HYDROPOWER POTENTIAL: REGIONAL POLITICS

PROBLEMS OF THE JOINT USE OF TRANSBOUNDARY WATER RESOURCES IN CENTRAL ASIA

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The joint use of water resources has been urgent problem in Central Asia for many years now. And although during the fifteen years of their independence, the region's countries managed to avoid large-scale water conflicts, the debates still going on about the changes in the conditions regarding use of the Syr Darya and Amu Darya transboundary rivers are creating an atmosphere of looming uncertainty and arousing justified worries about the region's future.

Water and Peace

At different stages in its evolution, mankind has constantly come up, in one way or another, against the problem of water shortage. One hundred and forty-five states of the world share so-called transboundary water basins with neighboring countries, and twenty-one states are located entirely on the territory of international basins.[1] Having to share water resources, particularly if they are limited, often leads to tension in interstate relations.

[1] See: M.A. Giordano, A.T. Wolf, "Sharing Waters: Post-Rio International Transboundary Water Management," *Natural Resources Forum*, Vol. 27, No. 2. Publication of the U.N. Public Information Department, November 2004.

The problem of the joint use of transboundary rivers as such gained momentum in the 20th century, when reservoirs, diversion canals, and other water-development works began being built on a global scale. As of today, most of these water-development structures have been built on 300 major rivers running through the territory of two or more countries. This has aroused the concern of the countries downstream, since these facilities have entailed a decrease in the amount of water reaching these countries or the sea, and have also had an impact on the state of the ecosystems along the entire river bed. Some of the largest environmental disasters were related to states' refusal to cooperate in cross-border water issues or because such cooperation came too late. A graphic case in point is Lake Chad. Its area today is only 10 percent of what it was 40 years ago.[2]

For a long time, countries have been trying to settle water disputes by diplomatic means. The legal conditions relating to cross-border water resources are regulated by international conventions and treaties that apply to the signatory states or to the countries that have joined them. There are two international conventions that regulate interstate relations with respect to the use of cross-border water resources—the Convention on Environmental Impact Assessment in a Transboundary Context (1991) and the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (1992). These documents are of immense international and political importance, but they are only recommendatory in nature and primarily touch on environmental problems. The mentioned Conventions say very little about the actual problems of river water management and do not envisage a mechanism for settling international disputes.

One of the main international agreements in effect on the use of transboundary water resources is the Rules on the Uses of the Waters of International Rivers adopted in 1966 in Helsinki by the International Law Association. The Helsinki Rules contain a set of regulations, both general and special, and, what is particularly important, they introduce the concept of "international drainage basin," which implies "a geographical area extending over two or more States determined by the watershed limits of the system of waters, including surface and underground waters, flowing into a common terminus."[3]

The legal conditions set forth in the Helsinki Convention were developed further in the two additional protocols to it—the London Protocol on Water and Health (1999) and the Kiev Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters (2003). The provisions of both protocols directly apply to transboundary water resources.

In addition to the mentioned documents, another two environmental agreements of the UNECE—the Convention on the Transboundary Effects of Industrial Accidents (1992, Helsinki) and the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (1998, Aarhus)—should be taken into account with respect to resolving issues on the protection of transboundary rivers.

After decades of discussion, the principles of joint water use were enforced in the U.N. Convention on the Law of Non-Navigation Uses of International Watercourses (1997) based on the Helsinki Rules of 1966.

In addition to the international conventions, other documents relating directly to transboundary water reserves are also very important, whereby bilateral agreements are prevalent. For example, two thirds of the 106 basins with water resource management institutions encompass three or more littoral states, but no more than a fifth of these documents are multilateral.[4]

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[2] See: *Human Development Report*, *2006,* UNDP.

[3] *The Helsinki Rules on the Uses of the Waters of International Rivers*, Adopted by the International Law Association at the fifty-second conference, held at Helsinki in August 1966, Report of the Committee on the Uses of the Waters of International Rivers, International Law Association, London, 1967, Ch. 1, Art 1.

[4] See: *Human Development Report, 2006*.

Over the past 50 years, water conflicts in transboundary reservoirs have been regulated by 1,800 such agreements. History knows of many instances when transboundary watercourses became catalysts for cooperation among the states located in their basins. The most well-known example is the treaty on use of the waters of the Indus which was concluded between India and Pakistan (1961) during extreme political tension and which "survived" several wars over Kashmir.

Very often, multilateral basins are regulated by an entire set of bilateral agreements. For example, agreements are in effect in the Jordan basin among Syria, Israel, Jordan, and so on.

The hydroeconomic policy of several countries uses the basin principle for managing cross-border water-development structures and the hydroeconomic systems associated with them throughout the entire basin of the river or lake. This ensures an integrated, balanced, technical, economic, social, and environmental-friendly policy that takes into account the special features of the watercourse and population throughout the entire water production area.

The degree of cooperation varies from coordination (information exchange) to joint work (drawing up national plans) and common efforts, which include the joint possession of infrastructure. In some cases, partnership resulted in the appearance of institutional formations, by means of which governments can interact on a regular basis. Basin management is based on international cooperation within the framework of the Convention on Protection and Use of Transboundary Watercourses and International Lakes. The basin approach to reviewing problems of water use and use of the environment as a whole is creating additional possibilities for resolving many questions and bringing countries closer together, which is ultimately making this approach universal.

For example, common frameworks have been established throughout the EU for managing the water industry and protecting water resources: the states and their constituents must cooperate within the boundaries of the drainage basin. In particular, the Rhine runs through Germany and the Netherlands, whereby in the first, it passes through the territory of three constituents. However, each of the actors retains its sovereignty in this question. It is presumed that disputes (for example, if the water of the Rhine runs into the Netherlands with a higher-than-permissible level of pollution) will be settled in the European Court (the Netherlands can file a petition compelling Germany to carry out the instructions of the Water Framework Directive).

Cooperation among the European countries in water management and pollution control in the basin of the River Danube is a good example of how effective a basin management agreement can be. The thirteen Danube states entered an agreement to improve the already existing and create new water-resource management systems.[5] The European Union allots large funds every year to finance the management structure of the Danube basin program and just as much comes from other sources. Sufficient subsidizing makes it possible to balance the interests of all the littoral states without particular effort. This includes analyzing water use, assessing the monitoring system and infrastructure of water services, establishing the need for waste water purification, and so on.

In general, the positive examples of cooperation on the basis of agreements and treaties is a great achievement. However, a closer look reveals serious shortcomings: insufficient provisions on monitoring, confinement mechanisms, and specific water-distributing procedures keeping in mind the variability of watercourses and changes in demand.

Specialists share the opinion that agreements on international watercourses should be more specific, envisage measures that ensure the mandatory fulfillment of the conditions set forth in the agreements entered, and contain detailed mechanisms of conflict settlement in the event that disputes arise. Precise and at the same time flexible distribution of water and setting quality standards keeping in mind hydrological phenomena, changes in the dynamic parameters of the basin, and social values are

[5] See: V. Makarova, "Ekologiia bez granits," *Nauka v Sibiri*, Nos. 36-37 (2422-2423), 26 September, 2003.

required to improve cooperation. Finally, the need may arise for certain compensation mechanisms during the development of international watercourses.

On the whole, globalization processes are making us take a fresh look at and re-evaluate many problems, including the use of cross-border water supplies. This problem, which affects the interests of essentially all states in one way or another today, is increasingly becoming a target of research. At present, lack of coordination in the use of transboundary rivers is still the rule rather than the exception. In most cases, the problems in this area are becoming chronic, which is leading to economic losses, environmental degradation of regions, and sometimes even to international conflicts.

The Problem of Water Resources in Central Asia

Throughout the ages, the economy in Central Asia, the development of its social processes, and the establishment of a favorable environmental situation have been based on water resources—in other words, they have always been an incontestable prerequisite of human life. The countries of the region share the water reserves of the Syr Darya and Amu Darya rivers, as well as a network of water-development facilities comprised of dams, canals, and reservoirs. Under present-day conditions, the water-management system is acquiring a new qualitative context for the Central Asian states, which is determined by the factors presented below.[6]

- First, the water shortage in many of the Central Asian countries is perceived as a direct threat to national interests and security.
- Second, optimal operation of the river systems, which requires two branches of the economy at the same time (irrigation and power engineering), is very difficult to manage when they belong to different states.
- Third, the prospects for integration in Central Asia largely depend on how successfully and rationally the region's countries can resolve the water and energy use issues.

A special feature of Central Asia's hydrographic network is the extremely unequal distribution of its water facilities. The main sources of water of the region's five republics are located within the boundaries of two states. The water supply of the main arteries of the basin of the Aral Sea is mainly formed in Kyrgyzstan—the Syr Darya (80%) and Tajikistan—the Amu Darya (83%). The latter is the largest river in Central Asia and is 2,540 km in length. The Amu Darya basin accounts for about 62.9 cu km of the entire volume of water reserves (64 cu km) formed in Tajikistan. Moreover, enormous volumes of water are concentrated in glaciers, which constitutes more than 60% of Central Asia's supplies regulating the region's river balance. The Syr Darya is formed from the merging of the Naryn and Kadarya rivers in the eastern part of the Ferghana Valley and is 2,337 km in length; its water resources amount to 40.6 cu km.

At present, use of the Syr Darya's water resources is one of the greatest problems for the Central Asian states. This is mainly due to the conflict of interests of the water consumers with respect to the operating conditions (irrigational and energy) of the Toktogul reservoir, which is the largest in the Syr Darya basin. Due to the limited supplies of oil and gas on their territories, Kyrgyzstan and Tajikistan are vitally interested in using the energy potential of the water resources that form in the upper reaches

[6] See: L. Guseva, "Problema ispol'zovaniia vodnykh resursov v Tsentral'noi Azii," *Analytic*, No. 1, 2000.

of this river. Most of the arable land is concentrated in Uzbekistan and Kazakhstan, which objectively defines these countries' interest in the irrigation conditions of the use of the region's water resources.

The network of water-development facilities created during Soviet times in the Syr Darya basin made it possible, based on the mechanism of compensation deliveries of energy resources, to use the Toktogul reservoir in the irrigation regime (accumulation of water supply in reservoirs during the winter for subsequent use during the vegetation period).

After they gained their independence, the Central Asian states agreed to leave the rules of water resource regulation of the Syr Darya River in effect, but the mechanisms for managing a once integrated water industry complex did not work in the new conditions. Beginning in 1992, there was an abrupt reduction in deliveries of fuel and energy resources to Kyrgyzstan from other republics—particularly from Kazakhstan and Uzbekistan. In order to meet the growing demands, Kyrgyzstan transferred to the energy operating regime of the Toktogul water facility, which changed the situation in water supply to consumers in the Syr Darya basin.

So the problems that arise annually in the basin of the transboundary Syr Darya River boil down to several issues that are difficult to resolve.

- First, in the winter, increased amounts of water must be discharged (due to the energy operating regime of the Toktogul cascade of the hydropower plant, which manufactures electric power for Kyrgyzstan's domestic needs), which are commensurable with the spring floods in high-water years. When ice forms in the river's lower reaches and its throughput capacity decreases, while an increased flow of water is discharged from the upper reservoirs of the Naryn-Syr Darya cascade, the very serious threat of submersion and flooding of the population settlements, as well as of the farm and other valuable land, along the banks of the Syr Darya arises.
- Second, in the summer, there is the problem of insufficient water for irrigating farm land, particularly along the Dostyk Canal for the Makhtaaral area of the South Kazakhstan Region.

  Before 2004, annual multilateral agreements or intergovernmental protocols were signed to resolve these problems, which defined the volumes of reciprocal deliveries of energy resources, the hook-up of electric power, and the water discharge for irrigation needs. Recently, due to the constant contradictions, bilateral protocols are frequently drawn up between the governments of the sides: Kazakhstan and Kyrgyzstan, Uzbekistan and Tajikistan, which does not guarantee the full-fledged settlement of the problems that arise.
- Third, without a multilateral agreement, Uzbekistan has been steering a course toward supplying itself with water by building accumulation reservoirs on its territory for the purpose of redistributing the winter water supply for the vegetation period and, in so doing, ridding itself of its dependence on Kyrgyzstan in the summer time.

Consequently, because the Central Asian states cannot coordinate the operating regime for the cascade of reservoirs of the Syr Darya River, idle discharges of water are permitted almost every year in the winter, which destroy engineering facilities, submerge population settlements and, correspondingly, create an acute water shortage during the summer.

There are just as many problems with respect to the Amu Darya River. A document defining the further strategy of comprehensive water management has not been drafted yet. Due to the absence of precise rules for regulating the water resources in the Amu Darya basin, which all the interested parties should be guided by, Tajikistan has been actively presenting plans in recent years designed to build up its hydropower potential. The priority projects include construction of the Rogun Hydropower Plant, which presumes the building of a dam on the Vakhsh River—the most important tributary of the Amu Darya. Further down the Vakhsh River is the large Nurek Hydropower Plant, which supplies electric

power to most of Tajikistan. And there are plans to build another two hydropower plants even further down the river. The Dashtijum Hydropower Plant on the Panj River with a capacity of 4,000 MW, annual output of 15.6 billion kWh, and reservoir volume of 17.6 cu km is the most economically attractive for Dushanbe.

Implementation of these projects designed to promote priority use of the energy potential of the Amu Darya's water resources is arousing worries in the republics located downstream, in particular in Uzbekistan and Turkmenistan, and is also fraught with aggravating interstate relations. Indeed, the rivers we are talking about do not belong to Tajikistan, or to any other country for that matter, which in itself defines the need to coordinate plans for their use.

In the meantime, many specialists in this field today, knowing how complex the topic of water resources in Central Asia is, are calling on the countries to exercise wisdom and not create tension. They add that several of the energy development projects on the upper reaches of the Amu Darya are not yet justified due to their capital-intensiveness, while others, if carried out sensibly, will not create significant problems for their neighbors. But this does not reduce the urgency of the problem in general.

So at present the serious threats to stability in Central Asia with respect to the use of cross-border water resources are caused by several problems given below:

— the absence of a sufficient and adequate legal base regulating the joint use of water reserves;

— the priority of each republic's own interests in the region, which essentially means a breakdown in the single water system, which has been unable to function under the local territorial conditions;

— the differences in the Central Asian countries' sociopolitical and economic development;

— the constantly rising demand for water resources.

The situation would most likely not have been so pernicious today if the water-consuming states had highly efficient economies, manufactured competitive products, and could, correspondingly, have allotted sufficient funds for maintaining the water facilities and hydroeconomic structures on their territory in a reliable state. So the task of harmonizing stances in the use of water resources cannot be reviewed separately from the efforts to draw up effective models of economic development for each country. The matter essentially concerns ensuring sustainable progress in the region, whereby water policy is its important component.

The breakdown of a once single water system, as well as the absence of budget funds in the Central Asian states' water management organizations, has led to the emergency state of reservoirs, canals, and pumping stations. The wear and tear on technical means for monitoring, controlling, and distributing the water resources of these major facilities is very high. The situation is aggravated even more by the fact that there is no single and coordinated policy of farm management in the region. Each republic is trying to increase its irrigable land and "appropriate" the available water supplies.

The problems of coordinated use of Central Asia's water reserves are not only technical, but primarily also international-legal in nature. But bringing the Central Asian states closer together to resolve the problems of the joint use of the hydropower resources of the Syr Darya and Amu Darya basins is a very slow process and characterized by low economic efficiency of the decisions adopted, since most of the treaties and agreements concluded are framework in nature. The conditions of agreements reached on specific water management facilities are not always carried out for various reasons.

As early as 1992, five countries of the region signed an Agreement on Cooperation in the Joint Management, Use, and Protection of the Water Resources of Interstate Sources. In so doing, they recognized the communality of the basin's water resources, equal rights to their use, and the responsibility for their corresponding supply and rational use. They also came to terms on creating condi-

tions for strict adherence to the agreed-upon procedure and set rules for use and protection of the water reserves.

In addition, an Interstate Coordinating Water Management Commission (ICWC) was created comprised of two basin hydroeconomic associations (BVO Amu Darya and BVO Syr Darya) on the rights of the executive bodies of the ICWC, the tasks of which included managing transboundary water basins.

In 1995, the leaders of the Central Asian republics declared their adherence to the ideas of equality and interstate cooperation on water problems at the international conference in Nukus. In the Nukus Declaration adopted, all the Central Asian countries confirmed their "obligation to full cooperation at the regional level based on mutual respect, good-neighborly relations, and determination" with respect to Central Asia's hydropower problem.

Later, the heads of state repeatedly declared the need to speed up the drafting of a water-sharing strategy and the formation of economic management mechanisms for the use of the region's water and energy resources. The need for creating a Hydropower Consortium in Central Asia was also declared. However, the idea of establishing a Hydropower Consortium still remains on paper.

In 2003, a Specific Action Program on Improving the Environmental and Socioeconomic Situation in the Aral Sea Basin in 2003-2010 drafted by all five Central Asian countries was approved, one of the priority vectors of which was the Development of Coordinated Mechanisms of Comprehensive Water Management of the Aral Sea Basin. The problems of regional use of water reserves were discussed again at an informal meeting of the leaders of the Central Asian states held in September 2006 in Astana. In 2007, within the framework of the SCO summit, questions were also raised of the "rational use of hydropower resources in the Central Asian region."[7]

So some issues are being resolved one way or another, but it has still not been possible to achieve the desired results and launch a viable mechanism for managing the region's transboundary water resources. A situation where the republics, declaring once again the need to reach a coordinated decision at the interstate level, have essentially absolutely different ideas about how to use the available water resources is becoming run-of-the-mill. The matter almost reached the point where each country of a particular transboundary river basin tried to draw up its own economic strategy based on common water resources. If these plans were to be joined together and viewed as a single whole, it would become clear that the available joint water reserves do not meet the general expectations. An obvious danger lies in the fact that the competing national plans of the upstream and downstream republics could become a source of tension and hindrance on the path to cooperation.

The region's current political, economic, and environmental reality requires drawing up effective conceptual approaches. If coordinated work is carried out, the established regulations of water use adhered to, corresponding water-saving technology introduced, and so on, the available water resources, according to specialists, will be quite sufficient for meeting the needs of all the consumers.

The Water Problem in Kazakhstani-Chinese Relations

In addition to interregional problems of water use, the Central Asian states (primarily Kazakhstan) could very soon encounter the consequences of an aggravation of the problem of joint water use of the transboundary Irtysh and Ili rivers, which originate in Xinjiang. After Kazakhstan acquired its sover-

[7] Initiative of I. Karimov at the SCO summit, 15-16 August, 2007 in Bishkek, available at [http://rss.politikaonline.ru].

eignty, it repeatedly appealed to Beijing in an attempt to legally establish bilateral relations in this field, but these initiatives did not always meet with understanding on the Chinese side.

Kazakhstan and the PRC share the water resources of some 30 transboundary rivers that originate in China. During recent years, due to the overall water shortage, the PRC has been carrying out several large irrigation projects to divert some of the water from the largest transboundary rivers of Ili and Irtysh (in China and until it runs into Lake Zaisan, the latter is called the Black Irtysh). It is enough to realize what these rivers mean to both states to understand the seriousness of this issue.

The Irtysh is one of the main water arteries of Kazakhstan. Some 2.5 million people live in the basin of this river on Kazakhstan territory. Large industrial centers are located here, such as Ust-Kamenogorsk, Semipalatinsk, and Pavlodar, where enterprises of non-ferrous and ferrous metallurgy are concentrated. Many areas of Central Kazakhstan also use the water of the Irtysh. In 1971, the Irtysh-Karaganda canal was built above the city of Pavlodar, via which water reaches the Karaganda industrial region. This project equally supplies water to such cities as Ekibastuz and Temirtau, as well as uses it for irrigation. What is more, the water of the Irtysh maintains the environmental balance in the Lake Zaisan zone located in East Kazakhstan.

The second river, the Ili, supplies water to Balkhash, the largest lake in Kazakhstan, situated in the southeast of the country. In turn, Balkhash is a source of water for meeting the needs of the population of Pribalkhashie, the local agricultural sector, as well as enterprises of the metallurgical industry. In the environmental respect, this reservoir plays a key role in maintaining the climatic balance of the southeast and central parts of Kazakhstan.

China, on the other hand, needs to divert some of the water from the transboundary rivers to implement its state program aimed at assimilating its western regions, which is of particular importance for the economic and social development of the PRC as a whole. China's growing industrial branches (primarily the oil industry, ferrous and non-ferrous metallurgy, and agriculture), as well as the population settlements being built, are experiencing an acute water shortage even today. So the main purpose of diverting water from the Irtysh and Ili is to supply the rapidly developing economic regions with water.

Another important point is the unsettled political situation in China's western regions, where separatist moods are prevalent. Based on this, the PRC leadership is hoping that dynamic economy-building will lead to a significant improvement in the standard of living of the local population and tone down the indicated negative trends.

Today Beijing has essentially made a unilateral decision to use the water resources of transboundary rivers. The Chinese have already built the Irtysh-Karamai diversion canal, and at the initial stage, according to several experts, collection from the Irtysh amounts to 0.8 cu km, which constitutes about 6-8% of the river's average annual water supply (Kazakh experts believe that the water supply of the Black Irtysh is equal to 9 cu km a year, while the Chinese side insists it is 12 cu km).

Beijing is making plans to build precisely the same type of canal on the Ili, which would join this river to the Tarim region of China. It stands to reason that there is no point in hoping the new facility will carry out moderate water collection. It is doubtful that anyone would build a multi-kilometer canal and spend enormous amounts of money only to divert small volumes of water.

Kazakh experts claim that the Chinese side could increase water collection to reach 15-20% of the rivers' total water supply in the very near future. This in turn will inevitably lead to several negative socioeconomic and environmental consequences for Kazakhstan.

For example, a significant decrease in the water volume of the Irtysh will entail a drop in technical water supply to Kazakhstan's industrial enterprises, threatening a halt of several production cycles. What is more, the collection conditions on the Irtysh-Karaganda canal will deteriorate, as a result of which the problem of water supply to the republic's central regions will be seriously aggravated. This primarily applies to Karaganda and the whole of the Karaganda region, for which this facility is the

main source of water supply. And, finally, a decrease in the water flow could disrupt the region's natural water balance and lead to a decrease in the natural moisture of the soil, a decrease in the harvest yield of agricultural crops, degradation of pastureland, as well as desertification of a large section of the northeast part of the country.

As for water collection from the Ili, it will essentially lead to the same consequences. The enterprises of the metallurgical and energy industries, agriculture, and the fishing industry could be dealt a serious blow. In the environmental respect, the shallowing and salination of the Balkhash could lead to consequences similar to the tragedy of the Aral. And these are all very real prospects.

Of course, it should be admitted that both the power and scientific circles in Kazakhstan are perfectly aware of the possible threat and the need to find a primary solution to the problem of transboundary rivers. During recent years, Kazakhstan's diplomacy achieved certain, even positive, results in resolving this question.

For example, several rounds of bilateral talks and meetings of working groups have been held, during which the sides were able to find some common ground. In particular, the volumes of China's water collection were determined and the parameters for evaluating the quality of water and several other provisions were coordinated. In September 2001, in Astana, an intergovernmental Agreement on Cooperation in the Use and Protection of Transboundary Rivers was even signed, although it is framework in nature and, while declaring adherence to the principle of non-infliction of damage, essentially does not envisage any real liability for the latter.

In 2005, an Agreement between the Ministry of Agriculture of the Republic of Kazakhstan and the Ministry of the Water Industry of the People's Republic of China on Emergency Notification of the Sides about Natural Disasters on Transboundary Rivers was initialed.

A Kazakh-Chinese Joint Commission on the Use and Protection of the Water of Transboundary Rivers has been created, which regularly holds meetings. Mutual exchange of hydrological and hydrochemical data of the border water posts on the Irtysh and Ili rivers is carried out. The sides collectively began designing a joint water facility on the Horgos River. So in recent years a certain amount of progress has been designated in the interrelations between Kazakhstan and the PRC. Nevertheless, terms have not been reached on a basic interstate agreement on water-sharing on transboundary rivers.

Keeping in mind all the complications of the negotiation process, several Kazakh scientists propose independently drawing up and implementing a project for carrying out water influx of the Irtysh and raising the quality of its water. This is to be carried out by creating water-development facilities on several Kazakhstan rivers. According to specialists, Kazakhstan can accumulate a water volume on its territory equivalent to almost half of the water supply of the Black Irtysh at the Kazakh-Chinese border. Nevertheless, all of these plans require a high-quality feasibility report, and most important, significant financing.

So on the whole, despite all the measures being carried out, there is still tension in the problem of the joint use of transboundary rivers. This trend will only increase in the future, and there are at least two reasons for this.

- First, it is obvious that China will continue to make growing demands on the water resources of the transboundary rivers (and not only of the Irtysh and Ili), since this question is of strategic importance to the PRC. New and very promising industrial zones will develop in the western areas of China bordering on Kazakhstan. We will present just a few statistics. Coal supplies in the Xinjiang-Uighur Autonomous Region (XUAR) amount to more than 40% of the total coal reserves in the PRC. According to specialists, this region accounts for 35% of China's total copper production and 15% of its aluminum production. In terms of rare metal (beryllium, lithium, tantalum, cesium, niobium, and uranium) and gold supplies, the XUAR

also occupies a leading place in the PRC. So China's growing economic and political potential is giving us real reason to confirm that its position on collecting additional water from the transboundary rivers could become quite uncompromising in the very near future.

- Second, it is just as obvious that Kazakhstan will also experience a growing demand for water resources, since the republic is essentially one of the most water-deficit countries on the Eurasian continent. The further development of industrial enterprises and building up of agricultural production will also require a corresponding level of water supply.

The negative consequences that Kazakhstan might encounter require that the republic find a solution to the problem of transboundary river use as quickly as possible, although several obstacles immediately arise here. First, the underdevelopment of the theoretical and practical foundations of the joint use of hydropower resources. Not one set of measures has been developed in either Kazakhstan or China for the rational use, protection, and quality improvement of water. As a result, there is no economic mechanism designed to ensure the joint use of the waters of transboundary rivers.

The second obstacle is that the Kazakh side cannot hold talks on a parity basis. One of the main reasons is Kazakhstan's almost total dependence on the PRC, due to the configuration of the river network. China, as an upstream state, is essentially not interested in discussing this question. The geopolitical breakdown of forces existing in the region is clearly in favor of China, and Beijing will take further advantage of the situation that has developed with transboundary rivers in order to retain its exclusive position.

So one of the primary tasks is to look for a solution at the political level, since without this component, any undertakings will not be carried out as necessary. However, as present experience shows, the Kazakh-Chinese format of the negotiation process will not make it possible to achieve the necessary efficiency in resolving the current questions. As mentioned above, China, which is located upstream and has significant political and economic clout, is directing the entire settlement process.

It would be different if bilateral Kazakh-Chinese talks on the problem of joint water use, and primarily with respect to the Irtysh, became multilateral. The question of including the Russian Federation in the dialogs has already been repeatedly raised in Kazakhstan, since the lower reaches of the Irtysh flow through Russian territory and run into the Ob. But Beijing's rather tough position, which prefers to decide all issues only at the level of bilateral talks, as well as Moscow's attitude toward this issue as a secondary problem are preventing this.

However, Russia in particular should be put on the alert by the fact that in addition to the purely economic-practical aspects, the collection of water from transboundary rivers is acquiring an increasing political component. China has a lever of influence on a state that traditionally belongs to the zone of Russian interests. The possible environmental consequences in the Irtysh basin, including on Russian territory, should ultimately prompt the Kremlin to take a more serious attitude toward this problem.

The Shanghai Cooperation Organization (SCO) could well act as a real basis for transferring the negotiation process to a multilateral format. First, it has members whose territory is joined one way or another by transboundary watercourses, and so resolution of the problem of transboundary river use is a common and essentially universal task. Second, the SCO has already accumulated a good amount of organizational-structural and negotiation experience, which is quite important. And, finally, third, the functioning of an efficient commission under the SCO for resolving the problem of transboundary rivers will meet the interests of the organization itself, one of the tasks of which is ensuring security and creating conditions for the sustainable development of the whole region. For if settlement of this problem is delayed, the overall situation could deteriorate in the future to the point of posing a threat not only to Kazakhstan's economic security, but also to the environmental safety of the whole of the Central Asian region, including Russia.

Conclusion

So the problem of water use in Central Asia has significant conflict potential that poses a threat to regional security. An analysis of the situation that has developed today in Central Asia makes it possible to draw the following conclusions:

- the problems of joint use of water resources could become a catalyst for intensifying ethnic and interstate contradictions in the Central Asian countries. A negative precedent in settling disputes over the use of transboundary water reserves could give rise to serious consequences for all the Central Asian states;
- water use is becoming a very powerful mechanism of economic and political pressure in the region on the part of several Central Asian countries;
- Central Asia is catastrophically dependent on the amount of water resources. It reacts very sensitively to water shortages and their negative consequences. Desertification is accompanied here by a change in the qualitative and quantitative composition of the population and is capable of having a most negative effect on the productive forces of the Central Asian countries and of leading to serious political, socioeconomic, and environmental consequences;
- in terms of their content, the questions relating to joint use of Central Asia's water reserves are mainly interregional in nature. But the conflict potential of the problems of interstate water use is being aggravated today by the use of the water resources of transboundary rivers such as the Irtysh and Ili and is thus assuming extra-regional dimensions;
- the solution to the key problems proposed by one of the sides is not always acceptable to the other actors. In addition, the initiatives of one side in the use of water resources is often perceived by the others as an attempt to apply pressure or enforce an advantageous position with respect to specific water resources.

There can be no doubt that the Central Asian countries have succeeded in expanding cooperation to a certain extent: a regulatory-legal base is forming, an institutional mechanism of cooperation among the states has been created, and international programs are being carried out to improve the environmental and socioeconomic situation in the region. Nevertheless, several problems still remain that are preventing cooperation from developing in this area. So today all the Central Asian countries should clearly realize that no national plans compiled beyond the framework of regional strategy of joint water use can be implemented without corresponding negative economic, social, and environmental consequences for the other states of the river basin. Local strategies can only be blended into the regional scenario of sustainable development by holding political talks, enhancing interstate agreements, and increasing the support of interstate basin organizations, since not one institutional structure can glean the benefits of transboundary cooperation on its own. Adequate financing of transboundary water management must be provided and general access to information created. Neighboring countries need information to be able to assess how ineffective unilateral programs are. It is important to remember that the management of common water reserves can be either a unifying or a destructive force, and we are the ones to decide which is given priority.