Altyn Asyr – The Golden Age Lake[1]

Bo Libert, December 2020

Due to the extensive irrigation systems in Central Asia there are places where there is too little water and other places where there is too much. New infrastructure has been built and is under construction to diminish the problems caused. Kok-Aral is a reservoir on the Syr Darya constructed by Kazakhstan to collect water in the winter for the Northern Aral Sea, the Sardobe dam on the same river that recently broke was built in Uzbekistan to collect water for irrigation and, of course, the Rogun dam constructed in Tajikistan on a tributary to Amu Darya mainly for energy purposes.

The Golden Age Lake, *Altyn Asyr*, is another example constructed to drain water. It is a man-made lake in the Karakum desert of Turkmenistan. In 2009 the President of Turkmenistan officially opened the construction of the artificial lake with water coming from the drainage of irrigated land. Two canals: the 432-kilometer Dashoguz Collector and the 720-kilometer Great Turkmen Collector will collect and lead the water to the new lake. Altyn Asyr is planned to be 103 km long and 19 km wide, with a total volume of 132 km^3. The estimated budget for the project varies between $4.5 billion and $8 billion.

Water in Turkmenistan is provided by the Karakum canal that channels water from the Amu Darya to the central parts of the country. Water is used for irrigation and for drinking, including in the Capital Ashgabad. The construction of the canal in the 1950s was an important factor for the drying out of the Aral Sea but obviously very important for the Turkmen population and economy.

Inefficient use of water is a permanent problem that has led to salinization of agricultural land and created salt marshes in the desert. The Altyn Asyr Lake – an originally Soviet project – aims to collect and make use of the excess drainage water.

The declared goals of constructing Altyn Asyr include stopping drainage water flowing back to the Amudarya thus reducing the salt content of the river. Improving the drainage would decrease salinization and high groundwater levels and as a consequence up to 450,000 hectares of waterlogged agricultural fields would be reclaimed according to Turkmen sources. The canals and lake would further give access to water and opportunities for agriculture in new regions. It is claimed that the lake would attract birds, fish and other wildlife. Another aspect is that water and salt are enemies of archaeological sites. The draining of water would be positive to protect historic monuments. (However, some small monuments and sites that haven't been excavated yet is reported to being bulldozed during the construction of the canals).

There are views that the project will cause more damage to an already difficult environmental situation. The runoff may be insufficient to fill the lake, as the drainage water will evaporate or seep into the desert through the newly constructed unlined canals. Much of the water is further contaminated by pesticides and fertilisers.

Natural depressions with drainage water tend to lead to the appearance of alkali soils and brackish water and a decline in biological productivity. For example, water from the Sarygamish Lake and wetlands where some of the drainage water is presently ending up has proven to be unusable for cotton and other crops. The fishing industry there stopped functioning in the early 1990s.

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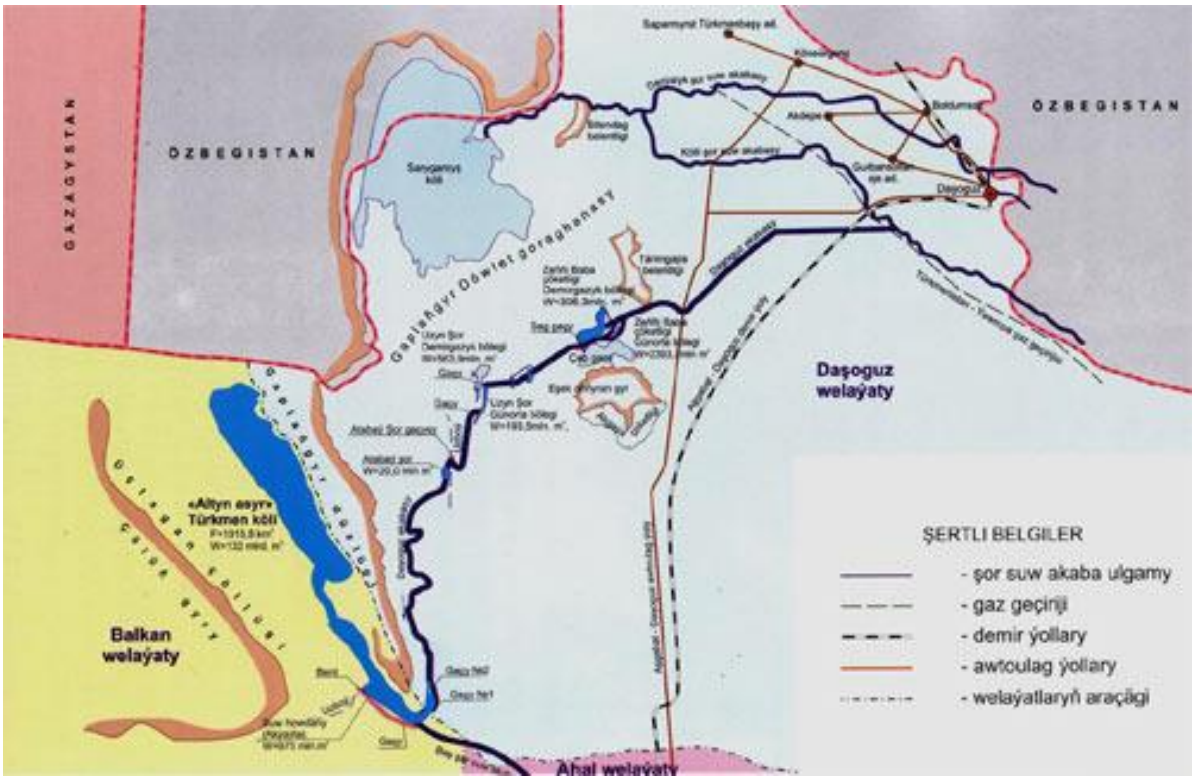
[1] Selected sources:
SCIENCE VOL 320 23 MAY 2008, pp. 1002--1005
http://cawater-info.net/bk/1-1-2-1-altyn-asyr_e.htm (including maps)

In the planning Turkmenistan has not consulted with neighbours nor the regional organizations ICWC[2] and IFAS[3]. As in other places in Central Asia action taken in one country may impact other countries. It is not clear whether Turkmen activities in this case may impact Uzbekistan. There is an agreement between Turkmenistan and Uzbekistan to share water from downstream Amu Darya 50-50, and a concern from both countries that this is applied. The river runs along the border between the countries.

An important factor in this context is that drainage water planned to flow into Altyn Asyr is currently providing water for the Sarygamish Lake and wetlands on the border with Uzbekistan. Tashkent is not likely to agree to turning Sarygamish into another Aral Sea. Further, an Uzbek drainage canal from Khorezm to the Aral Sea is planned and if it is built, it might not make any sense to construct the drainage canals and the lake at all.

One serious weakness is that no comprehensive studies have been conducted on the project and its implications for the environment. No consultation processes nor public discussions seem to have taken place. This reflects the autocratic rule in Turkmenistan and also the lack of solid expertise and institutions in the country that can provide a thorough scientific analysis of the project.

The biggest challenge and the main alternative for the Turkmens is to learn how to use water more efficiently and to use available funding for this purpose rather than for the lake. This, by itself, would reduce the amount of drainage water being leaked around the canals and riverbeds, and prevent contaminated water from discharging back into the Amu Darya.



[2] Interstate Commission for Water Coordination
[3] International Fund for saving the Aral Sea


Republic of Uzbekistan
Republic of Karakalpakstan
Altyn Asyr lake
Turkmenistan
Balkan province
Turkmenistan
Dashoguz province
Turkmenistan