



THE MODELLING WORKING GROUP DECIDED ON MODELS' INTEGRATION STRATEGY



The **Italian National Research Council of Turin** – Institute for Sustainable Plant Protection hosted the third modelling working group meeting on **9 and 10 October 2023**. The Members of the working group representing SYKE, ISRIC, and CIHEAM-Bari, and some of the local African partners representing KALRO and Heliopolis University attended the meeting in presence together with AICS Cairo. Representatives of WLRC and WRC participated to the workshop remotely. AICS Cairo Director and CIHEAM Bari scientific Coordinator chaired the two-day workshop.

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On this occasion, the two models (SWAT-MODFLOW and DSSAT) which will be integrated into the toolbox were presented to all participants, the reasons for their selection as well as the coupling process were explained in detail and debated. It was also explained that the sustainable development objectives that were prioritized by local communities during the awareness meetings in the four study areas (July 2023) can act as the toolbox objective functions as well as a framework for the feasibility studies. **The integration process** hinges on the coupling of selected SWAT-MODFLOW modules with corresponding DSSAT modules. Notably, this coupling isn't an all-encompassing endeavor; instead, it is tailored to the specific needs and objectives of WATDEV's best management practices simulations. For instance, certain modules responsible for water flow, precipitation, or soil moisture are strategically chosen for integration to capture the complex interactions between hydrology, soil, and crop growth. The meeting also allowed project partners to discuss some management and administrative issues, particularly **the project monitoring plan** presented by ARCOLAB company. In the evening, the workshop's participants enjoyed a unique guided visit reserved exclusively to them to **the Egyptian Museum of Turin**, the world's second most important museum entirely devoted to the ancient Egyptian culture.

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FIRST MODULE OF THE COURSE "WATER, SOIL, AND CROP MANAGEMENT IN A CLIMATE-SMART AGRICULTURE" HELD AT CIHEAM BARI, ITALY



From 11th to 16th December 2023, **the International Centre for Advanced Mediterranean Agronomic Studies** (CIHEAM Bari), as technical and scientific lead partner of WATDEV project, organized and conducted the first Module of the Course "Water, Soil, and Crop Management in a Climate-Smart Agriculture" on its Campus in Bari, Italy.

Fifteen representatives from **universities** and **local authorities** from **Kenya**, Ethiopia and Egypt together with further five participants (on-line) from Sudan attended the event, after being selected by project local Partners. The objective of this first Module was to empower local actors based in the study areas in the effective implementation of the best management practices (BMPs) and Innovations within their communities. The agenda of this Module is available [here](#). The Course's lecturers were experienced soil scientists, geneticists, agronomists, engineers, and officials of organizations such as FAO.

The first Module provided insights on theoretical approaches and technical solutions on **Manuring, Agroforestry, Intercropping, Water Users' Association, Crop rotation** and **Improved Seeds**. Moreover, environmental and socioeconomic sustainability of the selected agricultural practices were examined, also by means of practical exercises on the feasibility of the selected agricultural practices in the four study areas.

On the 15th of December, participants embarked on a **field visit** to the Irrigation Scheme District 10 (San Ferdinando di Puglia, Foggia) managed by the *Consorzio di Bonifica di Capitanata*. The visit continued in *Consorzio di Bonifica Montana del Gargano*, where participants witnessed bio-engineering interventions in Rignano Garganico. The participants' evaluations of this Module revealed that their training expectations were plenty fulfilled. In the next months, the trainers will organize the transfer of the newly acquired knowledge to local farming community through specific follow-up training events. The second Module of the Course will be focused on innovation in Agriculture and is due in late Spring 2024.



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IMPLEMENT **AGROFORESTRY**,
COMBINING TREES,
CROPS, AND LIVESTOCK,
TO PROMOTE STEWARDSHIP,
BIODIVERSITY, AND
COMMUNITY LIVELIHOODS!



IMPLEMENT
THE POWER OF
CROP ROTATION
FOR HEALTHIER CROPS,
INCREASED YIELDS, &
SUSTAINABLE FARMING.



IMPLEMENT
INTERCROPPING
TO PROMOTE
STEWARDSHIP,
BIODIVERSITY,
AND COMMUNITY
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MANURING PRACTICES
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FARM'S POTENTIAL
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