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THE ROLE OF WATER RESOURCES IN ENVIRONMENTAL SECURITY IN CENTRAL ASIA

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Environmental security is an integral part of national security and is defined as the balanced coexistence of the natural environment and human economic activity, when the level of pressure on the natural environment does not exceed its ability to regenerate itself. The term "environmental security" itself began to be actively used in political discourse in the 1970s of the 20th century.

Environmental security quickly became a key issue in new research. Nevertheless, long before that time, many scholars had called for a redefinition of national security to include environmental protection. For example, in 1983, Princeton University professor R. Ullman proposed an expanded definition of national security to include both raw material shortages and natural disasters [1]. Environmental degradation may lead to military confrontation between Third World countries and the more industrialized world, resulting in increased competition for resources and the illegal migration of environmental refugees. Thus, R. Ullman is more concerned that the ecological threat of the South could entail serious problems for the North. It is this publication by Ullmann that is the tipping point for the emergence of modern ecological security.

In 1986, Oxford University professor Norman Myers argued for the inclusion of environmental problems within the framework of understanding security. He argued that environmental problems can lead to serious consequences like military conflicts: If a country's ecology is depleted, then the economy will gradually decline and the political situation will eventually become destabilized. The result is likely to be domestic unrest or conflicts with other countries [2]. Myers believes that food shortages, depleted fishery resources, water scarcity, climate change, and desertification can lead to conflict.

Environmental degradation is itself very detrimental to human security and all life on earth. Atmospheric and water pollution, desertification and soil erosion, etc., are the result of human impact and can have a dire effect on living conditions. In this regard, many definitions of environmental security have focused on the disposal and protection of the environment [3, p.195].

One part of environmental security is the issue of water regulation, transboundary rivers in particular. About 97 percent of the water on earth is saline and not suitable for drinking or agricultural purposes. The remaining 2.5 percent is fresh water [4], two-thirds of which is in glaciers and ice sheets. A limited amount of water remains to provide for consumptive and non-consumptive uses.

Water and climate expert Peter Gleick identifies four main quantitative indicators for measuring the possibility of water-related contradictions between states: the ratio of water supply demand, per capita availability, dependence on surface water imports, and hydroelectric dependence [5, pp. 99-104].

According to the World Resources Institute, per capita water availability is measured as annual per capita renewable water resources available for agricultural, industrial, and domestic use. [6]. In today's developed countries, per capita water availability should not be less than 1,000 cubic meters per year. In 1990, the figures for 18 countries were below this minimum and are considered to be water stressed countries [5, pp. 99-104]. Most of these countries are located in Africa and West Asia. Some of these countries (Algeria, Burundi, Kenya, and Rwanda) have gone through civil war and domestic unrest.

How exactly water is used is another indicator of the state's interests and preferences in solving water use issues. Worldwide, two-thirds of annual water consumption is used for agriculture [7]. Irrigated agriculture is a major component of the economies of developing countries. Thanks to the large expenditures on irrigation, Central Asia was the main supplier of cotton (90%), one third of fruits, one quarter of vegetables, and 40% of rice in the Soviet Union [8]. Turkmenistan and Uzbekistan were the main consumers of water, enabling increased cotton production.

The Canadian political scientist and ecologist Thomas Homer-Dixon made an important contribution to the study of the relationship between the environment and conflict. According to his judgment, there are three ways in which environmental problems can lead to conflict: demand-driven scarcity resulting from increased consumption due to population growth; supply-driven scarcity resulting from resource depletion or deterioration; and structural scarcity resulting from the misallocation of resources [9].

Environmental scarcity can cause controversy and ignite conflict between states. Most such conflicts, however, stem from non-renewable resources such as oil and gas. Nevertheless, threats arising from water scarcity, in particular, can also have the effect of igniting conflict between states. Due to the growing water problems caused by water scarcity, the expert community expected the emergence of water conflict in the region immediately after independence. Since, when water scarcity emerges, competition among countries increases, resulting in the availability and quality of water escalating into national security issues [5, p. 99-104].

Socio-economic factors such as population growth and economic development can exacerbate the situation and cause conflict. In general, conflicts over environmental resources are much more complex than traditional forms of conflict, since the link between resource scarcity or resource quality and conflict is often hidden under social, economic and political factors. The solution of environmental problems and scarcity requires significant costs, so developing states to ensure environmental security must also develop economically, which leads to a kind of zero-sum game. For example, if Uzbekistan reduces cotton production so that more water flows into the Aral Sea, it could lead to high unemployment and risk political and social instability.

Moreover, history shows that interstate agreements to share transboundary rivers are very rare among developing countries. In the Middle East, for example, there are not many interstate agreements on the Euphrates-Tigris, Yarmouk, and Jordan rivers. Whereas Europe has four river basins shared by four or more states, and there are far fewer conflicts there due to the 175 river management agreements signed. The only formal agreement signed in the Middle East is the 1959 agreement between Egypt and Sudan on the Nile River, which excludes the other eight of the ten states on the river. At the same time, research on the direct and indirect links between water and conflict shows that water disputes do not always lead to conflict. Shared water resources can also serve as a basis for effective cooperation.

A country's dependence on hydropower affects relations with neighboring countries. Water can be the only valuable resource in mountainous upstream countries such as Kyrgyzstan. Unlike countries downstream in Central Asia, which lack water but have other energy resources, Kyrgyzstan needs supplies of oil and gas. When Kyrgyzstan puts its hydroelectric plants into operation in winter, spring and summer, it is during irrigation needs that the flow of water to

Uzbekistan decreases. The upstream states perceive the possibility of building hydropower plants as a strengthening of their economy. Under such conditions, downstream states receive not only quantitatively less water, but also lower quality water [10, p. 33].

There is another expert assessment suggesting that the water problem and disputes over water use in Central Asia are mainly the result of distribution rather than a shortage of water supply. According to the World Bank, Central Asian states consume twice as much water as industrialized countries. Among the states in the region, relatively water-rich Tajikistan and Turkmenistan have more water than most European countries. Not a single Central Asian state is below the norm in terms of water indicator, which is 1000 m3 per capita. Uzbekistan, for example, consumes almost twice as much water as Spain, which is one of the main suppliers of agricultural products in Europe [11, p. 3]. Rather, the problem lies in the unstable development of agriculture and inefficient use of water, which has contributed to the accumulation of salts and pesticides in soils, which has aggravated the water allocation disputes.

The situation around water in Central Asia is very tense due to a number of factors. Water dependence includes such factors as resource scarcity, interdependence of agriculture, ecology and energy, as well as, until recently, strained political relations between individual states. This in turn shows that the region can be called a hydropolitical security complex, since without including water in the overall spectrum of security issues, it is difficult to adequately examine the overall security situation in Central Asia.

The main cause of disputes over international watercourses is most often the imprecise definition of property rights. The world community did not immediately come to a generally accepted formulation of the legal solution to the water settlement.

In legal discourse, there is no reason for disputes because all Central Asian states declare national sovereignty over all natural resources, which, in turn, extends to water within territorial boundaries [12, p. 42].

The institutional structure for water resources management required immediate reforms after the collapse of the USSR. The 2002 Diagnostic Report for the Preparation of a Regional Strategy for the National and Efficient Use of Energy and Water Resources of the UN SPECA Program notes that reforming national water management systems was quite painful in all countries of the region.

Today, regional cooperation includes both binding and recommendatory instruments. In addition to general regional agreements, there are a number of bilateral and trilateral agreements, most of which were signed in the 1990s. [13]. Eric Sievers, who assessed the legal framework of the water sector in the region, notes that there are more than three dozen bilateral, trilateral, quadripartite, regional and CIS agreements on the Syr Darya alone [14]. The first document in this area can be considered to be the statement adopted on October 12, 1991 by the Ministers of Water Resources of the five states of the region, according to which the water system in effect at that time will continue to operate until new international agreements are developed and adopted. The key regional agreement is the "Agreement on Cooperation in Joint Management of Interstate Water Resources Use and Protection" signed on February 18, 1992. Based on the agreement, an interstate coordination commission was established, with BWO "Amudarya" and BWO "Syrdarya" as executive bodies. ICWC meetings were to be held on a quarterly basis. Not much time passed between the statement and the actual signing of the agreement, which shows the political initiative and its implementation in a short time.

Despite the positive potential inherent in this agreement, some articles of the document have not been implemented at all. For example, Article 1 of the agreement proclaims the principle of equality in the use of water resources. However, Bishkek did not support this, declaring water resources formed on the territory of Kyrgyzstan as its property. The development of a mechanism of economic and other responsibility for violation of the established regime and limits of water use envisaged by Article 12 has also not been fulfilled. It is also noted that the agreement did not provide for mechanisms for its implementation, taking into account the interests of each party, especially the needs of downstream states in water and upstream states in fuel and energy resources

[15, p. 3]. This document does not note that the direct cause of the Aral Sea ecological disaster was irrational irrigation policy and cotton production, and states: "...joint coordination of actions ... will allow to mitigate and stabilize the environmental tensions that have arisen as a consequence of water resources depletion [16]. On March 26, 1993, the following important document in the sphere of water management was adopted in Kyzylorda. According to the agreement "On joint actions to solve the Aral Sea and Priaralie problems, environmental rehabilitation and ensuring socio-economic development of the Aral Sea region" [17], additional ICWC structures were established to implement comprehensive water management in light of the Aral Sea crisis: the Interstate Council on Aral Sea Problems, the Executive Committee of the ICAS, and the International Fund for Saving the Aral Sea. The Agreement prescribes "guaranteed water supply to the Aral Sea in amounts that allow maintaining its reduced but sustainable water area at an ecologically acceptable level and thus preserving the sea as a natural object" as a common task for the countries of the region [16, Art.1].

Later, on January 11, 1994, the "Program of Specific Actions for Improving the Environmental Situation in the Aral Sea Basin for the Next 3-5 Years, Taking into Account the Socio-Economic Development of the Region" was adopted in Nukus [18], which included the creation of the Aral Sea Basin Program (mostly funded by international donors) and approved the "Main Provisions of the Concept for Solving the Problems of the Aral, Priaralie and Aral Sea Basin". On 20 September 1995, the "Nukus Declaration of the CA states and international organizations on the problem of sustainable development in the Aral Sea basin" was signed, according to which previously signed and acting agreements, treaties and other normative acts regulating relations between the states on water resources in the Aral Sea basin are recognized and accepted for permanent implementation. In the adopted Nukus Declaration, the presidents of the five regional states reaffirmed their "commitments to full cooperation at the regional level on the basis of mutual respect, good neighbourliness and determination" on the water and energy problem in Central Asia. This was followed by the Bishkek Statement of the Heads of State of May 6, 1996, which for the first time recognized the need to "accelerate development of new water allocation strategy and economic management methods in water and energy use".

In February 1997 the states approved "Changes in structure and management of IFAS and management of ASBP", in which reorganization of structures on the Aral Sea formed in 1993 was indicated: merging of executive committees of IFAS and ASBP into IFAS. According to the provision, the states were obliged to make subsequent investments in American dollars for the formation of the fund starting from 1998: Kazakhstan, Turkmenistan, Uzbekistan 0.3% of the budget revenues, Tajikistan and Kyrgyzstan - 0.1%. Later in May of the same year the agreement "About status of IFAS and its organizations" was signed. The document declared ICWC to be an integral part of IFAS and entrusted the Executive Committee of IFAS with the responsibility to "assist in the activities" of ICWC. Nevertheless, ICWC partially retained its autonomy and continued to receive instructions directly from water ministries and political leaders of individual countries.

In 1998, the treaty "On cooperation in environmental protection and rational use of natural resources" was adopted, which stressed the necessity of establishing the Water and Energy Consortium in Central Asia.

In 2003, the Programme of Concrete Actions for Improving the Environmental and Socio-Economic Situation in the Aral Sea Basin for 2003-2010, which included "the development of agreed mechanisms for integrated water resource management in the Aral Sea Basin" among its priority activities, was approved with the participation of all the countries of the region. Problems of regional water reserve exploitation were again considered at the informal meeting of CA leaders in Astana in September 2006. Moreover, issues of "rational use of water and energy resources in Central Asian region" were raised in 2007 at the SCO Summit.

It should be emphasized that in September 2006 an informal Summit of Central Asian leaders was held in Astana, which again considered problems of regional water use. However, no practical decisions were made; the parties only once again proclaimed the necessity of coordinated solution of water use and consumption problems at the interstate level.

During the chairmanship of Kazakhstan in IFAS (2008-2013) the ASBP-3 was developed and approved, which includes 44 projects of socio-economic, environmental and humanitarian orientation.

For the first time such a Program was prepared in close cooperation with international donor and international organizations such as UNECE, EU, GIZ, World Bank, Eurasian Development Bank, USAID, UN Regional Center for Preventive Diplomacy for Central Asia, Swiss Agency for Development and Cooperation, etc.

In conclusion, the analysis of the problem of transboundary river management in Central Asia through the prism of national and regional approaches allows the following conclusions: water has always been a strategically important natural resource, which was due to the vital need for it in both economic and social development. The effectiveness of solving the issue of water use in transboundary rivers depends on an integrated approach, which should cover all spheres of activity within a river basin.

International water law has come a long way from the doctrine of absolute territorial sovereignty to that of shared interests. Today the principles of common water use are reflected in the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes, 1992 and the UN Convention on the Law of the Non-navigational Uses of International Watercourses, 1997. These documents have somewhat mitigated controversies between countries over the management of transboundary rivers, but they are more recommendatory and can serve as a common umbrella, but do not provide any practical binding recommendations on dispute resolution and therefore can not replace the UN Convention on the Law of the Non-navigational Uses of International Watercourses.

There are a number of documents regulating water relations between riparian countries in the region. However, the experience of the CA states has shown that the existence of interstate structures and a number of agreements is not an indicator of successful cooperation. At the regional level, there is a common information system and common approaches adopted by the countries on many issues, but this does not ensure favorable cooperation when there are political and economic differences. In solving water allocation issues, it is necessary to be guided not only by subjective interests, but also by general-local interests in a particular region.

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