

**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 4. Project logical framework

Results Chain	Indicators				Assumptions
	Indicators	Baseline	Target end Project	Means of verification (MOV)	
Impact					
More sustainable, productive and climate change resilient agricultural practices with a reduced impact on the environment in general and on fresh water resources in particular.	Plans/strategies to monitor and improve water productivity .	No such plans/strategies in place.	Plans/strategies to monitor and improve water productivity developed.	Policy documents of governments, river basin authorities, irrigation authorities, farmers organizations, etc.	
Outcome					
An action framework to provide workable solutions, available for stakeholders at different scales -from the policy level to the farm level-, to sustainably increase agricultural land and water productivity. The framework will be based on robust state of the art Remote Sensing and Information and Communication Technologies to assess the terrestrial soil water balance and related biomass production to monitor agricultural land and water productivity, as well as the uptake of carbon dioxide by vegetation.	Operational methodology to monitor water productivity based on Remotely Sensing.	No such operational methodology available.	Operational methodology to monitor water productivity based on Remotely Sensing, available.	Methodology is operational, accessible to users and described in detail.	Project will be implemented as planned.
Outputs					
Output 1: An open access, operational, near real time spatial database.	Availability of operational databases on: continental; country /river basin; and field scale, that are accessible by users. The databases contain the data as described under Output 1 c + d.	No such databases available. No digital data layers available.	Database s available, accessible and being used. All digital data layers available and up-to- date.	Monitor database access by users. Monitor the database.	Contract with RS service provider signed and implemented as planned.

<p>Output 2: Assessment of water and land productivity.</p>	<p>Digital data layers with calculated water productivity score on country scale.</p> <p>Digital data layers with calculated crop water productivity for three major crops on country and river basin scale.</p> <p>Digital data layers with calculated crop water productivity on the scale of irrigation scheme.</p> <p>Assess economic water productivity for irrigation schemes and selected rainfed agricultural projects.</p>	<p>No such digital data layers available.</p> <p>No such digital data layers available.</p> <p>No such data available.</p> <p>Scattered data available.</p>	<p>Digital datalayers uploaded to the database of Output 1, and being used to monitor water productivity.</p> <p>Digital datalayers uploaded to the database of Output 1, and being used to monitor water productivity in the selected countries and river basins.</p> <p>Digital datalayers uploaded to the database of Output 1, and being used to monitor water productivity of irrigation schemes.</p> <p>Consistent dataset and analyses available describing the performance of water management in agricultural projects in terms of crop water productivity and economic water productivity.</p>	<p>Assess completeness of database.</p> <p>Publications describing the performance of water management in agricultural projects in terms of crop water productivity and economic water productivity.</p>	<p>Knowledge available to develop proper methodology to monitor water productivity scores per continent.</p> <p>Knowledge available to develop proper methodology to monitor water productivity per crop per country and river basin.</p> <p>Knowledge available to develop proper methodology to monitor crop water productivity and economic water productivity on project scale.</p> <p>Knowledge available to assess crop water productivity and economic water productivity on project scale.</p>
---	---	---	--	--	--

<p>Output 3: Assessment of the consequences and sustainability of possible increases in water productivity by means of water accounting.</p>	<p>Measurement-Reporting-Verification mechanism to monitor water resources availability and use.</p> <p>Water accounting sheets to monitor water flows.</p> <p>Scenarios for future sustainable food production.</p>	<p>Measurement-Reporting-Verification mechanism is partly developed but not operational.</p> <p>Water accounting sheets are developed but are not operationally linked to spatial database</p> <p>No scenarios have been developed.</p>	<p>Measurement-Reporting-Verification mechanism is operational.</p> <p>Water accounting sheets are operational to monitor regularly water flows</p> <p>Scenarios have been developed, modelled and reported.</p>	<p>Documents describing how Measurement-Reporting-Verification mechanism is being made operational.</p> <p>Published water accounting sheets.</p> <p>Documents published with scenario analyses.</p>	<p>Knowledge available to develop Measurement-Reporting-Verification mechanism.</p> <p>Knowledge available to develop mechanism to monitor water accounts adequately.</p> <p>Knowledge available to perform scenario analyses.</p>
<p>Output 4: Capacity development of stakeholders to increase water productivity sustainably.</p>	<p>Workshops on irrigation modernization to increase land, water and economic productivity of irrigation systems, leading to Irrigation modernization plans.</p> <p>National governments and river basin commission use water accounting by remote sensing technology to monitor their water availability and use.</p>	<p>Two workshops were held in the past (one in Tunisia and one in Morocco), The outcomes from the workshop in Morocco were used in irrigation modernization plans.</p> <p>Water accounting by remote sensing is not being used by government institutions.</p>	<p>Ten workshops on irrigation modernization and multiple use of water services, to be held in three countries. The outcome of these workshops leads in 80% of the cases to concrete modernization plans.</p> <p>Water accounting by remote sensing is mainstreamed within government institutions of eight countries.</p>	<p>Assess the effectivity of the workshops by analysing modernization plans in policy documents of irrigation authorities.</p> <p>Assess policy documents of government authorities with regard to water accounting and water resources assessments.</p> <p>Analyse how ICT services are being used,</p>	<p>Effective counterparts in countries.</p> <p>Effective counterparts in countries and an operational database.</p> <p>Effective counterparts in countries and an operational database.</p>

	Amount of people using ICT services for water management.	Nobody is using ICT services for agricultural water management.	60 000 stakeholders make use of ICT services for agricultural water management.	by means of monitoring databases and questionnaires.	
--	---	---	---	--	--