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Legal Support of Economic Mechanism of Groundwater Protection and Use Regulation in Central Asia Region

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Abstract:

Groundwater is one of the main sources of fresh drinking water, a lack of which we begin to feel acutely. Water resources are distributed unevenly. This exacerbates the problem of drinking water scarcity. This situation requires legislative groundwater regulation. This paper discusses some problems of legal support of economic mechanism of groundwater protection and use regulation in Kazakhstan as a state that has a deficit of water resources. To achieve this goal we have conducted a comparative legal analysis of the legislation of Kazakhstan in the field of water resources management. It has studied the features of groundwater as an object of legal regulation. Economic instruments, regulating the protection and use of groundwater, have been investigated and the ways of legislation improvement were suggested in this paper as well. The proposed amendments to the legislation are oriented to increasing funding for groundwater protection and use.

Keywords: legal regulation; economic mechanism; groundwater; environmental protection; natural resource management.

JEL Classifications: K32; K34; K39.

Introduction

Kazakhstan is facing a problem to supply a society with drinking water at the national level. In the strategy 'Kazakhstan-2050' Nazarbayev N.A. allocated ten global challenges of the twenty-first century, among them the fourth place was given to the shortage of water, which confirms the importance of addressing this issue at the highest state level. As it was stated in the message of the President, drinking water consumption in the world has increased by 8 times over the last 60 years. By the mid of this century, many countries are likely to be forced to import water. Water is a very scarce resource and the fight for the possession of sources is already becoming an important factor of geopolitics, which is one of the causes of tension and conflict in the world (Mukhina 2010, Burchi and Nanni 2003, Grebennikov *et al.* 2016). Water supply problem is vital in Kazakhstan as well. Many regions are experiencing a shortage of high-quality drinking water (Message of the President of Kazakhstan..., 2012). It should be noted that Kazakhstan has colossal resources of underground water of different quality and categories, the use of which, of course, needs to be rationalized (Suleimenova 2012, Kiyanskiy and Begeneev 2016; Mamyrov *et al.* 2003). National legislation should meet international standards and requirements.

Currently, there are three forms of ownership of water resources (Mamyrov *et al.* 2003; Golovin 2015, Golovina 2014).

- (1) State-owned, private and municipal (the United Kingdom, Mexico, Germany);

- (2) Federal states are characterized by the transfer of rights and powers, as well as by delimitation of subject of regulation in the field of water management between the Government and the territorial entities (the United States, Commonwealth of Australia, Canada);
- (3) Only state ownership of water resources (Bulgaria, China, Kazakhstan).

Specific legal regulation of groundwater is due to the nature of the object itself. The latter is a part of several objects of environmental relationships:

- (1) Nature (Brinchuk 1999, Burchi and Nann 2003, Mechlem 2016);
- (2) Natural objects and natural components (land, subsoil, water) (Dorogovtseva *et al.* 2012, Monitoring of groundwater and dangerous ... 2016);
- (3) Thermal and mineral underground waters may also be subject to specially protected areas (Surface and underground waters.. 2009, Bekturganov and Mukhtarova 2011), natural complexes or they may be a separate subject of legal regulation in the United States, Iceland, New Zealand.

In this regard, the study of the legal aspects of regulation functioning of the economic mechanism of groundwater protection and use is of great importance from the point of view of theoretical development and practical application of the existing legislation in this area as well.

2. Method

Legal regulation of natural resource management, including water resources were carried out from the position of the economic interests of the state, where the main focus was the rational use and protection of natural resources and their preservation for the future generations. The basis of this article are scientific studies on philosophy, sociology, economics and general theory of law.

We have used methods of logical and system analysis, comparative legal analysis, fundamental provisions of environmental law, as well as the latest achievements in other legal sciences. We have used legislation, the Water Code of Kazakhstan as information sources, as well as other statutory instruments regulating water management.

3. Results

One of the features of groundwater as a natural component is its renewability; however, currently there is a sharp increase in the anthropogenic load on groundwater in the exploitation process. This fact, in some cases prevent them from further use and leads to the need to strengthen measures of legal regulation of relations in the sphere of groundwater use and protection.

The main features of the legal regulations regarding the protection and use of groundwater in modern Kazakhstan explored in scientific works of domestic scientists. As the results of their scientific contribution we can say that in international law and the rights of individual states designated acute problems of legal regulation of use and protection of groundwater due to a negative influence on them. Acute problem of drinking water quality, underground water sources, as well as problems of groundwater depletion, are the cause of numerous landslides and collapses of various cities in the world (Yerkinbayeva 2015).

Groundwater as the object of legal regulation can be considered from various aspects. Mukhina E.N. offers the following list: environmental protection component; water body; subsoil user; source of household and drinking water supply (Mukhina 2010). According to the author, each of these 'groundwater statuses' has its own specific features.

Legislation in the field of protection of groundwater should take into account the international legislative practice. Groundwater should be the subject not only of legal learning of one state should be brought to the attention of the international community (Yerkinbayeva 2015).

Groundwater is the source of drinking water which has balneological energy properties which contains valuable chemicals (Mukhina 2010).

Rational use of groundwater may serve to guarantee the right of citizens to a favourable environment. Legislation in the field of protection of underground water should have a certain system (Sherimova 2016).

Therefore, the complexity of legal regulation of groundwater use and protection is the interaction of the legislation on mineral resources and related sectors (water, land, environmental, sanitary and hygiene, urban planning, and etc.). At the same time due to the disunity involved in the process agencies, their diverging interests, and lack of highly qualified developers, the documents they prepare are not always correct. The current database is contradictory; it contains a number of unreasonable demands and does not fully ensure effective and efficient use of subsoil (Yazvin 2014). Groundwater is an integral part of the subsoil and a part of the shared

water resources. Accordingly, in determining an object of the right for exploitation it should be taken into account both, a geological environment and water contained in it (Yazvin 2014).

With the development and changes in nature of water relations the content, methods and means of state regulation are changing too. The transformation of water relations in accordance with the laws of the market economy led to the need for further strengthening of state regulation in this sphere. In terms of market economic relations in the legal rules that constitute the legal basis for public water management, denoting withdrawal from administrative-command management to fundamentally different methods of regulation of water relations. Legal formulation and practical application can lead to social, ecological and economic efficiency of water relations (Suleimenova 2012).

The following *functions of groundwater* can be distinguished:

Social function: groundwater is the basis of life and people's activity, meets the drinking and household needs of the population. By itself, the water has no nutritional value, but it is an indispensable part of all living beings.

The ability of groundwater to be a source of drinking and domestic water supply, contain medicinal resources and valuable industrial components determines its high social importance.

Ecological function: groundwater is an integral part of ecological systems, and the environment in general, and plays an important role in maintaining the balance in nature. Therefore, when touching any underground water bodies, there is a risk of environmental damage not only to the top but also to the deep-lying aquifers. Since the groundwater that is a part of the subsoil and part of the overall water resources, it is the most valuable mineral. Its value for drinking and household water supply of the population, and in some cases, for technological purposes, is increasing every year.

Economic and industrial groundwater is used in agriculture, industry, energy (geothermal), fisheries and transport, as well as for the discharge of industrial, municipal, drainage and other waste water. Deposits of groundwater are accumulation of different types of groundwater under the ground, which have certain qualities (physical properties, salinity, chemical and bacteriological composition). Sufficient resources available for different purposes such as: for drinking and technical water supply, land reclamation, industrial production of chemical products for medical purposes, and heat generation. Deposits of groundwater can be distinguished as drinking, industrial, mineral and thermal waters. There are three main requirements for deposits of groundwater: quality, quantity, and possibility of extracting.

Proceeding from the above, the functions of groundwater can be divided into ecological, economic and industrial, and social. It could be argued that this classification should be taken into consideration in the regulation of social relations in the field of protection and use of groundwater and underpin economic mechanism.

According to Brinchuk M.M., management of natural resources inventories, contracts and licenses should be provided along with the above-mentioned measures of environmental protection (Brinchuk 1999).

Institutional framework for the protection and conservation of groundwater depends on the organization departments of underground waters. Only an integrated and comprehensive state control the observance of legislation can serve to guarantee the rational use of groundwater (Sherimova 2015)

Dorogovtseva A.P. claims that the concept of 'economic mechanism' of environmental protection is a set of legal rules governing the conditions and procedures for the accumulation of funds received as payment for environmental pollution and other harmful impacts, the financing of environmental protection measures and economic incentives to managing through the application of tax and other benefits (Dorogovtseva *et al.* 2012).

The inclusion of planning environmental protection measures into economic mechanism of environmental protection can be seen very debatable. On the one hand, it is believed that planning serves as one of the functions of environmental management, including the state. And, accordingly, the legal basis of planning should be considered in relation to management. But, on the other hand, planning is an economic measure of the environmental protection.

Better understanding of the characteristics and nature of groundwater and increasing pressure on the resource have instilled a predominant trend to vest ownership and control over all water resources in the state or to recognize the state's superior right to the management of water resources (Burchi and Nanni 2003).

Legal frameworks play a crucial role for effective groundwater governance. They flank and support water policy and provide users and the administration with rights and obligations to use, manage, and protect vital resources in order to achieve the overall goal of equitable and sustainable water use (Mechlem 2016).

In terms of water tenure, users face the disadvantage that even where *de minimis* use is described in terms of a right to abstract water and use it for specific purposes, it may be difficult to assert an unquantified right

against the state or other users in case of drying up wells or polluted water. Insofar individual de minimis rights lack security and often also equitable mechanisms for allocation, even where legislation protects de minimis uses as a category (Hodgson 2016).

The protection of the significant social and public health benefits derived from small-scale uses requires effective aquifer planning and protection measures to prevent de minimis sources from running dry or becoming unfit for use. A permit can be made a prerequisite for drilling so information about the location of wells for de minimis uses is available. Cumulatively, or alternatively, a reporting regime whereby users are required to periodically provide details of their abstraction and use of groundwater can help to keep the scope of de minimis uses under review. Community management approaches may provide further options for groundwater allocation and protection for de minimis uses. The protection of groundwater from overdraft requires regulation not only of abstraction but protection, and in some cases artificial enhancement, of recharge (Taylor *et al.* 2013).

Article 95 of the Environmental Code of Kazakhstan defines the types of economic mechanisms of legal management of the protection of the environment and wildlife. These include (Environmental Code of Kazakhstan., 2007):

- (1) planning and funding of environmental protection;
- (2) fee for emissions into the environment;
- (3) fee for the use of certain types of natural resources;
- (4) economic stimulation of environmental protection;
- (5) market management mechanisms of emissions into the environment; market mechanisms to reduce emissions and absorption of greenhouse gases;
- (6) ecological insurance; extended obligations of producers (importers);
- (7) economic evaluation of damage caused to the environment.

Thus, types of economic mechanism protection and use of groundwater include:

- planning and funding activities in the field of groundwater protection and use;
- economic stimulation of activities in the field of groundwater protection and use;
- payments for groundwater usage and pollution;
- tax and credit incentives, and other promotional protection and use of groundwater;
- ecological insurance.

The water legislation of Kazakhstan manages the features of the implementation of economic instruments in the sphere of water relations. In particular, Art. 44 of the Water Code of Kazakhstan (WC RK hereinafter) provides that 'the objectives of state planning in the use and protection of water resources, water supply and sanitation are scientifically justified distribution of water among water users taking into consideration the primary satisfaction of drinking and household needs of the population, as well as water protection and prevention from harmful effects.'

For the state planning in the use and protection of water resources, water supply and sanitation, water balances and schemes of complex use and protection of waters are compiled, as well as the forecast of use and protection of water resources as a part of development schemes and distribution of productive forces and economic sectors is developed.

Funding for programs and activities on the rational use and protection of water is produced at the expense of the republican and local budgets; funds of legal entities and individual entrepreneurs; bank loans; voluntary contributions of legal entities and citizens of the republic, including individual entrepreneurs, associations and other sources.

Today there are several programs for further exploration and development of groundwater extraction in Kazakhstan, for example, a long-term program 'Akbulak 2011 – 2020' (Decree of the Government of Kazakhstan 2010):

The first stage of the program is designed for 2011 – 2015 years. At this point, the goal of access to piped water in rural areas is up to 54%, in urban areas 85% has been reached;

The second stage includes 2016 – 2020 years, in which it is planned to provide access to the centralized water supply in rural areas up to 80% and in urban areas 100%.

'The quality of groundwater bodies is significantly higher than the water on the surface, therefore their use as drinking water sources is preferable. Despite this, many populated areas still do not use groundwater for drinking and household water needs' (Malyshko 1981).

Among the variety of environmental problems of large cities occupy issues related to water use, pollution of water bodies and their recovery. Data on the ratio of wastewater treatment expenses are increasing every year and account for more than 40% from the total cost of the environment in Kazakhstan (Water Code of Kazakhstan 2003).

Much attention is paid to water legislation, the protection of groundwater. Individuals and legal entities, whose industrial activities are likely to have an adverse impact on groundwater, are required to monitor groundwater and to take timely measures to prevent pollution and depletion of water.

In the catchment areas of groundwater that are used or could be used for drinking placement of burials of radioactive and chemical waste, landfills, cemeteries, cattle cemetery (biothermic pit) and other facilities affecting the condition of groundwater are prohibited. Land irrigation with wastewater is prohibited as well, if it affects or may affect groundwater quality.

Extraction of groundwater in the construction and maintenance of drainage systems on reclaimed land is subject to the availability of permits for special use of water.

During geological study, exploration and mining, construction and operation of underground facilities not related to mining, mining companies are required to take measures to prevent pollution and depletion of groundwater.

Thus, according to the Committee of Geology and Subsoil Use of the Ministry of Industry and New Technologies of Kazakhstan for 549 groundwater deposits, 48 mineral water deposits and 15 thermal water deposits there are 158 subsoil users, who are engaged in exploration and extraction of groundwater (Monitoring of groundwater and dangerous... 2016). This registry lists all resorts, which use mineral water, artesian water, and thermal springs in their activities.

Solution of the state problems of monitoring groundwater will provide more complete information on the status and quality of water bodies to predict and prevent unwanted effects. The study of the legal framework of the groundwater management found that funding for monitoring causes concern by the public and government agencies. This is evidenced by an appeal of the Majilis deputies to the Prime Minister of Kazakhstan Masimov K. (Kiyanskiy and Begeneev 2016).

The following reply was given to the deputy request: «National groundwater monitoring is an integral part of a unified state system of environmental monitoring and natural resources. It is an observation system for the early detection of changes in the qualitative and quantitative status of groundwater, assessment, prevention and elimination of consequences of negative processes. Results are provided to the Security Council (environmental safety with regard to groundwater), Ministry of Agriculture (the inventory of groundwater), the Department of Energy (groundwater pollution, the National report on the environmental situation).

However, in accordance with paragraph 2 of the Article 1 of the meeting protocol chaired by the Head of the State on the system of economic policy measures on August 19, 2015, it was tasked by the end of 2018, to set a moratorium on the allocation of funds from the state budget for new initiatives. In this regard, from the planned three-year state budget annually 930 883 000 tenge from 2016 till 2018 for the conduct of carryover and new projects on state monitoring of groundwater Republican Budget Commission supported only on 595 733 000 tenge for transitioning projects (Kiyanskiy and Begeneev 2016).

It could be argued that a major gap in the legal protection of groundwater is the lack of economic incentive measures of environmental performance. Law-abiding nature user performing on environmental protection measures and, accordingly, at the time of their funding, could rely on economic incentives, that is dividends. In fact, it is a long-term investment made in technology, technical and organizational, social and economic measures aimed at protecting the environment and improving its quality, but which does not have any preferences in environmental or in the framework of the tax or in the framework of the investment regulations. Moreover Art. 103 of EC of RK titled 'Economic Incentives for Environmental Protection', is excluded, which is directly contrary to the principles of market economy and makes insertion of money and other resources to the protection of the environment no more attractive to any investor or resource user (Environmental Code of Kazakhstan 2007). In this regard, it is advisable to provide an article with this formulation not only in the Environmental Code of Kazakhstan, but also in sectoral legislation (the Water Code of Kazakhstan, the Law of RK on 'Subsoil and Subsoil Use').

Catalytic role is given to:

- (a) payments for the use and pollution of groundwater;
- (b) tax and credit benefits, other incentive measures in the sphere of environmental protection. To a certain extent, ecological insurance acts as a stimulator (Mamyrov *et al.* 2003).

The most important component of the economic mechanism is a system of payments for use of natural resources and pollution of the environment (Brinchuk 1999). Current legislation formed the legal basis for the establishment of fees for use of mineral wealth, forests, water, land and other natural resources on the basis of the rental payments or funding approach.

Each of these violations can be related to groundwater as well. In particular, the pollution of groundwater is very widespread in Kazakhstan. Areas of polluted groundwater vary from a few square kilometers to tens and hundreds. The main sources of groundwater pollution in the country are industrial, mining and processing enterprises, urban development, livestock farms, agricultural fields, especially irrigated, various septic tanks, storage of solid and liquid waste, oil products, storage of some materials, vehicles, etc. Under their influence drinking groundwater is often contaminated. Nearly all of the major pollutants reach the water bodies with waste waters from chemical, petrochemical, machine-building and nonferrous metallurgy industries (Surface and underground waters... 2009).

There are articles describing the offense data, as well as related specific prohibitions on certain actions with respect to bodies of water in the water legislation of Kazakhstan, such as Art. 113 of the Water Code: 'Protection of Water Bodies from Pollution.' (Water Code of Kazakhstan 2003).

A similar article exists in relation to littering of water bodies as well as Art. 114, which states that there shall not be a blockage of catchment areas of water bodies, ice water bodies, glaciers with firm, industrial, household and other waste, washout of which will entail deterioration in the quality of surface and ground water bodies (Environmental Code of Kazakhstan 2007).

It should be noted that the above measures shall be applied to all types of water bodies, and this is very important, as the quality of all water bodies, directly or indirectly affect the condition of groundwater, which in turn is the main source of drinking water in Kazakhstan. Also, improper treatment of wastewater leads to clogging of groundwater.

Incoming payments (taxes) are distributed between the state budget and the budget of a specific subject in the proportions specified by natural resource laws. Increasing the amount of payments for use of natural resources is only possible with a decrease in the proportion (quantity) to other taxes, as the total taxes on natural resources, as a rule, are at extremely high levels (Bekturganov and Mukhtarova 2011).

The gradual increase in the proportion of payments for natural resources in the revenue part of the budget is the most important element in the reorganization of the tax system, and allows providing increased levels of funding for the reproduction and conservation of natural resources. It is necessary to improve the economic mechanism to clarify the types of natural resources that are used on a paid basis, the differentiation of taxes and payments of rent, depending on the features of nature of the object. It is required to create an effective system of credit, fiscal and other discounts and benefits in engaging in the development of low-grade and off-grade natural raw materials and production waste, use of environmentally sensitive and resource-saving technologies (Bekturganov and Mukhtarova 2011).

Fee for the use of groundwater is one of the most important economic instruments to encourage rational use of groundwater. Previously, fees for emissions into the environment were given to the Environmental Protection Fund, but currently they are given to the local budgets without any prescriptions. However, in Kazakhstan, local agencies are using these funds not for environmental as they should be, but for other issues (Code of Kazakhstan on taxes... 2011). This situation adversely affects the ecological situation in the country because finances that are provided for the restoration of environmental facilities and elimination of consequences of emissions into the environment, in the end are used for other purposes. In this regard, it is offered to add a special rate for target expenditure data of financial resources into the Tax Code of Kazakhstan, along with the articles managing the order and payment collection conditions for emissions into the environment.

There is no doubt that the current system of taxation of groundwater extraction is imperfect and has certain disadvantages, as, for example the old system of tax rates for the groundwater use. The analysis shows that the current collection of water tax is 4-8 times lower than the state budget expenses for targeted programs for the geological and hydrogeological study, groundwater monitoring, and others. Low water tax revenues cannot provide full financial support for groundwater extraction sector' (Golovin 2001). The above described situation is happening in Kazakhstan.

A simple review of the water tax rate upwards cannot be executed automatically without full justification, which should be based on the following factors (Golovina 2014):

- Groundwater is considered as a mineral of natural origin. It has a variety of parameters and features. This refers to the chemical and microbiological composition, operational reserves and expected resources, the complexity of the geological occurrence of aquifers. Accordingly there are specific

requirements for underground water intake, the degree of loading on the water intakes in conditions of scarcity of resources, remoteness from consumer, and environmental factors;

- Financing of groundwater extraction system is impractical without the reorganization of the structure, namely the revision of the licensing system for groundwater extraction; establishment of a single analytical center, managing the entire regional groundwater extraction within the field using numerical modeling machine and a modern monitoring system (Golovina 2013);
- Flexible and reasonable tax policy for water use within the groundwater deposits.

According to the Article 101 of Ecological Code there are payments for environmental emissions. Emissions into the environment are discharges of pollutants, disposal of production and consumption waste, and harmful physical impacts (Environmental Code of Kazakhstan 2007).

The fee for emissions into the environment is set by the tax legislation of Kazakhstan. In Chapter 71, 'The fee for emissions into the environment' (art. 492-498) of the Tax Code of Kazakhstan dated 10th December, 2008, it is stated that the fee for emission into the environment is charged for emissions into the environment in the order of a special environmental management (Golovin 2015).

Emissions into the environment without duly executed certificate of permission are considered as emissions into the environment in excess of the emission standards in the environment, with the exception of emissions from mobile sources.

Fee payers shall be individuals and legal entities engaged in activities in the territory of Kazakhstan according to nature management system.

By decision of the legal entity, its structural subdivisions may be considered as independent fee payers.

The object of taxation is the actual amount of emissions into the environment within and (or) in excess of the norms of emissions into the environment of the following activities:

- (1) emissions of pollutants;
- (2) discharges of pollutants;
- (3) production and consumption waste disposal.

In the Tax Code of Kazakhstan there is a special section 'Tax on mining common minerals, underground waters and therapeutic muds' according to which the object of taxation is the physical amount of produced groundwater by the subsoil user for the tax period. At the same time, it can be seen from the Art. 340 of Tax Code of Kazakhstan that groundwater deposits are considered as a mineral resource (Golovin 2015).

Tax on mining is not paid in the following cases:

- (1) when re-injection of groundwater in the subsoil to maintain reservoir pressure and pumping of technogenic water;
- (2) when individuals are engaged in the extraction of groundwater on the land belonging to them on the ownership right, under the condition that extracted groundwater is not used for entrepreneurial activity;
- (3) when groundwater is mined by government agencies for their own economic needs.

According to Tax Code of Kazakhstan Art. 342, taxes on extraction of mineral resources shall be calculated at a rate of 0.1 per cent of the fixed rate on the volume of groundwater for (Golovin 2015):

- extracted natural monopoly in the field of water management and designed specifically for this activity;
- extracted and implemented by the subsoil user the subjects of natural monopolies in the field of water management and designed specifically for this activity.

The tax on the extraction of minerals is calculated at a rate of 0.3 per cent of the established rate for:

- groundwater used for technological and industrial needs in the extraction and processing of other types of minerals, including the use of groundwater in the process of getting products from such minerals or their waste, and to provide social facilities within its balance;
- groundwater used for production and (or) processing of agricultural raw materials;
- groundwater used for industrial and technical purposes;
- drinking groundwater used exclusively for domestic use.

For the purposes of this article by the notion domestic needs is meant the use of household water, including water supply of shift camps.

The tax on the extraction of minerals is estimated at 25 per cent of the established rate for subsoil users according to the volumes of extracted mineral underground waters, household and drinking underground waters used for the production of alcohol, food products and non-alcoholic beverages.

Payments for discharges of polluting substances are charged to enterprises irrespective of forms of ownership and departmental affiliation.

Considering local conditions, the regional administration may exempt companies, organizations and institutions of payments for discharges of polluting substances produced within the maximum permissible emissions and discharges.

The tax authorities at the end of the year conduct off-site tax inspection on the correctness of the tax calculation on mineral extraction on groundwater. During the inspection taxpayers who did incorrect calculation of mineral extraction tax for groundwater were identified. Most of them are domestic producers of mineral waters, soft drinks and juices, as well as representatives of the brewing industry (The new rate of MET..., 2016).

According to Article 341, paragraph 2 of the Tax Code, the tax on the extraction of groundwater is determined based on the average prices of their implementation. In the absence of the implementation of groundwater, in accordance with paragraph 4 of Article 341, the tax is determined based on the actual production cost of extraction and primary processing, increased by 20 percent (Golovin 2015).

Incorrect calculation of mineral extraction tax was mainly detected in the taxpayers engaged in the production and further implementation of the groundwater, but the MET (mineral extraction tax) was calculated on the basis of the production cost increased by 20 percent, not on the basis of average selling prices.

As a result of off-site inspection, tax authorities sent notification of the additional charges on MET to groundwater producing and implementing companies. These companies strongly disagree with the recalculation of produced and exposed additional charging, assuming that the correct calculation was made on the basis of the production mining costs increased by 20 percent.

4. Discussion

Taxpayers consider that the tax authorities interpret the term 'water' literally and do not distinguish between the extracted underground water and the final food product, which is bottled water. The cost of sales includes the cost of water packaging, salary of employees, taxes, marketing costs and other costs, which makes the cost of implementation is much higher than the cost of groundwater extraction.

The tax authorities do not agree with the arguments of the manufacturer that the extracted underground water passed through the filtration equipment and packaged in bottles, is a completely different product (bottled drinking water) and consider their calculations on mineral extraction tax are correct.

Moreover, the tax authorities noted that a number of taxpayers have created a scheme to reduce the obligations on mineral extraction tax on groundwater by separating into individual enterprises engaged in cleaning, packaging and further implementation of the groundwater extracted by subsoil users. In this scheme, the subsoil user performing the extraction of groundwater, implements its company engaged in cleaning and filling water at cost or at a slight markup. This leads to the fact that implementation price becomes virtually equal to the mining costs.

In order to avoid disputes over defining the tax base on groundwater between the producers and the tax authorities in future periods, as well as to avoid the creation of schemes for tax evasion through the allocation to individual companies engaged in the implementation of the extracted groundwater by the subsoil user, it was suggested to make the rate of mineral extraction tax for underground water fixed.

On December 3, 2015 the Head of State signed the Law of Kazakhstan «On amendments and additions to some legislative acts of Kazakhstan on issues of taxation and customs administration». The Law revised the procedure for calculating the tax on extraction of mineral resources and underground waters. In particular, the base for calculation of mineral extraction tax is set by the volume of extracted groundwater with MET rate equal to one minimum calculation index (MCI) per 1 cubic meter of extracted groundwater (The new rate of MET... 2016).

MET is calculated at a rate of 25 per cent of 1 MCI distracted volumes of mineral underground waters, household and drinking groundwater used for the production of alcohol, food products and non-alcoholic beverages. Moreover, MET is defined at a rate of 0.3 percent from 1 MCI on harvested volumes of groundwater used for technological and industrial needs in the extraction and processing of other types of minerals, including the use of groundwater in the process of getting products from such minerals or their waste (The new rate of MET..., 2016).

Groundwater resources are equally important in the preservation of nature and for the economic life of a person. This is due to such an extensive system of legal regulation of payments for groundwater. Unfortunately, legal norms have various industrial branches, which are not coordinated with each other. Thus, under current conditions, to correctly apply a particular legislative norm and determine the form of payment for groundwater it must be clarified for what purposes it is used. These features are the main criterion for the selection of a particular legal regulation method of payment for this natural resource (Mukhina 2010).

As possible prospects for the development of ecological insurance of groundwater, the intensification of relations in property insurance bodies of groundwater should be distinguished from material damage caused by natural disasters.

Activation of ecological insurance in the form of property insurance as civil liability insurance of organizations operating industrial safety facilities, will allow the best way to implement a system of financial support and a mechanism to ensure environmental safety.

Due to the development of market relations and the emergence of various forms of ownerships in the field of nature management there is a need in the environmental insurance as a protection against unexpected environmental accidents and disasters in the case of damage compensation.

The insurer and the insured might have some concerns about the way of defining tariff rates, the extent of damage, the delimitation of rights and responsibilities, determining the list of pollutants, environmental insurance expert involvement rules and etc.

The system of environmental safety management liability insurance for environmental pollution and harm to the health of citizens aimed at the implementation of social and economic, compensatory and preventive functions.

The social and economic function of environmental insurance is an essential element of the economic mechanism of environmental protection, a reliable guarantee of the rights of citizens to a favourable environment and compensation for damage caused to health.

Compensation function of environmental insurance is to provide and implement the principle of full compensation for environmental damage. Furthermore, the compensation of environmental damage through payment of insurance compensation is in close relationship with other mechanisms of compensation for environmental damage (payment of environmental allowances according to administrative procedure, sue for compensation for damage, social protection etc.) (Golovina 2014).

The scope of the insurer's liability should include mainly a covering of losses caused by a single accidental pollution resulting from the occurrence of extraordinary, unexpected, random events. From accidental pollution suffer not only the recipients (a third party on behalf of whom the liability insurance is carried out), but insurers themselves as the sources of pollution, who are also the recipients.

Golovina E.I. pointed out that another method of improving the institutional mechanism of water use licensing is to provide subsoil users with combined license for geological exploration and extraction of groundwater. This will reduce the time for obtaining the license, as well as reduce the cost of project design, reports, agreements, avoiding the duplication of other documentation (Golovin 2015).

It can also be proposed to establish a regional numerical model for calculating groundwater resources in the monitoring system for multiple single water intakes, including low-rated ones. This includes reorganizing of license documentation in the calculation of operational reserves and aquifer parameters in geological exploration and geological evaluation works.

It is necessary to organize a unified control over the network of water supply system, namely:

- tariff rates control between the entities, extracting underground water, and consumers,
- sanitary and epidemiological control of water quality as a final product,
- control of the extracted and consumed underground water volume,
- control of the targeted use the resource base,
- sanitary control of water intakes zones and condition of engineering nets, as well as engineering and ecological condition of water removal systems.

It is also necessary to use the target fees during compulsory licensing for regional, environmental and hydrogeological research programs.

Conclusion

The peculiarity of groundwater as an object of legal regulation is that the groundwater is an integral component of the subsoil, soil, water, wetlands and other elements of nature.

When regulating relations in the field of groundwater protection and use, the function it performs should be taken into consideration. Groundwater functions were divided into ecological, economic and industrial, and social. At the same time, groundwater is the main source of drinking water, which is a vital resource for human life, and therefore in managing these relations public policy issues are of great importance in the field of water security.

The results of this study suggest adding an additional chapter 'The economic mechanism of regulation of protection and use of groundwater' to the Water Code of Kazakhstan. The suggestion is based on the fact that

currently there is inappropriate use of a large part of payments in connection with the transfer of the funding functions of environmental activities at local level, which leads to unjustified differences in the regions payment rates, to the destruction of positive incentives for natural resource users expressed in violation of justice and equality by all entities.

This mechanism will include the following economic instruments:

- Planning and funding activities in the field of groundwater protection and use;
- Economic incentives for activities in the field of groundwater protection and use;
- Payments for the utilization and pollution of groundwater;
- Tax and credit benefits, and other encouragements in groundwater protection and use;
- Environmental insurance.

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