



The project :

The WaPOR project aims to assist partner countries in developing their capacity to monitor and improve water and land productivity in agriculture, both rainfed and irrigated, responding therefore to the challenges that are posed by the dwindling of freshwater resources and the need to sustain agricultural production to ensure food security in the face of a changing climate. We need to produce more while also consuming less water:

Water productivity is defined as the quantity or value of output in relation to the quantity of water consumed to produce this output.



Project components:

- A **spatial database** that is publicly accessible, developed with data derived from open-access remote-sensing data and open source algorithms. It provides near real time information with a temporal coverage from 2009 to the present.
- Project activities will place emphasis on the **capacity development** of the ten partner countries so as to meaningfully contribute to the improvement of agricultural productivity and food security as well as to the amelioration of the use of natural agricultural resources such as water.
- The creation of a **compendium of user-centered implementable solutions and practical tools** to effectively improve agricultural land and water productivity at different scales based on near real time information from the WaPOR database.

Applications :

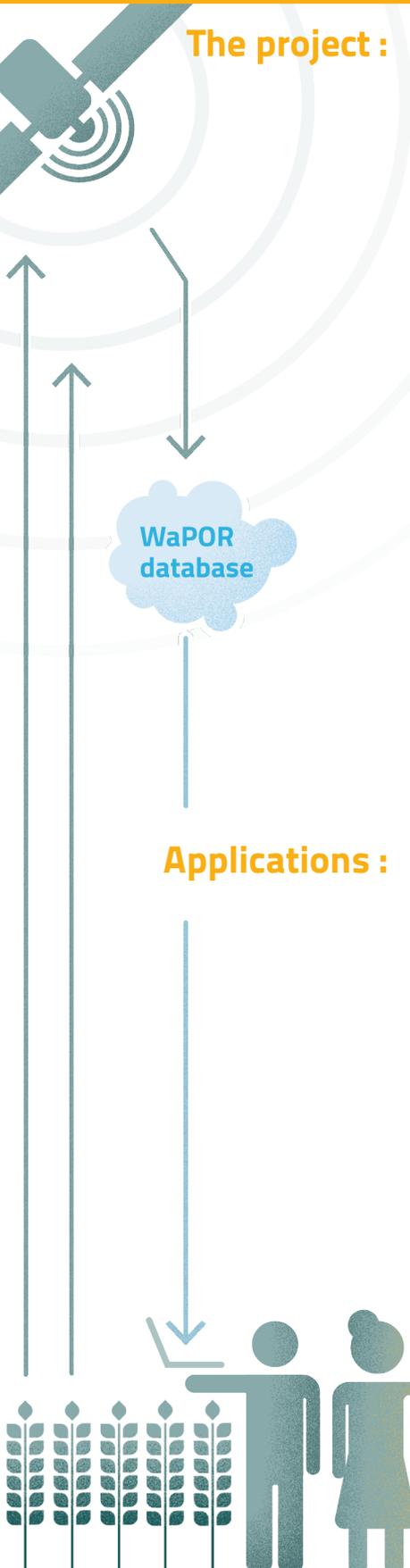
Beyond the main aim to monitor water productivity, there are a myriad of other applications for the data available on the portal such as:

- the monitoring of:
 - the impact of stressors on agriculture (drought, conflict, pests, etc.)
 - the water consumption of fields or specific crops
 - changes in agricultural production over time
 - water resources through water accounting and auditing
- the provision of advisory services to farmers
- the understanding of the spatial variability of water and crop-related variables
- the support of solutions to increase yield and irrigation and reduce productivity gaps.

 The data is available through a fully developed API making it fit to be integrated into ICT-based applications such as mobile apps.

➤ Consult the WaPOR applications catalogue to learn about ways in which WaPOR data has been used:

www.fao.org/in-action/remote-sensing-for-water-productivity/use-casesresources/en/



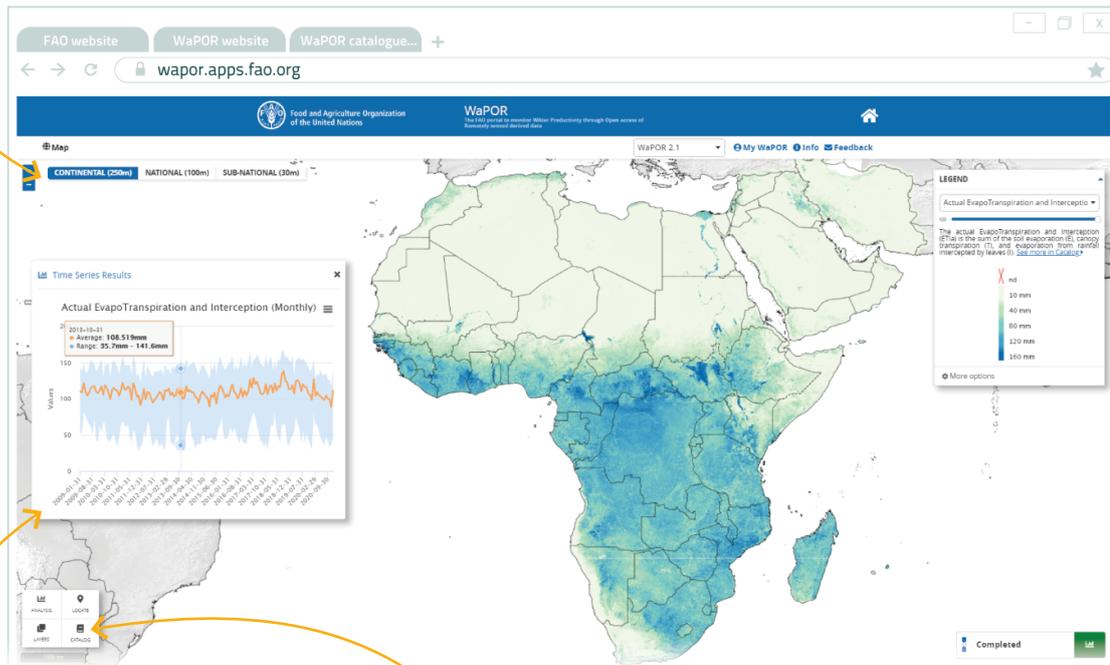
The WaPOR database :

WaPOR is the FAO portal to monitor **Water Productivity** through **Open** access of **Remotely sensed** derived data.

The portal can be accessed at: wapor.apps.fao.org

It monitors and reports on agriculture water productivity over Africa and the Near East and provides open access to the water productivity database and its thousands of underlying map layers. It allows for direct data queries, time series analyses, area statistics and data download of key variables associated to water and land productivity assessments.

The data is available at 3 resolutions: level 1 is the **continental scale** (250 m ground resolution), level 2 is the **national or basin scale** (100 m) and level 3 is the **sub-national scale** (30 m).



Source: UN. 2020. *Map of the World* [online]. [Cited 30 April 2021]. un.org/geospatial/file/3420/download?token=bZeyT819

The user can generate time series for areas or points that allow, without downloading the data, to derive insights for how the variables have evolved over time.

Seamless monitoring of the variables is possible thanks to a data availability that spans back to 2009 and is available at diverse temporal resolutions depending on the layer: **daily**, **dekadal**, **monthly**, **seasonal** and **yearly**.

The portal offers a wide range of geo-data variables (layers): **biomass water productivity**, **primary production** (plant biomass production from which yield can be calculated or estimated), **evapotranspiration** (water consumption by plants), **land cover classification**, among others. They are described in detail here: wapor.apps.fao.org/catalog/wapor_2

As of the end of WaPOR's first phase, level 2 data is available for 21 countries and 5 basins. The coverage at this scale will continue growing under the second phase of the WaPOR project. So will the coverage at level 3 which currently consists of 8 areas in 7 different countries.

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Partners:



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www.fao.org/in-action/remote-sensing-for-water-productivity

Food and Agriculture Organization of the United Nations



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