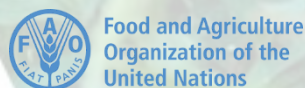


# Water Productivity Improvement in Practice - Service Centers -

Ground handling of the Water Productivity  
Open-access portal (WaPOR) in Kenya

**WaterPIP**  
Water Productivity Improvement in Practice



# Water Productivity Improvement in Practice (WaterPIP)

## Objective:

Achieving (25%) water productivity improvements – by making the connection with both proven and innovative solutions but also by supporting enabling policies, establishing knowledge hubs (JKUAT) and usage and user applications (Service Centers) and up scaling international actions.

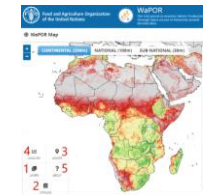
Partners: IHE-Delft (lead), Wageningen University, eLeaf, FAO and MetaMeta

*WaterPIP is supported by the Directorate-General for International Cooperation (DGIS) of the Ministry of Foreign Affairs of the Netherlands under the DGIS UNESCO-IHE Programmatic Cooperation (DUPC).*

# Water Productivity Improvement in Practice (WaterPIP)

*Sustainable use of scarce water requires new concepts (WP) and monitoring systems (WaPOR) for planning and compliance*

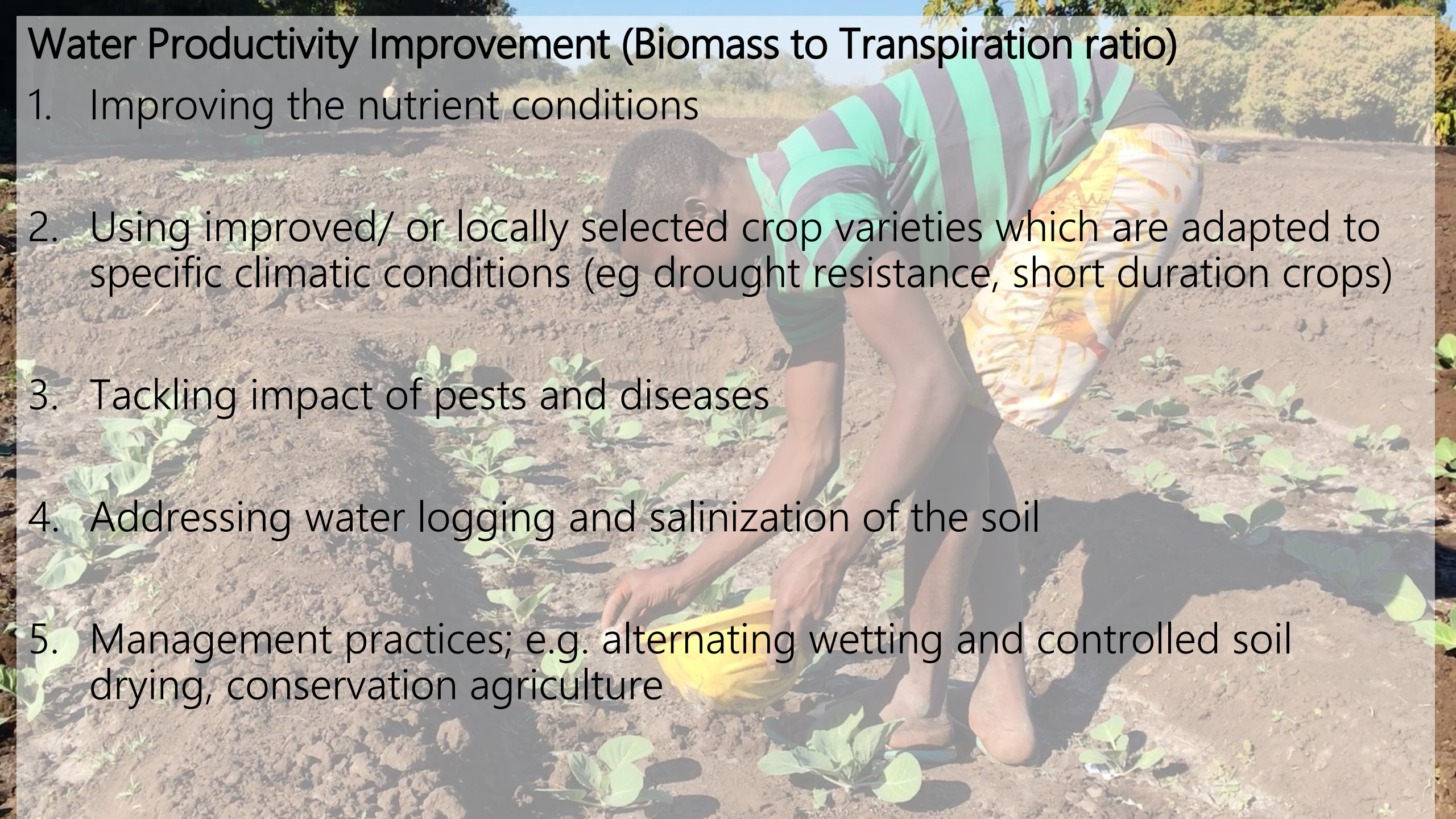
- Land productivity (expansion / intensification) and Water Consumption (conserving / maintaining / increasing)
- Water Productivity Open-access portal (WaPOR)



*IN PRACTICE*



# Water Productivity Improvement (Biomass to Transpiration ratio)

1. Improving the nutrient conditions
  2. Using improved/ or locally selected crop varieties which are adapted to specific climatic conditions (eg drought resistance, short duration crops)
  3. Tackling impact of pests and diseases
  4. Addressing water logging and salinization of the soil
  5. Management practices; e.g. alternating wetting and controlled soil drying, conservation agriculture
- 
- A person is shown in a field, bent over, working with small green plants. They are wearing a green and black striped shirt and patterned shorts. They are holding a yellow bowl and appear to be tending to the plants. The field is dark brown soil with rows of small green plants. The background shows more of the field and some trees in the distance.



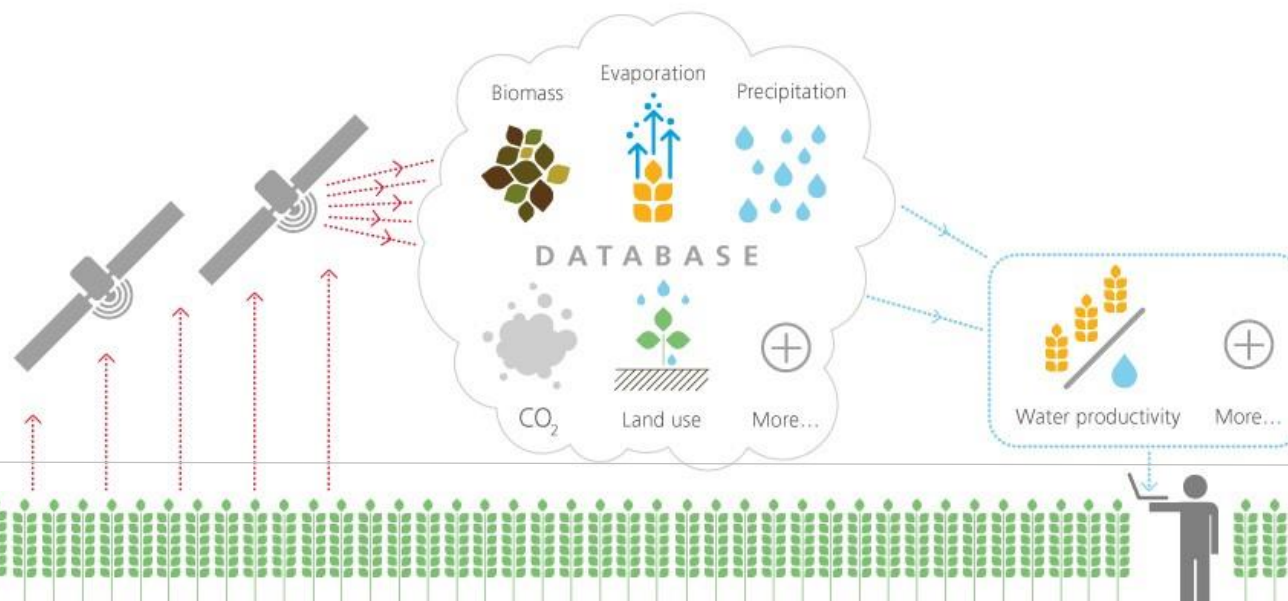
# Water Productivity Improvement (Biomass to Evapotranspiration ratio)

*'reducing non-beneficial water consumption by means of vapor shifting'*

1. Soil moisture improvements (conservation agriculture)
2. Use of mulch to reduce soil evaporation
3. Weed management (including removing invasive species)
4. Address water logging
5. Deficit irrigation

# What is WaPOR?

- **W**ater **P**roductivity through **O**pen access of **R**emotely sensed derived data
- FAO-portal to monitor Water Productivity
- 11-year database
  - *Evapotranspiration, Biomass, Precipitation and more.*
- Pixel resolution of 250m, 100m and 30m
- Open and free access: [https://wapor.apps.fao.org/home/WAPOR\\_2/1](https://wapor.apps.fao.org/home/WAPOR_2/1)





# WaPOR capability

- Analysis using WaPOR can show trends and spatial variations in :-
  - *Water productivity*
  - *Land productivity - Biomass and Yield production*
  - *Irrigation performance: uniformity, adequacy and water consumption (Evapotranspiration, Transpiration and Interception)*
  - *Land cover classification and land surface temperature over time*
  - *Rainfall and  $ET_{ref}$*
- Data availability is on Annual, Monthly and Decadal time series
- Can show impact of interventions and spatial & temporal differences
- The analysis are applicable in rainfed, irrigated and sparse systems for food and pasture production and also soil and water conservation interventions



WaPOR Map

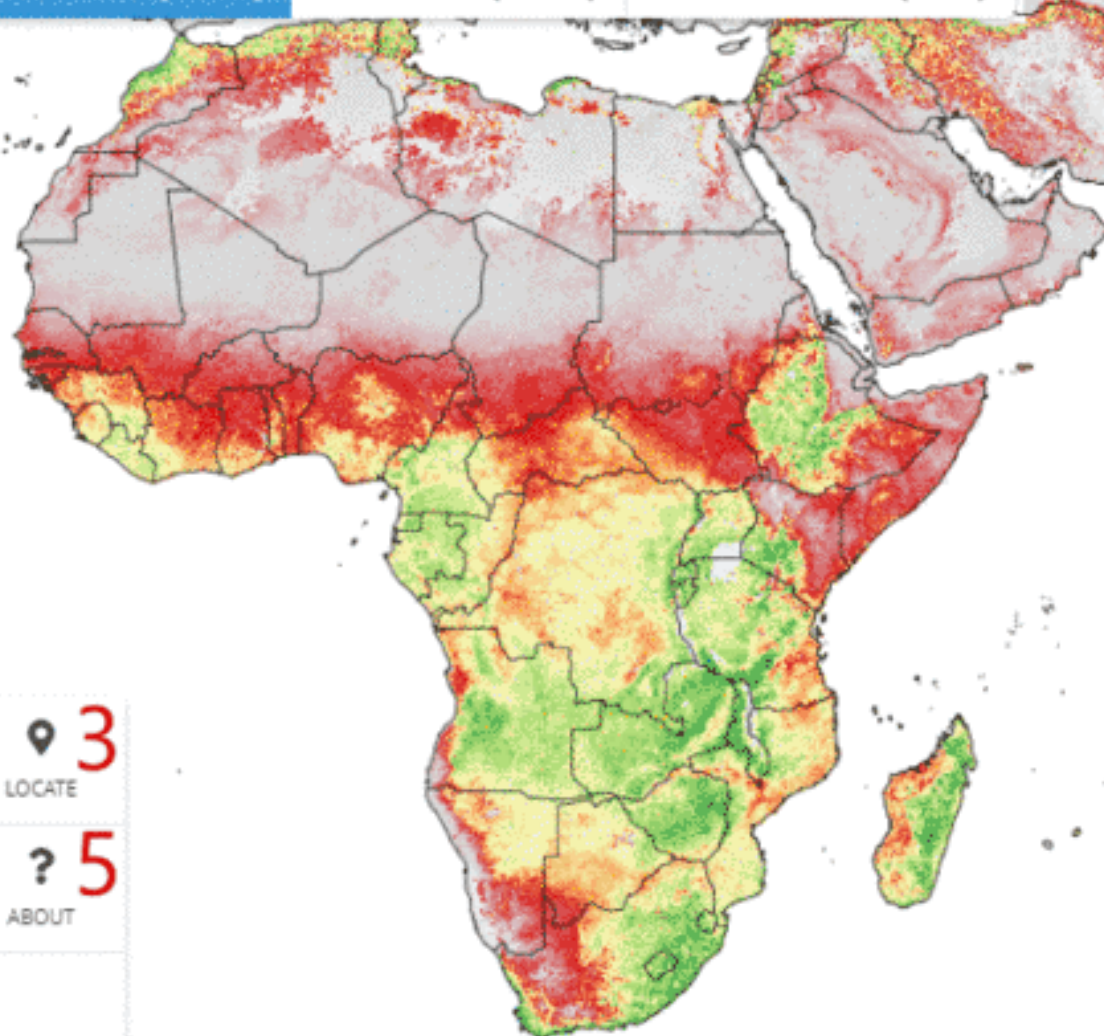
6 Sign in →



CONTINENTAL (250m)

NATIONAL (100m)

SUB-NATIONAL (30m)



LEGEND

Gross Biomass Water Productivity 2017

7

The annual Gross Biomass Water Productivity expresses the quantity of output (above ground biomass production) in relation to the total volume of water consumed in the year (actual evapotranspiration). [See more in Catalog](#)



no data

0 kg/m<sup>3</sup>

0.5 kg/m<sup>3</sup>

0.75 kg/m<sup>3</sup>

1 kg/m<sup>3</sup>

1.5 kg/m<sup>3</sup>

>2 kg/m<sup>3</sup>

More options

8

4



ANALYSIS

3



LOCATE

1



LAYERS

5



ABOUT

2



CATALOG



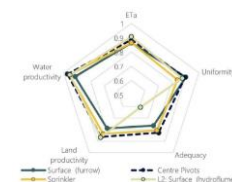
# WaterPIP Service Centers

*WaterPIP spec. obj: To direct, guide and support the establishment of service centers and support the development and uptake of WaPOR based information services in Kenya (and Sudan and Ethiopia)*

**Service center defined:** 'team of people' that can (independently) provide the agriculture, water and environment sectors with appropriate and viable information services that are derived from WaPOR and other open datasets.

# Service Centers - Services

- Providing (pre)scans and analysis of [land and water productivity](#), [irrigation performance](#)
- Conducting diagnostic surveys including crop performance
- Deploying (basic) data visualizations, such as [Drought Observe](#)
- Recommending (context/demand) specific interventions and/or solutions to improve the WP
- Providing tailor made trainings for uptake (users and usage) of service (such as to farmers, IAPs, river basin organisations, policy makers, others)





# Service Centers – planning (2021-22)

- Kick-off training (December 2021)
- Market analysis – determining users and usages, ie stakeholder inventories
- Live training: business planning, building blocks for services development (scripting, visualisations, communications), marketing (February 2022)
- Services and cases study development, throughout 2022

*‘Throughout support from the WaterPIP team coordinated by MetaMeta’*

# Service Center - Kenya

Association of Irrigation Acceleration Platform (AIAP)



the 'team of people' that can (independently) provide Kenya's agriculture sector with appropriate and viable information services that are derived from WaPOR and other open datasets.

Bringing satellite data down to earth...





This presentation is supported by the Water Productivity Improvement in Practice (WaterPIP) project, which is supported by the Directorate-General for International Cooperation (DGIS) of the Ministry of Foreign Affairs of the Netherlands under the DGIS UNESCO-IHE Programmatic Cooperation (DUPC).

Project activities are led by:

