

Workshop Note

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

Thematic Workshop of the Entry Phase of the Project Lebanon Room (D209) | FAO-HQ | Rome | Italy 18-22 August 2014









The Project

This thematic workshop marks the final step of the Entry Phase of the project 'Strengthening Agricultural Water Efficiency and Productivity on the African and Global Level'. The project will be implemented by FAO together with the Partnership for Agricultural Water in Africa (AgWA) with the overall goal to reduce hunger and poverty in three pilot African countries - Burkina Faso, Morocco and Uganda - by improving Agricultural Water Management (AWM) practices and mainstreaming them in national frameworks and processes.

The project is funded by the Swiss Agency for Development and Cooperation (SDC) and is composed of three phases: Entry Phase, First and Second Implementation Phase.

The **Entry Phase** started in April 2014 and had five months duration. The overriding goal of this phase is to share the project document with a broad range of stakeholders and beneficiaries in each of its countries, in order to refine it in accordance to their interests and priorities, and to ensure that the final document is endorsed by the concerned parties.

The **First Implementation Phase** will focus on Africa and will be implemented in the three countries - Burkina Faso, Morocco and Uganda - within three years. The phase will have an intervention approach as it will work closely with relevant government officials, extension agents, research institutions, and farmers' representatives.

The **Second Implementation Phase** will have a global focus and will expand to other three countries in Africa, the Middle East and South East Asia. The purpose of this phase is to develop country cooperation to promote knowledge transfer and experience sharing in improving AWM practices and mainstreaming them into national frameworks and processes.



The AgWA partnership

The Partnership for Agricultural Water in Africa (AgWA) is a partnership of African countries, development partners, and international, regional and national organizations from the public and private sectors and civil society, who have a common interest and important capacities to support investment in agricultural water management (AWM) in Africa.

AgWA's aim is to increase investment in agricultural water development and management that is socially equitable, profitable at the farm level, economically viable, and environmentally sound and sustainable – thereby contributing to the achievement of MDG1 as well as the goals of the Comprehensive Africa Agriculture Development Programme (CAADP). To achieve these objectives, AgWA has identified five priority areas of activities for developing AWM in Africa:

| ® | Advocacy: | Disseminate information on AWM and set the topic on top of the national agenda of relevant policy makers and stakeholders |
|----------|-----------------------------------|---|
| 5 | Partner harmonization: | Provide a platform for closer collaboration, policy- dialogue and harmonization between partners |
| \$ | Resource mobilization: | Increase and sustain the flow of resources (funds, people, political will) towards AWM |
| K ↑ 7 | Generating and sharing knowledge: | Facilitate knowledge-sharing and understanding of issues related to AWM |
| | Capacity building: | Build the capacity for informed decision making at all levels of AWM |



The workshop at a glance

The Thematic Workshop will count with the participation of national and international experts, the project Task Forces - composed of country representatives - as well as an FAO technical team and the AgWA coordination unit.

The five themes of the workshop are:



The workshop will last for five days. During the event, participants will meet and agree on the way forward for the project.

Objectives of the workshop

- Introduce and gather main actors involved in the implementation of project activities
- Present the background country reports and the thematic briefs prepared based on the country reports thematic reports, and discuss main findings and conclusions as well as the FAO work approach per theme:
- Collect feedback from participants on each project component (accounting, efficiency, harvesting, policy and productivity) which participants will endorse for the final Project Document.
- · Agree on what changes will be incorporated into the Project Document

Expected output

 A finalized comprehensive Project Document that integrates the five themes in a sustainable way and is fully endorsed by all relevant stakeholders.





Any strategy aiming at addressing the challenges of sustainable water use with a focus on agriculture must be based on a thorough understanding of the elements of the water balance, including supply and demand for water and the spatial and temporal dimensions associated with it. **Water accounting** refers to the systematic examination of the current status and future trends in water supply, demand, accessibility and use within a specified domain. Beyond the simple accounting of volumes and flows, it also focuses on issues relating to accessibility, uncertainty and governance.

Water accounting can be used as basis for decision-making by providing evidence on, for example:

- the underlying causes of imbalances in water supply and demand;
- the sustainability of the current level of consumptive water use;
- the possible externalities of attempts of improving water efficiency and productivity.

Water accounting needs to be problem-focused, to match specific challenges in the given domain, and dynamic in nature. Similarly, the level of analytical detail needs to be tailored to those conditions.

- 1. How sustainable is water use in agriculture?
 - Does the supply (quality, quantity, and timing) match the demand, from all sectors and uses, both currently and in projected trends?
 - A common statement amongst the three countries is provided.
 - If imbalances exist between supply and demand, are the underlying causes known?
 - Concrete examples are listed and explained.
- 2. What opportunities exist for improving sustainable use?
 - What opportunities for improving supply/demand management? Consider possible externalities
 - Which of these opportunities are suitable for small scale agriculture?
 - A common view amongst the three countries is built;
 - Evidence-based examples are listed.
- 3. What are the main challenges/constraints to develop the above identified opportunities?
 - A common view amongst the three countries is built.
- 4. Are these opportunities and challenges addressed in national policies? And what are the actions to address them?
 - Link with policy is established;
 - Concrete actions are listed.





Water productivity is a measure of the economic or biophysical gain from the use of a unit of water consumed in crop production. With rising competition of finite water resources, uncertainties linked to climate change and the steady rise in demand for agricultural commodities, increasing water productivity is essential to achieving water and food security.

To identify viable ways for increasing the productivity of water use, the yield response of crops to water must be known. FAO has, therefore, developed a model to assess the yields of major herbaceous crops as a function of water supply (AquaCrop). AquaCrop is a companion tool for a wide range of users and applications including yield prediction under climate change scenarios. And it helps to:

- · intensify crop production;
- close the yield gap in many regions of the world;
- quantify the impact of climate variability and change on cropping systems;
- more efficient use of natural resources; and
- minimize negative environmental impacts.

A key thematic area of the project is the improved water productivity in small scale agriculture in the three countries. This will be done by applying the AquaCrop tool, which will eventually help farmers manage rain-fed and irrigated agriculture areas more effectively with the overarching objective to reducing hunger and increasing food security.

- 1. What are the options/opportunities to increase yields and water productivity in rain-fed/irrigated agriculture?
 - · A common view amongst the three countries is built;
 - Evidence-based examples are listed.
- 2. In your view, which crops should be prioritized for the enhancement of water productivity?
 - A criteria-based list is created;
 - · A common view amongst the three countries is built
- 3. In your view, what are the main challenges/concerns to increase productivity?
 - · A common view amongst the three countries is built.
- 4. How are the previously identified challenges addressed in national policies? And what are the actions to address them?
 - Link with policy is established;
 - · Concrete actions are listed.





Water Harvesting (WH) refers to the collection of rainfall for direct application to a cropped area, either stored in the soil profile for immediate uptake by the crop or stored in a reservoir for future productive use.

The majority of African farmers work in rain-fed agricultural systems, where rainfall is the only source of water for crop production. Therefore, in a situation where rainfall patterns are increasingly unreliable, WH offers an important mean to increase the resilience and productivity of rain-fed Africa. At the same time, WH provides a valuable source of water to uplift small scale irrigation adoption.

Excellent examples of local WH practices can be found in Africa. Nevertheless, the experiences are often scattered and sub-optimal. Therefore, there is a strong need to learn systematically from positive experiences and to upscale them at national and continental scale.



- 1. What role do you envisage for WH in increasing agricultural production?
 - A common view amongst the three countries is built
- 2. In your view, what are the main challenges/concerns to increase WH for crop production?
 - Concrete points are listed and explained
- 3. How are the previously identified challenges addressed in national policies and what are the actions to address them?
 - Link with policy is established;
 - Concrete actions are listed.
- 4. What are the key factors that need to be in place to trigger spontaneous WH adoption?
 - A common view amongst the three countries is built regarding
 - Institutional aspects;
 - Capacity building;
 - Technical aspects;
 - Others





Agricultural water policy refers to the set of objectives, as well as the principles and actions to attain those objectives, which affect agriculture water management in a given country.

In Africa, agricultural water policy is generally framed within the Comprehensive Agriculture Africa Development Programme (CAADP). CAADP was established by the African Union assembly in 2003 and focuses on improving food security, nutrition, and increasing incomes in Africa. It aims to do this by raising agricultural productivity by at least 6 percent per year and increasing public investment in agriculture to 10 percent of national budgets per year.

CAADP's work lies on 4 pillars, dealing with key issues. One of them is Pillar 1 dedicated to Land & Water Management, which is the one the project will work on. Two of the project's selected countries – Burkina Faso and Uganda- have adhered to the CAADP whilst Morocco is following its own policy frameworks.

This project aims to support these national policy processes/frameworks with a focus on re-emphasizing improved Agricultural Water Management that would result in increased water productivity and efficiency and water harvesting capacity and improved knowledge on water resources demand and availability.

- What are the key focus areas of AWM in your country? Which ones do you consider more important?
 - Concrete points are listed and explained
 - A ranking is made based on the importance AWM focus area
- 2. In your opinion, are they sufficiently addressed in the National Investment Plans/Development Strategies?
 - A common view amongst the three countries is built
 - · Concrete examples are listed and explained
- 3. In your opinion, how has been the progress in implementing AWM sub-programmes of National Investment Plans?
 - Concrete examples are listed
- 4. What have been the main constraints/triggers to the implementation of these sub-programmes
 - A common view amongst the three countries is built
 - Concrete points are listed and explained



Water Use Efficiency (WUE) is the ratio of effective water use and actual water withdrawal. It characterizes, in a specific process, how effective is the use of water. Efficiency is scale and process dependent.

Along a canal, the conveyance efficiency is the ratio between the volume of water at delivery points and inflow at entrance. At field level, effective water use is the water transpired by the crop and some other special requirements (land preparation, salt leaching). Runoff, deep percolation and evaporation from bare soil or standing water in paddy fields, are losses.

A good understanding of the interrelationships of performance indicators, e.g. efficiency, productivity, at various scales and a robust water balance are critical. Each stream, flux must be characterized for rate and status, e.g. effective use, real losses, etc.

The FAO methodology MASSCOTE (Mapping System and Services for Canal Operation Technique) is a step-wise procedure for assessing performance of irrigation management, analyzing and evaluating the different elements of an irrigation system in order to develop a modernization plan. The methodology is founded on a rigorous on site approach of the physical water infrastructure (canals and networks) and introduces service oriented management as a normal practice.

- 1. What are the scope/priorities for improving Water Use Efficiency (at canal/system level, at field level, at scheme level?
 - A common view amongst the three countries is built.
- 2. With what degree of certainty WUE and measurements are known (water delivery, inflow, etc.)?
 - A common view amongst the three countries is built.
 - Concrete examples are given.
- 3. How does WUE scale up from field to system and scheme (water recycling, formal and informal irrigation practices, rain-fed irrigation, etc.)?
 - A common view amongst the three countries is built.
 - · Concrete points are given and explained.
- 4. What are the specific leverages for improving WUE at farm/field level, at system/scheme level)?
 - A common view amongst the three countries is built.

Programme

Day 1 Monday, 18 August 2014, Lebanon Room, FAO

Day 1 introduces the thematic workshop, its objectives, the participants and the project. Session 1 focuses on 'Water Accounting' with a focus on FAO's approach. A number of independently selected case studies will be presented. Finally, the focus of this component within the project will be presented. During Session 2, the National Consultants will present their Water Accounting Background Papers per country. The Consultants will go over the critical findings on the water accounting status per country. During Session 3, the thematic component will be discussed by all participants. The Technical Experts and National Consultants will receive inputs from the participants with the ultimate goal of formulating a hands-on proposal for the Water Accounting component of project-Phase 1.

| 8.30 - 9.00 | Arrival and Registration - Location: Turkish Lounge | |
|---------------|---|--|
| 9.00 - 10.00 | Introduction Session Welcome speech Mr. Moujahed Achouri, Director, NRL-FAO Mr. Manfred Kaufmann, Water Policy Advisor-Africa, SDC Presentation of participants Introduction to the project, the workshop and its objectives Mr. Maher Salman, Technical Advisor, NRL-FAO | |
| 10.00 - 10.30 | Coffee/Tea Break | |
| wate | er Accounting | |
| 10.30 - 12.00 | Session 1 Thematic Presentation - FAO Approach and selected case studies Presentation of Water Accounting Project Component Q&A Mr. Jippe Hoogeveen, Technical Adviser, NRL-FAO Ms. Livia Peiser, Technical Officer, NRL-FAO Mr. Maher Salman, Technical Advisor, NRL-FAO | |
| 12.00 - 13.30 | Lunch Break - Location: FAO Cafeteria | |
| 13.30 - 15.00 | Session 2 • Background Papers Presentation per Country • Q&A Mr. Halidou Compaore, National Consultant, Burkina Faso Mr. Mustapha El Haiba, National Consultant, Morocco Mr. Henry Ntale, National Consultant, Uganda | |
| 15.00 - 15.30 | Coffee/Tea Break | |
| 15.30 - 17.00 | Session 3 • Group Discussion Moderators | |
| 17.00 - 17.15 | Wrap up of the day Mr. Maher Salman, Technical Advisor, NRL-FAO Mr. Fethi Lebdi, AgWA Coordinator | |

Day 2 Tuesday, 19 August 2014, Lebanon Room, FAO

Day 2 focuses on "Water Productivity". During Session 1, FAO's approach and a number of selected case studies will be presented followed by the focus of this component within the project. In Session 2, the National Consultants will present their critical findings and feedback of the field missions. During Session 3, the participants will discuss the findings and how to improve the component within the project document.

Session 4 brings the two themes – Water Productivity and Water Accounting – together. The synergies, impacts and cross-cutting work areas amongst these components will be discussed. This challenging workshop day will conclude with the identification of the focus of work within these two components per country to maximize impact of Phase I of the project.

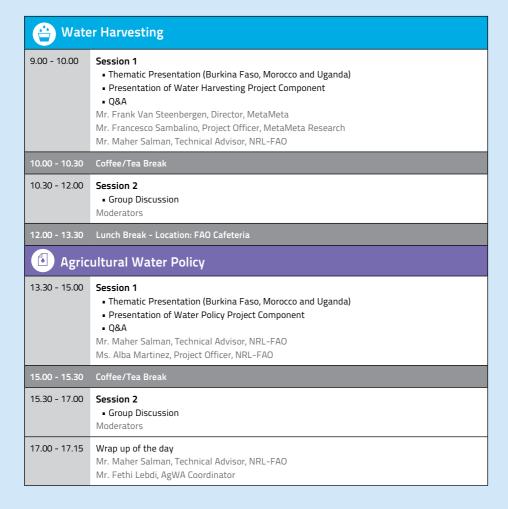


Day **3** Wednesday, 20 August 2014, Lebanon Room, FAO

Day 3 focuses on two themes: Water Harvesting and Agricultural Water Policy.

The Water Harvesting Session 1 presents the findings of the field missions from the three target countries. Session 2 discusses current capacity building in the countries and contribution to achieve potential of water harvesting. Both sessions have the ultimate goal of formulating the water harvesting components of the project in the three countries with the feedback of participants.

The Agricultural Water Policy sessions (1 & 2) aim to identify the existing gaps in AWM policies within the three target countries and how these gaps can be addressed. Session 1 aims to describe national policy processes/frameworks in Burkina Faso, Morocco and Uganda with a focus on Agricultural Water Management (AWM). Session 2 will be dedicated to discuss progress in the implementation of such policy processes/frameworks and review triggers, obstacles and lessons learnt in the development of AWM projects while looking into possible ways forward.



Day 4 Thursday, 21 August 2014, Lebanon Room, FAO

Day 4 focuses on "Water Use Efficiency" in which Session 1 will present FAO's approach (through MASSCOTE) and a number of selected case studies as well as the focus of this component within the project. During Session 2, the findings and feedbacks of the field missions per country will be presented by the national consultants. As in the previous days, during Session 3, the Consultants will go over their critical findings on the water efficiency paper per country. The Technical Experts and National Consultants will receive inputs from the participants which will set the stage for formulating a hands-on project document. In addition, a discussion on the use of MASSCOTE for Small Scale Irrigation throughout the project's Phase I will be held.

Session 4 brings together three themes – Water Harvesting, Agricultural Water Policy and Water Use Efficiency. The synergies and impacts of these components within the project will be discussed.



Day **5** Friday, 22 August 2014, Lebanon Room, FAO

Day 5, the last day of the workshop, brings all five themes together. A discussion session on the main outcomes, conclusions and results of the thematic workshop will be carried out. The last workshop day participants will fully validate the agreed-upon amendments to be incorporated into the final Project Proposal. The participants will be able to give final inputs during this time. Session 1 will focus on reshaping the project document with a focus on the main comments per theme and the cross-cutting work areas identified. Session 2 will focus on presenting the final document in which a final revision, comments and adjustments will be incorporated. The participants will prepare for the upcoming Phase I of the project.

| All Theme | es Together |
|---------------|--|
| 9.00 - 10.00 | Session 1 Reshaping the Project Proposal Organizing team |
| 10.00 - 10.30 | Coffee/Tea Break |
| 10.30 - 12.00 | Session 2 • Final Project Document Organizing team |
| 13.30 - 15.00 | Closure of the workshop Mr. Moujahed Achouri, Director, NRL-FAO Mr. Manfred Kaufmann, Water Policy Advisor-Africa, SDC |

Logistical information

Upon arrival at FAO

Building Pass pickup

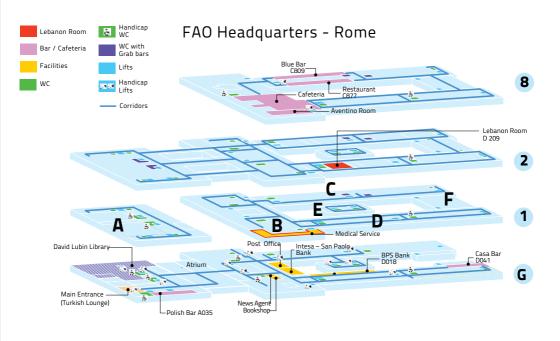
Make your way to the Security Access Pavilion. Present an ID to a Security Officer. You will then be directed to the Turkish Lounge (main entrance of FAO building) to collect your building pass. The venue of the workshop is in the Lebanon Room (D209).

Security

The FAO Security Office operates from 07.30-17.30 hours from Room B062 (extension 55159). Participants are requested to wear their Building Passes at all times. Briefcases and valuables should not be left unattended.

Meeting Room

The five day workshop will take place in the Lebanon Room Building D (D209). Please see map below.



Logistical information (continued)

Services at FAO

Banking and Currency Exchange Facilities

The building has two ATM's for cash withdrawal:

- Banca Intesa San Paolo: Ground floor, Building B.08.35 to 16.35 hrs, Mon-Fri.
- Banca Popolare di Sondrio: Ground floor, Building D.08.35 to 16.35 hrs, Mon-Fri.

Medical Services

The Medical Service provides emergency medical assistance in the FAO premises. Dial 30 from all in-house telephones.

WiFi Coverage

FAO offers free WiFi coverage in the main Meeting Rooms. To connect, please follow the below steps:

Step 1: Turn on device in WiFi areas

Step 2: Allow device to detect the network 'guest_internet'

Step 3: Open a browser to connect to the internet. The password is wifi2internet

No technical support can be provided if problems arise when connecting to, or using, the wireless internet service.

Catering Facilities

The FAO Cafeteria is on the eighth floor, Building, it is open from 12.00-14.30 hours for lunch. There are several snack bars on the premises:

Polish Bar (Ground Floor, Building A)

Blue Bar 'C' (Eighth Floor, Building C)

Eighth Floor Bar (Eighth Floor, Building B)

Bar D (Ground Floor, Building D)

Logistical information (continued)

Other important information during your stay in Rome

Emergency Telephone Numbers in Rome

The following numbers may be useful in case of emergency:

- Medical Emergencies 118
- General Emergencies 113
- Fire 115
- Ambulance (Red Cross) 06-5510
- City Physician on Call 06-58201030

Currency / credit cards

The official currency is the Euro (€).

Most restaurants and shops accept credit cards (but please check to be sure).

Exchange rates

Current exchange rates are approximately US\$1.50 = 1 Euro. The most up-to-date exchange rate can be obtained from the following site: www.xe.com/ucc/

Weather

Average weather and updated information can be seen at: www.eurometeo.com/english/forecast/city_LIRA

Time zones

Rome is GMT + 1 for details on time zones see: www.timeanddate.com/worldclock/

Electricity supply

Italy has a 220 volts electricity supply, the sockets are 3 round pins in a row.

Speakers & organizing team



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