



COPING WITH WATER SCARCITY IN EGYPT, JORDAN AND LEBANON

Modern agriculture uses 70 percent of all freshwater withdrawals globally, and up to 95 percent in some developing countries, in order to meet current food demand. In addition, to keep up with growing food demand and shifting diets within the next 30 years, it has been estimated that the effective irrigated area will need to increase by 34 percent in developing countries, and that an extra 14 percent of water will need to be withdrawn for agricultural purposes. In arid and semi-arid regions, increasing numbers of the rural poor have begun to see that entitlement and access to water for food production, livestock and domestic purposes are as critical as access to primary health care and education, while at the same time reverting to a massive use of groundwater resources for irrigation. The current project followed two previous phases of a programme aimed at assisting the agriculture sector to cope with water scarcity and was designed to strengthen national capacities in this sector in Egypt, Jordan and Lebanon.



WHAT DID THE PROJECT DO?

The project focused on improving the capacities of the participating countries to cope with water scarcity by enhancing knowledge of water resources at national level and by increasing skills in water-related technology for irrigation. Overall, the project increased capacity for water demand management in irrigation systems and for water productivity. At country level, it improved the use of treated wastewater for irrigation in Lebanon, developed water harvesting in Jordan and promoted renewable energy solutions in irrigation in Egypt. The project addressed beneficiaries at various levels, engaging government and institutional personnel, as well as research centre and water-sector professionals in order to strengthen capacities in sustainable water resources management, crop water productivity and water harvesting, while farmers and communities enhanced their capacities in water use efficiency and their knowledge of the use of treated wastewater in agriculture. The piloting of solar-powered irrigation also built the capacity of government and research institute professionals, and of water users' associations and farmers' groups.

IMPACT

The training provided by the project consistently enhanced the capacities of beneficiaries to manage agricultural water resources, contributing to long-term sustainability in terms of crop water productivity and water use efficiency in large-scale irrigation systems. The increased capacities will make it possible to maintain food production levels while ensuring the sustainability of water resources. In Jordan and Lebanon, the data collected will also support further national programmes while, in Egypt, renewable energy was brought into use as a solution for lifting surface irrigation water, thus reducing vulnerability to energy supply shocks and water scarcity.

KEY FACTS

Contribution

USD 2 373 000

Duration

March 2011 – September 2018

Resource Partner

Government of Italy

Partners

Mediterranean Agronomic Institute of Bari (CIHEAM), National Water Research Centre (NWRC), Heliopolis University for Sustainable Development, Tafou Establishment, Tanmia Group and Lebanese Agricultural Research Institute (LARI)

Beneficiaries

Personnel in government and water management institutions, educational centres, and representatives from the private sector and non-governmental organizations, as well as farmers and rural communities

ACTIVITIES

- Regional workshop on irrigation modernization in the Near East and North Africa region.
- Rapid Appraisal Process (RAP) and Mapping System and Services for Canal Operation Techniques (MASSCOTE) methodologies applied in Jordan and Lebanon.
- Regional workshop on Crop Water and Irrigation Requirements Programme of FAO (CROPWAT)/AquaCrop.
- CROPWAT/AquaCrop applied in Jordan and Lebanon.
- Six pilot plots equipped with modern irrigation techniques for the use of treated wastewaters.
- Operational awareness-building campaign for relevant stakeholders.
- Two sites equipped with solar-powered irrigation systems in the Nile Delta of Egypt.
- Training for farmers in potential uses of solar-powered irrigation system.
- Training for water users' association in operation and maintenance of solar-powered irrigation system.
- Training for government technical staff in solar-powered irrigation systems.
- Business model developed for upscaling and sustainability of solar-powered irrigation.
- Operational pilot project conducted with water harvesting equipment for demonstration and training purposes.
- Two training events in water harvesting technology for 120 trainees.

PRODUCTS

- Two country strategy papers to promote changes and improve water productivity in Jordan and Lebanon.
- Comprehensive assessment on treated wastewater for agriculture in Lebanon and a sub-sector strategy framework.
- Comprehensive assessment of water harvesting and sub-sector strategy framework.
- Four reports on project outputs from Jordan and Lebanon.



Project Codes

FAO: GCP/INT/124/ITA

Project Title

Coping with Water Scarcity (The Role of Agriculture):
Phase III - Strengthening National Capacities

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