KfW Development Bank

# Project Information

## Water – Jordan

Support for sustaining the scarce water resources

Jordan is under increasing pressure. In recent years an estimated 690,000 Syrians have crossed the border, not including earlier waves of refugees from the Palestinian Territories and Iraq. This enormous influx of newcomers to the country over the years, in total more than a third of the Jordanian population, creates huge challenges for Jordan. These challenges range from the lack of accommodation, schools, medical facilities and job opportunities to one of the major concerns for one of the world's water scarcest countries: supplying water.
To support Jordan in addressing these challenges, KfW, on behalf of the German Government, has substantially increased its commitment in the Jordanian water sector over recent years. Currently, KfW supports the sector in 24 ongoing programmes and accompanying technical assistance measures. The total financing volume of these ongoing programmes amounts to approx. EUR 700 million, not accounting for various projects at planning and preparation stage.

### Context

With less than 100 m³ of renewable water resources per capita per year Jordan is one of the most water-scarce countries in the world (compared with e. g. 1800 m³ in Germany). The available water resources – especially groundwater – have been heavily over-used for years. At the same time, pressure on water resources continues to grow due to a high population growth, the impact of climate change and the economic development. In recent years, the large influx of Syrian refugees worsened the situation and places an enormous burden on the country's water resources and infrastructure.
The water sector in Jordan is characterized by high rates of water losses and low levels of cost recovery. To cover the yearly deficits, the sector is heavily dependent on government subsidies.
The high rates of water losses (approx. 45%) are thereby not only due to technical losses through physical leakages, but also due to administrative losses through water theft and incorrect billing. These challenges increase the pressure on water resources and reduce the economic efficiency of the sector. An increase of 150% in electricity prices in 2018 has further affected cost recovery levels of the Water Authority of Jordan (WAJ) and the regional water utilities.

### Project approach

The KfW-financed programmes follow a comprehensive, integrated approach regarding the

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| **Projects** | 24 |
| **Commissioned by** | Federal Ministry for Economic Cooperation and Development (BMZ) |
| **Country/Region** | Jordan |
| **Lead executing agency** | Water Authority of Jordan (WAJ) |

**WWTP in Irbid. Source: KfW photo archive, photographer: auslöser photographie**

manifold problems of the water sector. In the long term, they contribute to a secured water supply of the country by supporting a sustainable and more efficient management of water resources. To achieve this objective, one focus lies on the rehabilitation of outdated water distribution systems, the replacement of defective water connections and meters as well as on the provision of complementary technical assistance for water utilities.
Supporting the infrastructure for wastewater treatment is another important starting point for preserving the country's dwindling water resources. Therefore, the German Government, through KfW, supports Jordan in enlarging the capacities of existing wastewater treatment plants and their integration into a largescale re-use system. This will provide reclaimed water to farmers in the Jordan Valley. The resulting amount of saved fresh water can be used as drinking water. The approach is combined with the construction of new irrigation infrastructure and rehabilitation of outdated, leaking irrigation systems. Moreover, connecting more households to the central wastewater system through the construction of new sewer networks increases the share of water that can be re-used and improves the situation of the population.
A further key intervention area comprises investments towards a more energy efficient water supply and sanitation infrastructure. This includes the rehabilitation and replacement of pump stations and wells. Simultaneously, the associated pipeline systems are energetically optimized by removing existing bottlenecks.
The enlargement and improvement of the hydrological monitoring system supports Jordan in systematically monitor its groundwater levels. The resulting data basis enables the definition of a comprehensive water adaptation strategy and appropriate adaptation measures.
To address the specific challenges that result from the current Syria crisis, various projects support the most affected host communities in the northern governorates. These measures increased the availability of drinking water through the rehabilitation of deep water wells.
The transport of these additional water amounts is assured by a more than 40 km long, newly constructed Aqib-Pipeline. The rehabilitation and extension of the local distribution networks finally ensure the water distribution within the host communities while the extension of the central sewerage systems addresses the critical wastewater situation for the local population and refugees alike. Parallel to the support for host communities, KfW, on behalf of the German Government, supports WASH infrastructure through UNICEF in the refugee camps Zaatari and Azraq.
Following a comprehensive water approach, the financial cooperation not just focusses on rehabilitation and construction of water infrastructure through its programmes, but also supports the Jordan government in implementing reforms supporting the national water strategy. For this, a policy matrix containing diverse reform goals has been defined. The achievement of the agreed reform targets is the basis for further financial assistance of the German government linked to the policy matrix.

## Impact

These diverse and wide-ranging programmes significantly contribute to improving the living conditions in Jordan: For example, the rehabilitation of more than 35 wells in the Aqib well field provides additional drinking water that covers the water demand of 320.000 inhabit-ants. The installation of around 380 km of sewerage pipelines will newly connect 60.000 people to the central sewerage system. Furthermore, according to current calculations a more energy efficient water supply and sanitation infrastructure will prevent yearly emissions of up to 25,000t of $CO_2$.

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