

# Training Programme on On-Farm Water Use and Management

17-25 April 2016  
Cairo, Egypt



## Collaboration with



ENCID



ICID·CID



## Hosted By

Regional Center for Training and Water Studies  
Ministry of Water Resources and Irrigation  
6 October City, Egypt

## Objective

Water affects most crop production activities as sufficient water is required to be present in the root zone for germination, evapotranspiration, nutrient absorption by roots, root growth, and soil microbiological and chemical processes. These factors are all necessary for sustaining crop growth. At the same time, the root-zone must be sufficiently dry to ensure adequate aeration and root growth. Water movement through the soil is necessary in order to leach excess salts from the root-zone and so enable potential yields to be achieved. Farmers around the world are aware that farm-level land and water management practices are of prime importance for satisfying the needs of field-crop and other agricultural and horticultural ecosystems. Therefore, they endeavour to optimise the water supply of their crops within the limits of their knowledge. Over time, they have developed some sort of on-farm water management (OFWM) practices. However, farmers may often be unaware that conditions for the operation of farms are changing continuously.

OFWM generally seeks to optimise soil-water-plant relationships in order to achieve a yield of desired products. The managers (farmers) usually try to achieve this desired yield by minimising inputs and maximising outputs, so as to optimise profits. In order to accomplish this, water has to be managed skilfully through certain practices covering areas of: soil and water conservation, water application, drainage, soil amelioration, and agronomy. All this has to be done within the context of the socio-economic environment of the community and the farmer's personal situation. There are a range of tools available that enable the manager (farmer) to apply these practices.

Traditional management practices of the irrigation supply and conveyance systems often contribute to high water losses. On many farms, the low irrigation efficiency is further accentuated by farmers' traditional irrigation methods and practices, inadequate land levelling, lack of a crop-specific water application, insufficient drainage, and poor maintenance of irrigation and drainage infrastructure. Farmers are often unaware of the possibilities of applying water in a more productive way.

## Target Audience

The proposed training program aims at providing participants from Africa with broad understanding of various related topics pertaining to irrigation management for crop production at farm level and enhancing agriculture water productivity. It will provide practical knowledge and input for the trainees to undertake their responsibility on the job and understand the related on-Farm aspects of irrigation management. It will develop and strengthen the educational and training capabilities of middle level staff, supervisors, working in the field of water resources management, irrigation and drainage so that they can impart the knowledge to their co-workers as well as farmers with whom they interact with. The training is therefore addresses the needs of:

- Middle level water managers from Africa with background in On-Farm Water Management.
- Trainee who work for irrigation and drainage department/ entity in Africa with educational qualifications such as Bachelor's degree in Agriculture, Civil Engineering, Water Resources Engineering etc.

## Contents

The training course is especially designed to cover various aspects of on-farm water use and management and will cover following topics:

1. Status of irrigated agriculture in Africa and challenges faced at the regional level
2. Irrigation and drainage at farm level
  - a. Soil-Plant-Climate interactions
  - b. Land development for irrigation including land levelling
  - c. Irrigation methods including for small holders
  - d. Scientific design and layout of farm irrigation and drainage
  - e. Measurements- flow measurement, soil water content measurement (using TDR/Neutron Moisture meters/Soil moisture probe etc.)
  - f. Irrigation systems such as drip, sprinkler, and rain gun etc.

- g. Water use efficiency at farm level etc.
- 3. Advanced tool and technologies for water saving in irrigated agriculture
  - a. Application of modern tools and modelling techniques for irrigation planning including crop water requirement, scheduling and management under different water supply scenarios
  - b. Sensor based weather data collection and automated irrigation management and control systems
  - c. Applications of modern techniques such as GIS and remote sensing applications for enhancing water resources use efficiencies in irrigation project at farm level
- 4. Multi-disciplinary aspects for irrigation water management
  - a. Participatory irrigation management
  - b. Water Governance with focus on water users' associations
  - c. Socio-economic and environmental aspects

## Venue

The training course will be held from 17-25 April 2016 in the Regional Centre for Training and Water Studies ([RCTWS](#)) located at 6<sup>th</sup> of October City about 25 km from Central Cairo. RCTWS is a UNESCO Regional Center for Training for Arid and Semi-Arid regions.

## Invitation for nomination and sponsoring

National Committees of ICID and its partner International Organizations working in Africa are invited to nominate/sponsor professional(s) fulfilling the requirements as stated under Target Audience **latest by 31<sup>st</sup> January 2016**. Generally only one candidate from each country or organization would be considered for financial support. If any NC or International Organization would like more than one candidate to attend the training, they would be expected to financially support them.

ICID in collaboration with Ministry of Water Resources, China and Ministry of Water Resources and Irrigation, Egypt will provide financial support to a limited number of participants. Preference will be given to Young Professionals below the age of 40 years and women candidates. Young Professionals Trainees will also be eligible to attend the Fourth African Regional Conference scheduled from 26-28 April 2016 in Aswan City, Egypt.

## Contact

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17-25 April 2016, Cairo, Egypt

**NOMINATION FORM**

**1. Applicant Information:**

Name \_\_\_\_\_  
 Position \_\_\_\_\_  
 Organization/ Department \_\_\_\_\_

Gender  Male  Female

Date of birth: \_\_\_\_\_  
 (Please include Proof of DOB in case of YP)  
 Day  Month  Year   
 Nationality \_\_\_\_\_  
 Contact details including e-mail \_\_\_\_\_

**2. Educational background and experience (Attach brief CV):**

Degree \_\_\_\_\_  
 Experience in irrigation & drainage sector (attach as Annex, if required). \_\_\_\_\_

**3. Other details (please specify):**

Have you contributed to ICID's AFRWG and other Work body of ICID (give details in a separate Annex if required) \_\_\_\_\_  
 How will training programme benefit you? \_\_\_\_\_

I undertake to participate in the training programme and take responsibility to impart the knowledge to co-workers as well as farmers.

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

**4. Validation by the ICID National Committee/ International Organization** (must check the originality of the nomination/ submission and validate it before submitting to ICID Central Office)

This is to certify that the above information is correct and (*select only ONE*)

Mr/Ms ..... is recommended to be considered for providing financial support

**OR**

Mr/Ms ..... will be funded by our institution for participating in the training programme and 4<sup>th</sup> African Regional Conference.

Name of the person \_\_\_\_\_  
 Position \_\_\_\_\_  
 Name of National Committee/ Organization \_\_\_\_\_

Date: \_\_\_\_\_ Signature: \_\_\_\_\_