

WaPOR National Training Egypt

Trainee Selection Guidelines for On-the-Job Training on Irrigation Performance Assessment (IPA):

Theoretical Foundations, Analyses using Python, and Data Evaluation

WaPOR Phase 2: on the job training for Egypt

Content: recap of the theoretical background of water productivity (WP), Irrigation performance assessment (IPA), evaluating and discussing IPA results, introduction and use of scripts for calculating IPA for Meat Yazid and evaluating different possible sources for yield and water productivity variations (diagnostic analyses).

Expected implementation: May to Sep 2025 (proposed 1-2 hours online training starting on Thursday morning from 10:00 to 12:00 pm)

Location: Online

Trainers: Marloes Mul, Ahmed Elnaggar, Abebe Chukalla, Vineet Kumar, Suzan Dehati – IHE Delft Institute for Water Education

Motivation

This training provides mostly an online technical training on WP and IPA assessments for Meat Yazid area located in the Nile Delta using FAO's WaPOR data, as well as diagnostic analyses using other remote sensing information to identify the causes of yield and water productivity variations. It will start with introducing the concepts, python programming for downloading WaPOR data and geospatial analyses using WaPOR data (based on the online course). Introduction to tailored python scripts for IPA in Meat Yazid area and publishing results in dashboard. The trainees are expected to have basic experience in using remote sensing data, GIS and will be introduced to essentials of python programming for geospatial analyses. Towards the end of the training a few days of face to face training may be organized based on need and opportunity.

The objectives of the training are:

- Recap of the concepts of water productivity and irrigation performance assessment
- Present results of IPA assessment in Meat Yazid area/ discuss relevant indicators/ possible improvement or refining of indicators
- Introduction to python programming for downloading WaPOR data and geospatial analyses
- Validating WaPOR data
- Run tailored python scripts for IPA for Meat Yazid area
- Perform diagnostic analyses for Meat Yazid area

Schedule:

The training setup will be 2 hours online training and 4 to 6 hours individual work per week (programme to be agreed upon with the trainees).

Topics /Activities		Wk 1&2 05-2025	Wk 3&4 05-2025	Wk 1&2 06-2025	Wk 3&4 06-2025	Wk 1&2 07-2025	Wk 3&4 07-2025	Wk 1&2 08-2025	Wk 3&4 08-2025	Wk 1&2 09-2025	Wk 3&4 09-2025	Wk 1&2 10-2025
Participants Identification (FAO)												
Registration of participants on MOOC /Demo on how to access MOOC (IHE)												
Topic 1: Introduction to WaPORv3 (Mul)												
2W	Introduction to WaPORv3 (MOOC)											
Topic 2: MOOC python for geospatial analyses (Mul, ElNaggar)												
4W	Introduction to python for geospatial analyses (MOOC)											
Topic 3: Validating WaPOR data (Mul)												
2W	Validation concepts and practical applications											
Topic 4: IPA-Meat Yazid (Mul, Dehati) Presentation and discussion irrigation performance indicators												
1W	Recap WP & IPA/ Introduction to WaPORIPA python scripts											
1W	WaPOR data download for Meat Yazid & run WaPORIPA											
1W	Preparing data per crop type (masking)											
1W	Introduction to tailored python scripts for IPA assessment / use of NetCDF files											
1W	Practical application of tailored python scripts for IPA assessment in Meat Yazid											
1W	IPA-Meat Yazid visualization using python scripts											
Topic 5: Diagnostic analyses for yield and water productivity variations (Kumar)												
1W	Introduction to the diagnostic indicators											
2W	Download Sentinel images and raster calculations											
2W	Compare yield and water productivity variation with indicators											
1W	Present and discuss results											

The participants who complete training course content will be provided with a certificate.

Participants

This training is intended for technical experts, preferably the technical team members that have participated in earlier trainings. The participants will be involved in the development and maintenance of the Irrigation performance dashboard developed under the WaPOR project (led by IHE Delft). The trainees (10-15) are expected to have basic experience in using remote sensing data and as such should have a good background in geospatial data, GIS and basic python programming.

Note: Depending on the development of the tool in Egypt, an additional topic could be added, such as downscaling or dashboard development