Food and Agriculture Organization of the United Nations

CIHEAM IAM BARI

AgWA
Partnership for agricultural water for Africa

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

Thematic Workshop

Theme 1

Water Productivity

University of Cordoba

28 August 2017

Theme 1:
Water Productivity

OUTLINE: WHAT ARE WE DOING AND HOW ARE WE DOING IT

INTRODUCING THE TOOLS/METHODOLOGY

TOOLS/METHODOLOGY IN ACTION

PROJECT COMPONENTS

PARTNERS IN IMPLEMENTATION

OUTCOMES

Theme 1:
Water Productivity

INTRODUCTION TO TOOLS/METHODOLOGY

GOAL: Develop guidelines for improving crop WP in small-holder agriculture

PREDICTS YIELD IN RESPONSE TO WATER

- **What are the current yields and WP gaps?**
  - **Are present farm irrigation practices efficient and adequate?**
    - **What are the limiting/reducing factors affecting crop production?**
      - **What are the best strategies to enhance WP?**

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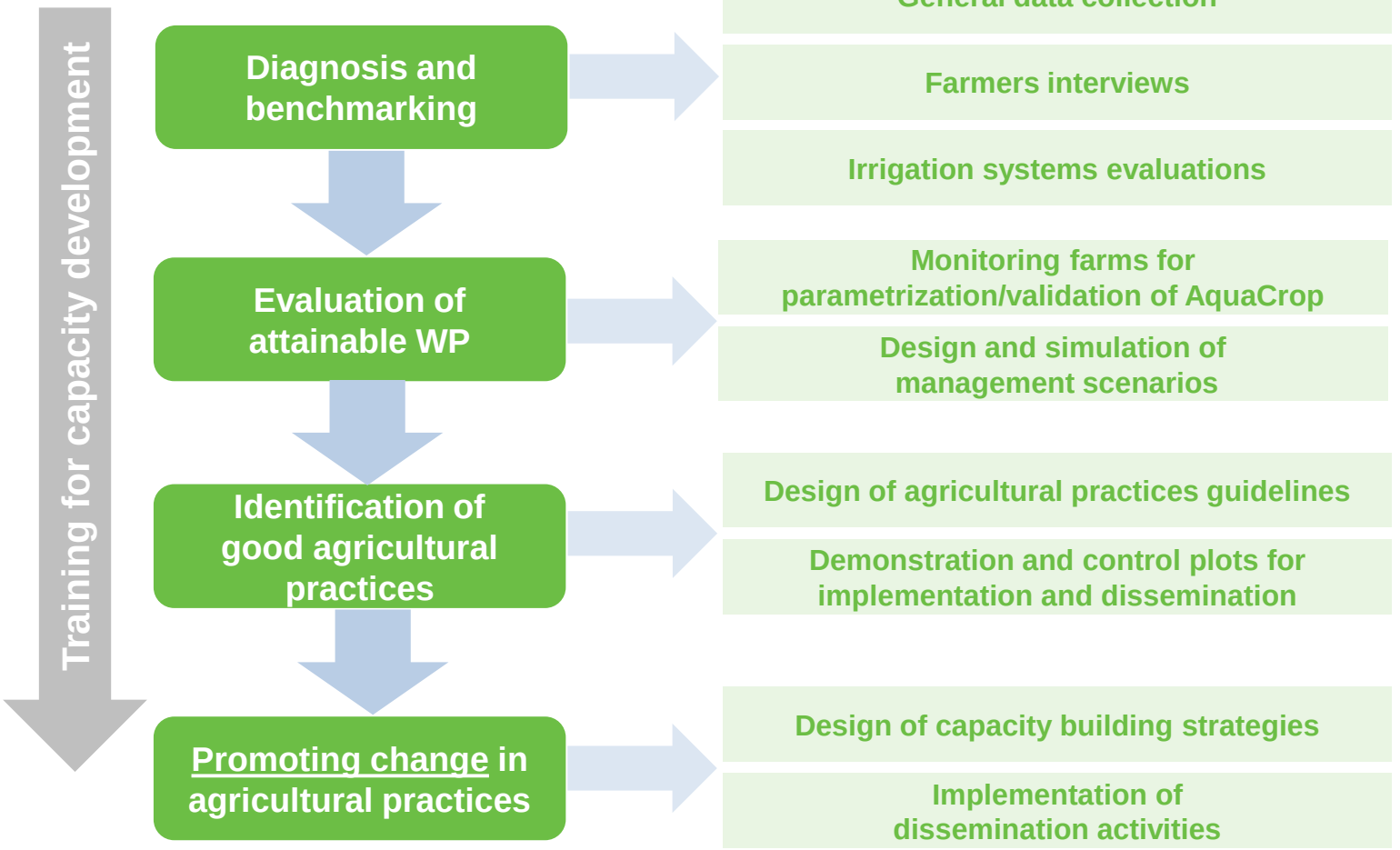
THE PATH FOR ACTION RESEARCH



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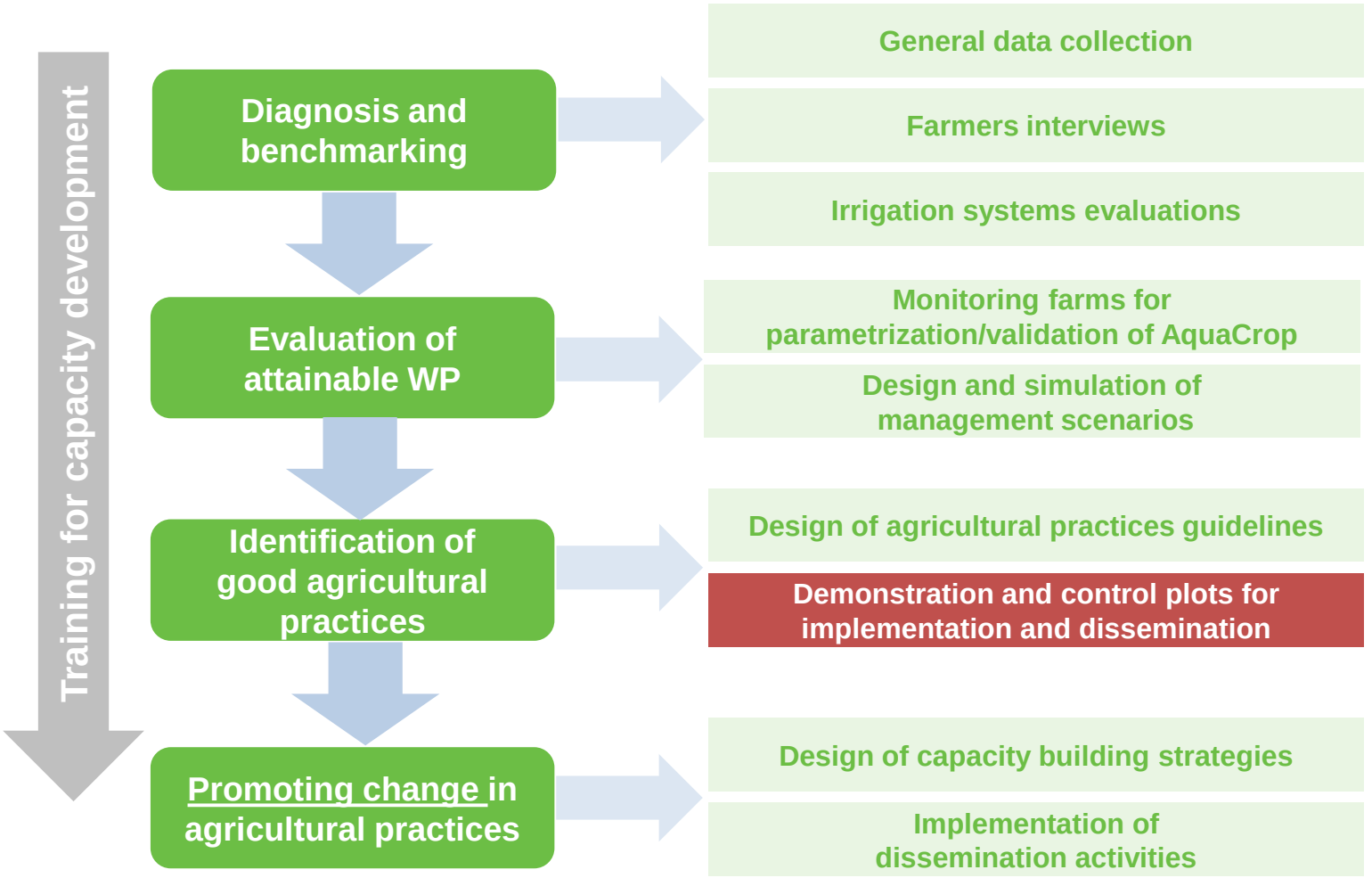
APPLYING THE TOOLS/METHODOLOGY



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TOOLS/METHODOLOGY IN ACTION

Diagnosis and benchmarking

General data collection:
(What is really happening out there?)

Irrigation systems evaluation

Farmers interviews

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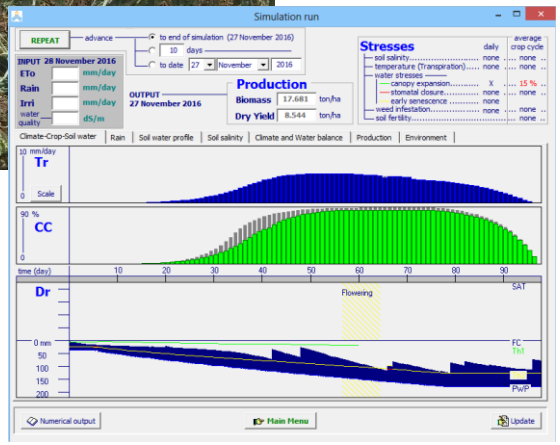
TOOLS/METHODOLOGY IN ACTION

Evaluation of attainable WP

(what is the maximum possible WP?)

Monitoring farms for parametrization/validation of AquaCrop

Design and simulation of management scenarios



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TOOLS/METHODOLOGY IN ACTION

Identification of good agricultural practices

Design of agricultural practices guidelines

Demonstration and control plots for implementation and dissemination

Agricultural practices guidelines for the demonstration plots of maize

1. **Land preparation**

Land levelling/gradding and furrow preparation

- Levelling is important to ensure that water distributions in the root zone are uniform and efficient. There are two land levelling options: (1) to provide a slope which fits a water supply; and (2) to level the field to its best condition with minimal earth movement and then vary the water supply for the field condition. The second option will be follow since it is the most feasible because the first one may leave significant areas of the field without fertile topsoil and the second one is also the most economic approach.
- Soil should be worked about 3–4 weeks before planting, thus allowing for partial decomposition or organic material.
- Soil moisture condition is a critical factor for the seedbed preparation, thus, soil should be at field capacity.

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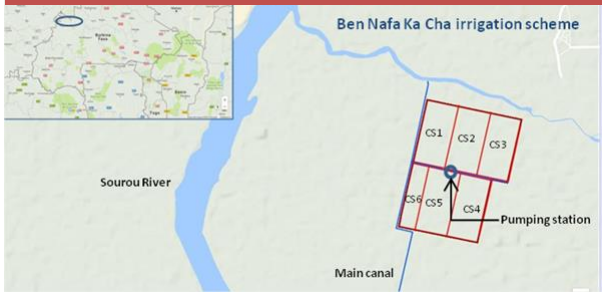
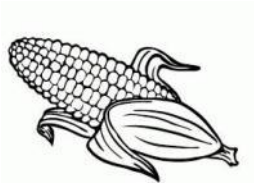
PROJECT

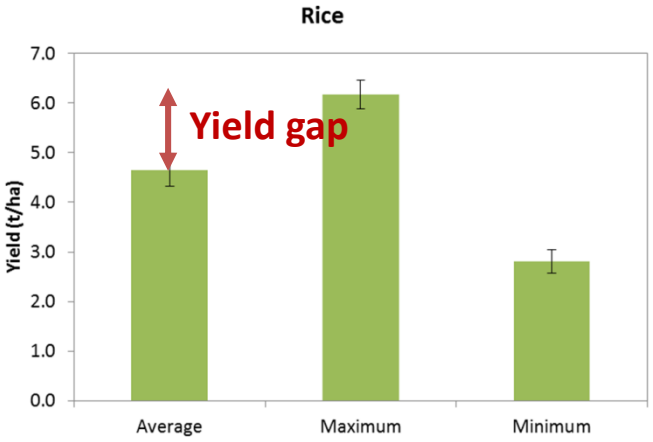
Ben Nafa Ka Cha irrig. scheme



- Diagnosis and benchmarking
- Evaluation of attainable WP
- Identification of good agricultural practices



PROJECT COMPONENTS



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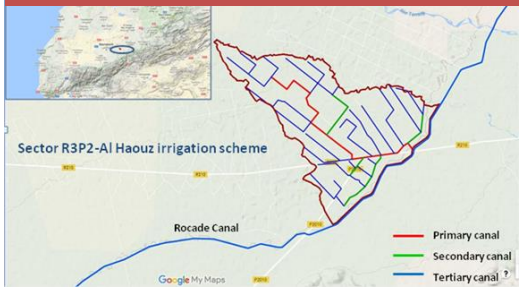
Sector R3P2-Al Haouz



- **Diagnosis and benchmarking**
- **Evaluation of attainable WP**
- **Identification of good agricultural practices**

PROJECT COMPONENTS

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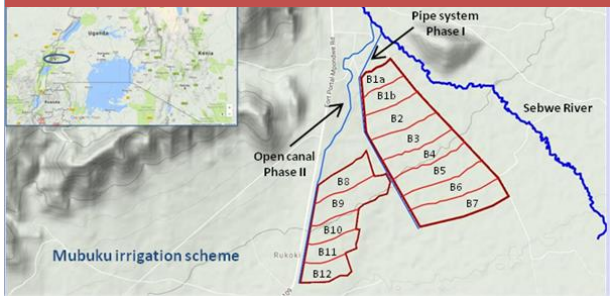
Mubuku irrigation scheme



- Diagnosis and benchmarking
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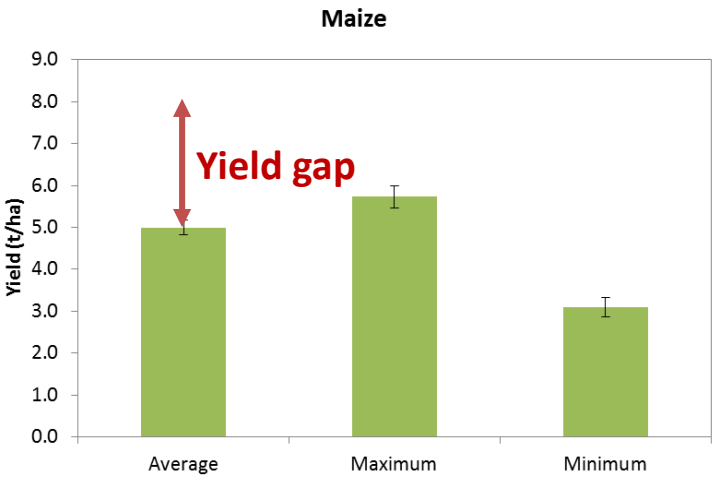
PROJECT COMPONENTS



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PARTNERS IN IMPLEMENTATION

Autorité de Mise en Valeur de la Vallée du Sourou

Water users association

Mubuku Irrigation Settlement Scheme

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OUTCOMES SO FAR

- ✓ **Improvements in the water service scheduling are an essential requisite for better water management at farm level**
- ✓ **Improving irrigation system design and land preparation (levelling and ridging) is critical for optimizing farm irrigation management in the 3 areas.**
- ✓ **Deficit irrigation strategies should be promoted where water resources limitations appear. Current modeling efforts will define DI strategies**
- ✓ **The joint management of water and soil fertility should be a priority. (shortcomings in farm advisory have been detected).**

THE STARTING POINT IN THE IMPROVEMENT CHAIN (NEED FOR INTEGRATION)