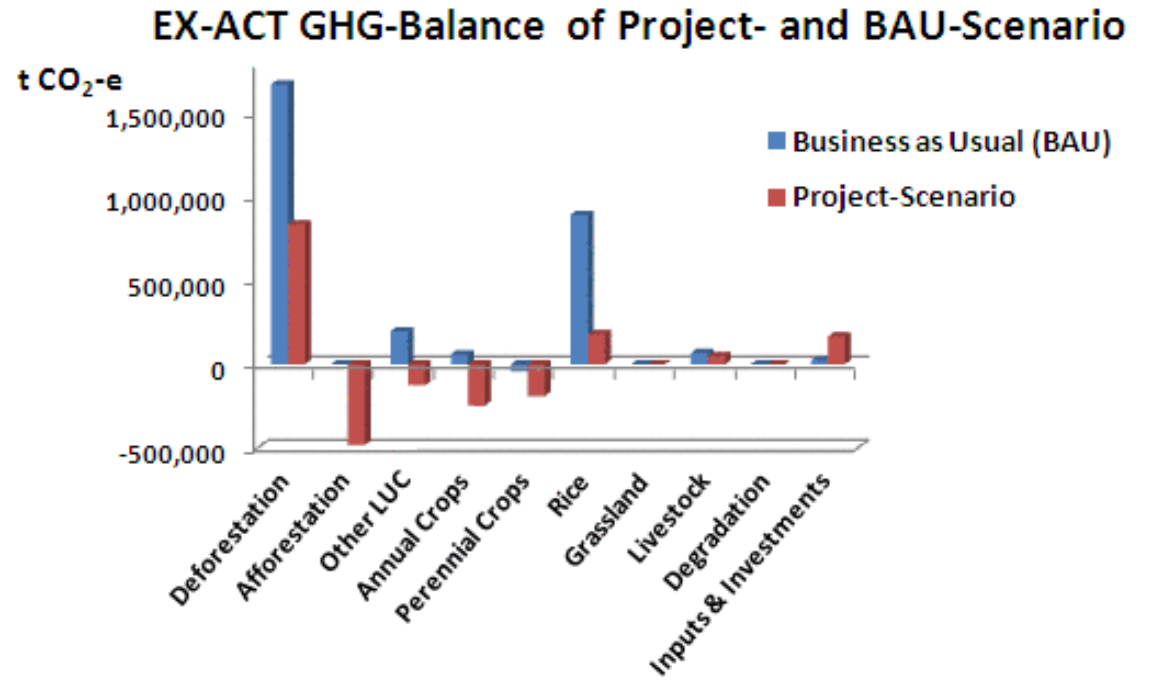
NEW: Economic and Policy Analysis of Climate Change

supports countries in **evidence-based policy making** through sound economic and policy analysis to reform policies, institutions and investments on climate change, in connection with agricultural development and food security

→ for this purpose we need tools and we need reliable data/statistics for database collection, reporting and monitoring impacts of the policies

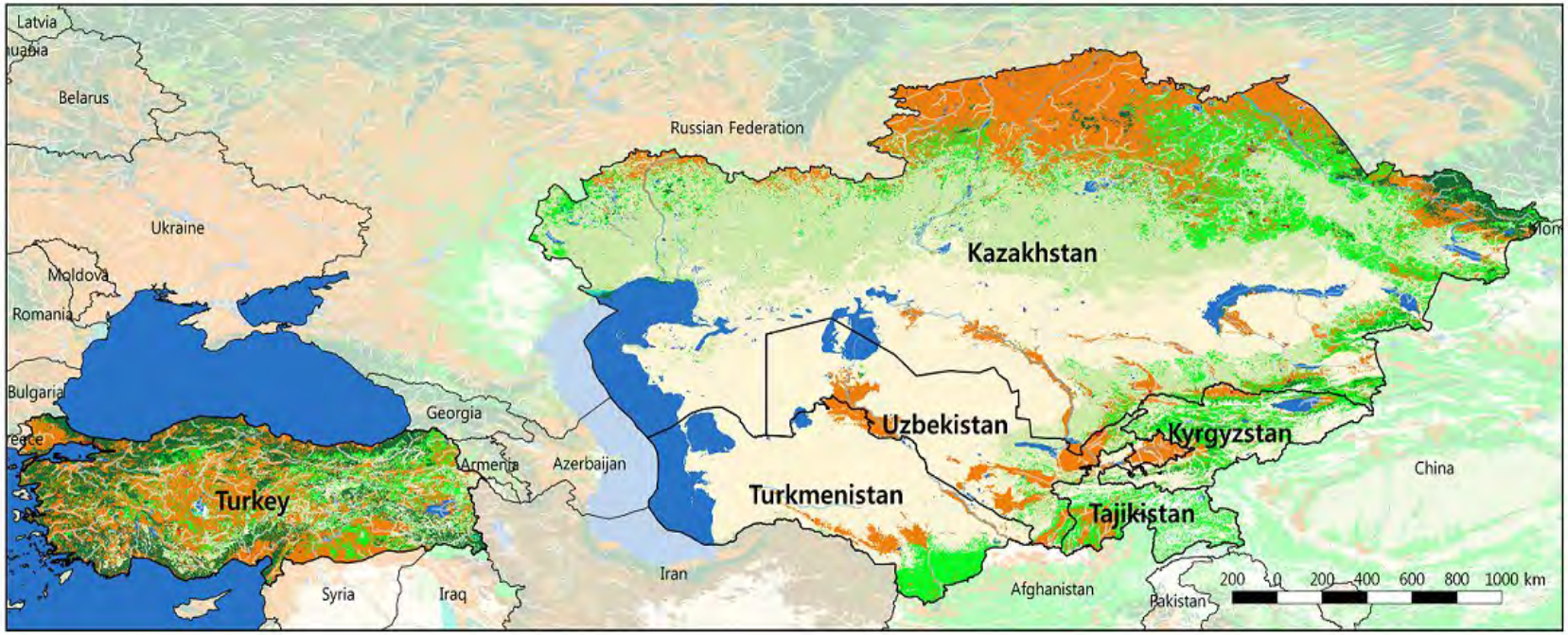
EX-Ante Carbon balance Tool (EX-ACT)

- We can estimate the impact of agriculture and forestry development projects
- EX-ACT is a land-based accounting system, estimating C stock changes (i.e. emissions or sinks of CO_2) as well as GHG emissions per unit of land, expressed in equivalent tonnes of CO_2 per hectare and year.
- The tool helps project designers to estimate and prioritize project activities with high benefits in economic and climate change mitigation terms.



CACILM2 project

To scale up integrated natural resources management (INRM) in drought prone and salt-affected agricultural production landscapes in the Central Asian countries and Turkey



To scale up integrated natural resources management in drought prone and salt affected agricultural production systems in the Central Asia and Turkey

Multi-country collaboration and partnership

M&E

Integration of resilience into policy, legal and institutional framework for INRM

Upscaling of **climate-smart agricultural** practices in drought-prone and salt-affected agricultural production landscapes

Duration: 5 years
GEF contribution: 10,874,815 USD

Contributing to LDN Target Setting by demonstrating the LDN Approach in the Upper Sakarya Basin for scaling up at national level

- **Objective**: to develop a model for LDN target setting, planning, and decision-making at national level and for demonstration in the Upper Sakarya basin
  - **Component 1:** Strengthening the enabling environment for LDN
  - **Component 2:** Decision-Support System (DSS) for LDN
  - **Component 3:** Demonstration of the LDN approach in the Upper Sakarya Basin
  - **Component 4:** Upscaling of LDN experiences, monitoring and evaluation

- **Budget:** 2,388,584 $ GEF Financing(Co-financing: 13,6 M$)
- **Duration:** 4 years

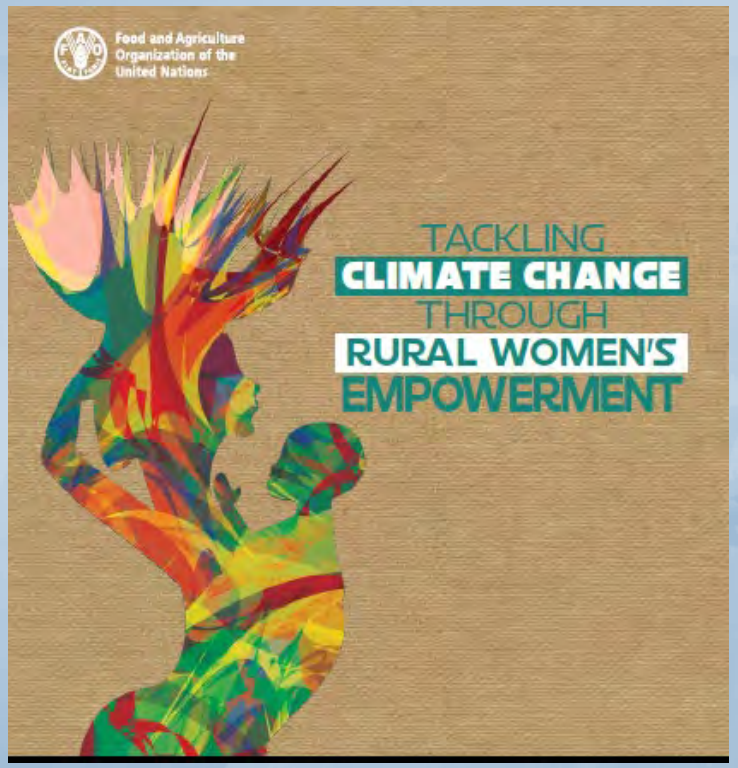
FAO Climate and Environment (CBC) Division

- assists member countries in policy development, planning and response towards the challenges of climate change.

- it guarantees FAO internal coordination and quality enhancement of climate change work across the organization and its Strategic Programmes.

- also serves as the focal point for the management of the Green Climate Fund (GCF) and Global Environment Facility (GEF) portfolios at FAO

FAO Publications, Capacity Building and Awareness Raising



Addressing Gender in Climate Change:


wrap-up

- Climate Change Adaptation and Mitigation is key in achieving global Food Security and Zero Hunger

- almost all FAO Projects has a Climate Change component – cross cutting

- We need good and reliable data/statistics, and monitoring mechanisms in order to measure and mitigate the impacts of Climate Change

- We work closely with the governments, farmers, NGOs and other involved sectors to ensure the effectiveness of our approaches and sustainability of the results

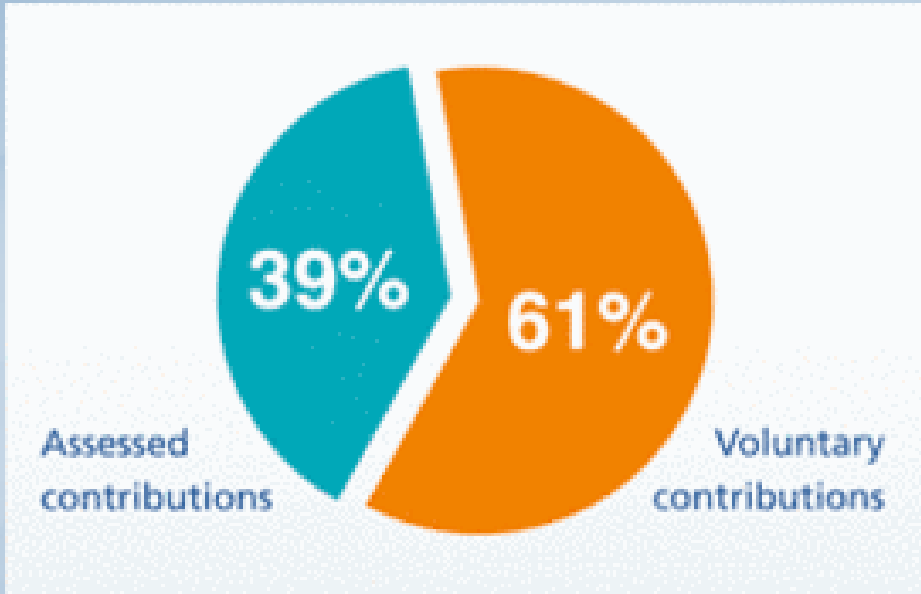
- Capacity building and awareness raising are fundamentals in FAO projects (e.g. Farmers Field School for CSA)

- We publish the results of our projects and programs and try to give more visibility to the importance of FAO work in the field and in close collaboration with the farmers and stakeholders

- We work with the ones in need to serve the ones in need

Thank you!! ☺

How is FAO funded?



The total FAO Budget planned for 2018-19 is USD 2.6 billion. Of this amount, 39 percent comes from assessed contributions paid by member countries, while 61 percent will be mobilized through voluntary contributions from Members and other partners.

SDG 13 Climate Action

Targets

•Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

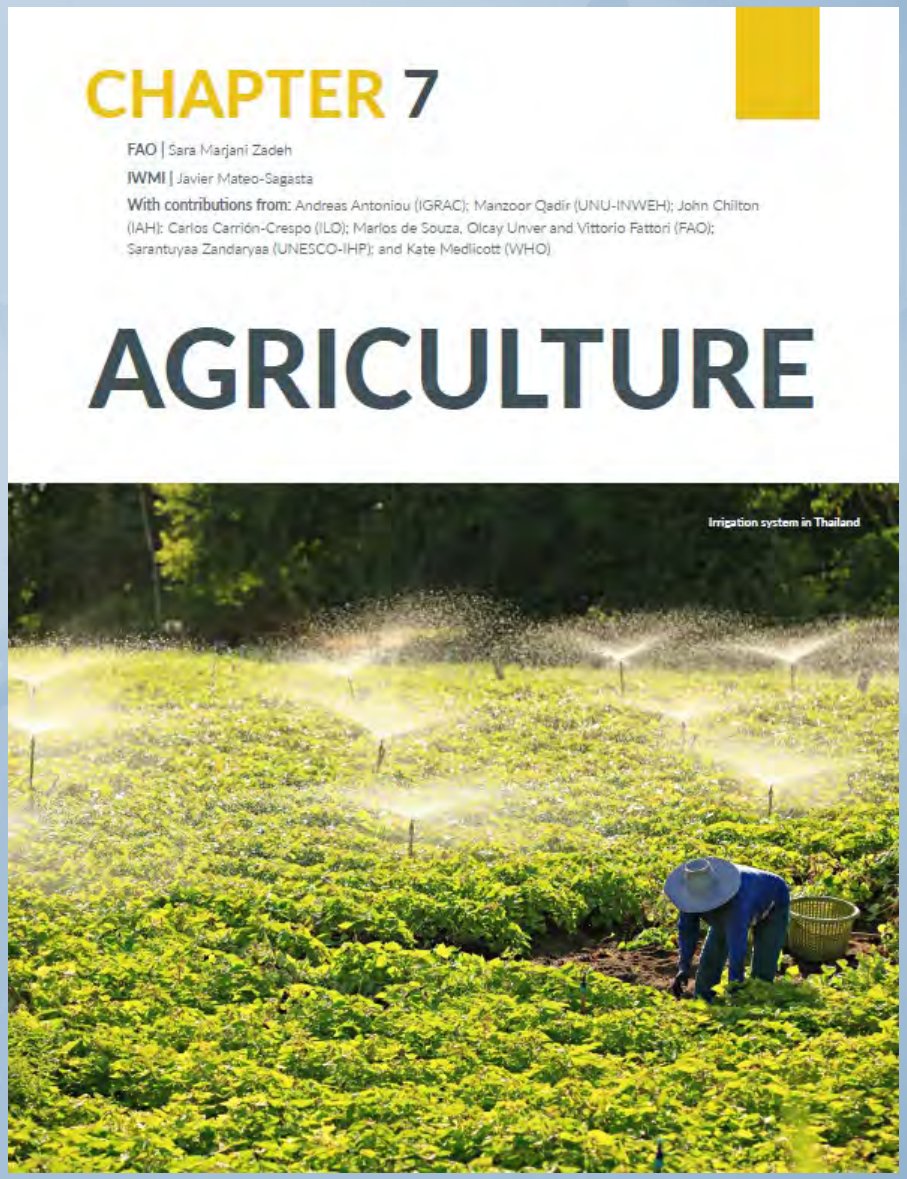
•Integrate climate change measures into national policies, strategies and planning

•Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

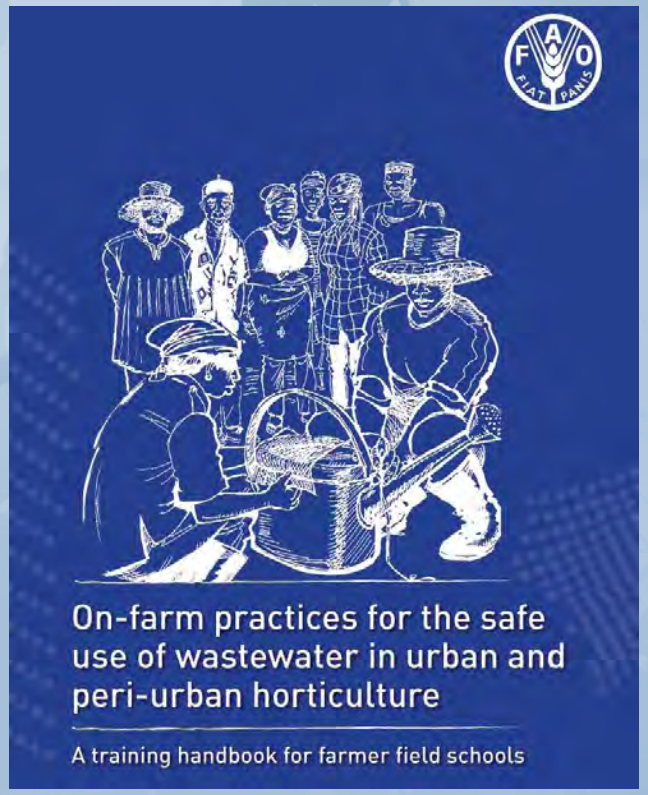
•Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly $100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible

•Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities

Publications



FAO supports countries and also has an active role in joint initiatives:



- AQUASTAT
- Safe Use of Wastewater in Agriculture (SUWA II)
- Reforestation by using treated wastewater
- Watershed Monitoring for improving soil/water quality and human health
- Farmers Field School and Capacity Building
- Country projects: West Bank and Gaza Strip, Peru, Tunisia, Cabo Verde, …

Irrigated Agriculture:

Irrigation:

- The global lands under irrigation is approx.: 288,000,000 ha. (AQUASTAT)
- Annually 2,750 km^3 water is withdrawn for irrigation.

Municipal Wastewater:

- Every year 330 km^3 Municipal Waste Water is being produced (IWMI)

In an Ideal Scenario:

- around **12% the water withdrawn for agriculture**

can be replaced by **Municipal WW**