



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



Theme 1: Water Productivity

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.



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DEFINITION AND BACKGROUND

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





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DEFINITION AND BACKGROUND

MULTIPLE EXPECTATIONS FROM CWP

Economic:
increasing
agricultural
productivity



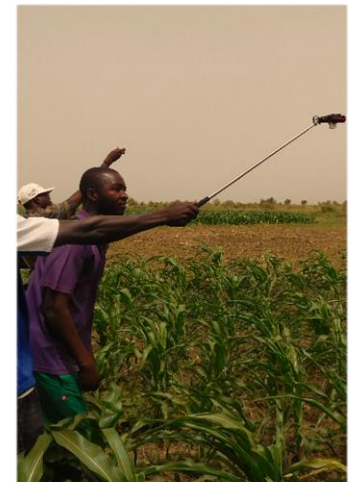
Social:
reducing
hunger and
exposure of
the poor



Ecological:
coping to
climate
extremes



Technical:
integrated
solution

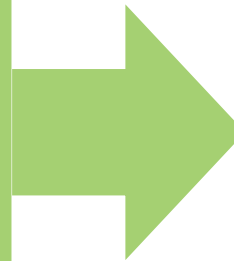




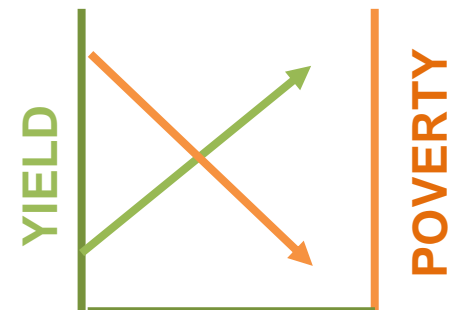
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OBJECTIVES

- ✓ **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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Food and Agriculture
Organization of the
United Nations

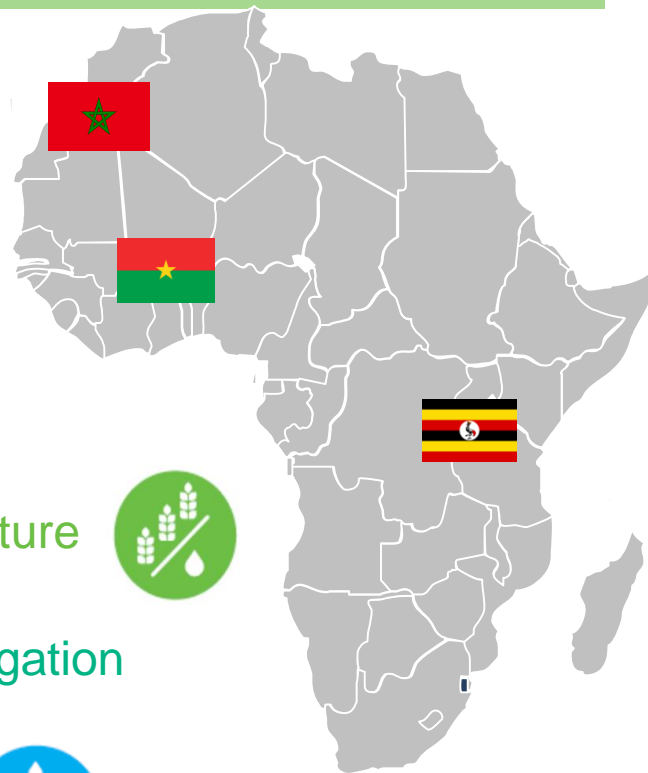


**Strengthening Agricultural
Water Efficiency and
Productivity on the African
and Global level**

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.



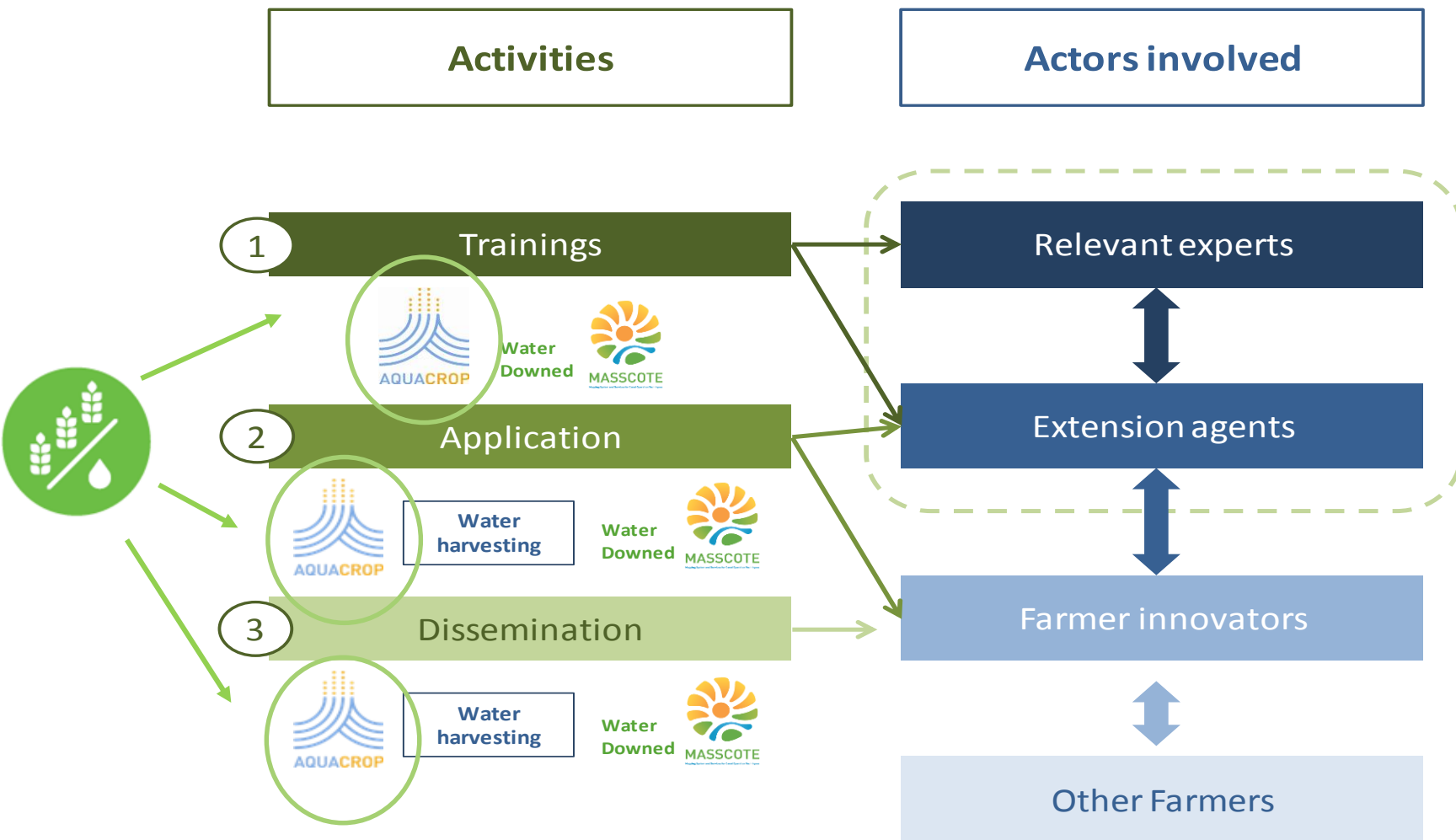
Knowledge/knowhow of AWM with increased crop water productivity/efficiency of water use and its mainstreaming in policy is capitalized, disseminated and used in Africa and globally



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IMPLEMENTATION STRATEGY

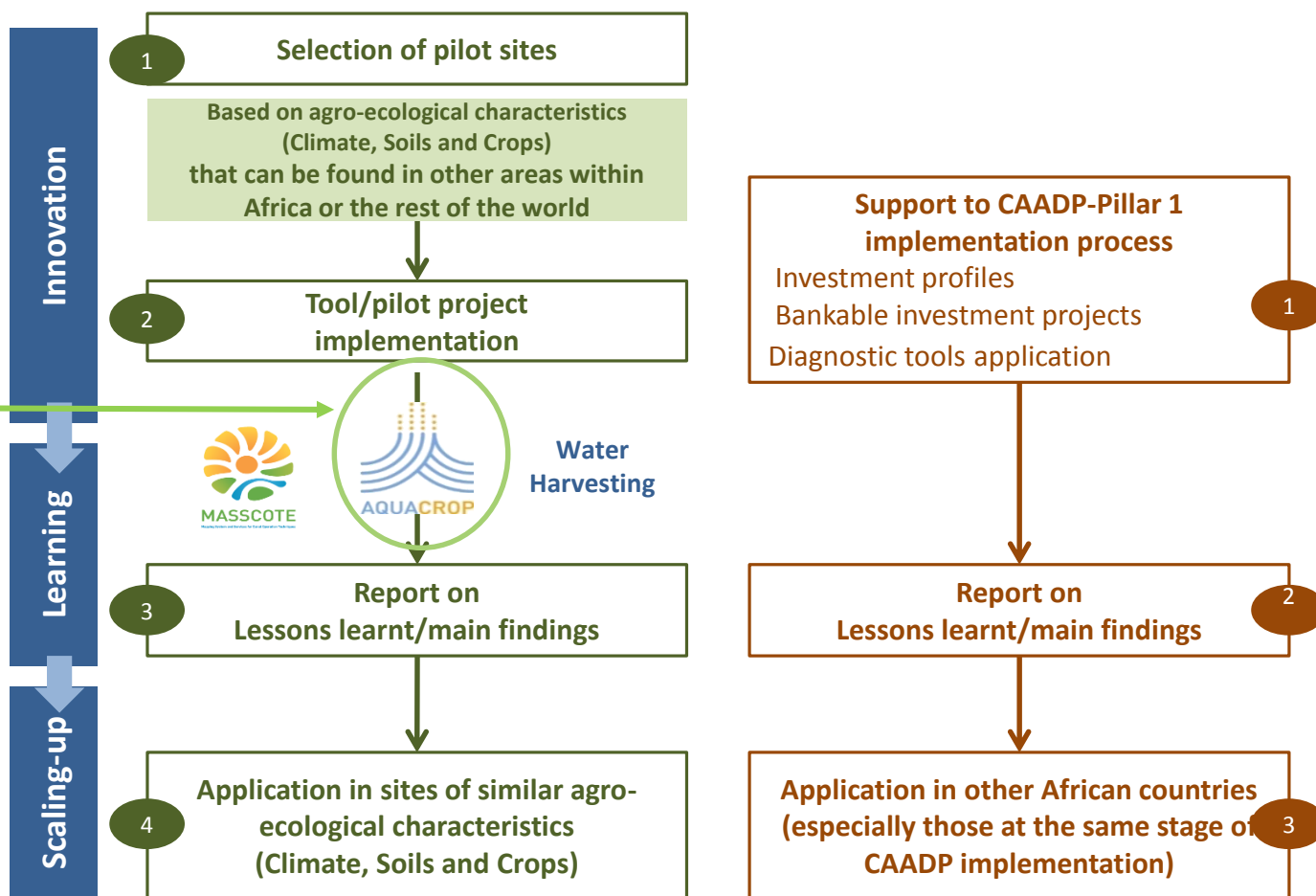




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SCALING UP STRATEGY





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NEXT TOPICS

INTRODUCTION TO METHODOLOGY AND TOOLS

METHODOLOGY AND TOOLS IN ACTION

RESULTS ACHIEVED

COUNTRY EXPERIENCES

STRENGTHS AND WEAKNESSES OF IMPLEMENTATION

DISCUSSION