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ELENA DMITRIEVA. WATER RESOURCES OF CENTRAL ASIA: PROBLEMS AND SOLUTION // *The article was written for the bulletin "Russia and the Moslem World."*

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Abstract. The author considers the situation with water use in the republics of Central Asia, which developed in the post-Soviet period. The ways and means of solving problems related to water supply in the region are analyzed.

The shortage of fresh water is one of the global problems at the present time, since water is the main natural resource without which human activity is impossible. Arising from the increase in water consumption as a result of population growth, it leads not only to a decrease in living standards, but also to a slowdown in the economic growth rates of countries experiencing a shortage of water resources. There is an opinion among experts that water may become an even more significant strategic resource than oil and gas in the future, as well as one of the main objects of confrontation. Even today, the situation with water use in some regions of the world leads to conflicts.

All of the above applies to the former Central Asian republics of the USSR, and now to independent states – Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. Water supply problems, as well as the quality of fresh water, are so important today in the life of these countries that ignoring it can lead to a destabilization of the socio-economic and political situation in the region.

Control over water resources causes interstate conflicts, exacerbated by the fact that one of the parties has the ability to limit water supply. Limiting and stopping the supply of water or, conversely, dumping huge amounts of water from the reservoir, which will lead to humanitarian and natural disasters, is a way to put pressure on its opponent for one of the conflict's participants. Any means are used in the struggle for vital water resources, including radical religious and criminal groups, whose actions are aimed at undermining the situation in a certain country and thus gaining access to the "water tap." Therefore, the leadership of the countries of the region considers the issues of providing the population and the economy with fresh water as a component of the national security strategy in the conditions of water resources shortage.

Currently, there is a clear imbalance between water resources and human economic activity in the Central Asian region. Central Asia is one of the leaders in terms of losses and irrational use of water resources, as well as the degree of their pollution in the post-Soviet space. The water problem is characterized by extreme acuteness and specificity in the post-Soviet period for Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. The main sources of water are the Amudarya and Syrdarya rivers, which are the main water arteries in terms of the catchment and spillway areas in the region. The peculiarity of the formation of water resources in the region is that the main sources of fresh water are formed in the mountainous part of the region - in the territories of Kyrgyzstan and Tajikistan, and the flow is spent on the territories of the lowland states -

Uzbekistan, Turkmenistan and Kazakhstan. Kyrgyzstan and Tajikistan actually control the water resources and the schedule of water supply to the countries located in the lower reaches of the rivers. Kyrgyzstan and Tajikistan are actively using hydropower due to lack of energy resources. Therefore, in winter time there is a discharge of water volumes more than is necessary for Kazakhstan and Uzbekistan (even flooding occurs there and the ecological situation worsens); in summer, water discharge decreases, although the need for water at this time increases.

In Soviet times, the power systems were unified for all and the Republic in the upper reaches of the rivers could export electricity to the Republic in the lower reaches of the rivers during the winter and import it from there during the summer, when the water was used for agricultural purposes. The republics of Central Asia took a course to build a market economy and pursue an independent policy on water use after the collapse of the USSR and the declaration of independence, guided solely by national interests and not thinking about their coordination with the interests of neighboring countries and how they affect the water situation in the region as a whole.

As a result of this policy, conflicts have arisen over the distribution and use of water resources: if the hydropower plants of Kyrgyzstan and Tajikistan operate in the energy, not in the irrigation regime, the most intensive use of reservoirs occurs in winter, not in summer. The upstream republics receive an increase in the production of electricity, which they can use for export, and it turns out that the summer discharge of water for agricultural needs of neighboring republics located in the lower reaches of the rivers is not beneficial to them. Countries in the lower reaches of rivers, which use the resources of reservoirs especially intensively in summer, are beginning to experience water scarcity, which has a significant impact on the agricultural sector of their economy. They are in no hurry to compensate the water supply to the countries from which the water comes. Thus,

only their own plans for the use of water and energy resources come to the first place.

The legal status of using the waters of transboundary rivers has not yet been determined. There is no term "transboundary rivers" recognized in the international legal field in the texts of the internal laws of the Central Asian republics, as well as in bilateral and multilateral agreements, but such concepts as "water or water-energy resources" are used, which contradicts the provisions of international law and makes it impossible to refer on international law in resolving water disputes. As a result, unresolved issues of water use give rise to inter-state conflicts.

The situation with water use is currently aggravated for a number of reasons. The demographic load on water resources is increasing, as the Central Asian region is known for high population growth rates, and there is a constant shortage of food, so it is impossible to reduce agricultural production. Agriculture continues to develop not by an intensive, but by an extensive method of production in the lower reaches of the rivers, as a result of which water is spent much more on growing crops than is required when using modern technologies. Another reason for the aggravation of the situation is the climatic factor: dry years are increasingly observed in the region and as a result some areas are completely dehydrated. If climate warming predictions prove to be true further, then an increase in temperature and a decrease in precipitation are expected in Central Asia. Consequently, the resources of rivers will decrease significantly.

In addition to the above problems, a new factor related to water resources has emerged. This is the problem of pollution of water sources (underground and surface) as a result of human activity. This is the problem of pollution of water sources (underground and surface) as a result of human activity. The increase in the number and density of the population, the development of industry with simultaneous lagging behind the construction of treatment facilities, agricultural activities with the use of a large number of cheap and poor-quality fertilizers and

chemicals lead to severe environmental situations. There is an accumulation of excess amount of water contaminated with mineral salts, fertilizers and chemicals in irrigation facilities simultaneously with the processes of shallowing and pollution of the most important water sources - the Syr Darya and the Amu Darya. As a result of the deterioration of drainage systems, soil degradation is taking place, such as waterlogging and salinization. Biological sources of pollution, resulting from the increased demographic pressure on water resources and the lack of sufficient sewage and treatment facilities, are no less dangerous. Such sources of pollution can lead and periodically lead to outbreaks of epidemics of infectious diseases such as typhoid fever, cholera, and hepatitis.

What are the methods to solve the problem of using water resources in Central Asia?

The following solution is proposed - reducing the load on water resources, increasing freshwater resources, the transition to high-tech and hydro-conservation methods of water use. Many experts believe that the reason for water scarcity in the region is not the lack of water resources, but their inefficient and irrational use. According to various estimates, the loss of incoming water is from a quarter to half of its volume. But it is not only the loss of irrigation agriculture. In the upstream countries - Tajikistan and Kyrgyzstan - the poor condition of reservoirs, wells, canals and water intake structures lead to the loss of significant amounts of water. Thus, it requires constant repair and maintenance of all hydraulic structures. And in the downstream countries, it is necessary to move to the use of advanced technologies in agriculture, based on accurate calculation of irrigation needs, thereby reducing water losses and reducing its consumption in industry and agriculture. Restructuring of industrial production to reduce the share of water-intensive processes is necessary.

Another way to solve the problem is to increase water resources through the use of underground freshwater resources, desalination of salt water, as well as territorial, including transboundary redistribution of water resources and attraction of

external water resources. As for the attraction of external water resources, we should mention the periodically revived idea of turning the rivers of Siberia, which can lead to an even greater environmental disaster in another region (significant climate change, waterlogging, flooding of the territory of Western Siberia) and therefore should not be considered as an option to solve the problem. The two largest cotton producers in the region are Uzbekistan and Turkmenistan, which are currently the world's largest per capita consumers of water. Most of the water consumed by them goes literally into the sand and partly into branched irrigation systems, which are in poor condition, so half of the supplied water does not reach the fields. Artesian wells are another significant source of water replenishment. There are many small water-rich artesian basins in Central Asia, and their development could make a significant contribution to increasing the region's water resources.

It is necessary to bring order to the water use in the Central Asian region, effectively use the available considerable water resources to meet water needs. As a result, the prospect of resolving water conflicts depends on which way the Central Asian countries will choose to solve the water problem : extensive - within the framework of the current model of wasteful use of water resources or intensive - through the use of modern resource-saving technologies and improvement of water management methods.

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DMITRY YEFREMENKO. TRANSFORMATION OF THE MISSION OF THE SHANGHAI COOPERATION ORGANIZATION AND NEW POLITICAL DYNAMICS IN GREATER EURASIA // *The article was written for the bulletin "Russia and the Moslem World."*

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Abstract. The article examines the new tasks facing the Shanghai Cooperation Organization after India and Pakistan