Emerging practices from Agricultural Water Management in Africa and the Near East

Thematic Workshop

Theme 1
Water Productivity

Bari, 28 August 2017
Theme 1: Water Productivity

PRESENTATION OUTLINE

BACKGROUND AND DEFINITION

OBJECTIVES

MEASURES

THE PROJECT
DEFINITION AND BACKGROUND

Definition of Crop Water Productivity (CWP): measure of the economic or biophysical gain from the use of a unit of water consumed in crop production

Need for improving CWP:
- Rising competition of finite water resources
- Rising demand of agriculture
- Devastating impact of climate change

FACTS AND FIGURES

Yields of rainfed maize in sub-Saharan Africa have remained at around 1 t/ha in the past 50 years, while in Latin America and the Caribbean yields tripled from 1 t/ha to 3 t/ha.

Yields in the continent do not exceed 40 percent under optimal conditions.

Reliance on irregular and unreliable rainfall is one of the major causes behind the low crop yields.
DEFINITION AND BACKGROUND

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Significant contribution to Sustainable Development Goals

Build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.

End hunger and ensure access by all people to safe, nutritious and sufficient food all year round.

End all forms of malnutrition, including achieving, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.

Double the agricultural productivity and incomes of small-scale food producers.

Integrated water resources management at all levels.
DEFINITION AND BACKGROUND

MULTIPLE EXPECTATIONS FROM CWP

**Economic:** increasing agricultural productivity

**Social:** reducing hunger and exposure of the poor

**Ecological:** coping to climate extremes

**Technical:** integrated solution
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OBJECTIVES

- **Optimizing** the use of rainwater for increased crop production
- **Maximizing** the utilization of existing irrigation schemes in a sustainable manner
- **Designing** new irrigation schemes in a sustainable manner
- **Developing** practical tools to enhance CWP at any irrigation condition

A model to assess crop yield response to water
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**MEASURES**

**Previous approach**

Only land productivity

**Paradigm shift**

Comprehensive approach (new measures such as land, water, energy etc.)

- **Enhancing CWP at plant level:** most significant improvements come from breeding technology
- **Enhancing CWP at field level:** crop selection, planting methods, minimum tillage, synchronized irrigation, nutrient management, improved drainage, etc.
- **Accounting CWP:** land-use planning, improved irrigation scheduling, conjunctive management etc.
- **Policy tool** for promoting CWP: government intervention, sufficient operation and maintenance, policies and incentives, etc.
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MEASURES

Not all measures to increase CWP are appropriate in all circumstances.

Measures must be considered to be reasonable and combined.

Measures must be integrated with other AWM practices (such as water use efficiency, water harvesting, etc.) to maximize benefit of improved CWP at project implementation.
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THE PROJECT

Strengthening Agricultural Water Efficiency and Productivity on the African and Global level

- Morocco
- Burkina Faso
- Uganda

- Improved crop water productivity in small scale agriculture
- Increased water use efficiency in small scale irrigation
- Enhanced water harvesting capacity for agriculture
- National water audits prepared for Burkina Faso, Morocco and Uganda
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1. AWM in Burkina Faso, Morocco and Uganda is improved and mainstreamed in national frameworks and processes

2. Knowledge/knowhow of AWM with increased crop water productivity/efficient use of water use and its mainstreaming in policy is capitalized, disseminated and used in Africa and globally
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THE PROJECT

IMPLEMENTATION STRATEGY

Activities

1. Trainings
   - Relevant experts
   - Extension agents
   - Farmer innovators
2. Application
   - Water harvesting
   - Water Downed
3. Dissemination
   - Water harvesting
   - Water Downed

AquaCrop

Actors involved

Other Farmers
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THE PROJECT

SCALING UP STRATEGY

1. Selection of pilot sites
   - Based on agro-ecological characteristics (Climate, Soils and Crops) that can be found in other areas within Africa or the rest of the world

2. Tool/pilot project implementation

3. Report on Lessons learnt/main findings

4. Application in sites of similar agro-ecological characteristics (Climate, Soils and Crops)

Support to CAADP-Pillar 1 implementation process
- Investment profiles
- Bankable investment projects
- Diagnostic tools application

Report on Lessons learnt/main findings

Application in other African countries (especially those at the same stage of CAADP implementation)