

BWO “Amudarya” Experience in Transboundary Water Management and Issues of Water Security in the Amudarya River Basin

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In recent years the world community and Central Asian countries have begun to pay more attention to water security (this new notion is generated as result of climate change) issues.

Indeed, with economic growth and stability improvement in the basin states, the aspirations for cooperation in both economic and water areas and the food and water security issues came to the foreground in Central Asia.

Based on twenty-three years' experience of the BWO Amudarya, it is necessary to emphasize the following important (in our opinion) points related to the Amudarya basin security at the regional level:

First, one of the main criteria for basin's water security is water availability during the certain periods, including non-vegetation and vegetation periods.

The distribution of groups of dry and wet years, water availability of which is below or above normal runoff, respectively is of greatest concern.

Over the past thirty-one years, 12 hydrological normal (average) and wet years were observed. The wettest year in the basin was recorded in 1991/92, when water availability amounted to 80.9 km³. During another 19 years water availability was below the norm, while the lowest one was observed in 1985/86, 1988/89, 2000/01 and 2006/07 hydrological years.

Distribution of wet-year groups is more unequal than of dry years, where groups of one or two wet years have a higher frequency than similar group of dry years. Long-term wet year groups are less common than prolonged dry years. The groups of wet years usually have duration of 2-3 years, more often single. Consequently, the cyclical fluctuations in the Amudarya River runoff with long dry years, complicates the economic use of water sources and necessitates runoff regulation.

Second, technical conditions of river intake structures, interstate canals with their structures, headrace channels on the BWO's balance sheet, as well as of reservoirs, river pumping stations and gauging stations, intakes on the balance sheets of basin states and under the BWO control.

Third, reliability of forecasts by Hydromet Services. In recent years, virtually there were no forecasts for the Amudarya basin due to the lack of necessary data for Hydromet Services. Such situation creates certain difficulties in planning and operational decision-making.

Fourth, flood events.

Fifth, ice phenomena in the river channel and interstate canals.

Sixth, dry years in the basin.

If issues of water security are considered in a broader context, taking into account international experience and published materials, then one needs to pay attention to factors such as climate change, population growth, quality of water resources as a whole and of drinking water in particular. For example, if today energy security is one of the major global challenges in the world, then under conditions of climate change, water security issue will come to the forefront. We find it necessary to address during the forum the issues concerning global water resources management and their ability to develop and ensure water security.

Moreover, it is necessary to plan joint initial steps to raise the status of water and withstand the threats.