

PROBLEMS OF WATER DEPLETION AND POLLUTION AND THEIR CONSEQUENCES

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ANOTATION

Aral Sea, water, hydrosphere, pollution, depletion, ecology, industry.

The article deals with issues related to the causes of pollution and depletion of water resources, their environmental and socio-economic consequences for society, as well as the feasibility of solving such environmental problems.

Key words: *water, hydrosphere, pollution, depletion, ecology, industry.*

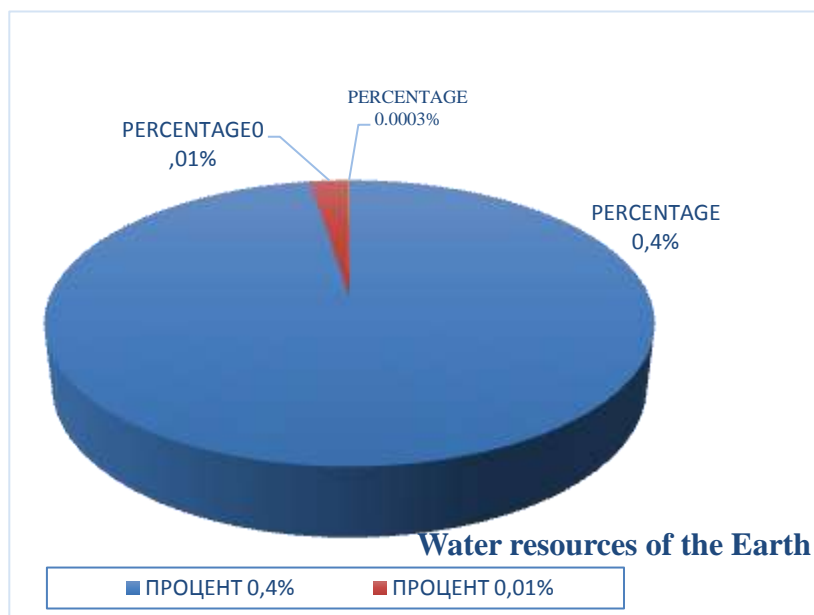


As you know, water covers more than half of the globe: its role in nature is invaluable. Also, for the economy, water resources are of extreme necessity and require a rational approach to their use. In the context of the global development of industry and STP (scientific and technological progress), intensive use of water leads to its depletion. In particular, in such industries as metallurgy, heat and power engineering, and the petrochemical industry, the use of a huge amount of water is required, which certainly affects the volume of water reserves. And there are very few fresh water resources suitable for consumption on Earth – 2% of the entire hydrosphere. In addition, active human activity negatively affects the quality of water, polluting it. Water resources are one of the components of the economic potential of any country. For full-fledged farming, meeting the needs of the population, it is necessary to have a sufficient amount of water reserves. In some countries, water scarcity is considered a major social and economic problem. And the most pressing problems related to water today are its pollution and depletion.

The main “suppliers” of fresh water are rivers, lakes, underground water and glaciers. The total water reserves are shown in the figure. (1)

Earth's Hydrosphere

- Underground (except for soil water)
- Ice and snow (mountain – glacial areas)
- Land surface water (lakes, reservoirs, rivers)
- Atmospheric water
- Water contained in living organisms

Figure: 1 Water rapas of the Earth

Every day, as a result of human influence, a large volume of fresh water becomes completely unusable. The sharp deterioration of water quality is caused by its contamination with chemicals, radioactive substances, synthetic fertilizers and toxic chemicals, and sewage. And pollution of the hydrosphere-causing irreparable damage to the environment! Industrial emissions of large plants, especially metallurgical and automobile plants, into fresh water change its composition with various heavy metals – xenobiotics, such as lead, cadmium, mercury, and others. Of course, further consumption of such water by people is fraught with dangerous consequences. The situation is even worse when water bodies are contaminated with radioactive substances, since when the result of the decay of isotopes – particles-enters the body, they cause serious cancer. The flow of water into reservoirs from sewage drains poses a threat to living beings due to the presence of a mass of pollutants in them: food residues, household waste.

In addition to pollution, humanity is also facing the depletion of water resources. The first reason for the decrease in the amount of usable water resources is the increase in their consumption per capita. With an increase in the population, the number of consumers is also growing, which means that the world's water reserves will remain less and less. The improvement of the technology of industrial and agricultural production leads to a significant depletion. The development of mineral deposits leads to large losses of fresh water. The process of urbanization, which covers more and more territories and is expressed by the construction of many structures and buildings-the construction drainage of urban areas leads to water losses in huge quantities.

All the above-mentioned problems have extremely sad consequences not only of an environmental, but also of a socio – economic nature. Special attention should be paid to the World Ocean, because it is known that it plays a primary role in the functioning of the entire biosphere and 70% of the oxygen on Earth is produced as a result of photosynthesis of plankton living in the ocean. The pollution of the World Ocean caused by the release of household and industrial garbage and the localization of large urban agglomerations leads to the fact that various representatives of flora and fauna die out, the water temperature in the ocean rises, some global climate phenomena change their direction and garbage islands appear. In particular, one of these largest plastic islands is the garbage plastic island in the North Pacific Ocean, which arose due to ocean currents collecting plastic waste in one place. Another example is the Aral Sea crisis, which is an urgent problem not only in Central Asia, but also in the whole world. Extreme salinization and a decrease in the area of the sea has created many environmental problems.

What causes pollution and depletion of water resources? First of all, the incidence of diseases among the population increases due to the consumption of polluted water; as a result, life expectancy is reduced, labor productivity and the percentage of able-bodied people of working age fall. The lack of clean water will lead to the dissatisfaction of people's needs. Due to the fact that it is not possible to use highly polluted water, people will resort to further intensive use of the remaining clean water resources. From an economic point of view, the shortage of water forces some countries to import it to ensure the efficient functioning of the economy, that is, there is an increase in water prices. If there is a large shortage of water, individual resource-intensive factories and factories will cease to exist, and this phenomenon can subsequently lead to a decline in some industries and cause unemployment and a shortage of goods. If it is necessary to purify contaminated water, it may be necessary to implement expensive technologies to achieve the desired result. The costs of restoring natural resources, preventing possible consequences of pollution, recycling and disposal of waste will increase. Such economic consequences can undermine the country's macroeconomic indicators, reduce the level of development of the economy and infrastructure, and reduce the human resources potential.

To overcome the problems associated with water supply, water scarcity and rational use, a number of programs have been implemented and are being implemented, international conferences have been held, and UN resolutions on water law have been adopted. [2]

In particular, special attention is being paid to the problem of the Aral Sea at the present time. Together with the UN, the Program "Strengthening the Resilience of the population affected by the Aral Sea Crisis through the creation of a multi-partner fund for human security in the Aral Sea Region" was developed. On February 10, 2017, an official ceremony was held in Tashkent to launch this Program. In addition, great efforts are being made at the regional level: IFAS (the International Fund for Saving the Aral Sea), whose founders are Kazakhstan, Uzbekistan, Tajikistan, Kyrgyzstan and Turkmenistan. In addition, on January 18, 2017, the Decree of the President of the Republic of Uzbekistan approved the State Program for the Development of the Aral Sea region for 2017-2021, aimed at improving the conditions and quality of life of the population of the region, providing for the implementation of projects with a total cost of 8,422 trillion soums. [3]



Can it restore the former size of the Aral Sea?

Everything is possible. An example is the United States. They are systematically dismantling the dams. They return the rivers to their natural position. They live in harmony with the environment, and we all build reservoirs. To make such decisions, I repeat, you need to save water. And here there is a contradiction: the state has distributed land to the peasants, who need to be provided with water. But many of them irrigate the land the old-fashioned way, and this is a problem. It is necessary to change the approach: you need to first invest in the development of water management and only then give the land in trust management. The Aral Sea is originally a huge body of water. The sea had a significant climate-forming effect on the environment. Previously, cyclones did not pass through the territory of the Aral Sea. Today, when the sea is almost gone, they repel the hot air. This has become a continental-scale problem. There are similar problems in Iran and Africa. The drying up of large bodies of water changes the planet. This will eventually lead to its desertification. Therefore, the drying up of the Aral Sea is a global problem. It must be resolved before it is too late.

Solving problems related to water resources requires joint efforts. Coordinated action by all countries of the world to save and expand water resources and ensure rational use will certainly restore the natural balance on the planet.

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