



A Source of Peace – Transboundary Water Management in Central Asia

IWRM and infrastructure renovation at Khanhovuz Irrigation System

Context

The Khanhovuz Irrigation System is one of the largest in Turkmenistan with a total irrigated command area of more than 200,000 hectares. Its two main water sources are the Karakum canal, fed by the Amudarya river, and the Tejen river. The system consists of the Khanhovuz water reservoir, the Khanhovuz main canal, and a part of the Tejen river that takes water from the Khanhovuz main canal. Within this system water is supplied via complex interrelated hydro-technical facilities.

Partner:	Ministry of Water Economy of Turkmenistan
Project term:	Sept. 2009 – Oct. 2011

Irrigation at the Khanhovuz Irrigation System started in earnest in 1965 when hundreds of

small earthen ditches were dug from the main canal. Later, in the 1970s and 80s, the main hydrotechnical water management structures were added. At present, most of these facilities are in a poor condition and need renovation.

How water is distributed between Mary and Ahal Provinces has become a highly contentious issue, both at provincial and district levels. However, the sustainable operation and maintenance of the hydro-technical facilities requires the collaboration of each area's water administration authority.

In over 10 years no research has been carried out on the effectiveness of water use and the volume of production loss. Neither drainage water quality and quantity nor its environmental impact has been monitored.

Objective

The project's primary objective is to improve the effectiveness of the Khanhovuz Irrigation System and to increase water productivity. This will improve the livelihoods of approximately 120,000 rural people, the majority of whom are farmers.

Parts of the hydro-technical infrastructure will be renovated and elements of the Integrated Water Resources Management (IWRM) approach will be applied. For example, hydrographic water management practices will be introduced to replace the prevailing administrative approaches in territorial water management.



Khanhovuz irrigation canal

Measures

Firstly, pre-selected IWRM approaches will be trialled at the Khanhovuz Irrigation System.

Technical measures will include the precise definition of the irrigation system's hydrographic borders using Geographic Information System (GIS) and remote sensing tools. Furthermore, the canal's key infrastructure will be renovated to reduce water loss and improve water distribution between different parts of the irrigation canal.



A regulator at Khanhovuz canal in need of renovation

Institutional measures include capacity building, such as GIS and database management training for local water specialists from the Ministry of Water Economy and its

agencies. Furthermore, the project supports the formation of an IWRM working group within the Ministry that will develop and implement an IWRM plan for improving water management at Khanhovuz. This plan will then be shared publicly and discussed with key stakeholders, including the district water management organisations, local water users and representatives of other organisations located within the irrigation system's command area. Moreover, a field office will be established at Khanhovuz to ensure the effective introduction of the plan and sustainable water management outcomes.



A deteriorated section of the irrigation canal

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