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PROBLEMS OF SHARING TRANSBOUNDARY WATER RESOURCES IN CENTRAL ASIA

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Abstract

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The main water resources in Central Asia (CA) are the two major transboundary rivers of Syr Darya and Amu Darya. Efficient and sustainable management of water resources in CA remains highly important for economic, political and environmental cooperation between the Central Asian Republics (CARs). The territorial distribution status of shared waters from these rivers and increasing demand for water in both upstream and downstream countries lead to competition between water uses for hydropower generation and for irrigation contribute to serious consequences for the economies of CARs. The essence of the problems in sharing transboundary waters in CA is that the goals for water use in the region predominantly differ from one country to another. This contradiction is rooted in conflicting national interests of CARs' water consumption priorities. The key barriers hindering the espousal of effective measures aimed at integrated water management and energy compound in the region are political flaws in approaches among the republics to resolve water problems. This paper attempts to look at the issues of joint management of transboundary water resources by CA countries. It examines the contentious issues among the stakeholders and analyzes the existing legal cooperation and institutional structures that manage transboundary water related issues.

Keywords: Central Asia, Water resources, Water management, Transboundary rivers.

Jel Codes: Q2, Q3, Q4, Q5, P28.

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1. Introduction

The Central Asian republics (CARs) are united by common transboundary water resources of Amu Darya and Syr Darya rivers and their tributaries. The management of transboundary water resources and river basins in the region turned into a challenging task immediately after their independence. The collapse of the Soviet Union (SU) in 1991 also resulted in the collapse of the pre-existing system of sharing water resources. Since then, the issue of having stable access to transboundary water resources has become one of the important tasks for CA states. Moreover, these countries now often face the problem of limited water resources. Augmented demand for water due to the growing population and economy, as well as competition, increased risk of water linked conflicts. Water issues in the region are not only associated with the problem of water scarcity as such, but also with the complex political, geopolitical, economic, and social motives. These motives have become especially obvious since the end of the SU. Despite their theoretical compatibility, numerous disputes over the hydropower system of CA became source of tension between the republics. If irrigated agriculture in CA was a national priority within a country during the SU, then hydro-related issues were of secondary importance. After the breakup of the SU, the previous priorities remained only in Kazakhstan, Turkmenistan, and Uzbekistan, while in Tajikistan and Kyrgyzstan hydropower took most important place in the economy which changed the situation around the region's transboundary waters. This situation then resulted in an uneven distribution of water system, because the breakdown of the SU had radically changed pre-existing centrally controlled water system in the region.

With the collapse of the SU, the centrally controlled decision-making system was abolished and the republics were left to regulate transboundary water sharing among themselves. However, this was not an easy task for the republics, as their national interests determined the outcome of their decisions. Thus, the divergence of views among these states on how a resource that is scarce and vital at the same time should be used, immediately leads us directly to the political level. The transboundary water issue which is seen as a national concern among CA states has become the subject of power broker between republics. Any change in the volume and order of the flow of transboundary waters in CA threatens irreparable destruction and weakening not only of the ecological balance, but also of the significant political problems that can affect the distribution of water and can turn it into a significant source of potential tension.

The key barriers hindering the espousal of effective measures aimed at integrated water management and energy compound in the region are political flaws in approaches among the republics to solve water problems. Conspicuously, the interstate trade-off and mutual common ground are needed to mitigate the existing tensions around transboundary waters. The inter-state cooperation and collaboration is impeded by supremacy of national interests which lessen the potential for mutual understanding and actor's perception of transboundary water-related issues as a zero-sum game while they might have opportunity and potential for playing win-win game. On the other hand, the lack of clear and binding legislation regulating the use of hydro resources of transboundary waters also complicates the quest for mutually beneficial solutions. Intergovernmental treaties designed to regulate the share of water resources of transboundary rivers often obstructed by supremacy of national interests and therefore failed to eliminate the problems with the benefit of sharing transboundary water resources. Consequently, the development of mechanisms that take into account the interests of all CA republics in the sharing of water remains one of the priorities of the republics. Tajikistan and Kyrgyzstan are water-rich countries, located on the upper reaches of the Syr Darya and Amu Darya rivers and use the water mainly for hydropower production in winter. The downstream countries, Kazakhstan, Turkmenistan and Uzbekistan predominantly use water for crop irrigation in summer. This makes the distribution of water in the region a significant source of potential tensions.

When CARs gained their independence after the breakup of the erstwhile SU, the problem of sharing the transboundary water resources aggravated. The collapse of the old, centralized model of water management led to chaos. The main reason for the conflict in sharing transboundary waters stems from the differential goals and national interests of all the CARs. Some countries need water for agriculture while as hydropower generation is priority of others. Equitable and reasonable use of transboundary water resources in the CA region is not only marred by economic and environmental issues, but also by political issues. This study is divided into five sections to better understand the issues of transboundary water resources management in CA. The study attempts to offer a holistic overview of the problems that deter joint management of transboundary water resources in the region. It examines the contentious issues among the stakeholders and analyzes the existing legal cooperation and institutional structures that manage transboundary water related issues. The study also attempts to answer the following questions:

What is the essence of the problems in sharing transboundary waters in Central Asia? Why has the sharing of the transboundary water resources become complicated after the disintegration of the erstwhile Soviet Union? What are the conflicting national interests of CARs' water consumption priorities? Why do the goals for water use in Central Asia differ from one country to another? How relevant are the institutional structures established to administer the transboundary water related problems?

2. Water Share Challenges in Central Asia

Water scarcity is a worldwide issue, but it is essentially critical in CA. The situation is worsened not only by the effects of global climate change, but also by the acute overuse of the available water resources. Furthermore, water resources in the region are unevenly delivered and used for different purposes in different republics that complicates further the issues with the rational use of the water resources in the region.

The countries in the region can be divided into two groups according to the peculiarities of their location in the Amu Darya and Syr Darya river basins. The first group includes Tajikistan and Kyrgyzstan, the water-rich countries that are located in the upper reaches of the two main rivers, the Syr Darya and Amu Darya. They use water predominantly for hydropower production in winter. The second group includes the downstream countries Kazakhstan, Uzbekistan and Turkmenistan. These countries mainly use water for crop irrigation in summer. Kyrgyzstan and Tajikistan which are the upper reaches countries have abundant water resources but suffer from a shortage of hydrocarbon energy resources. On the contrary, Kazakhstan, Uzbekistan and Turkmenistan which are the downstream countries possess large reserves of hydrocarbons, but insufficient water resources. There is a vicious circle: the hydro energy primacies of the upper riparian countries contradict with the agrarian interests of the lower riparian countries. The first group needs electricity to answer social and economic issues, and the second group needs water for the development of irrigated agriculture (Zhiltsov & Zonn, 2008: 230).

Figure 1
The Central Asia Water Resources
Source: Soliev & Theesfeld, 2020: 67.

Given the fact that transboundary waters are shared between different states, optimizing the operation of river systems whose use is simultaneously claimed by two sectors of the economy (energy and irrigation), seems to be an intractable task. Because these two sectors require different regimes of water flow regulation. Hydropower projects require storing water in summer and using in winter, while irrigation, on the contrary, requires storing water in winter and using it in summer. The uneven distribution of water resources is evident, and they are becoming increasingly scarce. As a result of this, interstate confrontations are intensifying. Naturally, the "*front line*" in this matter runs between water-rich upstream countries and water-deficient downstream countries. In addition to the challenges mentioned above, the provision of CA with water resources as of today is negatively affected by four more main factors: (a) the rapid population growth, (b) the climate change, (c) the environmental pollution and (d) the lack of coordination between the countries of the region. The growth of the population and subsequent high demand for water in conditions of its shortage accelerates the potential for conflict between the bordering countries, thereby increasing the fierce competition between the states in the region. It is predicted that the amount of water in the region will decrease by 33 percent, however the demand of water for irrigation would increase by 30-40 percent in the next decade (Kazakhstanskaya Pravda, 2019). Furthermore, taking into account climate change and global warming, the likely assessment of the CA's water resources shows that none of the

climate scenarios assume an increase in the available water resources of the region. The available statistics indicate that by 2050 the volume of river flow in the Amu Darya basin will decline by 10-15 percent and in the Syr Darya basin by 6-10 percent (UNEP & WWF, 2006).

One of the major impediments in resolving the issue of transboundary waters in CA is the transition from the centralized model to integrated water resources management (Janusz-Pawletta & Gubaidullina, 2015: 215). Over the past thirty years CA has witnessed the grave consequences of the decentralization of systems that were originally created as integrated and complementary. This was a single energy network, not only in CA, but throughout the USSR, and a system of controlled river flows. In the past the water system was organized in such a way that, due to the cascades of hydroelectric power stations, additional volumes of water could be released in the valley during summer. In winter when the upper riparian countries, Tajikistan and Kyrgyzstan needed energy, they transferred electricity from lower riparian countries to save water for spring irrigation (Goncharenko & Guseinov, 2010: 68). With the collapse of the SU the system not only crumbled, but also caused imbalances in the distribution of water resources and gave rise to the political competition for water and conflict of interests adding tension to what continues to be a complicated political topic. The Central Asian Power System (CAPS) was established by the erstwhile USSR in the 1960s and enhanced in 1970s.The system comprised of mainly 30 percent hydro power plants (HPP) of CA upper riparian countries and 70 percent thermal power plants (TPP) of lower riparian countries (Shamsiev, 2009; Aminjonov, 2018). CAPS ensured energy supply through a jointly operated regional generation and transmission network. It created efficient coordination across all of CA's diversified energy resources. The Integrated Regional Dispatch Center was called *Energia*. It controlled the electric power supply operations of the CAPS from Tashkent. Although *Energia* was physically isolated from the Russian electricity grids, it was part of the Unified Energy System of the USSR. After the collapse of the SU, the CAPS began operating on its own. So it became known as the CA electricity ring. This collective institution connected 83 power units in Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, and continued to be administered by *Energia*. 51 percent of total CAPS electricity was generated in Uzbekistan. The rest was generated in Kyrgyzstan, Kazakhstan, Tajikistan and Turkmenistan (ADB, 2000: 11). After they declared independence, the CA governments started pursuing independent, and isolationist energy policies. In 2003 Turkmenistan left the CAPS. In October 2009 Kazakhstan left the system and in the November of the same year Uzbekistan ended its participation in the

system. Uzbekistan's withdrawal from the CAPS collapsed the whole system (Aminjonov, 2018).

On the one hand independence brought new opportunities for progress and cooperation, on the other, it undermined the economies of the republics in the region. They quickly moved away from the centrally managed economy, and though they all became independent, their political structures, ambitions and ideals varied. There was no country in the region with sufficient resources to exercise leadership, and the authoritarian regimes of the five republics were unable to form an effective supranational body to resolve the water and energy crisis. This would require the delegation of some sovereign power and it would also deprive the regimes of an influential resource in domestic politics. In both Uzbekistan and Tajikistan, an uncompromising solution of the water issue remains practically a national idea. In addition, Uzbekistan has ambitions for the position of a regional leadership which are equally prevented by the "*water hegemons*" and Kazakhstan. The Kazakh economy is much less dependent on agriculture in comparison with the Uzbek economy. Moreover, the country has additional water resources - the Irtysh River flows through its territory. However, a significant amount (44%) Kazakhstan's fresh water comes from neighbouring states. Therefore, the issue of sharing transboundary water resources is also extremely important for Kazakhstan. Turkmenistan has significant revenues from hydrocarbon exports, has the smallest population in the region and comparatively to a certain extent is less dependent on flow regulation, but still continue with the actual withdrawal of a large amount of water from the river through the Kara Kum Canal.

Today the issue of using water resources of the Syr Darya River is one of the most problematic for the states in the region. Even though after the dissolution of USSR the countries in the region agreed to keep in force the rules for regulating the water resources of the river, the old management mechanism did not work in the new conditions. It was quickly discovered that the treaties and agreements drawn up in the era of former USSR did not correspond to the policy of the countries located in the upper reaches of the transboundary rivers. At the same time, sharp contradictions arose over the use and operational mode of the Toktogul reservoir which is included in the Syr Darya basin (Kuzmina, 2007). It can be stated that in the Soviet time the flow of the Syr Darya together with the reservoirs of the Naryn waterfall were primarily regulated by the Toktogul reservoir. These waters were mainly used to irrigate in Kazakhstan and Uzbekistan. But soon in 1993 the regime of the Toktokgul reservoir in Kyrgyzstan had changed and it became a stumbling block between Kyrgyzstan and the downstream countries. Due to the decrease in the amount of fuel and energy from Kazakhstan and Uzbekistan to meet

the increased demand in the region, Kyrgyzstan has switched to the energy regime of operating the Toktogul hydroelectric complex, which has changed the situation in the supply of water to consumers in the Syr Darya Basin (Sidorova, 2008). In 2002, due to the situation around the Syr Darya, relations between Kyrgyzstan and Uzbekistan were considered as the tensest in the region.

Kyrgyzstan consumes more electric energy in winter and consequently the Toktogul cascade of Hydroelectric Power Plants (HPP), release an increased amount of water, as a result of which the Fergana Valley is often subjected to flooding during the peak season and plagued by drought in the lean season. In summers, on the contrary, less water is discharged and there is a shortage of water for irrigation. To resolve this problem, it was once proposed in Kyrgyzstan to build two more hydroelectric power plants (near the Kambarata HPP), which would supply the inhabitants of Kazakhstan and Uzbekistan with water in the summer, and the inhabitants of Kyrgyzstan with electricity in the winter (Hurramov, 2015: 102). But here it is worth mentioning the Kazakh-Kyrgyz contradictions on water sharing. Some representatives in the government of Kazakhstan called for 'all possible efforts to prevent the construction of the Kambarata hydroelectric power station on the territory of Kyrgyzstan', the commissioning of which 'will inevitably disturb the delicate balance in the electricity and water supply of the entire region' (Mukhametzyanov, 2006). Downstream countries Kazakhstan and Uzbekistan do not want to be dependent on electricity and water from Kyrgyzstan. Therefore, they are actively developing ideas for the construction of their own reservoirs. However, in this case Kyrgyzstan wouldn't find any buyers for selling its reserve electricity, which can trigger a number of other disputes.

At the same time, the situation around Amu Darya River is not better. One of the serious water conflicts unfolding in the region has been the question of the Rogun hydroelectric power project (Tanrısever & Burak, 2022). In the absence of clearly defined rules for water regulation in Amu Darya basin, the Republic of Tajikistan has been actively implementing plans to increase its water and energy potential in recent years. Among the priority projects has been the construction the Rogun hydroelectric dam. This hydroelectric power station is a strategic priority in solving a whole range of socio-economic problems in Tajikistan. Also, it will allow Tajikistan which does not have reserves of oil, gas and other resources, not only to cover its domestic needs for electricity, but also to supply it for export to neighbouring countries. The implementation of this project, aimed at the priority exploitation of the water and energy

potential of the Amu Darya hydro resources. The project arouses fears and discontent that it will disrupt the water balance and lead to drought in the downstream countries, creating condition for the deterioration of interstate relations (Gusev, 2013: 35). The Uzbek side accused the Tajik authorities of trying to build a particularly high dam that would "intercept" all the water and establish control over the water supply to Uzbekistan. They also claimed that regulating the flow of water would give Dushanbe an opportunity to exert political pressure on the neighbouring country. (Hashimova, 2021). In turn, the Tajik side often accused Uzbekistan of interfering with the development of Tajik hydropower and periodically cutting off gas supplies and arranging a transport blockade (Putz, 2017). In this manner, each party blamed the other side for generating disintegration instead of convergence.

During the presidency of Islam Karimov, Uzbekistan strongly opposed the construction of the Rogun HPP, considering it dangerous for its economy, since it is built on the Vakhsh River which flows from Tajikistan to Uzbekistan. In 2010, Karimov stated that "Uzbekistan cannot wait eight years for water from Tajikistan to fill the reservoir of the Rogun HPP." He also demanded that Tajikistan not be allowed "to reduce the amount of water in the Amu Darya by even one gram" (Altynbaev, 2010). Karimov also openly opposed a similar project in Kyrgyzstan - the Kambarata HPP (Kobil, 2016). After Shavkat Mirziyoyev became president, the position of the Uzbek side in relation to the project has significantly changed for the better. Uzbekistan now considers the option of participating in the construction and (co)management of the Rogun HPP. In Dushanbe, this statement was regarded as Tashkent's consent to the construction of Rogun (Panfilova, 2018). Although there is no tough opposition from Uzbekistan, Tashkent still has reservations, which means that the completion of this hydroelectric power station is a subject for further negotiations (Putz, 2018).

The construction of the Rogun project resumed in November 2016, two months after Karimov died. The Rogun project is being built in two stages The first stage involved the construction of the dam with the installation of two power generation turbines each having a capacity of 600MW (News Central Asia, 2018). The first of the six planned generating units of the facility commenced operation in November 2019. The construction of the second unit commenced in September 2020. The second stage involves construction of the 335-meter-high main dam and installation of the remaining units, commenced in July 2022. The Rogun project is planned to be in full operational capacity by 2028. It will have six power generation turbines that will generate electricity of 3600 MW. This much power generation is equivalent to the power of three average nuclear power reactors put together (Hasimova, 2021).

Currently Tashkent seems to be pursuing the issue of water earnestly in the region. Mirziyoyev's good neighbor initiative enables Uzbekistan's genuine concerns about upstream projects of Tajikistan and Kyrgyzstan to be heard and considered seriously (Putz, 2017). Downstream countries are often anxious about any constructions by upper riparian countries on the trans-boundary rivers. So, regardless of the leadership or the status of the bilateral relationship with Tajikistan, Uzbekistan will always have serious concerns about dams on the Vakhsh River. The Rogun dam has always been a sensitive topic between Uzbekistan and Tajikistan. Mirziyoyev's Tajikistan visit in June 2021 suggests that despite cordial bilateral relations, opposition against the construction of Rogun project still remains entrenched in Tashkent (Hashimova, 2021).

An interesting fact is that initially the activities of the upstream countries directed at the construction of new hydro-power facilities and the transfer of reservoirs from irrigation to an energy regime was caused by the energy rich downstream countries Uzbekistan, Kazakhstan and Turkmenistan. Because they started to sell gas, fuel oil and electricity to the Kyrgyz and Tajik sides at market prices and thus abandoned the previously existing barter system. Consequently, the releases of water from reservoirs by Kyrgyzstan and Tajikistan during the autumn-winter period in order to generate the lack of electricity caused a significant change in the volume and regime of transboundary water flows, subsequent winter floods and a lack of water during the irrigational season (Borisova, 2012: 144).

Another point of sticking around Amu Darya River is the construction of the artificial Altyn Asyr Lake in Kara-Kum Desert (Turkmenportal, 2019) by Turkmenistan which aims at a massive diversion of the Amur Darya waters. This causes disputes between Uzbekistan and Turkmenistan, since Uzbekistan depends on the water of Amu Darya that flows through Turkmenistan to Uzbekistan. However, despite the objections of Uzbekistan, Turkmenistan continues with the Altyn Asyr project, investing billions of dollars in the actual withdrawal of water from the Amu Darya River basin (Zonn & Kostianoy, 2014). Part of the water flowing into Lake Altyn Asyr comes from the Ozerny collector, which currently supplies the Lake Sarykamysh, also located on Uzbek territory. If the fate of Aral Sea is repeated in Sarykamysh, because the Turkmen side takes this water for its own needs, this will inevitably lead to conflicts with neighbouring Uzbekistan. The development of fruitful cooperation on interaction along the transboundary Rivers of CA is often stalled by dissimilarities in the traditions, management structures and national interests of the republics on the principle of water use.

3. Interstate Legal Collaboration in CA and International Legal Framework on Transboundary Water Management

The CARs have clearly defined their attitude towards the implementation of international legal framework regarding the issue of transboundary water resources. They have stayed more focused on the achievement of bilateral agreements or regional agreements. According to the UN Convention on the Law of Non-Navigational Uses of Water Resources adopted in 1997, upper reach countries are not allowed to sell water, they can only trade in water related services such as water abstraction and water supply. The authorities in Tajikistan and Kyrgyzstan consider these conditions unacceptable. Therefore, they did not sign the Convention. Signing the convention would impose huge costs for the maintenance and renovation of hydropower plants, which are mainly needed to meet the agricultural needs of their neighbours. They believe they have the right to build new hydro-electricity projects whose main purpose will be to generate electricity for their own use and export. In turn, Uzbekistan believes that construction on transboundary Rivers requires a preliminary agreement of all countries in the region, and systematically requires participation in all negotiations. It sees any interference from third countries as absolutely unacceptable.

Often, instead of conducting a constructive dialogue and reaching agreements, some countries tend to turn to international legislation and experience, highlighting acts and regulations that are "*beneficial*" to them. For example, Kyrgyzstan pays special attention to the 3rd principle of the Dublin Act regarding Water and Sustainable Development (1992) which refers to the water's economic value. Thus in 2001 Kyrgyzstan adopted a resolution to levy a tariff on its neighbours for the water they consumed from the transboundary rivers. (Kyrgyzstan Ministry of Justice, 2001). This document has only led to the increased confrontation in the region. In particular, it was opposed by Kazakhstan and Uzbekistan. The Downstream countries appeal to the fundamental norm of international water law - the principle of reasonable and equitable use of the waters of an international watercourse and "*equal access*" to water resources, according to which transboundary waters are a common resource and, therefore free of charge (UN Convention 1997; UN/EC Helsinki Convention 1992). Tajikistan which has not acceded to the Helsinki and New York Conventions, not only disputes the very concept of transboundary rivers, but also expresses its intention to amend international law (Kazakhstanskaya Pravda, 2019; Ziganshina, 2009: 103-105).

At the moment, in CA legal basis for interstate collaboration, management of shared water resources, though far from being perfect, has been established. From a legal point of view,

it comprises both obligatory instruments and numerous agreements and documents of a recommendatory nature that are commonly referred to as "*soft law*" tools. The existing international regulation system of transboundary water cooperation is two-tier. In addition, regional agreements of a more general nature, there are a number of bilateral agreements on practical issues relating to specific waterways or areas of interaction (Ibatullin, 2011).

Studying various interstate agreements signed by the republics, it cannot be said that the republics did not make any attempts to resolve the transboundary water issues through interstate dialog. The first step towards this was made following the results of the Tashkent conference on October 1991. And in February 1992, five republics signed the Almaty Agreement on Cooperation in the Joint Management, Use and Protection of Water Resources of Interstate Sources which remains to be an important regional legal document of a general nature. With this agreement, the parties recognized the common affiliation and unity of the region's water resources. Also access to equal rights; accountability for appropriate provision and rational use, are rooted in the agreement. The parties also agreed to create conditions for strict adherence to the agreed procedure and established rules for the exploitation and protection of water reserves. Among the many agreements, it is worth to noting the 1998 agreement reached between Kazakhstan, Kyrgyzstan and Uzbekistan (Tajikistan joined in 1999) regarding the share of energy and water resources of the Syr Darya Basin. The potential for conflict was especially high here because Kyrgyzstan has the capacity to control most of the flow of the Naryn, and hence the Syrdarya River. By signing the agreement, Kyrgyzstan pledged to release most of the water in the summer, while the downstream republics pledged to supply Kyrgyzstan with electricity in the winter. It was assumed that the exact amount of resources would be determined annually through negotiations (UNDP, 2011; Eschment, 2010: 8). In fact, this agreement could go through the win-win situation for all states, but countries had the desire towards zero-sum tendencies. Unfortunately, the parties to this agreement have never really followed it. As a result, serious difficulties constantly arise in its implementation. So, it is considered to be ineffective. New attempts to solve the problem have not yet been completed with success. Between 1992 and 2007, about 150 interstate agreements on water issues were signed and new institutions were also created to regulate water issues. But signed contracts are usually not respected, the established institutions do not work, the decisions taken are not implemented. These agreements had one significant drawback: the responsibilities of the parties, compensation for damage and an algorithm of actions in case of any party violates the terms of

the agreement were not clearly stated, and all its participants periodically neglected this (Sehring, 2007).

Despite the above-mentioned agreements, Tajikistan and Kyrgyzstan with the support of the International Organisations involved in the issue of water sharing in the region, began to insist on payment for their services for the accumulation and supply of water from upstream states, realizing the fact that their main resource both in interstate disputes and in life is water. They argue that water is also a commodity, and it should be paid for, but the downstream states hold the view that water is a common good and property, access to which cannot be restricted. At the same time, the upstream countries raised the issue of revising water quotas in their favour. All parties eventually formulated their own prescriptions, but this did not lead to an agreement, because each side's plan was based on their own logic of argumentations. (Borisova & Panarin, 2012). Thus, the absence of a common developed policy on transboundary water issues and the gradual abandonment of the old model increasingly confused the tangle of contradictions.

The agreement signed between the upstream and downstream republics of Kazakhstan and Kyrgyzstan in 2000 regarding the use of the transboundary waters of the Chu and Talas rivers, has become the only comparatively successful case of effective regulation of transboundary water resources in CA (Astana Agreement, 2000). The main emphasis in the agreement was made on the joint maintenance and repair of water infrastructure on these rivers. Kazakhstan has committed itself to co-financing of the repair and maintenance of a number of canals, dams and reservoirs owned by Kyrgyzstan as part of the overall water distribution system serving both countries. The agreement was successfully implemented. Thus the Multiparty Commission on (co)Managing Chu and Talas Rivers with the support of the UN Economic Commission for Europe and the OSCE approved two principles: (a) the schedule and volumes of water usage for both countries are regulated according to the norms of the Soviet era; (b) the state located at lower riparian - Kazakhstan is obliged to compensate the upper riparian country- Kyrgyzstan a part of the cost for maintaining the water infrastructure proportional to the volume of water withdrawn from Chu and Talas Rivers. (Astana Agreement 2000; Reznikova vd., 2022). However, attempts to achieve similar agreement in a more strained dialogue between Uzbekistan and Tajikistan have yielded little results.

4. Institutional Structures of Managing Transboundary Waters in Central Asia

Equitably and sustainably managing shared water resources needs organizations that can provide a holistic approach to the transboundary water related problems and effective methods

of solving it as well as helping to promote cooperation in shared river basins. As experience shows, despite the existing problems, in the joint use of transboundary river basins, conflicts, as a rule, also give way to cooperation. In this regard, the first international regional institution created in February 1992 was the Interstate Commission for Water Coordination (ICWC) armed with the main tasks of controlling the regulation, sensible use of transboundary waters; developing a general policy to manage regional water resources as well as determining and approving yearly water use limits for each state (Ziganshina, 2009).

During the 1991 Tashkent meeting held for the purpose of avoiding the emergence of conflicts and substantial obstacles in the management of transboundary water resources. The statement about recognition of equal rights and obligation of states for safeguarding the use of water resources rationally was adopted by the five states' ministers. They also emphasized the importance of joint actions for coordination and management of transboundary water problems. Moreover, the 1992 Almaty Agreement actually encompassed the foundation of the ICWC as a united body which was formally regulating operational distribution of the two main rivers waters under the 1992 agreement. ICWC's members are the five republics' relevant national ministries or departments dealing with water related issues whose representatives meet several times a year for determining the exact allocation of water, that is, converting the overall quota into an exact amount of water volumes based on water flow measurements and weather forecasts (The 1992 Almaty Agreement).

ICWC meetings are chaired by the participating countries on a rotating basis. The executive bodies of the ICWC are the Secretariat in Khujand (Tajikistan), the scientific information center in Tashkent and two basin water associations (BWO) that were created by the Soviet government. The headquarters of the BWO for Syrdarya is located in Tashkent and the BWO for Amudarya is in Urgench (Uzbekistan). In the last 10 years, certain successes have been achieved in resolving interstate water questions under the guidance of ICWC. However, the ICWC decisions are not always implemented, especially in the area of economic sectors that are not subordinate to agricultural and water management bodies. A significant role in this is played by the reduction of the status of the Commission members: ICWC members from countries are no longer the ministers of water management departments of the states as it was before, but their deputies who are not members of the Government (Yalcin & Mollinga, 2007).

International Fund for Saving the Aral Sea (IFAS) was formed on 23 March 1993. The ICWC with its subdivisions were unified with the IFAS to coordinate water resources use and

address the problems and improve the condition in the Aral Sea region. IFAS received observer status at the UN as an international organization. This institution has a special position and for example, is a privileged partner for the EU. By the efforts of this institutional structure, dialogue and mutual understanding among CA states is maintained. Corporation of states and their interaction with several donors and international organizations are developing. Over the years, IFAS and its sub-organizations have become a platform for the negotiation process between parties and the development of bilateral and multilateral documents (Ibatullin, 2011). But on the other hand, within this organization there are also typical problems that hinder regional cooperation on transboundary water related issues such as mutual distrust, lack of transparency, lack of political will for cooperation manifested in insufficient funding, unwillingness to compromise, but above all political inequality of the member states. In addition, there is a specific set of problems as exemplified by the one-sided focus on irrigation, while energy needs are taken into account insufficiently.

Mechanisms for the implementation, control and application of sanctions recognized and the necessary power of the supervisory authority are also missing. All these factors make violations of treaties downright inevitable, and a vicious circle of problems arises that seriously hampering regional cooperation (Eschment, 2010: 10). These problems are compounded by impeded actions of certain member states. For instance, in 2016 Kyrgyzstan announced its refusal to join in the activities of the IFAS because it "*does not take into account the hydropower aspects of water use and the needs of individual CA states*" (Ivanov-Vayskopf, 2018). And this is understandable, because Kyrgyzstan, Tajikistan and Turkmenistan have "only indirect" relations to what was formerly called the Aral Sea. And until now, the position of Kyrgyzstan has not changed, except for the presence at IFAS summits as an observer. At the same time, no information has yet appeared that Kyrgyzstan will regain its membership in IFAS. Furthermore, IFAS is suffering from funding shortfall, and it is far from a fact that international organizations and UN institutions will begin to actively finance its activities. In practice, it has been proved that there were too many disagreements between member states, and it turned out to be easier to create an institution rather than organizing its activities efficiently.

Additionally, there have been attempts to establish National Water Councils as platforms for coordinating the activities of various ministries, departments and other establishments on water issues at the national level. However, ensuring that all stakeholders are truly represented and that the councils are working on a regular basis is not an easy task. For example, the National Water Council in Kyrgyzstan (founded in 2003) ceased to function in

2009 and only resumed its work in February 2013. In Kazakhstan, several basin councils were established, and it has been confirmed that some of them are working effectively. In Kyrgyzstan, only two basin councils were officially established - for the Talas and Kugart river basins, but they still do not function on a regular basis (GWP, 2014: 39). Demands for the creation of new institutions are also often heard, but in reality, this is unlikely to help: it would make much more sense to have more serious political and financial support for the already existing institutions and their empowerments.

The CA Regional Economic Cooperation (CAREC)'s regional initiative in CA introduced agriculture and water as novel verticals in its strategic framework in 2017 (ADB, 2017). CAREC aims to achieve sustainable and efficient water management in the region besides promoting dialogue on water issues. It works to depoliticize regional water discussions. The strategic framework offers a complementary approach for the promotion of development through collaboration. It promotes a multi stakeholder dialogue at both national as well as regional levels. It also promotes innovative approaches in CA (ADB, 2021; Meyer vd., 2019). It highlights the critical role of regional cooperation in ensuring water, agricultural and energy security in CA. The formation of regional commitment is dependent on the complete appreciation of the benefits of CAREC initiatives by all the stakeholders. The commitment of member governments to fully integrate regional cooperation into their development strategies remains to be an important challenge for CAREC initiatives. These initiatives have so far not made much headway in overcoming key political hurdles, particularly the reluctance of states to cooperate. A large share of funds is allocated for technical solutions like the repair and replacement of inefficient irrigation facilities. The fund allocation for the resolution of the political impediments is meager. Hence in the absence of political solutions, technical solutions would have a limited impact.

For a conflict-free neighbourhood it is necessary to ameliorate the legal and institutional framework in order to provide better cooperation on related issues. To mitigate the opposition to modern challenges and strengthen international partnership, it is necessary to improve the organizational structures at both the regional and river basin level. According to Vinokurov (2007), the optimal solution should include several components. The availability of financial resources must be complemented by the existence of political mechanisms for cooperation. To answer these problems, it is especially important to establish a constructive dialogue between the countries of the region. Particular attention should be paid to developing awareness and

understanding among key stakeholders of the principles and instruments of International Water Law as a basis for regional cooperation, as well as strengthening and further exploring the role of cooperation instruments. On the other hand, mitigation can be achieved only through negotiations in which the main goal is to find compromises.

5. Conclusion

It can be argued that today the problem of joint use of transboundary water resources in CA is extremely important topic. High hydrological interdependence between the countries in CA is categorized not only by a large number of stakeholders, but also by the uneven delivery of available water resources. Interests and different approaches of the involved states, weak political dialog and water needs of each country determine the complexity of the water problem in the region. In addition, the initiatives of one of the parties in the transboundary water resources use are often perceived by other parties as attempts to exert pressure or consolidate an advantageous position in relation to specific water resources. CA republics have managed to resolve some of the issues with sharing transboundary water resources in the region, however they have still not been able to achieve the desired results and launch truly working mechanism for equitable and sustainable management of region's transboundary water resources. Lack of clear and binding legal framework for regulating the share of hydro resources of transboundary rivers and inefficiency of institutional structures makes it difficult to devise jointly beneficial solutions. The national legislation of these countries on water resources is also one-sided, taking into account only the interests of the national state. Furthermore, it is already becoming commonplace when the republics once again declare the need for an agreed solution at the interstate level, look at the use of water reserves differently. The problem is that competing national plans of the upstream and downstream states could become a source of serious conflicts in the future, leading to the exacerbation of existing problems and thereby obstructing regional cooperation.

The CA states have reached a certain level in expanding cooperation on: (a) establishing a regulatory and legal framework, (b) creating an institutional mechanism for interaction between states and (c) implementing international programs to improve the situation. Nonetheless, there are a number of issues that continue to obstruct the development of cooperation in this field. Therefore, today all CA countries should realize that no national plans drawn up outside the framework of a general regional strategy for the joint exploitation of transboundary water resources could be implemented without negative economic, social, and

environmental consequences for other states of the river basins. It is quite obvious, and the existing experience shows that economic and technical cooperation is absolutely mutually beneficial to all countries in the region. However, the main difficulty is the lack of political will. The mechanisms of confidence in using water resources rationally and compliance with water abstraction norms are absent. Also, the plans of the upstream countries-Tajikistan and Kyrgyzstan- to build high dams to address their socio-economic issues is problematic as well.

In order to effectively integrate local strategies into the regional scenario for sustainable development, it is essential to enhance the role of political negotiations, improve interstate agreements, and strengthen support for interstate basin organizations based on polycentric governance principles. No institutional structure alone can come up with proposals to "*unlock*" the benefits of cross-border cooperation. Adequate financing of transboundary water resources management should be ensured, and public access to information that neighbouring countries need to be able to assess the degree of ineffectiveness of unilateral programs should be created. It is vital to recall that managing transboundary water resources can become a force for unification or conflict. Thus, the CARs themselves will have to determine the priority in this regard.

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