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Implemented by:



Water - Egypt

Equal access for all – sustainable water management

Egypt would shrivel up without water from the Nile. Only 5 to 10 mm of rain fall every year in this country with its otherwise scarce water resources. People, farms and private companies are almost completely dependent on the volume and quality of the water supplied by the Nile. However, climate change, population growth, rising demand from neighbouring countries and inefficient use are making this precious commodity increasingly scarce. By implementing an integrated water resource management system that takes social, economic and environmental interests and needs into account, KfW is playing a role in managing the scarce water resources efficiently and equitably and ensuring their ecological sustainability.

Context

More than 80 % of Egypt's water is used for agriculture. The fertile green fields on both sides of the Nile Valley depend on an irrigation system comprised of weirs, principal canals and a system of branch canals. But Egypt's population is growing rapidly. To prevent the prices of expensive food imports from skyrocketing, the country needs more cropland and larger irrigation systems. But the countries at the upper reaches of the Nile, e.g. Sudan and Ethiopia, are using more and more water from the Nile, which is reducing freshwater availability for Egypt. The situation is exacerbated by climate change, rising temperatures and rates of evaporation, increased salinity of the groundwater and surface waters brought about by rising sea levels. If nothing is done to fix this problem, the availability of water in Egypt will be seriously threatened. In light of these challenges, the Egyptian government

drafted the first National Water Resources Plan in 2005 which requires implementation of integrated water resource management (IWRM). It identifies risks and areas where change is needed and defines the foundation for coordinated, more efficient and sustainable water management.

Project approach

On behalf of the Federal Ministry for Economic Cooperation and Development (BMZ), KfW has already been working with GIZ for several years to assist the country in implementing this water sector reform. It channels its

Project name	Integrated Water Resource Management (IWRM).
Commissioned by	Federal Ministry for Economic Cooperation and Development (BMZ)
Country/Region	Egypt
Lead executing agency	Ministry of Water Resources and Irrigation (MWRI)





Harvesting cotton wool in the Nile delta. Source: KfW / photothek.net

efforts into residential water management and focuses particularly on irrigation farming because the best way to manage scarce freshwater resources more efficiently and sustainably is to improve the irrigation system. The list of problems is long: outdated, ailing canals and pump stations with high water losses, inefficient irrigation methods, contamination of drainage canals by untreated waste water and waste from households and small-scale industry, development of traditional farmland for buildings and insufficient enforcement of legal regulations.

KfW chose IWRM to prevent the development of fragmented sectoral solutions and instead come up with an effective overall solution in this complex situation. Integrated water resource management adopts a holistic approach that takes the needs of all stakeholders into account and, at the same time, aims to systematically use water more efficiently as a resource. This creates a sustainable basis for a water supply in line with needs – for productive irrigation farming, but also for drinking water supply and sewage disposal in line with international standards in terms of quality and quantity.

This also includes measures to modernise the infrastructure which improve quality, lower consumption and use water to boost production. KfW, for example, supports the rehabilitation of irrigation canals to reduce water losses, but also the construction of treatment plants so that treated industrial water can be safely reused for irrigation and the consumption of water therefore reduced.

In addition to scaling up efficiently running infrastructure, the local population must participate in decision-

making and implementation processes for IWRM to be successful. A decentralised water management authority with local responsibility ensures that water distribution among stakeholders is balanced and equitable.

Impact

Since implementation of the KfW programmes, these democratically structured organisations with their elected boards have been regulating water use in their catchment areas. They also act as points of contact and negotiating partners for the local water authority. Thanks to stakeholder participation and the technical modernisation of the irrigation system that makes it easy for everyone to readily access water, many of the traditional conflicts of the past caused by unfair treatment have been alleviated.

The farmers, who have formed user groups, now share, for example, a powerful pump station instead of each irrigating their own fields with inefficient mobile pumps (and even in competition with one another) as they used to do. Many of the groups even went one step further and gave one person responsibility for pump station operation, management of the joint irrigation plan and collection of membership fees for maintenance and repairs.

The farmers have benefited greatly from this reorganisation of their irrigation: the costs are shared and the farmers' workload is reduced because they no longer have to transport their mobile pumps to the canals and back. Their planning is also more predictable because the canal water is available to everyone on a regular basis depending on their needs. This not only increases agricultural production and income, more production also means more jobs. And, most importantly: the responsibility for one of their most precious assets – water – now lies entirely in their own hands.



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