Food and Agriculture Organization of the United Nations

CIHEAM IAM BARI

AgWA
Partnership for agricultural water for Africa

CONCEPT NOTE

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

Thematic Workshop | CIHEAM-IAM BARI, Italy | 28-31 August 2017

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development and Cooperation SDC

ITALIAN AGENCY FOR DEVELOPMENT COOPERATION

WORLD BANK

Sharing best practices for improved Agricultural Water Management using project findings from seven thematic areas: water productivity, water efficiency, water harvesting, conjunctive use of surface and groundwater, technology, water accounting and solar energy for irrigation.

These main driving questions will guide participants throughout the three days of the thematic workshop:

- How far have the seven thematic areas been applied in target countries?
- What are the proven strengthens and weaknesses of applied approaches?
- How can the experiences gained be extended in and beyond target countries?

THE PROJECTS

'Reduce Vulnerability in Jordan in the Context of Water Scarcity and Increasing Food/Energy Demand'

The project is to reduce water caused vulnerability in rural Jordan by combining three components within a community-based approach: Water harvesting, conjunctive use of groundwater, and solar power for lifting irrigation water.

'Coping with water scarcity – the role of agriculture/ Phase III: Strengthening national capacities' – Lebanon, Jordan and Egypt

The project deals with strengthening the national capacities of countries to combat water scarcity. Since most of the Near East countries have already reached or even gone beyond water scarcity levels, this region is a good starting point to invest in national capacities to cope with water stress.

'Strengthening Agricultural Water Efficiency and Productivity on the African and Global Level' – Burkina Faso, Morocco and Uganda

The project aims at reducing hunger and poverty in three African countries by focusing on improving Agricultural Water Management and mainstreaming AWM in national frameworks and processes.

'Technical Audit of Farm-level Irrigation Modernization Project (FIMP) in Egypt'

The objective of the Audit is to assess the Government of Egypt's FIMP project that aims at increasing access to modern irrigation systems in the Nile Delta, in an equitable manner.

THE PARTNERSHIP

History of cooperation between the organizers of the Workshop – FAO/CBL, FAO/AgWA and CIHEAM-IAM BARI – dates back over some time and represents important capacities and experiences to support investment in agricultural water use. Organizers dedicated the workshop to share experiences, best practices and promote knowledge amongst wide-range of partners including government and inter-government organizations; research, educational and training institutions; financing institutions; and international water management networks.

The **Land and Water Division (CBL)** of the Food and Agriculture Organization of the United Nations (FAO-UN) aims to enhance agricultural productivity and to advance sustainable land and water use in order to meet present and future agriculture demands while ensuring environmental resources. Integrated Land and Water Management is promoted through the development and improvement of irrigated and rainfed agriculture while sustaining quality of land and water resource and reducing extreme climate events. Division's work on land and water is developing state-of-the-art, practical, innovative and policy-relevant options for on-the-ground decision-making. CBL also maintains knowledge center for systematic data and information system on land and water resources.

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 contrib-

uting to the achievement of SDGs 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, partner harmonization, resources mobilization, generating and sharing knowledge, capacity building.

The **International Center for Advanced Mediterranean Agronomic Studies (CIHEAM)** is an intergovernmental organization devoted to the sustainable development of agriculture and fisheries, food and nutrition security and rural and coastal areas composed by 13 member states. The organizational goal is to contribute to the development of a global, innovative and committed vision in its specific areas by actions in following fields: education and training; research, networks and open knowledge platforms; projects and technical assistance; political dialogue and partnership.

CIHEAM and FAO have been collaborating for more than 50 years, successfully implementing numerous initiatives within their respective mandates. They both share the same goal of enhancing food and nutrition security in the region through the development of targeted actions related to sustainable agriculture and rural development, forestry and fisheries. Organizations collaborate to respond to the emerging needs of their member States, and work towards a new vision for agriculture and nutrition security.

CIHEAM-Istituto Agronomico Mediterrano di Bari (IAMB) and FAO/AgWA collaborate in two projects: 'Strengthening Agricultural Water Efficiency and Productivity on the African and Global Level" aiming at enhancing capacity for increased water use efficiency in three African countries (Burkina Faso, Morocco and Uganda); and 'Reduce vulnerability in Jordan in the context of water scarcity and increasing food/energy demand' contributing to a fully developed and operational pilot area of water harvesting with conjunctive groundwater and solar power.

THE WORKSHOP AT A GLANCE

The Thematic Workshop will count on the participation of national and international representatives, experts, stakeholders – as well as CIHEAM-IAM BARI and CBL technical teams, together with AgWA coordination unit.

The seven thematic areas of the workshop are:

The workshop will last four days including, a one-day field visit. During the event, participants will share experiences, present country works, discuss approaches, and conclude with perspectives of the thematic areas.

Objectives of the workshop

- Present approaches and their in-countries' application.
- Share experiences and stakeholders' feedbacks.
- Discuss proven strengthens and weaknesses of approaches and their in-countries' application.
- Raise right questions/concerns for upscaling approaches/their in-countries' application indicating the possible development potentials and conditions related to each topic.
- Agree on the way forward for promoting and spreading results achieved.

Expected output

- Reach a common view and define clear measures to improve Agricultural Water Management both from theoretical and practical standpoint integrating lessons learned from the current approaches and methodologies.

Workshop theme 1

WATER PRODUCTIVITY

Summary

Crop Water Productivity (CWP) 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.

Low productivity of the agricultural sector is one of the reasons behind severe levels of undernourishment. Improving CWP is therefore a must for countries. In this regard, the productivity related project components aims at:

- optimizing the use of rainwater for increased crop production;
- maximizing the utilization of existing irrigation schemes in a sustainable manner;
- developing new irrigation schemes in a sustainable manner.

FAO has launched its own developed crop water productivity model, AquaCrop, to simulate yield response to water of herbaceous crops under any climatic and soil conditions, including the effect of climate change. Practical tools to enhance crop water productivity (AquaCrop) piloting for both rain-fed and irrigation conditions with the active participation and contribution of farmers and with emphasis on gender equality help farmers overarching objective to reduce hunger and increase food security.

Actions and experiences

The project "Strengthening Agricultural Water Efficiency and Productivity on the African and Global Level" (GCP/INT/231/SWI) has the aim to enhance Crop Water Productivity under small-scale farming conditions in three countries (Burkina Faso, Morocco and Uganda), by applying practical tools using a comprehensive methodological approach.

After a diagnosis and benchmarking phase, the project evaluates the attainable water productivity gains using the FAO developed model (AquaCrop). The project then identifies good agricultural practices and uses demonstration and control plots for implementation and dissemination activities to promote changes in agricultural practices at farm level

Thematic area 1 guiding questions:

- Has a simulation model such as AquaCrop responded to the need for critical assessment of crop water productivity and its improvement? What are its limitations and strengths and how can it be further applied?
- Is it viable to reduce yield gaps further to reach close to potential yields by single irrigation improvement without considering additional agronomic measures? What could be those measures?
- The sustainability of water productivity improvements relies on the involvement and participation of the major stakeholders, especially Farmers Associations. How can an inclusive and effective strategy be developed for long-term sustainability?
- Crop Water Productivity and Water Use Efficiency are closely linked: how can the tools/ methodologies (and their implementation) in the two domains be brought together to seek the increase in both yields and efficiencies at the same time?

Workshop theme 2

WATER USE EFFICIENCY

Summary

In irrigation, Water Efficiency (WE) represents the ratio between 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.

Actions and experiences

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.

The project "Enhanced Capacity for Increased Water Use Efficiency in Small Scale Irrigation" (GCP/INT/231/SWI) formulated a Water-Downscaled MASSCOTE applied at small scale irrigation systems. WD-MASSCOTE is applied in the field in Burkina Faso, Morocco and Uganda, involving decision makers at irrigation scheme level, experts at international and national levels, and the community and end users. Combined with MASSCOTE, Rapid Appraisal Procedures propose improved field operations and water services to users.

Thematic area 2 guiding questions:

- Has a methodology such as MASSCOTE responded to the need for critical assessment of performance of irrigation management and its improvement? What are its limitations and strengths and how can it be further applied?
- Measurement and recording of water service are pillars for scheme management and WUE enhancement. How can systems be designed to accurately plan for and execute the necessary measurements, at the right time?
- Participation and capacity building are key to the success of improving water efficiency programmes. How can communities be involved from the design phase and held accountable for any modification in the operation of the irrigation scheme? And how can WUE measures be scaled-up from field to system to ensure that communities' expectations are met?
- What are the barriers for policy makers to adopt technologies and finance policies to improve WUE at irrigation scheme level?

Workshop theme 3

WATER HARVESTING

Summary

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.

In a situation where rainfall patterns are increasingly unreliable, WH offers an important mean to increase the resilience and productivity of small scale rain-fed agriculture. In combination with improved soil, nutrient and crop management, water harvesting for supplementary irrigation can also improve farmers' resilience to dry spells and provide a valuable source of water to uplift small scale irrigation adoption.

Excellent examples of local WH practices can be found in Africa and the Near East. 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.

Actions and experiences

Managing the irregular rains through the implementation of WHTs is crucial for smallholder farmers to increase their resilience whilst improving food security and livelihoods. The diversity of longstanding WHT's reflects a multiplicity of socio-economic situations and a cultural and biophysical variability according to different agro-ecological regions and communities. Despite the increased attention and solid evidence of the benefits of water harvesting, adoption by farmers is still low.

The project "Reduce Vulnerability in Jordan in the Context of Water Scarcity and Increasing Food/ Energy Demand" (GCP/JOR/018/SWI) combines water harvesting, conjunctive use of groundwater, and solar power for lifting irrigation water within a community-based approach. The project includes a fully developed and operational pilot area of water harvesting and strengthens national capacities to own, operate and maintain it.

The project "Strengthening Agricultural Water Efficiency and Productivity on the African and Global Level" (GCP/INT/231/SWI) specifically includes a water harvesting component within the broader objective of improving Agricultural Water Management in Burkina Faso, Morocco and Uganda . While water harvesting techniques exist in the three countries of reference, national guidelines and strategies as well as technical training of water harvesting professionals are lacking.

Thematic area 3 guiding questions:

- What are the leading criteria (biophysical, technical and socio-economic) for the choice and upscaling of water harvesting techniques?
- Planning for water harvesting requires data: what actions can be taken to enhance the collection and systematization of information for improved planning, operation and maintenance of water harvesting infrastructures?
- The governance of water harvesting is critical to ensure a harmonic and sustainable development of water harvesting infrastructure. What makes governance structures for water harvesting fragmented and how can a strong and coherent governance be promoted?
- The right skills for planning, constructing and managing water harvesting infrastructure are scarce: what are the needs in terms of capacity building for water harvesting? How can these needs be met through collaboration and technologies?

Workshop theme 4

GROUNDWATER-CONJUNCTIVE USE

Summary

Severe water shortages require a comprehensive approach for both water supply and demand. Conjunctive use of surface and groundwater means an optimal combination of both sources of water in order to minimize the undesirable physical, environmental and economic effects of each solution and to balance the water demand and supply. Conjunctive use also refers to a strategic approach at irrigation command level where groundwater inputs are centrally managed as an input to the irrigation system.

At the resource level, groundwater pumping for irrigation used in conjunction with surface water provides benefits to increase the water supply or mitigate undesirable fluctuations in the supply controlling shallow water-table levels and consequent soil salinity.

Actions and experiences

Groundwater, and its conjunctive use with surface harvested water, is a key component of the project "Reduce Vulnerability in Jordan in the Context of Water Scarcity and Increasing Food/Energy Demand" (GCP/JOR/018/SWI).

Groundwater resources in Jordan are under the threat from mismanagement and over-exploitation, linked in particular to the expansion of irrigated agriculture. In the project, water harvesting allows the capture of water resources that otherwise would have evaporated. The resulting impounded surface water serves as both a source of water for rural communities and as a source of groundwater recharge through percolation and seepage.

Conjunctive use of groundwater for irrigation ensures the reliability of water supply for rural communities and lessens the current dependence on groundwater alone, thus mitigating against groundwater over-exploitation.

The project also includes solar-powered irrigation, providing a sustainable source of energy for lifting water.

Thematic area 4 guiding questions:

- In water-scarce realities the conservation of groundwater is paramount. Could the conjunctive use of groundwater and surface harvested water be a viable option to buffer groundwater depletion and rationalize its use?
- In many countries, the governance of groundwater resources is not fully developed. What are the key governance gaps that hamper the rational use of groundwater? How can the gaps in policy and institutional provisions be overcome?
- Inter-linkages between water, energy and agriculture mean that increased demand or pressure in any sector has consequences on the others. Do holistic approaches addressing not only water but also energy availability (such as solar in irrigation) prove viable to reduce vulnerability to resource scarcity in rural areas?
- There is a tension between policies that subsidize the use of solar energy for pumping water and the need to curb the overexploitation of groundwater: What are the right incentives to ensure an economically viable and environmentally sustainable pumping activities?

Workshop theme 5

TECHNOLOGY IN WATER MONITORING

Summary

Efforts to increase knowledge about runoff formation, water distribution as well as best use practices and management effectiveness are often hampered by the lack of sufficient hydro- and agro-meteorological data. Traditional water monitoring and management is too often a story of failures and inefficient investments. This greatly hampers any effort towards effective decision-support for integrated water resources management in places where pronounced resource scarcity, high variability in supplies and strong growth in water demand overlap with agency underfunding.

iMoMo is an innovative technology development that aims to boost application potential by its robustness in local context, and to compare newly introduced technology with classic method ensuring measurement precision. Its ultimate goal is to achieve high quality data for decision making. The approach focuses on sensing non-traditional data to complement conventional stations for better water-management transmitting data through mobile phones. It provides a cheap solution to receive the most data by involving community.

Actions and experiences

The iMoMo Discharge Application is fully integrated in its web backend. From this website, users, gauging sites and collected data are easily set up, managed and maintained. iMoMo provides an opportunity for helping to improve irrigation scheduling for a range of crops, a particular climate and the soil conditions of the place under investigation.

As part of the project 'Strengthening Agricultural Water Efficiency and Productivity on the African and Global Level', the technology was operationally deployed in the Mubuku Scheme near Kasese, Western Uganda, in October 2016. The objective of the implementation of the iMoMo Discharge Application was to, firstly, assess the robustness of the technology in the local context and, secondly, to compare this non-traditional measurement technology with classic methods (weirs) in a consistent fashion with regard to measurement precision.

Thematic area 5 guiding questions:

- The accuracy of discharge measurements is critical for making informed decisions: how does the iMoMo Application compare to classic discharge measurement measures in terms of flexibility and accuracy?
- How does the iMoMo technology enhance community-based decision making in water allocation?
- What is the potential of using smartphone-based technology in enhancing the ability of policy makers to take timely decisions on water resources management? How can data be analyzed for effective real-time decision support?
- Sustainability of application of a technology is critical in determining its success: what threats to the long- and medium-term sustainability of technology adoption can be identified? And how can they be prevented?

Workshop theme 6

WATER ACCOUNTING/WATER AUDITING

Summary

Water Accounting (WA) refers to the systematic examination of the current status and future trends in water supply, demand, accessibility and use within a specific domain. Water accounting requires a problem-focused approach to address specific challenges in AWM. In order to find sustainable AWM practices, a thorough understanding of the elements of the water balance - including the supply and demand for water and its spatial and temporal dimensions - must be understood. It is used as basis for decision and policy making by providing evidence of, for example:

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

Water Audits lead to comprehensive assessments that form the basis for countries' future water management and water policy. The detailed assessments of agriculture and other sectors' water use, including its productivity, its value-in-use, and its efficiency during the water use process, give countries a better insight on how to adapt their water policy and how to improve their water management in the future.

Actions and experiences

FAO promotes approaches to water accounting that are problem-focused and tailored to context, since they have higher chances of engaging stakeholders around priority issues and concerns, and thus living after the lifespan of a project. Water accounting is critical for assessing externalities and implications for other water uses whenever changes in water management are being introduced or promoted in a given hydrological unit.

The project "Strengthening Agricultural Water Efficiency and Productivity on the African and Global Level" (GCP/INT/231/SWI) aims at developing awareness, capacity and information base to perform water accounting assessments. In particular, water accounting activities focus on basins where other project components are also implemented, with the objective of strengthening a basin approach to water management.

Thematic area 6 guiding questions:

- Does the proposed Water Accounting approach respond to the need for better understanding of the status and trends in water supply and demand for all water users in a given domain?
- Water accounting requires a large amount of data and measurements: how can accounting be effective in realities where there is little overall understanding of dominant biophysical characteristics and scarce data available for calibration and validation of the assessments?
- Are there adequate solutions to bridge the quantitative information gap in areas where data is not available or sufficient? Remote sensing proves to be adequate in monitoring consumptive water uses but what solutions exist for non consumptive uses?
- How can water accounting and auditing approaches be applied to foster evidence- and data-based policy making in agricultural water management? Is water accounting useful for decision making only in water scarce areas?

Workshop theme 7

SOLAR ENERGY

Summary

Solar water-pumping (SWP) is based on PV technology using sunlight to convert into electricity to lift water. Solar-powered technology twinned with efficient irrigation provides a viable option for resilience and sustainable agriculture. The progressively rising cost of energy and lower water efficiency make agriculture sector face an energy crisis – as irrigation power costs can reach 70-80 % level of farm electricity cost.

Sustainable source of energy is required for pumping irrigation water, ideally one that would allow to be less dependent on the main energy grid/ fossil fuels. Solar energy provides one such solution. The benefits of using solar energy for irrigation pumping are multiple:

- ensuring reliable source of energy during peak demand of irrigation water in summer periods;
- producing sufficient supply of irrigation water even in case of market shocks such as extremity of urban and industrial demand;
- providing a low-cost alternative to other fuels after the provision and installation of system.

More attention to the energy efficiency has emerged to advocate power price reducing technologies and their implementation. Introducing solar system-based irrigation modernization to FAO projects is an immediate reply to unpredictable energy market. Power system integrates intensification of agricultural production to sustainable natural resource use.

Actions and experiences

The project "Coping with water scarcity – the role of agriculture/Phase III: Strengthening national capacities" (GCP/INT/124/ITA) installed a Solar Pumping System of 57.6kwp in one pilot site Beheira Governorate in Egypt and plans to do similarly in another site. The project aimed at fostering water and energy savings, facilitate the transfer of knowhow, and examine the suitability of phtovoltaic technologies for the region.

The project sets its development goal to reduce farmer's vulnerability in Nile Delta deriving from decreasing water availability and energy shocks by modernizing agriculture resources – both energy and water – use efficiency.

Thematic area 7 guiding questions:

- SWP system efficiency highly depends on pre-defined quality standards, their auditing and monitoring: how can the audit ensuring SWP system standards be emphasized at planning stage? And how can rigorous auditing be embedded into the project implementation phase?
- Developing countries – such as those present in the workshop, are keen to strengthen infrastructures and upgrade technology to provide clean energy for the agricultural sector, yet the use of solar energy in irrigation is largely unregulated. What standards, regulation and policies are needed to mainstream SWP and make it a sustainable and viable option? What barriers prevent doing so?
- Investment in SWP at smallholder farm level can be daunting for farmers: what options exist or should be explored to ensure affordable financing of such systems for rural consumers? Would shared responsibility be effective option to mitigate risk?

Programme

Day 1 – Monday, 28 August 2017

Day 1 opens the thematic workshop, and introduces its objectives, the participants and the topics. Session 1 and 2 focus on Water Productivity and Efficiency with a general introduction to the topic and applied methodologies. Through country specific approach, national partners involved will represent the topic-related experiences of the projects. Critical findings and knowledge gained will be discussed by all participants, and sessions will be closed by thematic and day wrap-up.

9.00-9.30	Registration, opening and introduction	
9.30-10.00	Welcoming speech - CIHEAMBari/FAO/SDC/Italian Cooperation	
10.00-10.15	Coffee Break	
Session 1:		
10.15-10.45	Water Productivity - Introduction to activities and applied methodologies	
10.45-11.00	Water Productivity - Sharing of Country Experiences	Burkina Faso
11.00-11.15		Morocco
11.15-11.30		Uganda
11.30-12.00	Discussion - Thematic Wrap-up	
12.00-13.00	Lunch	
Session 2:		
13.00-13.30	Water Efficiency – Introduction to activities and applied methodologies	
13.30-13.45	Water Efficiency - Sharing of Country Experiences	Burkina Faso
13.45-14.00		Morocco
14.00-14.15		Uganda
14.15-15.00	Water Efficiency - Alternative techniques to canal measurements	
15.00-15.45	Discussion - Thematic Wrap-up	
15.45-16.00	Day Wrap up	

Day 2 – Tuesday, 29 August 2017

On Day 2, Water Harvesting and Water Accounting components will be addressed, scaling-up and broaden the topics to more macro-level. Sessions leave space for general introduction of topics, applied methodologies, and sharing country experiences. Breaking down the Water Harvesting Session into elements, further topics provide a landmark approach considering Solar Energy, Groundwater and Technology. Sessions will be closed by thematic and generic wrap-up in regard.

Session 3:		
9.00-9.30	Water Harvesting - Introduction to activities and applied methodologies	
9.30-10.00	Water Harvesting - Sharing of Country Experiences	Africa
10.00-10.30		Egypt
10.30-10.45	Coffee break	
10.45-11.00	Water Harvesting - The three-pronged approach	Solar Energy in irrigation development
11.00-11.15		Groundwater
11.15-11.30		Technology
11.30-11.45	Water Harvesting - Sharing of Country Experiences	
11.45-12.30	Discussion - Thematic Wrap-up	
12.30-13.30	Lunch	
Session 4:		
13.30-14.00	Water Accounting and Auditing - Introduction to activities and applied methodologies	
14.00-14.20	Water Accounting and Auditing - Sharing of Country Experiences	Burkina Faso
14.20-14.40		Morocco
14.40-15.00		Uganda
15.00-15.45	Discussion - Thematic Wrap-up	
15.45-16.00	Day Wrap up	

Day 3 – Wednesday, 30 August 2017

Day 3 illustrates an innovative approach of AWM design from irrigation development to improved tools for agricultural water use combined with renewable energy sources. Sessions starts with general introduction and sharing the results of the Egypt Farm-level Irrigation Modernization Project (FIMP) audit, then incorporated sectors of energy and agriculture provide good practice and experiences of combining solar energy to water lifting. Sessions will be closed by thematic and generic wrap-up in regard.

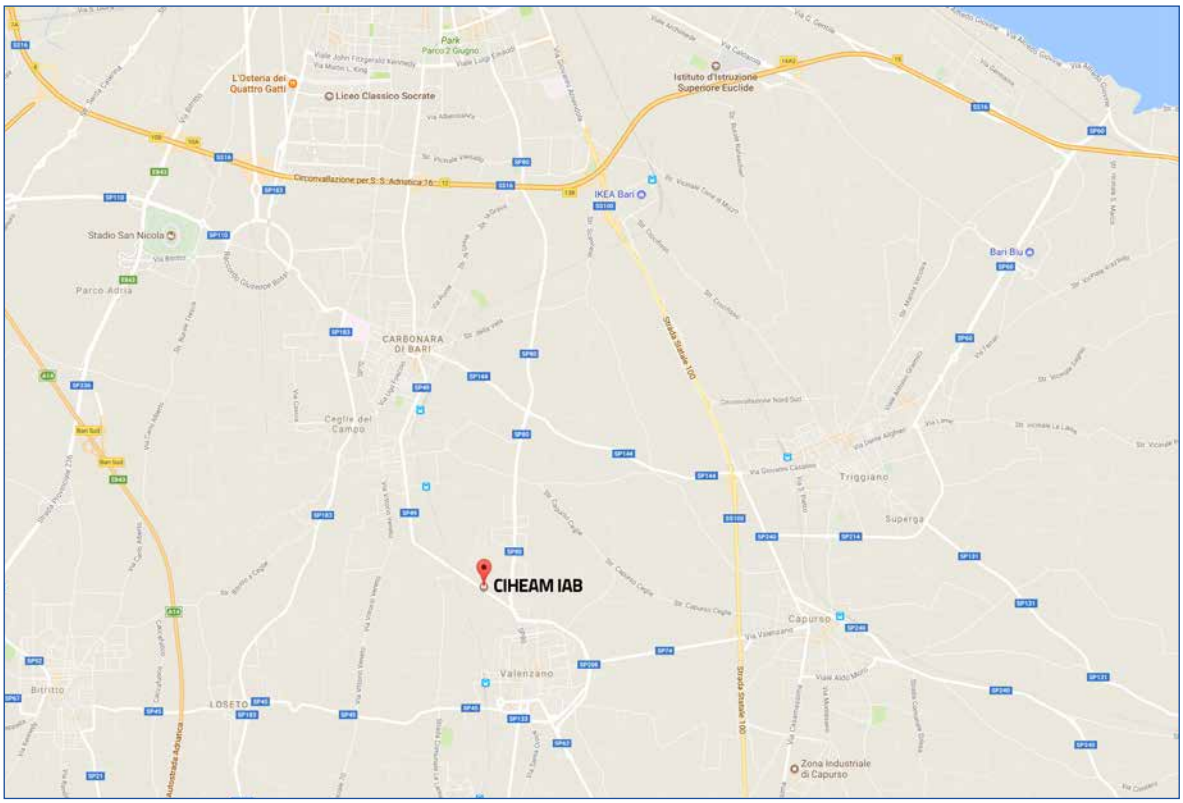
Session 5:	
9.00-9.30	Irrigation improvement in Egypt
9.30-10.15	Energy and irrigation - Introduction to activities and applied methodologies
10.15-11.00	Energy and Irrigation - Sharing of Country Egypt Experiences
11.00-11.30	Coffee break
11.30-12.00	Discussion - Thematic Wrap-up
12.00-12.30	Thematic Meeting Wrap-up
12.30-13.30	Lunch
13.30-16.30	Steering Committee Meeting – GCP/INT/231/SWI

Day 4 – Thursday, 31 August 2017

Field visit takes place on Day 4 to provide project developers with direct insights and visible, real-life implementation of some improved water use methodologies.

9.00-16.00	Field visit

Logistical information



Travel & Location

Address: Valenzano (BARI), Via Ceglie 9.

Phone number: 0039-080-4606111

A shuttle service will be organized by CIHEAM Bari from/to airport according to your flight details. At Bari International Airport you will meet a driver waiting for you with a CIHEAM Bari sign.

Bari downtown (around 20 km far from the campus) can be reached by Bus n°4. Terminuses are: at the entrance of the Institute and in Bari in "Corso Cavour/Petruzzelli Theatre". Stops in "Corso Alcide De Gasperi" and "Piazza Moro/Railway Station". Timetable: from 05:00 a.m. to 11:00 p.m. (every 20 minutes). Sunday timetable: from 06:00 a.m. to 10:00 p.m.

If you need bus tickets please ask at the Institute door keeping post.

The village of Valenzano is only ten-minute walk far from the Institute.

Upon arrival at CIHEAM Bari

Accommodation

At CIHEAM Bari entrance there is a security and door keeping post. At your arrival the guardian on duty will give you the key of you room.

All participants will be accommodated in single rooms at CIHEAM Bari campus guesthouse.

Wi-Fi Coverage
CIHEAM Bari offers free Wi-Fi coverage

Meeting Room
The 4 days' workshop will take place at CIHEAM Bari Documentation Centre.

Meals
Breakfast is served at CIHEAM Bari Cafeteria from 07:30 a.m. to 08:30 a.m.

Two daily coffee breaks will be served in the morning and in the afternoon.

Lunch will be served at CIHEAM Bari Cafeteria from 01:00 p.m. to 02:00 p.m.

Dinners are free except for one social dinner

All the meals served at CIHEAM Bari Cafeteria providing special diet needs. No alcohol or pork meat are used at cooking. Veal, turkey and chicken meal served are Halal certified. If you are vegetarian, vegan, celiac or have any other special need please inform the Cafeteria manager upon your arrival.

Tap water is drinkable

Medical Service
The medical service is granted by two doctors from Monday to Friday in the medical cabinet as follows:

- Dr. Francesco Giotta
  (Monday and Thursday afternoon, from 03:30 to 05:30 p.m.)
- Dr. Giuseppe. Lonero
  (Tuesday, Wednesday and Friday morning, from 12:00 to 01:00 p.m.)

For any medical emergency please note that an ambulance is always present at MAIB.
Please inform the door keeper if you need help/assistance

Other important during your stay in Valenzano

Emergencies

Police 113

Carabinieri 112

Fire 115

Currency/Exchange rate
The official currency is Euro (€). Current exchange rate is approximately US$ 1,16 = 1 Euro

Weather
In Bari, during the month of August the temperature is generally hot, ranging from an average low of 17°C at night and early morning and high of 32°C. We advise you to wear light clothes, hat and sunglasses. A sun screen and insect repellent can be very useful.

Time zones
Valenzano is GMT + 1

Electricity
The voltage in Italy is 220 Volts, sockets are 3 round pins in a row.

Speakers and organizing team

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