WATER RESOURCES AS A FACTOR OF ENVIRONMENTAL SAFETY IN CENTRAL ASIA

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Water is one of the most important resources necessary for human survival. Today, the relevance of water resources has long been recognised and is being actively studied around the world, especially in the context of global climate change. Water is primarily a renewable resource, but due to the uneven distribution of water resources across the globe and population growth, water scarcity is emerging.

Glaciers occupy a special place in Central Asia. Melting glaciers, based on many modern factors, have a great impact on the environmental and economic security of these countries. Total water resources in Central Asia are formed from glacial meltwater, and rapid glacier melting may create a catastrophic situation with decreased precipitation in the following years, while the glaciers remain in their normal state. The energy value of glacial water has been characterised by risks at different times, as glacial melt provides large amounts of runoff to the main rivers in Central Asia (e.g. Amu Darya and Syr Darya), the destruction of much of the glacial portion due to global warming leads to water bodies performing environmental activities (e.g. rivers, lakes and Aral Sea), and has dangerous consequences for water, food and energy security in the region. Additional hazards arising from melting glaciers include increased incidence of glacial lake outburst floods, landslides and mudslides. In fact, melting glaciers in Central Asia are known to pose a serious security threat to the entire region.

Also a potential threat to water and energy security in Central Asia is posed by waters in mountainous areas caused by mudflow migration and unexpected flooding factors.

Mudflows are the most dangerous and widespread hydrological phenomena in mountainous states and in the wider lowland world. The problem of debris flows is not only related to the continuous development of the recognition of debris flows, but also to the specific nature of the phenomenon. Firstly, they cover a large spectrum of sciences (hydrology, geology, geomorphology, geography, mechanics, rheology) and no complete science has studied these phenomena. Secondly, systematic measurements of passing debris avalanches and resulting phenomena are not carried out for various reasons, including those visible to the naked eye. And finally, thirdly, experimental and field studies of debris avalanches require a large amount of funding and diligence

Central Asia- a region at the centre of the Eurasian landmass, the region's "deep" location has a major influence on current natural and climatic conditions in Central Asia. Covering an area of more than 4 million km^2, deserts, semi-deserts and dry steppes cover more than 70% of the territory, which means that the region is not adequately wetted. The water problem in Central Asia is a complex of interconnected problems: social, political and economic. The lack of effective

water management acts as a bottleneck in the use of water resources and their protection from pollution. National water legislation in the countries of the region is too "one-sided", taking into account only the interests of the national state. The unwillingness of political elites to compromise is the main obstacle to solving effective cooperation in the field of water resources. This issue directly affects all the countries of Central Asia; interaction on this issue is important for the socio-economic and ecological development of all Central Asian States. Joint actions of all states of the region represent a way of solving water problems taking into account the interests of all participants.

Post-Soviet Central Asia today consists of five sovereign states: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. It is a region of the world unique in its historical and socio-economic development. Its uniqueness stems from the interaction of the Soviet way of life, the Oriental mentality, Islamic culture and the influence of modern globalization trends. The five countries of Central Asia are divided into two groups: "upstream" countries such as Tajikistan and Kyrgyzstan located at the source of the rivers, and "downstream" countries crossing these rivers, namely Kazakhstan, Uzbekistan and Turkmenistan.

Until 1991, water allocation was within one country, the USSR, and under a single management, piloted in Moscow. Tajikistan and Kyrgyzstan release water in summer to allow their neighbours to develop agriculture and mitigate potential droughts. Indeed, the downstream countries depend on the Amu Darya and Syr Darya rivers that originate in the upstream countries. Consequently, Turkmenistan receives 90% of its water from outside, 77% from Uzbekistan, and over 40% from Kazakhstan [1]. Thanks to the barter system that prevailed during the Soviet era, these countries paid their 'debt' by supplying energy resources such as gas, oil or coal to the above countries. This non-binding system allowed the unbridled development of water-intensive agriculture in an unfavorable region, to the detriment of all environmental considerations. This arrangement ended in 1991 with the collapse of the Soviet Union. Each newly independent state wanted to chart its own course unilaterally, opting for an individualistic policy.

The selfishness of the national elites in Central Asia is quite evident in the water sector. Of course, various forums and meetings are constantly being held, and promising agreements and pathetic declarations are being made. For example, on 18 February 1992 in Almaty the countries signed an agreement on cooperation in the joint management of the use and protection of inter-State water resources [2]. In 2003, the Fund for Saving the Aral Sea was established in Kyzyl-Orda. In the same year, the Agreement on Joint Actions for Solving the Problems of the Aral Sea and Prearalie, Environmental Rehabilitation and Social and Economic Development of the Aral Region was formalized. On 20 September 1995, the Nukus Declaration was signed by the Central Asian States and international organizations on the problems of sustainable development in the Aral Sea basin. On 17 March 1998, Bishkek hosted the Agreement on the Use of the Water and Energy Resources of the Syrdarya River. Later, a number of other similar documents were adopted.

Today, water is a triple challenge for these independent countries. It is primarily a social problem because water is an important resource for the survival of the population, and its quality is also an important variable. The stakes are also economic because the downstream countries use water to develop their agriculture and the upstream countries produce electricity that is used for domestic consumption and for export to Afghanistan and Pakistan. Finally, it is also a political issue because water allows upstream countries to be both energy self-sufficient and to put pressure on downstream countries that have hydrocarbon resources and are better off economically and militarily.

The Ili, Irtysh and Tekes rivers, which feed several regions of Kazakhstan, have their headwaters in China, in glaciers. And it is its northwestern, border areas that China has been most actively developing of late. The economy of the PRC's least-watered Xinjiang Uygur Autonomous Region (XUAR) demands more and more natural resources. The Irtysh and Ili rivers are already feeling the effects of the XUAR's rapid development - river levels are dropping. Glaciers due to global warming are melting fast, and the problems on the transboundary rivers will only increase [1].

Konstantin Syroezhkin, a renowned Chinese scholar, said Astana has a weak position in negotiations with Beijing on the water issue. "All the trump cards have been played and Kazakhstan has only to rely on the goodwill of the Chinese side", he said [3]. Indeed, it is difficult to argue with a country that has invested about $24-27 billion in your economy - the figures on China's investments in Kazakhstan were given by analysts in 2016.

The world is just beginning to realise that water is fast becoming important compared to oil and gas, and soon water may be seen as a full-fledged commodity. The quality of management and use of transboundary water resources should be improved in the Central Asian countries, and the equal participation of all actors in the region still deserves to be developed. It is important that all actions are carried out with the aim of achieving full cooperation by all states in the region and for the ecological and economic use of water resources. This should be an instrument of partnership and cooperation rather than a source of tension.

References

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