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# Water Management and Basin Organisations in Central Asia

## Supporting basin planning and management in Turkmenistan

### Context

Across large areas, the surface water and groundwater resources of Turkmenistan are extremely scarce, due to the country's predominantly desert climate and average annual precipitation of 100-150 mm. The Amu Darya River is the main source of water in the northern part of the country, while the southern regions near the Kopet Dag Mountains are mainly served by the Karakum Canal, which was constructed in the middle of 20th century.



Turkmenistan's main rivers

Other water resources are the Murgab and the Tedjen rivers, which run into Turkmenistan from Afghanistan and Iran, and are mainly supplied by runoff from the northern Hindukush Mountains. Smaller rivers, especially those from the Kopet Dag Mountains, run dry during the summer months. Groundwater reserves are modest and at present are little used. Today, many of the traditional water supply systems known as karez, which tap the groundwater reserves in the mountain foothills, are out of operation. In the large agricultural areas along the Amu Darya, the Karakum Canal, and the rivers Murgab and Tedjen, a dense system of drainage collectors is used to capture important amounts of return water, although it is usually highly saline. Extensive collectors are now in place to derive water to the Turkmen reservoir being created in the north of the country.

In accordance with the Water Code of Turkmenistan, these water resources are supervised by the Ministry of Water Economy in cooperation with the Ministry of Environmental Protection and the Ministry of Communal Services. Some 90% of the water is intended for use in irrigation. At the same time, the rivers, irrigation canals and reservoirs in rural areas are the primary sources for municipal and domestic drinking water supplies.

Project name	Water Management and Basin Organisations in Central Asia (WMBOCA)
Funded by	European Union Co-funded by the German Federal Foreign Office (Auswärtiges Amt)
Project region	Murgab basin, Turkmenistan
Main partners	Ministry of Water Economy of Turkmenistan, Marysuwhojalyk (the branch of the Ministry of Water Economy in Mary velayat), Regional Environmental Centre for Central Asia (CAREC)
Duration	January 2012 – June 2014

### Objective

Environmental protection and the improved management of water resources comprise one of the priority areas of the European Union in Central Asia. The project Water Management and Basin Organisations in Central Asia (WMBOCA) is a component of the European Union Regional Environment Programme for Central Asia (EURECA). WMBOCA consists of two interrelated components:

- Supporting water management and strengthening transboundary river basin administrations in Central Asia
- Capacity building on river basin planning for water management organisations and joint river basin structures

The objective of WMBOCA is to support integrated water resources management (IWRM) at basin level and transboundary river basin management in particular. The project activities focus on the staff of existing water management organisations, as well as newly established joint water management structures in the selected basins and sub-basins, and the policymakers for the water sector in the Central Asian states.

In Turkmenistan, the project is supporting the Ministry of Water Economy in the introduction of a basin planning approach for the Murgab river basin. Thereby, it aims to improve the use and protection of surface water and groundwater resources in line with IWRM principles.



L. to r.:

- 1) Stakeholder meeting on adaptation to climate change in Turkmenistan
- 2) The Cepekyab Canal with gates to the irrigation canals

## Measures

WMBOCA is being implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH (German Society for International Cooperation) in partnership with the Regional Environmental Centre for Central Asia (CAREC).

In close cooperation with other international organisations, such as UNECE, UNDP and OSCE, the partners mainly use stakeholder dialogues and regular meetings of policymakers to ensure the introduction of IWRM principles to the river basin. Institutional capacities are being improved through the provision of training for professionals and by sharing best practices in Marysuwhojalyk. The training covering the geographic information systems (GIS) is a particular example. These measures are funded by WMBOCA. Budget of WMBOCA activities in four Central Asian states (Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan) consists of approximately EUR 2 million provided by the European Union and approximately EUR 0.5 million provided by the German Federal Foreign Office.

## Results

In the course of the project, a series of national and velayat dialogues have been conducted involving the main stakeholders with respect to water resources, including the Ministries of Water Economy, of Nature Protection, of Communal Services, of Finance, and of Economy, as well as the Hydro-Meteorological Survey. These events included the following:

- National Policy Dialogue on Basin Management and Basin Planning
- National Stakeholder Dialogue on Basin Principles and Basin Planning in the Murgab river basin

- Stakeholder dialogues on IWRM and Basin Planning in Mary, Lebap and Dashoguz velayats
- National Stakeholder Dialogue on Climate Change Adaptation
- National Stakeholder Dialogue on Basin Planning Testing in the Cepekyab pilot sub-basin

The Ministry of Water Economy has expressed its appreciation for the achievements of this process. In its assessment, these activities helped to establish a solid basis for government decisions in support of integrative river basin management in Turkmenistan. The ongoing amendment of the Turkmen Water Code, which will define basin management and basin planning as key principles for future administration, will be a visible result.

The main focus of the project is on the Murgab river basin. Here, additionally to supporting the stakeholder dialogues, the project has also provided training sessions on geographic information systems (GIS). In 2012, GIS equipment was handed over to the partner organisations Marysuwhojalyk and Water Survey Control under the Ministry of Water Economy. The equipment works together with a database, GIS and earth remote sensing (satellite images). The use of GIS will improve the planning and allocation of water resources in the Murgab river basin.

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