A Source of Peace – Transboundary Water Management in Central Asia

Rehabilitation of the Bad Bad irrigation canal and its headwork

Context

Irrigated agriculture is the basis of the Uzbek economy and the main source of employment and income in rural areas. Deteriorating irrigation and drainage infrastructure as well as poor irrigation management practices have led to significant water losses and decreasing agricultural productivity.

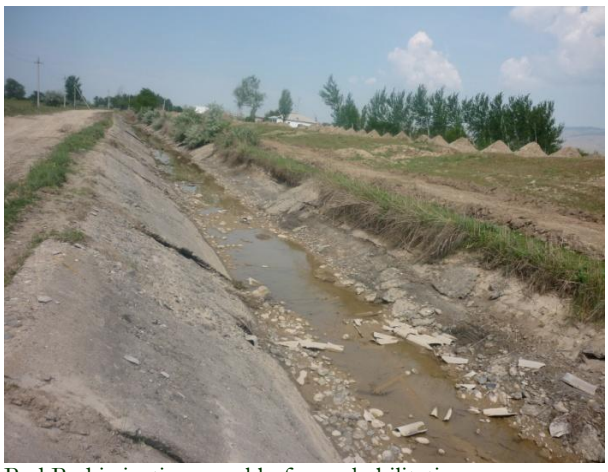
The Bad Bad irrigation canal is located about 45 kilometres to the northeast of Samarkand city and provides water for approximately 10,000 hectares of irrigated land in the Bulungur district of Samarkand province. A headwork diverts water to it from the Iski Tyatortar canal that is fed by the transboundary Serafshan river, which originates in Tajikistan.

The Bad Bad canal is over 70 kilometres long and was originally constructed in the 1960s as an earthen canal; only later were some parts lined. The headwork's unfavourable location causes the erosion of the canal banks and the entry of sediments into the canal. Without appropriate operation and maintenance works, the irrigation system has significantly deteriorated. At present, the canal is silted and overgrown with weeds, concrete sections have deteriorated and sedimentation has decreased its depth. These problems have reduced water flow, and led to infiltration and operational losses. Currently, water delivery efficiency and water use efficiency at field level barely exceed 60%.

Partner:	Ministry of Agriculture and Water Resources of Uzbekistan
Project term:	Aug. 2009 – Dec. 2011
Budget:	655,000 Euro
Partner contribution:	Cement, temporary deviation canal, outlets, electricity line to demo plot. Total cost: 105,000 Euro

Objective

The project aims to improve irrigation infrastructure and water management practices. Rehabilitating the canal and headwork will result in lower water losses and improved water management will reduce the degradation of irrigation systems. This will contribute towards a more sustainable agriculture and, ultimately, improve rural livelihoods.



Bad Bad irrigation canal before rehabilitation

The project mainly targets small-scale farmers and focuses in particular on regions with a high proportion of vegetable and fruit cultivation, as these will benefit most from new water-saving farming practices. Improving irrigation water management will increase output and directly benefit the rural population. The project also contributes to the Uzbek government's strategy to reduce rural poverty by developing sustainable water resources.

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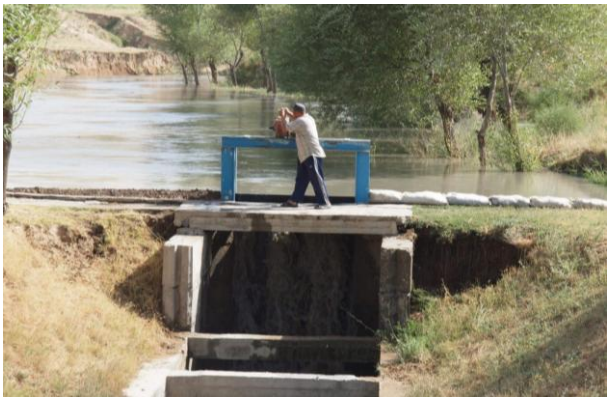
Measures

The project includes both technical and institutional measures. The technical component comprises the rehabilitation of several kilometres of the Bad Bad irrigation canal and related hydraulic infrastructures, such as cross regulators as well as the reconstruction of the canal's intake structure, the headwork. The project has also provided canal staff with a wheel mounted power shovel and motorcycles adapted with loading platforms to facilitate canal operation and maintenance activities. Furthermore, an eight hectare demonstration field for drip irrigation has been developed. In order to improve sustainable irrigation water management, the project has supported the Serafshan Basin Irrigation Systems Authority (SBISA) in their work to develop a sustainable maintenance concept for the Bad Bad canal.



Headwork of Bad Bad irrigation canal

In addition, an office adjacent to the canal has been supplied with the equipment to enable the SBISA to store, analyse and share water management data and to support participatory water management. Similarly, the project supports a Geographic Information System (GIS) office at the Authority's headquarters in Samarkand.

Rehabilitation works at the canal

The institutional component includes the introduction of effective water distribution methods and the hydrographic organisation of water user associations in order to reduce water losses and increase water use efficiency in the canal's irrigated area. Further capacity-building activities complement the above mentioned supply of hardware to the Serafshan Irrigation Systems Authority. These include, for example, a training course in data management and GIS systems.

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Dag-Hammarskjöld-Weg 1-5
65760 Eschborn, Germany
T +49 61 96 79-0
F +49 61 96 79-11 15
E info@giz.de
I www.giz.de

Contact

Artur Vallentin
Transboundary Water Management in Central Asia Programme
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
Ul. Abdullaev 2 A
100 100 Tashkent, Uzbekistan
T +998 711 40 04 89/90, ext. 211
E Artur.Vallentin@giz.de

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