WATER CONVENTION

Global Workshop on
Water, Agriculture and Climate Change

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Improving water management and agrifood systems to adapt to climate change

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Schweizerische Eidgenossenschaft
Confédération suisse
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Bundesamt für Umwelt BAFU
Office fédéral de l'environnement OFEV
Ufficio federale dell'ambiente UFAM
Uffizi federal d'ambient UFAM

ADAPTATION FUND

UNECE

INTERNATIONAL NETWORK OF BASIN ORGANIZATIONS

IWMI International Water Management Institute

Climate change
challenges for water, agriculture and food security

Climate change has both **direct** and **indirect effects** on **agricultural productivity** and **water resources**, thus affecting food security.

EFFECTS OF CLIMATE CHANGE

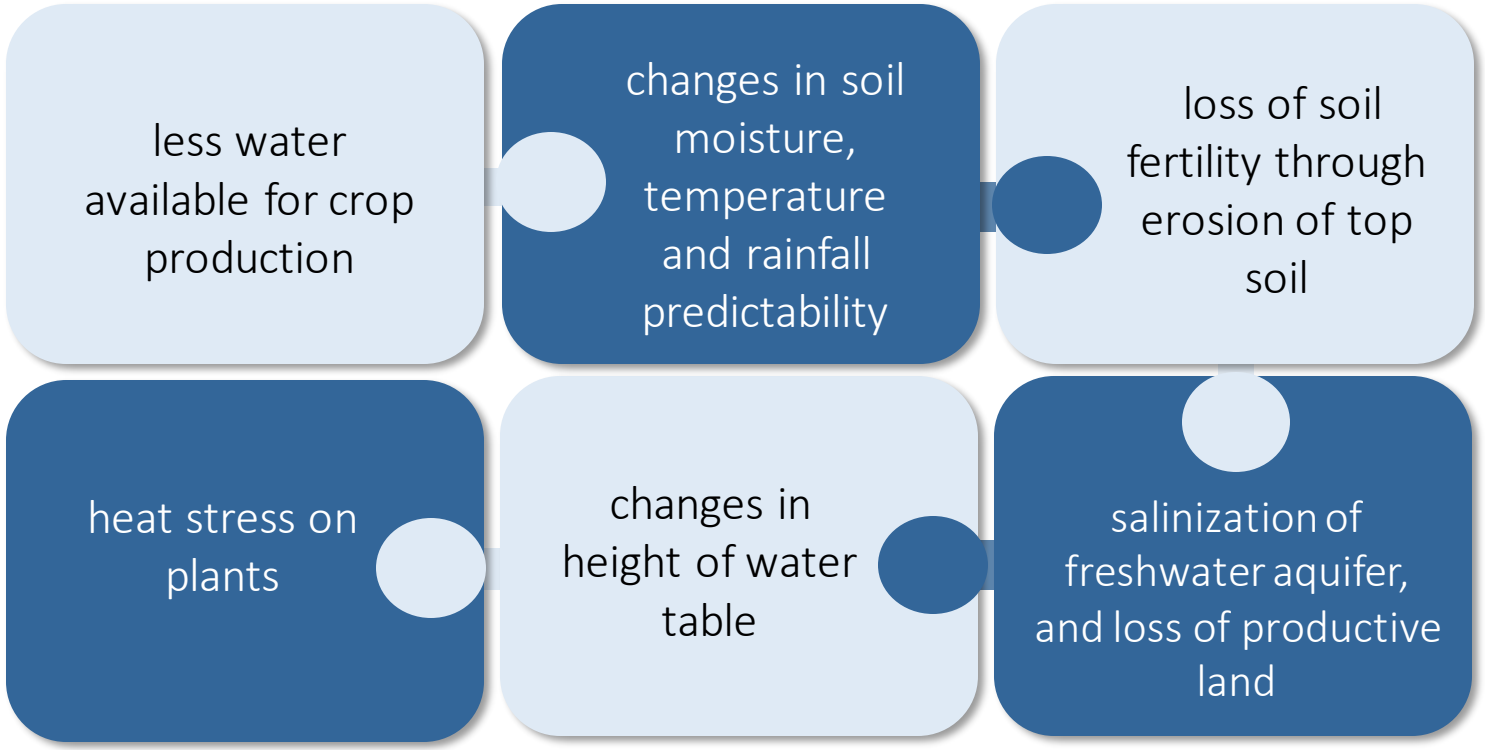
INCREASE

Population
Extreme climatic events
Pests & diseases
Temperatures

DECREASE

Water resources
Arable land
Biodiversity

IMPACTS ON WATER AND AGRICULTURE



Food security and climate change
The call of FAO for:

BETTER PRODUCTION

ensure resilient and sustainable agrifood systems in a changing climate and environment, through efficient and inclusive production patterns

BETTER NUTRITION

foster the transformation of agrifood systems to provide nutrition for the most vulnerable and reduce food loss, also linked to climatic variations

BETTER ENVIRONMENT

protect, restore and promote sustainable ecosystems and combat climate change through more efficient, inclusive, resilient and sustainable agri-food systems.

BETTER LIFE

support inclusive economic growth also through the establishment of agrifood systems resilient to environmental shocks and stresses

Climate finance for agricultural development

FAO engages with climate finance mechanisms to promote a **paradigm shift** from an input intensive approach to more **resilient food systems** and **sustainable agriculture**.

GREEN CLIMATE FUND

The partnership between FAO and GCF focuses on improving the livelihoods of rural people and increasing food security by promoting sustainable land and water management practices, restoring ecosystems and ecosystem services.

gef

FAO partners with GEF through its expertise on agri-food systems, for developing new strategic approaches for regenerative food production and sustainable agriculture, aquaculture and livestock.

ADAPTATION FUND

FAO's partnership with Adaptation Fund (AF) aims at helping vulnerable communities in developing countries enhancing their adaptive capacity, strengthening resilience and reducing vulnerability to climate change.

FAO'S ROLE IN CLIMATE CHANGE ADAPTATION

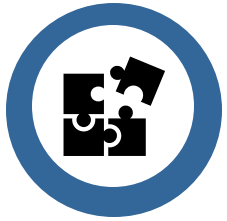
FAO programmatic approach towards resilient agrifood systems

Single country/Regional projects

Projects are based on single countries or regional cooperations, whereas partnering countries define the common project objectives/outcomes.

Community-based

Initiatives and projects are strongly based on country needs, traditional knowledge views and priorities.



Innovative solutions

Initiatives identify innovative adaptation practices, tools and technologies, with demonstrated success and potential scalability applicable to new countries/regions.

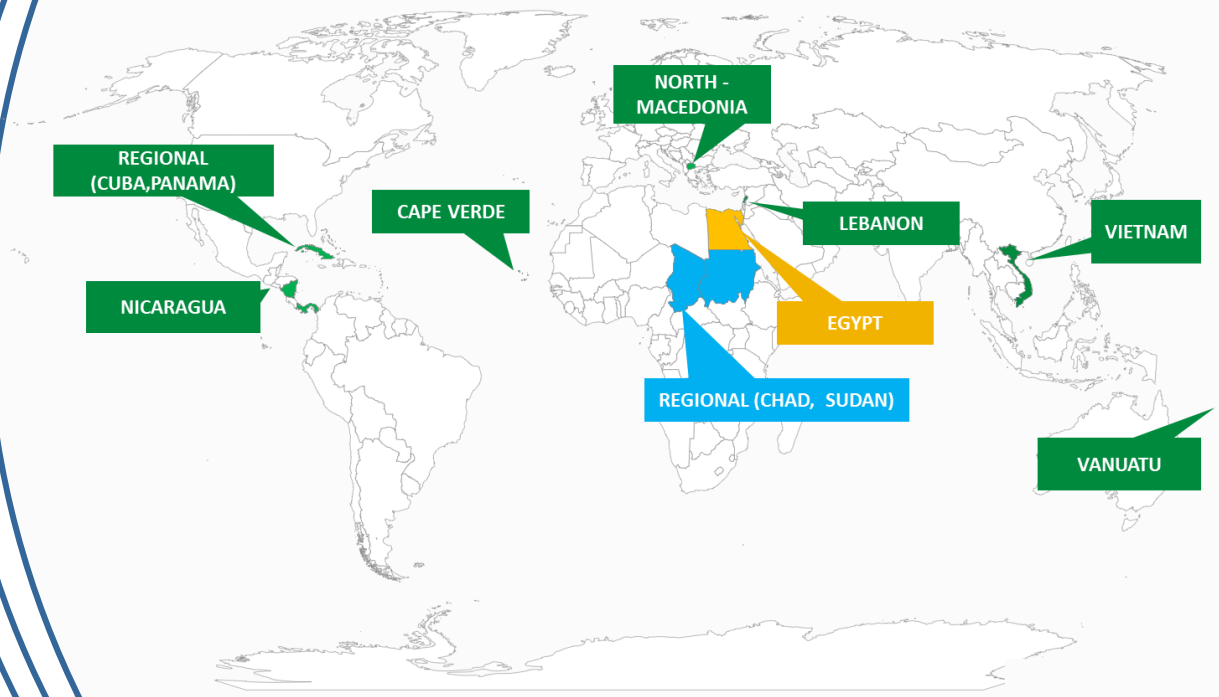
Adaptation of agrifood system FAO PORTFOLIO (2020-2022)

77.4 million USD — Budget approved

9 — Projects approved

11 — Countries targeted

5 — Regions reached

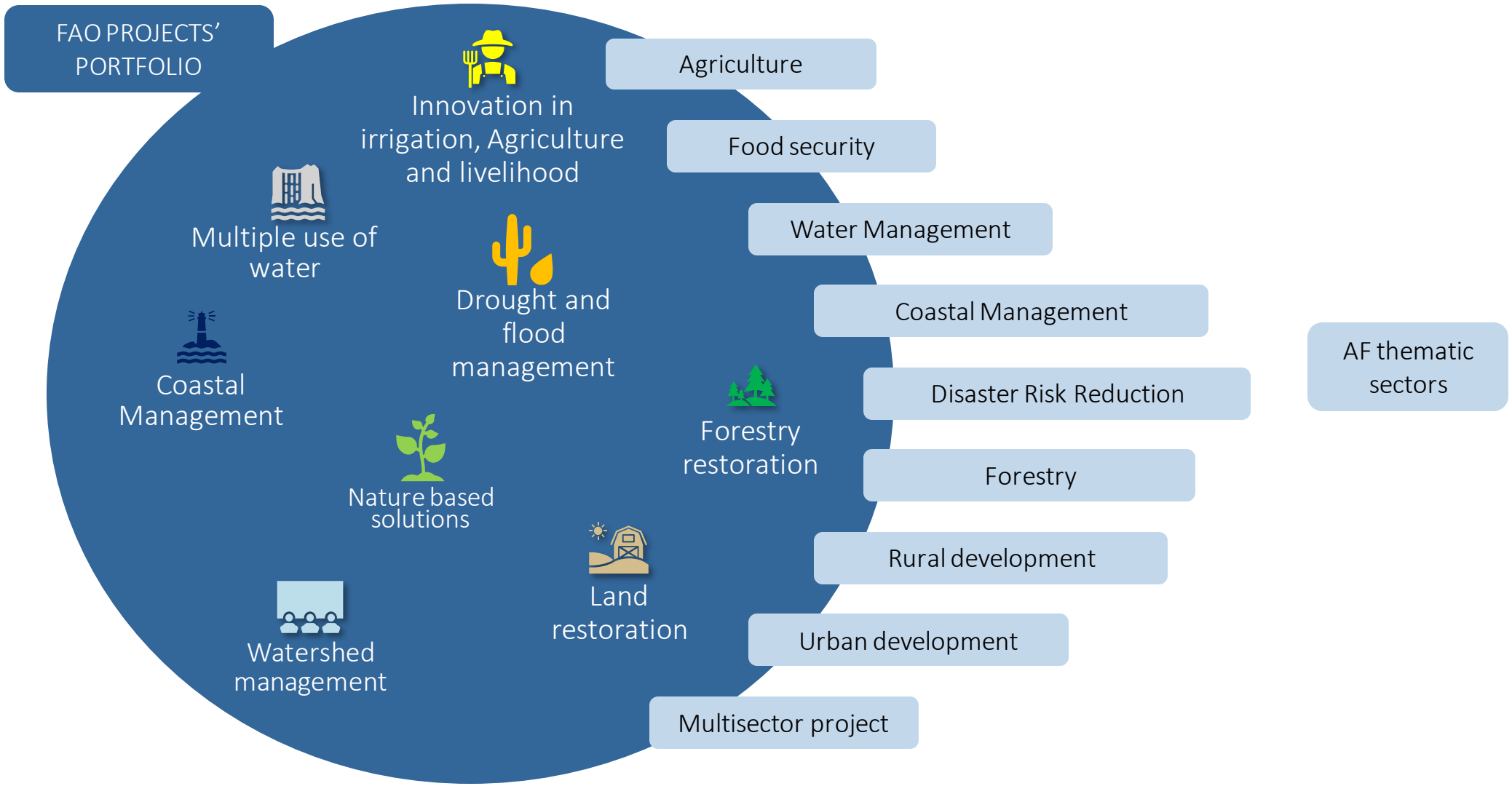


Concept Notes Approved

Innovation project Approved

Full proposal Approved

Thematic areas for climate change adaptation
The work of FAO



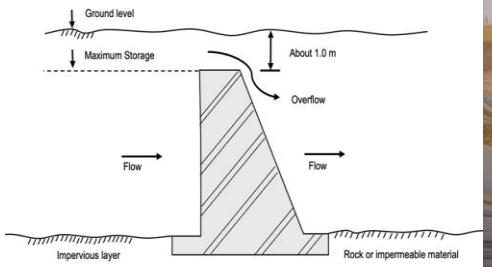
Examples

CHAD/SUDAN
Multiple use of water

The project objective is to strengthen the regional **agro-ecology and sanitation resilience** to **climate change** and COVID-19 in the border area between Chad and Sudan.

Integrated Water Management

- Conjunctive and multiple water use
- **Water harvesting**: subsurface dam, shallow wells, hafir (artificial excavation)
- **Water yards**
- Multiple Water Use (MWU) **Sanitation Services** (handwashing stations)
- Climate-resilient **agricultural practices**
- High efficiency **on-farm drip irrigation** systems with innovative technologies
- Climate-resilient **foundation seeds**

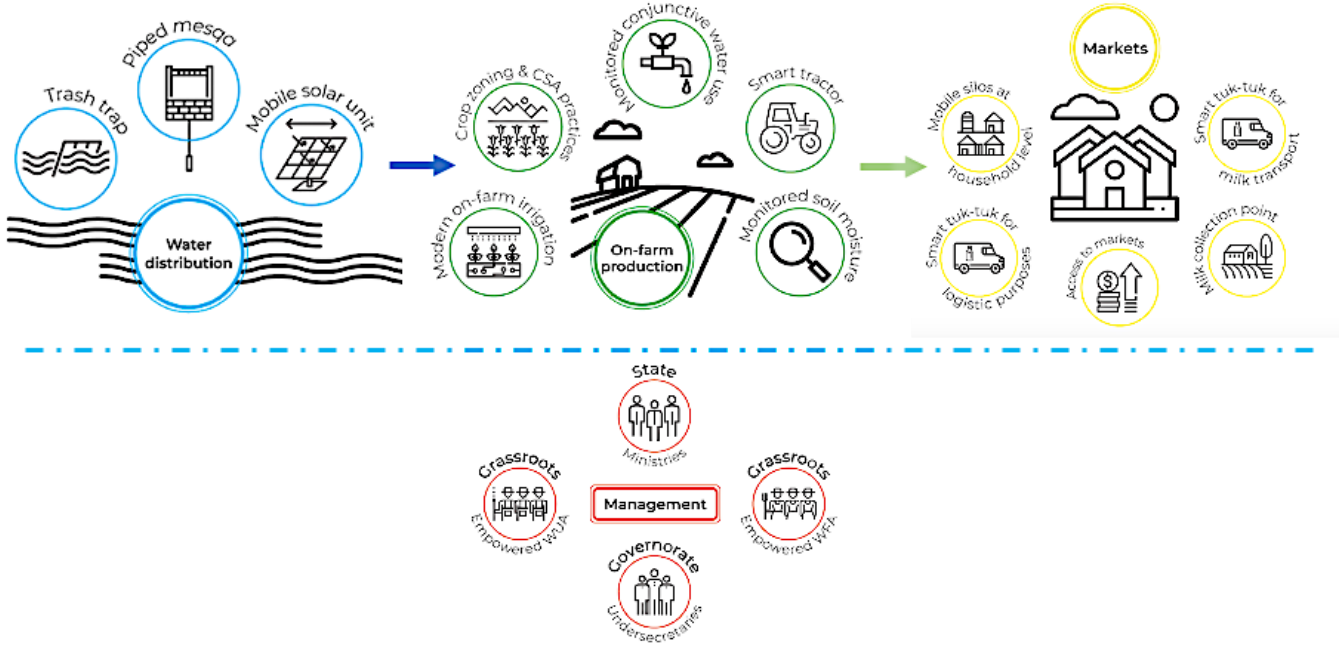


EGYPT
Innovative solutions for irrigation, agriculture and livelihoods

The main project objective is adaptation to climate-induced water scarcity by **combining social, process and technology innovations** in irrigation, agriculture, and livelihoods at a **functional scale**.

Suite-of-innovative-adaptation-measures

- **Entire value chain of agriculture involved** (cropping and livestock related activities, from natural resource management to marketing)
- Community-managed, solar-powered **water distribution system**
- Modern combined **drip and sprinkler** irrigation system
- **Climate-smart agricultural** (CSA) options
- **Climate-smart practices of livestock**
- **Updated forage** production practices

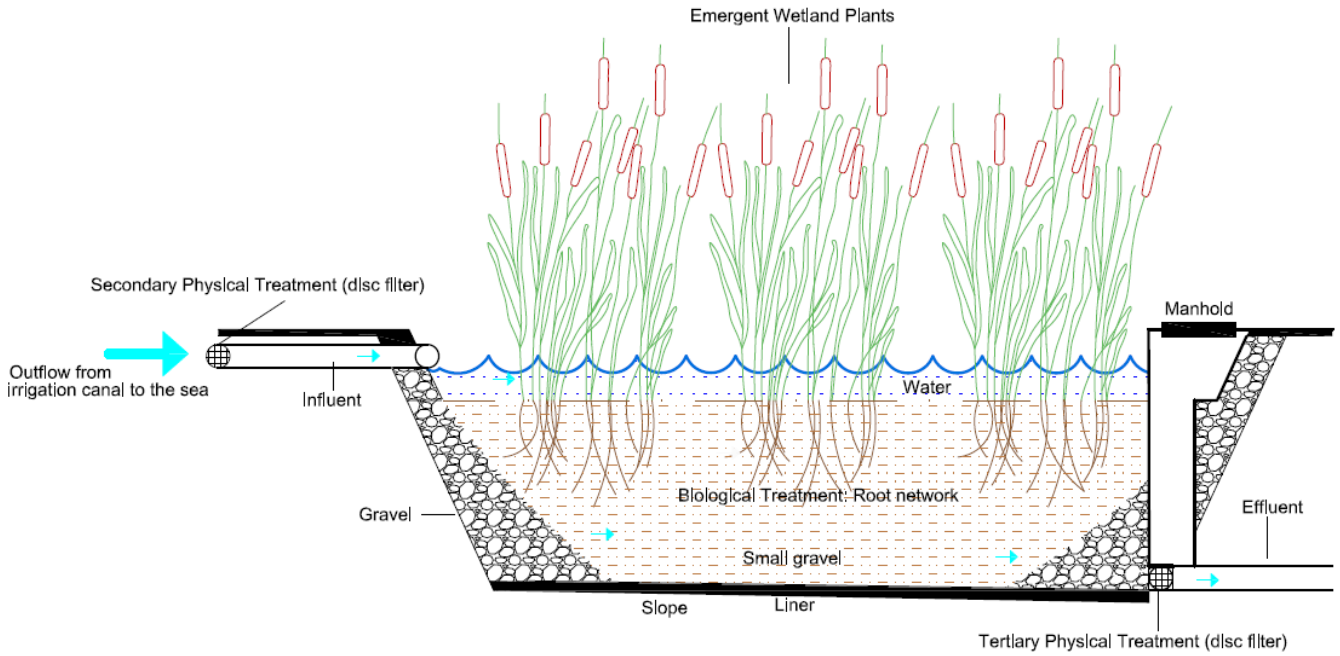


LEBANON
Nature Based Solutions

The project mainly focuses on water augmentation through **quality improvement** and **water retention** through the implementation of Nature Based Adaptation Technologies (NBATs).

Constructed Wetland

- Contaminated water biologically treated by **natural rootzone technology**
- Based on **natural processes**
- **Consistent water quality** of effluents
- **Low** capital **investment**
- **Long lifespan**
- Relatively **easy O&M**
- **Scale neutral**
- **Effective** for biological, chemical and physical treatment (small size particles)
- **Renewable energy** production
- In line with **participatory management processes**



Thank you

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