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INTERNATIONAL LEGAL REGULATION OF PROTECTION AND USE OFUNDERGROUNDWATERS

Abstract. The article considers the legal problems of underground water. At present, the international legal regime of underground waterhas not been sufficiently defined. The underground wateris a part of international water law,therefore,it is important to highlight international legal principles for the protection of underground water. So, it is not only a sphere of law, but also an environmental one. Such principles as: "rational use of underground water", "the use of underground water for the benefit of mankind", "equitable use of underground waterin accordance with the international law", etc. must be fully implemented and respected. Also, proposals on the practice of applying international experience in the field of underground waterprotection in national legislation were presented.

Keywords:underground water, water object, law, legal regulation, protection, offense, natural resource, international act.

The legal regulation of protection and use of undergroundwater in world practice becomes topical every year, as the problem –the lack of drinking water in the worldremains urgent. We agree with the view that "up to now, the use and protection of transboundary freshwater resources in the international legal doctrine has been considered exclusively in the context of cooperation of countries on international watercourses". At the same time, the relations on the use of fresh water as a resource of independent value remain unimportant [1, p.4]. Frequent natural disasters in many European and Asian states, as well as numerous crustal fallshave led to the development of legal regulation of relations in the field of use and protection undergroundwater from depletion. The crisis of energy resources was one of the reasons for the need to develop legislation in the field of legal regulation of renewable energy sources, which important partis theundergroundwater. However, despite the fact that these problems are long and widely known, the research of the legal regulation of the use and protection of undergroundwater is a relatively new area of international law and the law of certain foreign states.

According to Dante A. Caponera,nowadays the international legal regime of undergroundwater is not sufficiently defined. The international right of undergroundwater as an integral part of international water law should be considered within the framework of legal science. That is why it is important to highlight the international legal principles for the protection of undergroundwater. The problem of international legal regulation of undergroundwater is that international law does not have sufficiently developed principles that are flexible and specific to promote mandatory cooperation or reduce the conflict in the use of undergroundwater. Although intergovernmental organizations spare no efforts to develop legal principles for surface water, the same cannot be is not true for undergroundwater. Almost all international agreements on water resources are limited with surface water problems. They do not regulate relations on undergroundwater, as a result the legal principles that are observed for surface waters cannot be used groundwater problems. Defining the problem of international legal regulation of the use and protection of undergroundwater, Dante A. Caponerapays special attention to such principles as "rational use of undergroundwater", "the use of undergroundwaterfor the benefit of mankind", "fair use of undergroundwater in accordance with the international law", "social value of underground water" [2].

According to Kerstin Mechlem, the main direction of international legal regulation of the use and protection of undergroundwater should be the protection of public health and the achievement of social,

economic and all serious environmental objectives, such as minimizing harmful anthropogenic impact on the ecosystem of undergroundwater[3].

One of the first international acts in the field of undergroundwaterprotection is the Mar del Plata Action Plan, adopted on 14-25 March 1977 at the UN Water Conference.

At the conference, it was noted that in the context of accelerated development, water resources are a key factor in improving the economic and social conditions of mankind, especially in developing countries. Along with this, it was noted that the best quality of life and human dignity and happiness cannot be achieved unless concrete and mutual actions on protection of water resourcesare taken. In this regard, the working commission of the conference has developed a number of recommendations that subsequently assisted in the development of national legislation of individual countries in the use and protection of undergroundwater.

The followingswere noted as common undergroundwaterproblems:

First, there are serious shortcomings in the use of data on water resourcesin most countries, especially with respect to undergroundwaterand water quality, people do not pay an attention, or the systematic study, monitoring and processing of water data is ignored. Secondly, the improvement of water resources management directly depends on the available information on the quantity and quality of such resources. Therefore, such data should be used to estimate and forecast the use of surface and undergroundwater, and increase the potential of these resources. All countries were recommended to revise the system of collecting data on water resources, and to coordinate monitoring mechanisms.

By the Mar del Plata action plan for the protection of undergroundwater, it was recommended that the following measuresbe takenfor countries:

- To provide assistance to the structures with the aim of creation and consolidation of the observational system for recording quantitative and qualitative information on undergroundwater information;
- In order to study the research, identify gaps and develop programs, it is recommended to create anunderground water database;
- To use the advanced methods and technologies in the study of underground water potential [4].

In our opinion, despite its recommendatory nature, the Mar del Plata action plan has had a serious impact on the development of international legal mechanisms for the protection of underground water. Its historical significance lies in the fact that for the first time at the international level, the importance of maintaining the cadastre and monitoring of underground resources, including the collection of underground water data, was announced. For the purpose of sufficient and high quality water supply, countries first of all, should pay attention to the potential of water resources located under their own sovereignty. All countries were invited to unify their national legislation in accordance with this international legal act.

The issues of the use and protection of undergroundwater were addressed in the Charter of the Economic Commission for Europe on Groundwater Management in more detail, which defined undergroundwater as a natural resource of both ecological and economic value, vital for maintaining the life, health and integrity of ecosystems.

A key aspect of this Charter is the assignmentof the commission to the governments of countries to develop and adopt a long-term policy of protecting undergroundwater by preventing pollution and excessive use. This policy should be comprehensive and implemented at all corresponding levels, and should be consistent with other water resource management policies and duly take them into account in other sectoral policies.

The strategic plans of countries regarding undergroundwater should be adopted in the following areas:

- Undergroundwater should be recognized as a natural resource with economic and environmental value.
- Due to the fact that undergroundwater contamination is interrelated with environmental pollution (surface water, soil, atmosphere), undergroundwater protection planning should be included in general environmental planning.
- Protection measures aimed at preventing pollution and excessive use of undergroundwater should be the main tools for managing undergroundwater. Such protection measures include, inter alia, undergroundwater monitoring, the development of vulnerability maps for aquifers, regulations for

industrial plants and waste sites, taking into account undergroundwater conservation objectives, geological and ecological assessment of the impact of industrial and agricultural activities on undergroundwater and zoning of undergroundwater protection.

At the same time, it was considered that undergroundwater strategies should contain mechanisms for ensuring the sustainable use of undergroundwater and maintaining their quality. These strategies should be flexible in responding to changing conditions and different regional and local circumstances [5].

It is important to note that the innovation of this international documents was the introduction of the term "sustainable use of water resources" into legal sphere, which in our opinion indicates the creation of a legal basis for sustainable development at the international level. This principle was to become the fundamental idea of the national water legislation because sustainable development envisages meeting the needs of the present time without endangering the ability of future generations to meet their needs [6].

The topicality of the principle of sustainable development of water resources led to the adoption of the Dublin Statement on Water and Sustainable Development at the International Conference on Water and the Environment. According to this statement for the first time, the following principles were established for ensuring sustainable development of water resources:

1)Fresh water is the ultimate and vulnerable resource necessary to sustain life, development and the environment;

2) Water resources development and management should be based on the principle of participation of all subjects of policy-making users at all levels;

3) Water has an economic value in all its competing uses and must be recognized as an economically important asset [7].

Chapter 18 of the United Nations Conference on Environment and Development, providing for the protection of quality and supply of freshwater resources, notes that the application of integrated approaches to the development, management and use of water resources has the following overall objective: how to meet the needs of freshwater in all countries in their sustainable development.

Integrated water resources management is based on the perception of water as an integral part of the ecosystem, natural resources and social and economic benefits, which quantity and quality determines the nature of its use. To this end, it is necessary to protect water resources, taking into account the functioning of aquatic ecosystems and a multi-year resource in order to meet and harmonize water needs in human activities. In the development and use of water resources, the priority is given to meeting basic needs and conserving ecosystems. However, in addition to these requirements, water users must be appropriately charged. The conference also offered the following program areas for fresh water:

- complex development and management of water resources;
- water resources assessment;
- protection of water resources, water quality and water resources, ecosystems;
- drinking water supply and sanitation;
- water and sustainable urban development;
- water for sustainable food production and rural development;
- impact of climate change on water resources [8].

In the resolution on closed transboundary undergroundwaters,the United Nations International Law Commission recommended that countries to consider concluding agreements with another country or countries where limited transboundary undergroundwaters are located and also in the event of a dispute involving transboundary limited undergroundwaters to interested countriesto consider resolving such dispute in accordance with the provisions of this resolution or otherwise in a manner that does not conflict with the norms of international law[9].

In 1995, at a seminar on the prevention and control of groundwater pollution from chemical stores and waste disposal sites, held in Madrid, Spain, the recommendations of the European Economic Commission were prepared and approved by the Committee on Environmental Policy at its third session in May 1996, concerning specific measures for the prevention, control and reduction of undergroundwater pollution, which provide the basic mechanisms for the protection of undergroundwater. Itisimportanttohighlightandusethefollowingprovisionsforthedevelopmentofnationallegislationfromtheserecommendations.

- Underground water protection should be comprehensive, but not limited only to water use zones. The quality of water in uncontaminated aquifers should be maintained. Taking into account the distinguishing features of underground water compared to surface water, integrated management of underground and surface waters should be developed.

- The protection strategy should also be aimed at the development and use of technologies to eliminate existing pollution.

- In order to ensure a coordinated policy on undergroundwater, the responsibility for undergroundwater should be transferred, where possible, to a single authority.

- Planning new activities that can pollute undergroundwater must include all the necessary protective measures at the source of pollution.

The protection of undergroundwater should not be based on the ability to self-purify aquifers, unless this is justified by the specifics of local conditions and does not lead to long-term instability and uncertainty.

- Legislation should provide the requirements, both for the prevention of undergroundwater pollution, and for their subsequent purification.

- Precautionary standards should be used to prevent future damage. Standards for post-treatment evaluation should be established to prevent the risk of damage to protected products and/or resources, especially human health. Using an assessment system based on a list of harmful substances, the authorities must decide whether to take any action or not.

In our opinion, these recommendations are aimed only at protecting undergroundwater from external pollution, but it does not have mechanisms for rational use of undergroundwater[10].

In 2000, the United Nations Economic Commission for Europe developed guidelines for the monitoring and assessment of transboundary undergroundwaters. According to them, the successful development and implementation of policies, strategies and methodologies for undergroundwater management depends crucially on institutional aspects. These include the organization, structures, cooperation mechanisms and responsibilities of the relevant institutions and organizations.

The countries must agree on quantitative management targets. These goals should be part of an agreed plan of action or program. This plan or program should also cover other measures aimed at achieving environmentally sound and rational management of undergroundwater, conserving undergroundwater resources and protecting the environment. This plan of action or program should provide provisions for mutual assistance, where necessary. It must be approved at the level of ministers or higher state structures of officials [11].

A particular interest in the study area is the legislative practice of the European Union. The problems of negative impact on undergroundwater caused the adoption of Council Directive No. 80/68/EEC "On the protection of undergroundwater from pollution by certain dangerous substances" in 1979. The purpose of this Directive is to prevent the leakage of certain toxic, persistent and bioaccumulative substances into undergroundwater [12].

According to Art. 3 of this Directive, the members of the European Union must take the necessary measures to: (a) prevent the release of substances into undergroundwater included in List I; (b) restrict the introduction of substances in List II into undergroundwater in order to avoid contamination of these waters with these substances. In order to fulfill these obligations, the countries shall:

- prohibit all direct emissions of substances in List I,

- any removal or overturning in order to remove these substances that could lead to an indirect dischargeare subject to preliminary research,

- take all necessary measures that they consider necessary to prevent any indirect discharges of substances in List I in connection with activities on land or in it, other than those specified in the second paragraph. In addition, the directive specifies the list of substances to be restricted or prevented altogether[12].

In our opinion, this directive is the first serious legislative instrument aimed at protecting undergroundwater, which included basic measures for the protection of undergroundwater, requiring the prevention (direct or indirect) of introducing high-priority pollutants into undergroundwater and restricting the introduction of other pollutants into undergroundwater substances in order to avoid contamination of these waters with these substances.

In 1982, the Directorate General for Environment, Consumer Protection and Nuclear Safety of the European Community conducted a major assessment of undergroundwater resources in the Member States. A general survey (undergroundwater resources of the European Community) and separate reports from each state was conducted. This estimate mainly concerned the amount of undergroundwater. Since in Europe (and in the USA) the focus was on quality, as a resultthe undergroundwater quality monitoring programs improved significantly, and many undergroundwater protection schemes were put into effect.

Council Resolutions in 1992 and 1995 recommended the adoption of a program of measures and the revision of the undergroundwater directive. This was followed by a proposal to develop a program of action for integrated undergroundwater protection and management, which was adopted by the European Commission on November 25, 1996. The proposal stated that it was necessary to establish procedures regulating the extraction of fresh water and to monitor the quality and quantity of freshwater resources. Then the European Parliament and the Council appealed to the Commission to create a legal basis for European water policy. This process led to the adoption of the Water Framework Directive (WFD) in October 2000. This Directive establishes rules for preventing the deterioration of the European Union (EU) water bodies and the achievement of a "quality status" for rivers, lakes and undergroundwater in Europe by 2015.

In particular, this includes:

- Protection of all types of water;
- Restoration of ecosystems in these water bodies and around them;
- Reduction of pollution of water bodies;
- Guarantee of sustainable use of water by individuals and enterprises[13].

Thus, the Water Framework Directive 2000 established in its content a significant number of provisions on the qualitative and quantitative status of undergroundwater, emphasizing the joint nature of the protection of surface and undergroundwater. Particular attention in the Framework Directive 2000 is devoted to the provisions on the protection of undergroundwater from pollution and depletion. The Directive identifies the legal protection of undergroundwater and groundwater. In the field of undergroundwater protection, the Water Framework Directive 2000 considers: to identify undergroundwater objects within the water resources areas, classifying them depending on water pressure and the impact of human activities on the quality of undergroundwater.

Directive 2006/118/EC of the European Parliament and the Council datedDecember 12, 2006 on the protection of undergroundwater against pollution and deterioration establishes a regime that determines standards for the quality of undergroundwater and introduces measures to prevent or limit the flow of pollutants into undergroundwater.

The Directive defines quality criteria that take into account local characteristics, and allows further improvements based on monitoring data and new scientific knowledge. Thus, this directive is a pro-rata and scientifically based response to the requirements of the Water Framework Directive (WFD), since it concerns assessments of the chemical status of undergroundwater and the identification and cancellation of significant and persistent trends in increasing concentrations of pollutants. EU states should set standards at the most appropriate level and take into account local or regional conditions.

The Groundwater Directive supplements the Water Framework Directive (WFD) and establishes the following obligations:

1) Undergroundwater quality standards should be established by the end of 2008;
2) Conducting a survey of pollution trends that must be performed using existing data;

- Trends in pollution should be abolished in order to achieve environmental objectives by 2015 using the measures set out in the directive;
- Take measures to prevent or limit the flow of pollutants into undergroundwater in order to achieve water-related objectives related to the water framework directive by 2015 [14].

Thus, the Water Framework Directive contains general rules on the protection of undergroundwater and a number of other water bodies, and the 2006/118/EC Undergroundwater Directive contains specific rules for only this natural object.

The EU Directive 98/83/EC "On the quality of drinking water" reflects the problems of drinking water supply. Repeated attempts have been made to develop a single international standard for the quality of drinking water. However, these attempts are extremely difficult to implement, because the quality

requirements for drinking water are different and depend on the variety of the drinking resources of a country. For example, the same standards for drinking water in Switzerland and in South Africa cannot be established.As we have mentioned before, Directive No. 2006/118/EC of the European Parliament and the Council on the protection of undergroundwater from pollution and depletion identifies the concepts of "underground water" and "groundwater" and recognizes groundwater as a valuable natural resource that is protected against depletion and chemical pollution. At the same time, the directive especially focuses on ensuring human rights, which can be traced in the recognition of groundwater as the most sensitive and largest source of clean water in the European Union, as well as the main source of drinking water in many regions [15,p.19].

As we see, the legal acts of the EU recognize underground waters in several ways, namely, as a valuable natural resource, as a source of fresh water, and thirdly, which, in the opinion of scientists, act in two ways: as an object of international environmental legal relations and as a resource, it's impossible to ensure and implement the life of a person without it[1, p.10].

In international law, problems of the legal regulation of the use and protection of undergroundwater are sharply pointed in connection with the negative impact on them. There are acute problems of drinking water quality, underground sources of water supply, as well as problems of undergroundwater depletion, which are the causes of numerous landslides and collapses in various cities around the world.

At the state level, in Kazakhstan, several programs and concepts were adopted on the problems of protection and use of water bodies, which emphasize the importance of undergroundwater as one of the strategic resources. Legal regulation of the protection and use of undergroundwater in the Republic of Kazakhstan has its own peculiarities and a number of features. National legislation in this area has made a major breakthrough, thanks to the consolidation at the highest state level of the principles of priority use of self-renewing natural resources and the rational use of natural resources.

When regulating relations in the field of protection and use of undergroundwater, we should take into account their function in our life. We subdivide the functions of undergroundwater into *ecological, economic, industrial and social*. At the same time, undergroundwater is the main source of drinking water, which is a vital resource for human life, and therefore in matters of regulation of these relations, public policy issues in the field of ensuring water security.

We propose to introduce an additional chapter "The economic mechanism for regulating the protection and use of underground water" in the Water Code of the Republic of Kazakhstan. This proposal is justified by the fact that currently there is a misuse of a significant part of payments in connection with the transfer of functions of financing environmental activities to the local level, to an unjustified discrepancy in payment rates across regions, to the destruction of positive incentives for nature users, which is manifested in violation of the principles of fairness and equality all subjects in the eyes of the law.

The content of this mechanism will include the following economic instruments, namely:

- planning and financing activities in the field of protection and use of undergroundwater;
- economic incentives for activities in the field of protection and use of undergroundwater;
- payments for the use of undergroundwater and for their pollution;
- tax and credit incentives, other incentive protection and use of undergroundwater;
- environmentalinsurance.

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ЖЕР АСТЫ СУЛАРЫН ҚОРҒАУ МЕН ПАЙДАЛАНУДЫ ХАЛЫҚАРАЛЫҚ ҚҰҚЫҚТЫҚ РЕТТЕУ

Аннотация: Мақалада жер асты сулардың құқықтық мәселелері қарастырылған. Бүгінгі күнге дейін халықаралық жер асты сулардың құқықтық режимі анықталмаған. Жер асты сулары халықаралық су құқығының бір бөлігі, сондықтанда жер асты суларының халықаралық құқықтық қорғау қағидасын айқындау маңызды. Ол тек құқық саласы ғана емес, сонымен қатар экологиялық саланы тікелей қамтиды. Мына қағидаларды: «жер асты суларын рационалды пайдалану», «жер асты суларын адамзат игілігіне (пайдасына) қолдану», «халықаралық құқыққа сай жер асты суларын тең пайдалану» және т.б. қағидалары орындалу мен ұстанылуы тиіс. Мақалада жер асты суларын қорғау саласындағы халықаралық құқықта қолданылатын тәжірибені ұлттық заңнамаға бейімдеу ұсынысы қарастырылған.

Түйін сөздер: жер асты сулары, су объектілері,құқық, құқықтық реттеу, қорғау, құқықбұзушылық, табиғи ресурс, халықаралық акт.

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МЕЖДУНАРОДНО – ПРАВОВОЕ РЕГУЛИРОВАНИЕ ОХРАНЫ И ИСПОЛЬЗОВАНИЯ ПОДЗЕМНЫХ ВОД

Аннотация:В статье рассмотрено правовые проблемы подземных вод. В настоящее время не определено достаточной мере международный правовой режим подземных вод. Подземные воды составляют часть международного водного право, именно по этому важно выделить международные правовые принципы охраны подземных вод. Так, как это не только сфера право, но и экологическая. Такие принципы как:«рациональное использование подземных вод», «использование подземных вод во благо человечества», «справедливое использование подземных вод в соответствии с международным правом» и т.д. должны в полной мере исполняться и соблюдаться. Также предложения по практике применения международного опыта в сфере охраны подземных вод в национальном законодательстве.

Ключевые слова: подземные воды, водные объекты,права, правовое регулирование, охрана, правонарушение, природный ресурс, международный акт.

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