

**Project Evaluation Series  
08/2020**

**Mid-term evaluation of the project  
“Monitoring water productivity by  
remote sensing as a tool to assess  
possibilities to reduce water  
productivity gaps”**

**Project code: GCP/INT/229/NET**

**Annex 1. SWOT analysis**

<b>Strengths</b>	<b>Weaknesses</b>
<p><b>Technical:</b></p> <ul style="list-style-type: none"> <li>- Ability to measure biophysical Water Productivity and several other parameters of water measurement</li> <li>- Water productivity was being increasingly promoted when the project started, but no operational way to monitor it over large areas was possible, and WaPOR now provides it.</li> <li>- Ready to use water parameters, lowering the threshold for applications in water management</li> <li>- 10-day values over ten-year period offer unique depth of analysis</li> <li>- Independent measurement of important parameters of water management over entire Africa and MENA region</li> <li>- Increased accuracy of values in new versions - though ground truthing and validation deemed to remain essential</li> <li>- System is independent of particular remote sensing data source</li> </ul>	<p><b>Technical:</b></p> <ul style="list-style-type: none"> <li>- Downloading is not user friendly, in particular in countries with low bandwidth: though with new API this has improved</li> <li>- Crop maps so far only possible at sub-national level (Level 3), not at national level</li> <li>- Boundary problems with natural vegetation (resulting in misclassification of irrigated and rainfed areas) and cloud cover challenges (influencing data quality for certain years).</li> <li>- At low resolution (level 1 and 2 in particular) less relevant for diverse/ small scale water systems</li> <li>- Requires moderate to high level skill to use (deemed difficult to use)</li> </ul>
<b>Strengths</b>	<b>Weaknesses</b>
<p><b>Institutional:</b></p> <ul style="list-style-type: none"> <li>- Open access and neutral</li> <li>- Is putting water management first time on the agenda with figures and visuals</li> <li>- Link with SDG 6 / FAO strategic objective 2 / the Near East and Northern Africa's Water Scarcity Initiative</li> <li>- Only tool with wide geographic basis, data available at three spatial resolutions</li> <li>- Much traffic on API site</li> <li>- Several very promising applications developed in the last six months by core group</li> <li>- Has become reference data set and standard for open source development of remote sensing applications for water</li> </ul>	<p><b>Institutional:</b></p> <ul style="list-style-type: none"> <li>- Limited coordination between project components, so not adding strength to one another</li> <li>- Only limited real cases at this stage</li> <li>- Use mainly diagnostics at this stage, and as yet weak connection between analysis to solutions in water management</li> <li>- Capacity building so far not systematically aimed at decision makers or actual appliers/ movers and not connected to applications</li> <li>- No community of users in existence nor are the applications easy to find or connected through website</li> <li>- Human resources constraints (especially at national level), also with main implementing parties</li> <li>- Promotion of gender equity / women's empowerment unclear so far as field use is only now evolving</li> </ul>
<b>Opportunities</b>	<b>Threats</b>
<p><b>Technical:</b></p> <ul style="list-style-type: none"> <li>- Can be combined with other databases</li> <li>- Decadal analysis and real time use can be exploited much more</li> <li>- Scope for development of (many) more applications and uses beyond narrowly defined biophysical water productivity</li> </ul>	<p><b>Technical:</b></p> <ul style="list-style-type: none"> <li>- Too little use made of WaPOR until recently: many user communities still not reached</li> <li>- Related to this, too little feedback on functionality from use/users</li> <li>- Competition from less open and less developed (Chinese/ US) systems</li> </ul>

<ul style="list-style-type: none"> <li>- Also more applications in rain fed and flood dependent systems and in climate impact management possible</li> <li>- Better resolution would help in management of area with intensive water use</li> </ul>	<ul style="list-style-type: none"> <li>- Confidence remains an issue. Persistent and partly unfounded skeptical attitude in research community</li> </ul>
<b>Opportunities</b>	<b>Threats</b>
<p><b><i>Institutional:</i></b></p> <ul style="list-style-type: none"> <li>- Huge scope to improve water management on the ground all over the world</li> <li>- Focus so far on Africa and Middle East, but Asia has more systems that lend themselves to WaPOR analysis</li> <li>- Scope to create local service providers that use WaPOR to work with main operators on improved water management</li> <li>- Opportunities to link with Copernicus – would improve data granularity and open up new applications</li> </ul>	<p><b><i>Institutional:</i></b></p> <ul style="list-style-type: none"> <li>- Inadequate partnership building at country level: one cannot automatically assume that only better data will solve the problem – there is often a lack of agency in the countries to make the changes unless contacts are carefully developed</li> <li>- Link with development and business-oriented appliers not given prominence</li> <li>- Long term ownership and financial continuity unclear – may hamper investment in applications</li> </ul>