



Innovative Adaptation Project: Adaptation to Climate Change in the Water Sector in the MENA Region (ACCWaM)

Egypt: Increasing Water Efficiency through Drainage Water Reuse

Context

Egypt is an arid country that relies on the Nile as its main and almost exclusive resource of fresh water to meet the increasing demands of a growing population and economy. The scarcity of water resources is one of the three most vulnerable sectors to climate change in Egypt, the others being coastal zones and agriculture. The Egyptian government has developed a national climate change adaptation strategy. One of the most expedient measures is the reuse of drainage water.



Objective

To enhance the overall efficiency of irrigation water usage through the re-use of drainage water

Approach

Farmers in the Damanhur Governorate in the northern delta suffer from a lack of irrigation water. To extent its efficiency they want to mix the fresh irrigation water with drainage water under controlled conditions. The process will be operated by local water communities in cooperation with responsible water authorities. Further studies will include examinations on other ideal locations, sources of pollution, economic and legal implications for developing an upscaling strategy.

Responsibilities

Egypt's **Ministry of Water Resources and Irrigation** is the main partner in this innovative adaptation measure. Planning, implementation and monitoring is supported consistently by ACCWaM as a learning case. The Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD) provides technical advice and strengthened as a regional advising institution in climate change adaptation.

Results & Impacts

Unaware of potential harms farmers unofficially use drainage water directly from the drains to irrigate their lands. Regulating this mechanism will increase security and distribution justice. Expected outputs of the project are

- a **water pump**, ideally solar-driven, to pump water from drainage canals into freshwater canals under controlled conditions to increase water use efficiency,
- **training workshops** on operation and maintenance for employees who work with the pumps and
- **guidelines** for similar measures, based on the experience with the pilot pump.

Innovative Adaptation Projects

The regional technical cooperation programme ACCWaM aims at the capacity development of the Arab region's water sector institutions for anticipating and adapting to climate change impacts. ACCWaM's political partner is the Arab Ministerial Water Council – established in 2009 under the umbrella of the League of Arab States (LAS). Innovative adaptation projects in Egypt, Jordan and Lebanon are important elements of ACCWaM's Phase I (2011 – 2014). The projects serve as pilot measures displaying the functionality of innovative adaptation options. In the course of ACCWaM's Phase II (2014 – 2017) they will be realized on a larger scale.



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