



# Training of Trainers on WaPOR

## *From database to knowledge*

Interested to learn more on how can we use remote sensing to make useful, easy, and accessible applications for sustainable water management in agriculture?  
Would you like to help train your network or community on these topics?

The WaterPIP Knowledge Hub at JKUAT offers an exciting opportunity to improve the institutional and end user's capacity in using remotely sensed data for monitoring water productivity. We are offering QGIS certified Training of Trainers (ToT) series to teach water and agricultural professionals on how to use QGIS and the FAO WaPOR portal (<https://wapor.apps.fao.org/>) to conduct water productivity performance analyses.

This series is support by the WaterPIP project and is free for participant.  
Find more information at on the ToTs and the WaterPIP project, go to [www.waterpip.un-ihe.org](http://www.waterpip.un-ihe.org)

### ToT sessions:

1. Spatial analysis using QGIS: 13-16 April 2021
2. WaPOR Portal: 31 May - 04 June 2021
3. Performance Indicators: 22-25 June 2021

### Follow up regional trainings:

September 2021 – June 2022



Knowledge hub partners:



WaterPIP project partners:



Supported by:



# ToT Session 1: Spatial analysis for agricultural applications using open source tools

Proposed dates: 13 – 16 April 2021

Timeline: 4 days (32 hours study load)

## Learning Objectives:

- >> Applications of remote sensing and geoinformatics in agriculture
- >> Familiarize with open source software – QGIS for spatial analysis
- >> Perform geospatial analysis in QGIS using raster and vector data

## Topics:

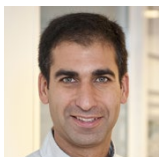
- Introduction to remote sensing for agriculture monitoring
- Introduction to geospatial analysis using open source software – QGIS
- Zonal statistics and area computations
- Raster calculations and map layouts

**Medium of instruction :** The training sessions will be conducted online in the OCW platform of IHE Delft

**Pre-requisites:** Attendees should have experience using spatial data within GIS. The training will consist of several hands-on exercises. It is necessary to have your own desktop/laptop with preferably Windows 7/10 or Linux. The participants are expected to have basic experience working with spatial data. All the datasets provided will be open access.

**Software:** QGIS ([www.qgis.org](http://www.qgis.org))

## Trainers:



**Dr. Hans van der Kwast**  
*Senior Lecturer in  
Ecohydrological Modeling  
IHE Delft*



**Dr. Sajid Pareeth**  
*Senior Lecturer/Researcher in  
Agricultural Water Management  
and Remote Sensing  
IHE Delft*

Organized by:

# ToT Session 2: WaPOR-based Water Productivity (WP) Analysis – Part 1

**Proposed dates:** 31 May – 4 June 2021

**Timeline:** 4 days (32 hours study load)

## Learning Objectives:

- >> Understand the concept of water productivity
- >> Familiarize with FAO WaPOR portal for data exploration and acquisition
- >> Perform point based WP analysis in FAO WaPOR portal

## Topics:

- Concept of water productivity (WP) in agriculture
- Introduction to FAO WaPOR database
- Extract time series data from WaPOR database for point based WP computation
- Spatio-temporal analysis using Python in cloud

**Medium of instruction :** The training sessions will be conducted online in the OCW platform of IHE Delft

**Pre-requisites:** Attendees should have experience using spatial data within GIS. The training will consist of several hands-on exercises. It is necessary to have your own desktop/laptop with preferably Windows 7/10 or Linux. The participants are expected to have basic experience working with spatial data. All the datasets provided will be open access.

**Software:** FAO WaPOR portal (<https://wapor.apps.fao.org/>), QGIS ([www.qgis.org](http://www.qgis.org))

## Trainers:



**Dr. Abebe Chukalla**  
*Lecturer/Analyst in Remote Sensing and Crop Water Productivity*  
IHE Delft



**Bich Tran, MSc**  
*Project Assistant, Water Accounting and Water Productivity Group*  
IHE Delft

Organized by:

# ToT Session 3: WaPOR-based Water Productivity (WP) Analysis – Part 2

Proposed dates: 06 – 09 June 2021

Timeline: 4 days (32 hours study load)

## Learning Objectives:

- >> Understand the concept of irrigation performance assessment
- >> Assess the irrigation performance at different spatial scales
- >> Interpret performance indicator maps for better management strategies

## Topics:

- Protocols for irrigation performance assessment
- Spatial computation of seasonal maps and extract key statistics
- Computing and interpreting water productivity in QGIS

**Medium of instruction :** The training sessions will be conducted online in the OCW platform of IHE Delft

**Pre-requisites:** Attendees should have experience using spatial data within GIS. The training will consist of several hands-on exercises. It is necessary to have your own desktop/laptop with preferably Windows 7/10 or Linux. The participants are expected to have basic experience working with spatial data. All the datasets provided will be open access.

**Software:** QGIS ([www.qgis.org](http://www.qgis.org))

## Trainers:



**Dr. Sajid Pareeth**  
*Senior Lecturer/Researcher in  
Agricultural Water Management  
and Remote Sensing*  
IHE Delft



**Dr. Abebe Chukalla**  
*Lecturer/Analyst in Remote  
Sensing and Crop Water  
Productivity*  
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