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**THE STRUCTURE OF WATER SECURITY:  
THE THEORETICAL AND LEGAL ASPECT**

Water security represents particular importance for Kazakhstan as a state with a shortage of water resources and a large volume of rivers of transboundary knowledge. The theoretical aspects of this scientific concept are not fully covered in the literature and does not have a worthy justification and research. At the same time, relevance and necessity of research in this area is undeniable. The article analyzes of the concept and content of the Institute of water security given as a political and legal category. It considers such concepts as object, subject, threats, mechanism of ensuring with water security. In the analysis of domestic reality the current state of water security of Kazakhstan is considered. It is concluded that water security can not be considered only in the environmental and legal context, because it is a large, complex concept that combines economic and political components. The authors made some proposals on theoretical and practical significance by researching the current threats of external and internal character in the field of water security.

**Key words:** water law, water security, national security, national interests, threats to water security, threats to national security.

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**Су қауіпсіздігінің құрылымы: теориялық-құқықтық аспект**

Су ресурстары жетіспеушілігі және трансшекаралық өзендерінің үлкен көлемі бар мемлекет Қазақстан үшін су қауіпсіздігі үшін ерекше маңызға ие. Бұл ғылыми тұжырымның теориялық аспектілері әдебиетте толығымен қамтылмаған және лайықты негіздемесі мен зерттеуі жоқ. Сонымен қатар, осы саладағы зерттеулердің өзектілігі мен қажеттілігі сөзсіз. Мақалада су қауіпсіздігі институтының тұжырымдамасы мен мазмұны саяси-құқықтық санат ретінде талданады. Объект, субъект, қауіп, су қауіпсіздігін қамтамасыз ету тетігі сияқты ұғымдар қарастырылады. Отандық жағдайды талдау арқылы Қазақстанның су қауіпсіздігінің қазіргі жағдайы қарастырылады. Қорытындыда су қауіпсіздігін тек экологиялық және құқықтық жағынан қарастырылмайды, өйткені ол экономикалық және саяси компоненттерді біріктіретін үлкен кешенді ұғым деген қорытынды жасалынады. Су қауіпсіздігі саласындағы сыртқы және ішкі сипаттағы заманауи қауіптерді зерттеу арқылы авторлармен теориялық және тәжірибелік маңызы бар бірқатар ұсыныстар жасалынады.

**Түйін сөздер:** су құқығы, су қауіпсіздігі, ұлттық қауіпсіздік, ұлттық мүдделер, су қауіпсіздігіне қатер, ұлттық қауіпсіздікке қатер.

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### Структура водной безопасности: теоретико-правовой аспект

Водная безопасность особенно важна для Казахстана как государства, имеющего недостаток водных ресурсов и большой объем рек трансграничного значения. Теоретические аспекты данного научного понятия не в полной мере освещены в литературе и не имеют достойного обоснования и исследования. Вместе с тем, актуальность и необходимость исследований в данной области бесспорны. В статье проводится анализ понятия и содержания института водной безопасности как политико-правовой категории. Рассматриваются такие понятия как объект, субъект, угрозы, механизм обеспечения водной безопасности. На анализе отечественной действительности рассматривается современное состояние водной безопасности Казахстана. Делается вывод о том, что водную безопасность нельзя рассматривать только в эколого-правовом контексте, так как это большое, комплексное понятие, объединяющее в себе еще и экономические и политические составляющие. Исследуя современные угрозы внешнего и внутреннего характера в области водной безопасности, авторами сделаны некоторые предложения теоретического и практического значения.

**Ключевые слова:** водное право, водная безопасность, национальная безопасность, национальные интересы, угрозы водной безопасности, угрозы национальной безопасности.

#### The relevance of research

For Kazakhstan as the Central Asian country, water always was and remains to one of problematic issues. It both quantity and quality of water.

Total number of the population of Kazakhstan as of July 1, 2018 is 18 272 430 people. But we will take data for October, 2017 – the urban population makes 57,4% of the total number of residents of the country, rural – 42,6% (<http://stat.gov.kz/>), at the same time according to the latest statistical data 4034 rural settlements (<https://zonakz.net/>) remain not covered the central water supply it is about 2,7 million Kazakhstan citizens.

The republic has acute shortage of water resources both for needs of the industry and agriculture, and for drinking water supply.

Besides, by results of a research of the Kazakhstan Institute of Strategic Researches (KISR) current problems of the water management sector of Kazakhstan are:

– general technogenic pollution of water resources, especially surface waters;

– Inadequate use of specially explored for economic-drinking water supply deposits and unauthorized use of fresh groundwater;

– high deterioration of water supply networks and structures, reaching 80-100% in some cases, and as a consequence, large disruptions and losses in the supply of water;

– Low tariff component for subjects of natural monopolies that does not allow to fulfill the investment plan for mandatory modernization and renewal of assets of water sector enterprises;

– the absence of settlement networks or their insufficient development, which forces the population to use imported water and water from decentralized sources;

– lack of reliable sources of water supply in some regions, which necessitates the construction of water conduits to transport water over considerable distances;

– unsatisfactory technical condition and the need for a complete reconstruction of group water pipelines, which are non-alternative sources of water supply;

– Low solvency and insufficient preparedness of the population for installation of metering devices (<http://www.kisi.kz/ru/>).

The issue of the development of agriculture and its dependence on the republic's water resources is no less acute. As a result of the action of the aggregate of anthropogenic and natural factors, more than 70% of the territory of the Republic of Kazakhstan is affected to varying degrees to date. In the current state, 3093 thousand hectares are included in the land balance, including 2,223.1 thousand ha of regular irrigation and 866.3 thousand of halimated irrigation. Currently, about 1.4 million ha of regular irrigation lands are being used. At present, in actual areas, engineering systems are no more than 30%

(Mirsaitov R.G., 2018). In general, the volume of irrigated land since the Soviet period has decreased many times, which is explained by a number of reasons.

The most striking are highlighted by the Tajik researcher M.Olimov, who believes that in the current state of things is to blame, then:

«1. The formation of the region's water and energy complex took place under the conditions of a single country, the USSR, within the framework of a single economy, without taking into account the interests of individual republics, while the priority is the servicing of cotton growing.

2. The Central Asian region is characterized by an inextricable link between water management and energy, since the latter is largely based on the use of hydropower, especially in Kyrgyzstan and Tajikistan» (Olimov M., 2008: 180).

At the same time, each country is looking for ways to overcome the problem of water supply. This problem has long gone beyond food security and has become one of the stumbling blocks of political issues between the countries of the Central Asian region. Or, as Olimov M. diplomatically expressed, happened «The transition of water problems from the sphere of interdepartmental relations to interstate relations» (Olimov M., 2008: 192).

### Main part

Water security issues become one of the sharpest in the modern world community, it is usually connected with the natural reasons, the influence of climatic conditions, increased use of water by an ever-increasing number of people.

Water is considered as an object of safety of a number of positions, namely:

1. As the basis of the ecosystem of the republic, on which the general state of the rest of its components depends;

2. As a basic component of sanitation, food and food industries;

3. As an important component of the energy, industrial and other sectors of the economy.

In the history of development of the independent states of Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan there was already a number of political conflicts which have been based on manipulation of access to water resources.

This problem is aggravated for Kazakhstan by the location of rivers. Most of the rivers, such as Ertis, Ile, Syrdarya, Zhayik, Tobyl, Yesil and Shu are 40% of the country's water resources. They are cross-border and located in the border areas border-

ing the Russian Federation, the People's Republic of China, the Kyrgyz Republic, and the Republic of Uzbekistan.

These reasons cause water dependence of the republic and constant relevance of water safety.

Such concept as water safety of the legal dictionary is absent. However, to deny a perspective and the need of specification and specification of terminology following from it we consider obligatory.

Legal terminology operates with the notion of «environmental security». Under environmental safety, it is customary to understand «the state of protection of vital interests and human and citizen's rights, society and the state from threats arising from anthropogenic and environmental impacts on the environment» (<https://online.zakon.kz/Document/>).

Based on the analysis of the essence of this concept it is obvious that it covers the issues of a sustainable state of the environment, which provides an opportunity for improving the quality of life of society and the state. So, in the opinion of A.T. Mukhametrahimova «The main objects of environmental safety are:

- personality with its right to a healthy and favorable environment for life;
- a society with its material and spiritual values, depending on the ecological state of the country;
- natural resources and the natural environment as the basis for sustainable development of society and welfare of future generations» (<https://articlekz.com/article/7406>).

At the same time water, water objects are considered as an object of ecological safety. At the same time, as already it has been noted above, water and water resources have to be considered both as a basis of an ecosystem and as a component of sanitary, food and food security and as an element of the economic country of the sector.

Respectively, water safety is more difficult concept and it isn't logical to limit it to ecological aspects.

As well as any other type of national security, water safety has a certain structure, including: object, subject, threats, utilities.

Water safety has to include the following objects:

- high-quality and quantitative drinking water supply;
- making ecosystems;
- water industry;
- municipal providing with water resources;
- agricultural mission of water resources;
- water as Basic Element of hydropower and respectively object of energy security.

Proceeding from the above-mentioned objects of water security, it is necessary to conclude that water security covers many aspects of the country's national interests and is an important integral national security of the state.

Subjects of water security can also be demarcated for several reasons. However, in our opinion, any distinction will be confronted with the notion of interest. As in any other legal relationship arising in the process of securing someone's interests, the subjects should be delineated on those who are interested and who provide or protect this interest. Although, in general, such a distinction should be recognized as streamlined.

Turning to the chosen position on the delimitation of subjects, we can distinguish the following categories:

1. physical and legal persons, which in aggregate form a society, interested in the availability of sufficient and high-quality water supply, necessary to meet all necessary needs.

In the conditions of modern life activity, namely, with the awareness of its role in preserving natural resources, which are primarily water, people should strive to become a full-fledged subject of water security. Namely, the whole society and each of its subjects should be aware of the existence of threats, strive to prevent and suppress them.

People are the basic consumer of water resources, they feel any deviations in this matter, feeling changes on their health, amenities, nutrition, etc. In this regard, citizens should realize that purely consumer relations can not positively affect the lives of its descendants, expand the scope of their thinking to global volumes and strive to preserve natural values within their daily lives. Water is the main factor that, through climate change, affects the Earth's eco-system and thereby the livelihood of people.

The huge role in ensuring water safety belongs to public institutes in the person of public ecological and others the organization of the international, national, regional levels. Besides, it is activity scientific the organizations which activity is directed to development and deployment in production of ecological «green» technologies and so forth Besides, now, the role of the enterprises and productions which are actively joining in process of careful use of natural resources, stimulations of «green» technologies, financings of scientific projects and social protection of the population including providing with water supply, cleaning constructions and so forth increases.

1. The state – as a subject providing water security.

It should be noted that currently there is a re-thinking of the concept and signs of the state, but at the same time, no one disputes the functions of the state to which it is customary to relate and relate, first of all, it is the functions of management and protection. So, according to A.A. Kukovsky «The state represents the dynamic system installed by society for performance of functions of protection and management by means of own management personnel which conditionally it was possible to call «the state for society», and evolving in the independent, independent system «uniform state» which is automatically performing functions of protection against external and internal threats» (Kukovskiy A.A., 2018).

Due to the specifics of its organization, which is based on the functions assigned to it, the state has a special mechanism for protection, provision, and management, among which, in particular, is the mechanism for ensuring national security.

The mechanism for ensuring national security should be viewed through the prism of state bodies. The state, being the main subject of ensuring national security, acts as its guarantor and, consequently, performs the basic functions of organization and management in this field of activity.

The following bodies should be included in the system of such bodies designed to ensure water security: the President, the Parliament, the Government, the Security Council under the President of the RK, the Committee for National Security of the RK, the specialized ministry and its departments (the Committee on Water Resources and the Department of Transboundary Rivers of the Ministry of Agriculture of the Republic of Kazakhstan); Committee for Environmental Regulation and Control of the Ministry of Energy of the Republic of Kazakhstan, which directly entrusted the responsibility of regulating water rights Ocean, as well as local executive and representative bodies of the Republic, courts and other law enforcement agencies. At the same time, it should be noted that water, as already indicated, has a significant impact on economic and social development and the very existence of society. Accordingly, this system should also be supplemented by such bodies as the Ministry of National Economy of the Republic of Kazakhstan, Sanitary and Epidemiological Service of the Ministry of Health of the Republic of Kazakhstan, Emergency Situations Committee of the Ministry of Internal Affairs of the Republic of Kazakhstan.

In addition, we should especially highlight the activities of the Ministry of Foreign Affairs of the Republic of Kazakhstan, since the solution of issues

of transboundary rivers is particularly relevant for our country. In this connection, the Office of the SCO and the Transboundary Rivers of the Department for Asian-Asian Cooperation has been created and is functioning in this Ministry, which also demonstrates the importance of the issue of transboundary water use. This was caused by the tendency to ignore attempts by some neighbors of Kazakhstan for many years to use the transboundary watercourses based on the principles and norms of international law

Each of these bodies, within the framework of its responsibilities, ensures the solution of issues of protection of national, public and personal interests in the sphere of qualitative and quantitative water supply. In this case, the solution of problems in the field of water use is effected through the adoption of normative acts by these bodies, general and special. At the same time, it should be noted that the range of regulated issues adopted by these bodies is diverse, ranging from addressing individual issues of water supply and ending with solving international problems, for example, delineation of the use of transboundary waters.

Depending on the specifics of regulation, the basis for addressing water security issues is based on civil, environmental and other legislation. At the same time, it is especially important to highlight the issues of international legislation, which are gaining increasing urgency and provide solutions to a number of critical problems for the country's economy. Thus, Kazakhstan's water resources have declined by 20 m. over the past 50 years, and this process continues. This is due to the fact that almost all the rivers are transboundary. Water resources of Kazakhstan in the average water year are 100 km<sup>3</sup>, of which only 56 km<sup>3</sup> are formed on the territory of the republic, and the remaining volume (44 km<sup>3</sup>) comes from neighboring countries: China – 18.9 km<sup>3</sup>; Uzbekistan – 14.6 km<sup>3</sup>; Kyrgyzstan – 3.0 km<sup>3</sup>; Russia – 7.5 km<sup>3</sup>. Kazakhstan is one of the last in terms of water availability among the CIS countries. The specific water availability is 37 thousand m<sup>3</sup> and 6 thousand m<sup>3</sup> per person per year. For comparison: in Kyrgyzstan, respectively, 245 thousand m<sup>3</sup> per 1 km<sup>2</sup> and 11,763 thousand m<sup>3</sup> per person (www.inform.kz).

An example is the cooperation with the People's Republic of China, which «not only refused to adhere to two fundamental international agreements – the Convention on the Law of the Non-navigational Uses of International Watercourses (1997) and the Convention on the Protection and Use of

Transboundary Watercourses and International Lakes (1992), but also insists on the regulation of a transboundary watercourse through only bilateral negotiations, which, as practice has shown, do not yield any significant results on this issue. In this regard, I recall that only 37 countries signed the UN documents on this issue, and only 20 ratified them, and there is no China among the parties to the agreement, which has never had any agreements with any country on transboundary rivers» (Timorshina A.M., 2018).

The problem of transboundary rivers is considered and solved by China in accordance with one of the leading principles of its foreign policy – the «principle of regionalism», which means the government's desire for concluding individual agreements with each state. Thus, according to T. Mamyraimov, «China's position on transboundary rivers is primarily conditioned by the plans to transform Xingjiang into a regional and trade center in Central Asia, with further spreading of influence to the Middle East» (Mamyraimov T., 2018).

Water relations between the Republic of Kazakhstan and the People's Republic of China are governed by the Agreement on Cooperation Related to the Use and Protection of Transboundary Rivers of September 10, 2002 under No. 989. Among the latest agreements between our governments was the Agreement between the Government of the Republic of Kazakhstan and the Government of the People's Republic of China on joint section of the resources of the Ili and Irtysh transboundary rivers by 2014 from 12.09.2011, in general, today, China has signed 5 intergovernmental agreements on transboundary water management.

In turn, in international law there are no prohibitive or restrictive provisions on the use of water resources of rivers within the borders of the territory of their state. Water relations are built only on the basis of mutual agreements. And taking advantage of these gaps in international law, China constantly violates agreements with the Republic of Kazakhstan, imposing its demands.

In this connection, according to a number of scientists, this position of China is fraught with the following problems for us:

1. It is necessary to expect reduction of water resources in a river basin Irtysh: by 2030 on 8 cubic km, by 2040 – on 10 cubic km, by 2050 – on 11,4 cubic km. All this will lead, first, to considerable decrease in power production on the cascade of hydroelectric power station on Irtysh up to 25% by 2030 and up to 40% by 2050. It will also promote

the actual termination of navigation in RK on this river since 2020;

2. This situation will lead to practical degradation of channels, reservoirs (Bukhtarminskoye and Shulbinskoye) in the territory of Kazakhstan eating from the Irtysh River;

3. There will be a deterioration of a surface water and pollution of underground waters.

4. In case the massive intake of waters of Irtysh from China begins, then the riverbed of Irtysh in all territory of Kazakhstan and to Omsk can become a chain of swamps and still waters. It is clear, that it will lead to catastrophic deterioration not only an ecological, but also economic situation in this region.

5. Implementation of plans of the People's Republic of China for increase in an intake of waters of Irtysh by means of channels and other hydraulic engineering constructions will bring closer drying first of all of the Lake Zaysan feeding on waters of this river (Mamyraimov T., 2018).

Equally complex and open are the issues of Kazakhstan's relationship with other neighboring states regarding joint water use. All this in aggregate creates the following, in our opinion, the basic element of water security – threats to water security. There is a firm opinion that a new kind of war is about to spring up in Central Asia – a war for water resources.

In accordance with the Law of the Republic of Kazakhstan «On National Security» threats are understood as «a combination of external and internal factors (processes and phenomena) that impede or can impede the realization of the national interests of the Republic of Kazakhstan» (<https://online.zakon.kz/Document/>). In this case, threats to water security are external and internal factors that impede or can impede the interests of the water security of the Republic of Kazakhstan.

Proceeding from the above, it should be concluded that for Kazakhstan as a water-dependent state, threats to water security are delineated into external and internal ones, while external threats prevail over internal ones.

Analyzing the situation with transboundary water use in the Central Asian region, M.B. Suleiman believes that «The main threat to the region's security in the light of the use of water resources lies in the emergence of the threat of social upheaval in the states with all the consequences resulting from it: political:

– a possible change in the political structure of the state,

– the emergence of a «third force», trying to destabilize the situation with certain benefits for itself,

– the threat of the influx of refugees into the territory of other countries of the region,

– the threat of ethnic conflict and economic:

– a sharp decline in the output of agricultural products,

– reduction in the use of hydroelectric power, etc.» (Suleymen M.B., 2011: 116-121).

The researcher emphasizes the role of water as a political tool that can, to varying degrees, influence and really influence the political aspects of the development of the region. Indeed, the water problem entails a whole range of problems that flows from each other – this is the economic and social and political aspects.

Aware of the urgency and depth of the water security problem, the Government of the Republic of Kazakhstan is taking a set of measures that include both the national and intergovernmental levels.

At the international level, a number of agreements have been concluded that address issues of shared water use. Among the latter, mention should be made of the International Treaty between Azerbaijan, Iran, Kazakhstan, Russia, Turkmenistan, signed on August 12, 2018 in the framework of the Fifth Caspian Summit in Aktau. This act defined the status of the Caspian Sea as a sea with consequences resulting from it. The bottom and depths of the Caspian Sea are now divided between neighboring states into plots by agreement between them on the basis of international law. The conclusion of this agreement is necessary for Kazakhstan and from the point of view of further development of the trade routes of the republic, the development of fishing, the depth of production.

Water security issues are also addressed in the context of implementing state programs. Decree of the Government of the Republic of Kazakhstan of March 13, 2017 No. 113 adopted the State Program for the Development of the Agro-Industrial Complex of the Republic of Kazakhstan for 2017-2021, which noted that «Kazakhstan has established the basics for the development of the water industry in market relations with the division of managerial and economic functions. The basin principle of water resources management has been introduced» ([www.eurasiancommission.org/.../agroprom/](http://www.eurasiancommission.org/.../agroprom/)). The solution of a number of internal problems in the field of water use is planned through strengthening the effective use of water resources, by providing irrigation water with the

necessary and regular irrigation for the development of agriculture, improving the meliorative condition and restoring the irrigation infrastructure.

### Conclusion

Summarizing the results of this study, it should be concluded that water security is an important component of Kazakhstan's national security. It has a complex structure defined by the role and importance of water in human life, as well as the presence of serious external and internal threats.

We consider it necessary:

1. to introduce such concepts as «water» security into the legal space, defining it as a complex component directly and indirectly determining the provision of a whole range of basic national interests of the country;
2. It is necessary to understand the integrated nature of water security;
3. Develop a single concept paper on water security, including all aspects of this issue;
4. To carry out a scientific justification for this legal institution.

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