A Source of Peace – Transboundary Water Management in Central Asia

Rehabilitation of the Tortgul dam safety system

Context

The Tortgul water reservoir is located in Batken Oblast (administrative district), 12 kilometres west of Batken city. It stores a total of 90 million cubic metres of water and supplies 9,000 hectares of irrigated land with water. The Podvodyashi canal feeds the reservoir by diverting water from the transboundary Isfara river, which originates in Kyrgyzstan and flows into the territories of Tajikistan and Uzbekistan.

Partner:	State Committee for Water Economy and Amelioration of the Kyrgyz Republic
Project term:	Nov. 2009 – May 2011
Budget:	250,000 Euro

Originally, the reservoir was designed to provide irrigation water solely to Kyrgyzstan in accordance with existing water allocation agreements. In recent years Tajikistan has also requested to draw on Tortgul's water supply in April and May, when the Isfara's water flow is low. During these two months Tajik farmers abstract about eight million cubic metres of irrigation water, which is delivered to Tajik territory through the western dam outlet.

The tower outlet at Tortgul eastern dam

The Tortgul reservoir was commissioned in 1971 and is now in urgent need of renovation. The dam safety observation system relies on steel pipe boreholes equipped with piezometric devices that haven't worked for several years. Consequently, there is a significant risk of uncontrolled flooding.

The crest of Tortgul western dam

The most serious technical issues are the malfunctioning piezometric network and increasing seepage through the western and eastern dams. Furthermore, the hydro-mechanical equipment on the tower outlets has deteriorated, sedimentation has considerable increased and in- and outflows are not being accurately measured.

Objective

The main project objective is to increase the safety of Tortgul dam and the reliability of its monitoring system. The reservoir provides sustainable water supply to surrounding irrigated lands, securing the income base of local farmers.

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Improving the dam safety system will also reduce flood risks for those living downstream.

Measures

Firstly, the project will carry out a detailed technical assessment of dam safety. Based on this assessment, priorities for updating the existing dam safety monitoring system will be identified. In particular, the project will restore the piezometric network by creating 120 boreholes inserted with water level measuring instruments and replacing hydro-mechanical equipment. In addition, four flat gates on tower outlets will be replaced.

In parallel to these infrastructure upgrades, staff in the Batken-based water management regional bodies will be given training on how to properly operate the renovated system.

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