The Sardoba dam accident

1 May 2020 the first dam accident in Central Asia with a significant transboundary impact took place. A dam in Uzbekistan under construction – the Sardoba dam - broke and large areas including newly sown agricultural land was flooded in Uzbekistan as well as Kazakhstan. Heavy rain and a storm were claimed to be the reason but it is evident that the dam construction was not solid enough. On 4 May 120,000 ha of land in Uzbekistan and Kazakhstan were flooded.

4 people died, 60 brought to hospitals and 92,000 relocated in Uzbekistan. In Kazakhstan 32,000 people were relocated to outside the flooded region and two villages destroyed beyond repair. Significant numbers of people are housed in schools etc which is not an ideal situation during the covid-19 pandemic.

The dam was being built on a Syr Darya river canal but without any preceding consultation with Kazakhstan. According to international law Kazakhstan should have been part of the environmental impact assessment of the construction. The highest political levels in the two countries are communicating on the accident and there doesn´t seem to be building any additional political tension although harsh statements are found on social networks.

The accident is likely to have consequences for the Uzbek plans to build new dams and significantly increase energy production from hydropower.

The people responsible for the construction are now being prosecuted.

A map of the flooding is found below for those that read Russian.

Dam safety in Central Asia

The safety of dams on transboundary rivers is an important aspect not only for the country where the dam is situated. Downstream countries are likely to suffer from such accidents. Dam safety is also one of the few aspects of water management where all countries in Central Asia have been involved in cooperation projects. There is a draft agreement on dam safety that has not been finalised for signature.

Concern over the safety of more than 100 large dams and other water control facilities in Central Asia, located mostly on transboundary rivers, has grown in recent years. Ageing dams and their inadequate maintenance, coupled with population growth in flood plains downstream from the dams, have resulted in increased risks to life, human health, property and the environment. As the Sardoba accident showed dam failures can have disastrous consequences in downstream regions and countries.

The institutional and legal frameworks for dam safety in the Central Asian countries are not adequate. As was seen in the Sardoba dam failure there are also no established procedures for notification of neighbouring countries in case of accidents or emergency situations with dams. It is also a problem that smaller dams may be privatised and be without access to proper expertise. Expertise is generally limited.

Flood risks and previous dam failures in the region

There have been previous dam failures in the Aral Sea basin but fortunately not in any of the major dams such as Toktogul or Nurek. 43 people died and a whole village was wiped out in southern Kazakhstan when a smaller dam in Kyzyl-Agash collapsed in 2010.

The first Kokaral dyke built in the 1990s to dam the Northern Aral Sea from the rest of the Aral Sea quickly collapsed but there were no human fatalities. With the support of the World Bank a more solid dyke was built in the beginning of this century.

Under the previous president Karimov in Uzbekistan the safety risks for building the Rogun dam in Tajikistan was on the political agenda. Uzbeks referred to the high risks of earthquakes where the dam was built but the main reason why the issue was another: The construction of Rogun will result in additional control of Tajikistan over the water in Amu Darya. The Rogun dam is now under construction and there are several aspects of the construction object that could be debated besides the risk of its failure.

Another site that has been thoroughly investigated and discussed in the region is the Sarez Lake in Tajikistan. The lake was formed in 1911 at more than 3000 m altitude after an earthquake. The landslide dam is unstable given the local seismicity, and the terrain below the lake is in danger of catastrophic flood if the dam was to fail during a future earthquake

With the melting glaciers in the region there are new risks emerging – so called GLOFs – Glacier Lake Outburst Floods that may threaten human settlements.

Bo Libert

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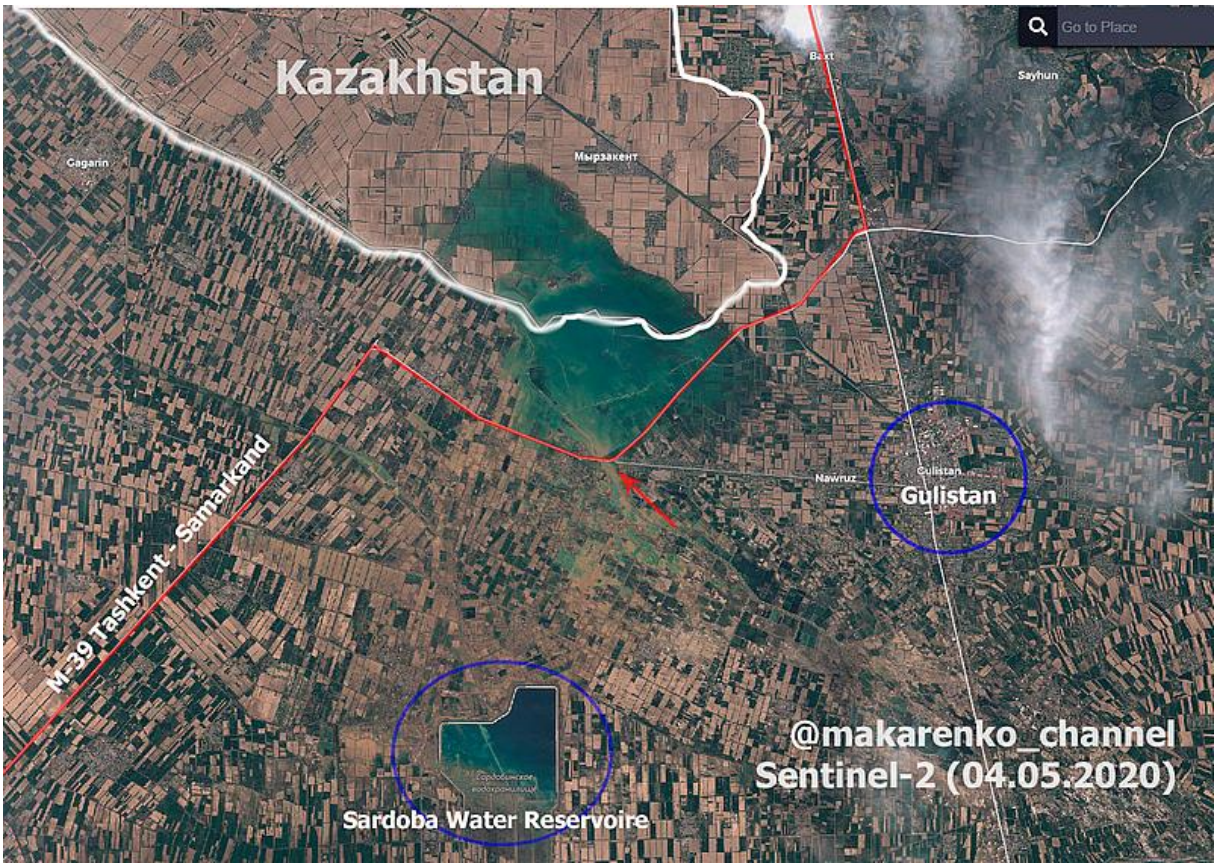
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