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# General Legal Description of Groundwater In Uzbekistan

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#### Abstract

Today, the environmental crises and problems occurring in different continents of the world are equal concern to the population of all countries. At the level of state policy reforms, we can see that all ecosystems are interconnected and form a coherent chain. Accordingly, through the close interaction of environmental elements, they create life on Earth and provide favorable conditions for living beings. As part of this, the conservation and rational use of groundwater largely depends on other natural objects, their natural resources and the rational use of the environment as a whole

#### **Keywords**

Groundwater, Drinking Water, Hydrogeology, Irrigation, National Legislation, Land Users.

# Introduction

The world community is faced with the task of establishing strict procedures and strengthening control over the rational use and protection of natural resources. As a form of natural resources, the protection of groundwater occupies a special place. Because the fact that groundwater accounts for 67% of the population's clean drinking water supply in our country itself indicates the relevance of this area. Due to the increasing need for drinking water and the extraction of groundwater mainly for irrigation and other purposes, there are cases of groundwater levels falling below the long-term average level (From the meeting of the Legislative Chamber of the Republic of Uzbekistan, 2025). This is of concern to public representatives, citizens and state bodies. Regulation of this area requires special attention.

Currently, social relations in the field of water resources management, use and protection are regulated by about 10 decrees, as well as more than 20 ordinances (parliament.gov.uz).

Today, it is noticeable that state and public control over the protection of groundwater resources is being strengthened, measures are being taken to prevent their quantitative reduction and pollution. Extensive propaganda is being carried out among citizens to increase the culture of rational use of water. Our tasks are ultimately to provide the population with high-quality drinking water in the long term.

As a result of exploration in our country, 97 groundwater deposits have been discovered, with a daily yield of 63.9 million m3. The needs of the population of 69 cities, 335 settlements and 2902 rural settlements are met by providing groundwater. Currently, 50,839 wells are in use, of which 43% are used for domestic needs, 35% for agricultural purposes, 10% for production and technical purposes, and 2.8% for irrigation of pastures (Gledko et al, 2012).

Article 68 of the Constitution of the Republic of Uzbekistan states that "Land, subsoil, water, flora and fauna, and other natural resources are national wealth, their rational use is necessary and they are under state protection." This plays a special role in the protection of natural resources and determines state policy.

Article 4 of the Law of the Republic of Uzbekistan "On Water and Water Use" stipulates that groundwater bodies are generally included in the state water fund.

The Law "On Water and Water Use" is considered the main normative legal document regulating water-related relations. Article 21 of this law defines the concept of groundwater as follows: "groundwater - water located below the surface of the earth in the layers of rocks of the earth's crust". In our opinion, this definition attempts to briefly and concisely explain the concept, but not all lands of our state are covered with land, and in lands belonging to the category of water covered by water, waters located below the water table are also considered groundwater.

The Subsoil Code of the Republic of Belarus defines groundwater as follows: groundwater - natural waters located below the surface of the earth in the layers of the earth's crust, with the exception of artificially created groundwater reservoirs.

It is considered appropriate to define groundwater in the law as follows: "groundwater - waters located below the surface of the earth, in water areas below the water table in the layers of rocks of the earth's crust, with the exception of artificially created water reservoirs".

It is fair to say that the perfection of the definition serves as an effective tool of legal technique that allows for the elimination of problems of legal regulation, legal uncertainty and the resolution of legal disputes.

# Methods

The science that studies and investigates groundwater is Hydrogeology. According to the Belarusian scientist Y.A. Gledko, hydrogeology is defined as the science that studies groundwater systems: the laws of their distribution in the earth's crust, the conditions of their formation and movement, their properties and composition, their interaction with rocks, as well as the conditions and possibilities of their economic use (Gledko et al, 2012). In general, the word Hydrogeology comes from the words "hydro" - water, "geo" - earth, "logos" - science, doctrine, that is, it is the science of groundwater, which studies the occurrence, change, occurrence, location, movement, consumption patterns, chemical composition, physical properties and characteristics of groundwater in the cavities, cracks of the earth's crust, karst cavities of various shapes and sizes, and ways of using it in the national economy (Hölting et al, 2019). The relevance and

necessity of hydrogeological research, as well as the strategic importance of groundwater as a source of drinking water throughout the world, have been recognized by experts from leading scientific centers. It is of great importance to identify and search for the patterns of formation of water resources in demand, and to develop effective and scientifically based methods for their rational use. This serves to meet the water demand of settlements and industrial enterprises in many countries where drinking water is scarce. Today, a wide range of work is being carried out worldwide to improve the methodological foundations of studying the development of hydrogeological systems and to assess the prospects for water resources.

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There are also a number of misunderstandings regarding the classification of groundwater. According to Patrick, groundwater is classified as drinking, mineral and energy resources (Lachassagne, 2021). In particular, the properties of water are classified according to the purpose of use.

# **Results and Discussion**

The speeches of the President of the Republic of Uzbekistan, who specifically addressed water issues in his speech to the United Nations in 2024, stating that "glaciers are expected to shrink by 1/3, the waters of the Amu Darya and Syrdarya rivers are expected to decrease by 15%, the level of water supply per capita by 25%, and the productivity of agricultural crops by 40%" serve as an important programmatic guideline in regulating this sector.

According to paragraph 9 of Article 21 of the Law of the Republic of Uzbekistan "On Water and Water Use", "Water bodies are provided for use by water users in compliance with the requirements and conditions stipulated by the legislation to meet the agricultural, drinking, medical and household needs of water consumers, resort, recreational and other needs of the population, industrial, energy, transport, fisheries and other state or public needs." Also, by the resolution of the Cabinet of Ministers "On measures to further improve the procedure for issuing permits for the use of groundwater" (lex.uz), water intake structures are divided into boreholes (artesian), wells, galleries, springs, etc. Each of them differs from each other in type, characteristics and purpose.

The Ministry of Mining Industry and Geology of the Republic of Uzbekistan is designated as a specially authorized state body in regulating relations related to groundwater. It ensures control

over relations related to groundwater and the implementation of work. There are different views in foreign countries on the designation of state bodies that control groundwater. First, the implementation of control over surface waters and groundwater by one state body (for example, the Russian Federation)[8]; Second, the separation of control over surface waters and groundwater and the transfer of control over groundwater to the body coordinating mining issues (for example, the Republic of Kazakhstan) (voda.gov.ru). We believe that the Republic of Uzbekistan has chosen form 2, which is logically correct. We can see that the issues of monitoring, cadastre, measurement, accounting, and research of groundwater are close to the issues of minerals or subsoil resources.

Scientists say that over the past 20 years, the Earth's soil moisture has decreased by 2,000 gigatons (Amundson et al, 2015). This amount is twice as much as the Greenland glaciers lost in 2002-2006. Also, severe droughts, which were previously observed once every ten years, are now accelerating. The rise in sea levels and geographical changes at the Earth's poles are also due to this situation. Professor Dongriol Ryu believes that it is necessary to pay special attention to the dangerous consequences of this process. In his opinion, natural water sources will not be restored after droughts, because the soil's ability to retain water has decreased. Therefore, the situation may worsen in the future if people do not radically change the ways they use water resources.

Pool, a professor of hydrogeology and data science at the University of Potsdam, compared the study to the planet's electrocardiogram, recording the Earth's oscillations (Pool et al). He warned that ignoring such changes would be like a doctor failing to detect a heart arrhythmia.

Previous reports have suggested that if the current rate of glacier melting continues, many regions could completely disappear by the end of the 21st century. According to the UN, glaciers account for about 70 percent of the world's fresh water reserves (Khilchevskyi et al, 2021). They hardly melt under stable climate conditions, but global warming caused by human activity is causing them to melt rapidly.

According to our national legislation, groundwater is used by general and special methods. In accordance with the terms of general use, when individuals use groundwater in a volume of 5 (five) cubic meters per day from wells with a depth of up to 25 (twenty-five) meters, a special use permit is not required. In this case, citizens can use the water obtained for their own needs. If the amount used per day exceeds 5 cubic meters, a permit must be obtained in the prescribed manner, or if the well depth exceeds 25 meters, it is necessary to operate on the basis of a permit. In this case, it is interpreted as general use. This amount is determined differently in different countries. For example, in the Republic of Kazakhstan (Absametov et al, 2023), when using groundwater through a well, it is specified that it should not exceed 50 cubic meters per day and the depth should not exceed 100 cubic meters per day and the depth should not exceed 5 meters. In the Indian capital of Delhi (Rai, 2011), the monthly water usage limit is set at 20 (twenty) cubic meters or 20,000 liters. These limits are set to ensure that groundwater is not adversely affected, and to protect its reserves and preserve it for future generations.

Today, modern water-saving technologies, drip irrigation practices are being introduced in agriculture and preferential loans are being allocated for this purpose, as well as a number of positive actions are being taken to create drought-resistant varieties. However, in some cases, the inability to provide agricultural crops with water in a timely manner and the resulting increased

labor and expenses put landowners, land users and land tenants in a difficult situation, contributing to the formation of a spirit of distrust in the sector. In our opinion, to prevent this situation, Article 39 of the Land Code (Rights of Landowners, Land Users, Tenants and Land Plot Owners) should include paragraph 11 as "construction of water intake facilities on land plots in compliance with the norms of water legislation". This will be an important step in protecting their rights and achieving the desired result in terms of productivity.

If we look at the concepts in Article 21 of the Law "On Water and Water Use", we will not find a definition of the concept of water bodies. If we look at the definition given to water bodies in this article, it is defined as "a water body is a natural (streams, brooks, rivers, etc.) and artificial (open and closed canals, as well as collector-drainage networks) watercourses, natural (lakes, seas, groundwater aquifers) and artificial (reservoirs, floodplains, ponds, etc.) water bodies, as well as springs and other objects, where water permanently or temporarily accumulates and has specific forms and characteristics of the water regime." However, in order to accurately define a water body, a full and detailed consideration of water bodies is necessary. If we focus on water bodies in the definition, then the idea of artificial water bodies has disappeared, then it is necessary to dwell on natural water bodies. In addition, we need to include the concept of underground water bodies in our legislation. As drought-related cases increase in the coming years, we will be forced to implement the views and practices of developed countries on the rational use of water. For example, as the experience of the Spanish state shows, it is necessary to introduce the technology of collecting water in underground water tanks during the rainy season and using these waters in parts for farming and plant protection in the summer months. In this case, when precipitation is collected in one place, all roads and water pipes carry water to the water tank. The use of water from this tank using a pump in parts gives good results in practice.

# Conclusion

In conclusion, groundwater is a single complex entity that includes both water resources and subsoil resources. "Groundwater" refers to water located below the earth's surface, including groundwater and water located deep in rocks, available for study and use. Groundwater is a component of both groundwater basins and surface water basins (springs and geysers). Depending on the area of natural resources legislation, certain properties of groundwater can be identified. In mining legislation, "groundwater" means water found in rocks. The specific nature of groundwater in the field of mining law is its subsoil resource: mineral or energy (geothermal waters), its ability to be a mineral, and its beneficial properties are obtained in the process of using subsoil.

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