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Fresh Water Pollution

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***Abstract*:** *This article discusses the level of water pollution and the process of its spread, the ingress of various chemicals, solid waste into streams, rivers and lakes, the increase in microscopic living organisms (bacteria, fungi, algae) in water bodies, pollution of natural waters.*

Key words: *canal, agriculture, cadmium, bacterial contamination, radioactive contamination.*

INTRODUCTION

Water pollution is the most global problem in the world, but modern methods of purification do not solve these problems. This can lead to serious environmental consequences, since no living creature can survive without water. To solve the problem, it is necessary to determine the sources of pollution and existing approaches to their solution. It is well known that for thousands of years our ancestors treated the words of the law as law, knowing water as sacred and wasting it for water, and used it wisely, and used the water in the ditch as drinking water freely. Later, as a result of the development of industry and agriculture, the waters also became unusable as a result of the use of various chemicals.

As a result, state control over water and water use has become not only necessary, but also a condition. This means that special attention should be paid to identifying sources of drinking water pollution, developing effective methods for their decontamination, and this is one of the current problems. 95% of the amount of water consumed in Uzbekistan comes from rivers and streams. Many canals and ditches, permanent pumping stations were built for the timely and adequate delivery of water. The agriculture of our republic is based on irrigation. 75 large canals with a total water consumption of more than 2,500 cubic meters per second in the water sector, 53 waters with a total volume of 18.6 cubic meters and 32.4 thousand kilometers of farms, arocanals , 4,889 pumping units, there are 1,479 permanent pumping stations, 10,180 vertical drainage and water wells and 30.4 thousand kilometers of inter-farm collectors.

Pollution of fresh water - the ingress of various pollutants into the waters of rivers , lakes , groundwater . Occurs when contaminants are introduced directly or indirectly into the water in the absence of good measures to clean up and remove harmful substances.

The level of water pollution and the process of its dispersion are of great concern. Natural waters are polluted due to various chemicals in soybeans, rivers and lakes, solid waste and an increase in the number of microscopic living organisms (bacteria, fungi, algae) in water bodies.

Typically, the water flowing out of factories, factories and fields contains harmful chemicals. Legislative and regulatory bodies require factories and plants to treat wastewater. For this, special treatment facilities must be installed. But even treated wastewater is polluted to a certain extent. Laboratories always check for contaminants. In most cases, contamination is visible because the contaminants dissolve in the water. Elevated concentrations of toxic heavy metals in water (cadmium, mercury, lead, chromium), field washed pesticides, nitrates and phosphates, petroleum products, highly active substances, drugs and hormones can be detected.

METHODS

There may also be bacterial contamination. Bacteria, viruses that cause various diseases can get into the water. In order not to suffer from dangerous infectious diseases, we need to follow several important rules of sanitation and hygiene:

- ✓ use only specially equipped toilets located far from rivers and reservoirs;
- ✓ always wash your hands with soap after using the toilet and before eating;
- ✓ consumption of freshly boiled water;
- ✓ rinsing unripe fruits and vegetables with boiled water.

Pollution is also mechanical. If sand, muddy silt (rocks are crushed into water, a powder product formed during drilling), and other substances fall into it, particles in it (solid particles increase in liquid or gas). This leads to deterioration in water quality.

A type of thermal pollution is also observed. This occurs when the temperature of the waste water is higher than the temperature of the water in the river and the water basin. If the drains are too warm, they can seriously affect fish and aquatic plants, even causing them to die. When the temperature of a lake rises from a hot drop of llama water, it may become covered with algae, or over time it may become a swamp.

Radioactive contamination of water is especially dangerous. It is very dangerous for human and animal life even in very small concentrations of radioactive substances. They fall to the bottom when radioactive waste is dumped into rivers and bodies of water, as well as coal. And underground water - the depths of the Earth pass when they are absorbed by atmospheric water. Radioactive inappropriate (uranium, cesium, etc., which "live long" and move in water.) is the most harmful.

the most effective way to purify water. Filters help to get rid of mechanical particles, chemical impurities, organic compounds, chlorine, heavy metals, bacteria and other contaminants. Often, several methods are used to obtain high-quality drinking water. Such complex cleaning allows you to eliminate all types of contaminants present in the water. But if you need to remove something specific, a certain kind of filter is applied.

All cleaning methods can be divided into 4 groups:

1. physical or mechanical (from solid impurities, insoluble particles);
2. chemical (use of reagents to eliminate harmful substances);
3. physico-chemical (remove different types of contaminants);
4. biological (live microorganisms are used).

Each group has its own ways to eliminate pollution, which can be used singly or in combination. To understand which water purification methods are more suitable for your apartment, private house, summer house or office, you should first conduct a chemical and biological analysis of water. This will help identify harmful impurities and find an effective solution to eliminate them.

CONCLUSION

One of the most powerful sources of water pollution are modern agricultural facilities. Now the problem is the treatment of polluted water. Water bodies have a unique feature in which a self-cleaning process occurs from time to time. In this case, under the influence of sunlight, organic matter decomposes and microbes are destroyed. Bacteria, unicellular animals, mold, aquatic plants are actively involved in the self-cleaning process. In this process, the dilution of wastewater is of particular importance. Water is able to purify itself within a certain distance, and if the amount of sewage is large, the water cannot purify itself. If there is no additional water pollution in water bodies, it can clear itself of about 50% of bacteria in 24-4 hours. Only 0.5% of germs remain within 48 hours. In winter, the process is more continuous, so wastewater is first transferred from the treatment plant and then discharged into water bodies.

In conclusion, the negative effects of pollution are many. This has a detrimental effect on living organisms and can lead to their death. Fish in water bodies can survive when chemical pollution is low, but their consumption may be more detrimental to human health.

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