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Economic and Social Commission for Western Asia (ESCWA)
The First Jordanian National Training Workshop on AquaCrop for Irrigation Water Management
Princess Sumaya University for Technology
Amman, Jordan, 27-31 October 2019

INFORMATION NOTE

I. Background

The Arab region is facing severe natural water scarcity, evident from the long-term annual average precipitation at below 350 mm. Simultaneously, demand for water is increasing with water withdrawals exceeding water availability from internal sources. The agriculture sector is the largest user of water resources in the Arab region, yet, water use efficiency is characterized as being low due to wasteful irrigation practices and low investment levels in irrigation infrastructure. In addition to challenges related to water access, the agricultural sector in many Arab countries also faces challenges related to access to agricultural inputs, market access, poor infrastructure and storage facilities, in addition to weak investment in agricultural research and development.

In view of the above, comes the need to intensify efforts towards enhancing irrigation water efficiency, access to data, research outputs and new agricultural technologies, in addition to securing funding requirements and access to markets towards enhancing resilience and sustainability of the agricultural sector. ESCWA is implementing a Development Account project aimed at “Enhancing resilience and sustainability of agriculture in the Arab region” for that purpose, building on another ESCWA project on “Enhancing food and water security through cooperation and capacity building in the Arab region” funded by the Swedish International Development Cooperation Agency (Sida).

The project on “Enhancing resilience and sustainability of agriculture in the Arab region” focuses on national capacity building activities and policy guidelines are to be developed at the wider regional level. The combination of those is envisaged to inform decision making for enhanced integrated policy development towards enhancing the agricultural sector. Partners in the project include the Arab Center for the Studies of Arid Lands and Dry Zones (ACSAD), the FAO Regional Office for Near East and North Africa and the Arab Organization for Agricultural Development (AOAD).

The project will involve the development of training material and capacity building activities at the national level in focus countries, and policy guidelines are to be developed at the wider regional level. Project's activities will focus on three targeted Arab countries, Jordan, Lebanon and Palestine, which were selected due to the pressing agricultural challenges they face. For instance, Jordan is one of the most water scarce countries of the region, in addition to its high dependence on food imports despite high local vegetable production. Other challenges include the constant flow of refugees coupled with high population growth leading to increased pressure on natural resources. The "First Jordanian National Training Workshop on AquaCrop for Irrigation Water Management" is part of the programmed activities of the project that ESCWA is organizing in collaboration with the Arab Center for the Studies of Arid Zones and Dry Lands.

II. Objectives

The training workshop aims at strengthening national capacities of targeted Arab countries in enhancing irrigation water management notably through supplementary irrigation and deficit irrigation techniques for a more sustainable and resilient agricultural sector, while considering the main challenges facing the Arab region, including water scarcity and climate change.

III. Thematic Areas

The training workshop will focus on enhancing agricultural production and productivity through supplementary irrigation and deficit irrigation techniques. A training manual on the AquaCrop model for irrigation water management, developed specifically for this purpose in cooperation with ACSAD, will be used to inform the workshop.

The workshop will include the following topics:

- Introduction to the AquaCrop model
- Introduction to the required inputs to the AquaCrop model
 - o Climate data/rainfall - temperature - humidity - wind - solar radiation - evaporation - evapotranspiration (ET₀)
 - o Soil characteristics/physical soil properties: field capacity - wilt limit - hydraulic conductivity
 - o Crop characteristics and its phenological stages
 - o Irrigation data
 - o Groundwater data
 - o Field management data/field formation procedures, coverage, soil fertility and crop response, soil fertility stress calibration
 - o Primary conditions for soil moisture
- Methods of calculating water requirements in AquaCrop, calculating water needs and using the Penman-Monteth equation and evaporation basins to estimate water needs
- The concept of irrigation scheduling and irrigation scheduling using AquaCrop
- Concept of deficit irrigation and deficit irrigation scheduling using AquaCrop
- Concept of supplementary irrigation and supplementary irrigation scheduling using AquaCrop

IV. Organizational issues

A. Participants

Participants are agriculture and water specialists from the Jordanian Ministry of Agriculture and the associated agricultural research institute, as well as relevant stakeholders specialized in the fields of irrigation and soil. This team was previously constituted by his Excellency the Minister of Agriculture upon the request of ESCWA.

B. Date and venue

The training workshop will be held at the Princess Sumaya University for Technology, Faculty of Computing Sciences, Lab#IT104, Amman, Jordan. The duration of the workshop will be five days, from the 27th to 31st of October 2019.

C. Language

The meeting will be conducted in the Arabic language.

D. Registration and logistical issues

Invited participants are requested to submit their completed registration forms, along with a photo passport and a colored scanned copy of their passport to the address mentioned below in order to initiate necessary administrative procedures.

E. Correspondence

Correspondence related to the meeting should be directed to the following address:

ESCWA

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