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ECOLOGICAL PRINCIPLES OF WATER RESOURCES PROTECTION

Sherkuzieva G.F
Salomova F.I
Sharipova S.A
Ikromova N.A
Latipova M.Z
Toshkent State Medical University

Abstract studies: *This article examines the results of laboratory of the state of open water bodies in dynamics, an analysis of the data obtained, as well as a scientific justification for preventive measures aimed at reducing the level of pollution*

Key words: *global, water bodies, pollution, hygienic requirements, ecological, microbiological indicators,*

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SUV XAVZALARINING MUHOFAZALASHNING EKOLOGIK ASOSLARI

Sherqo'ziyeva G.F.,Salomova F.I.,Sharipova S.A., Ikromova N.A., Latipova M.Z
Toshkent davlat tibbiyot universiteti

Annotatsiya: *Ushbu maqolada suv havzalarining ifloslanish holatini yillar dinamikasidagi monitoringi natijalari va olingan natijalarininig tahlili, hamda ifloslanishni kamaytirishga qaratilgan profilaktik chora tadbirlarni ilmiy asoslash hisoblanadi.*

Kalit so'zlar: *global, suv havzalari, sanitariya muhofazalash, ifloslanish, gigiyenik talablar, ekologik, mikrobiologik ko'rsatkichlar.*

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ЭКОЛОГИЧЕСКИЕ ПРИНЦИПЫ ОХРАНЫ ВОДНЫХ РЕСУРСОВ

Шеркузиева Г.Ф.,Саломова Ф.И.,Шарипова С.А
Икромова Н.А., Латипова М.З
Тошкентский государственный медицинский университет

Аннотация: *В данной стате рассматриваются результаты лабораторных исследований состояния открытых водоёмов в динамике, проведено анализ полученных данных, а также научное обоснование профилактических мероприятий, направленных на, снижение уровня загрязнения.*

Ключевые слова: *глобалный, водоёмы, загрязнение, гигиенические требования, экологический,микробиологические показатели,*

Due to global climate change, population growth, and the expansion of economic sectors, the demand for water is increasing year by year, which is leading to a growing scarcity of water resources [5]. At the same time, unrelated processes such as new technical capabilities, the topography of the area, and the multiple increases in water extraction from water bodies have caused the water problem to emerge. Along with the expansion of irrigated land areas, changes associated with the expansion of land intended for cotton cultivation have also occurred. In Uzbekistan, the cotton industry is considered the most water-demanding agricultural crop, requiring multiple irrigations. Currently, if we analyze water usage in the economic sectors of Uzbekistan, the irrigated land area in the Republic amounts to 4.3 million hectares, with an average of 90–91 percent of the total water resources used in agriculture, 4.5 percent in the communal and household sector, 1.4 percent in industry, 1.2 percent in fisheries, 0.5 percent in thermal energy, and 1 percent in other sectors of the economy [5]. Despite the uncontrolled growth of technical capabilities in the creation of irrigation systems, these systems themselves are characterized by the abundance of outdated technologies. All the above factors together lead to the emergence of a new direction known as the ecological problem of water and a practical decrease in water reserves [3,4].

According to data from the World Water Resources Institute, Uzbekistan is among the 25 countries prone to water stress. Solving the problem involves fundamentally reforming agriculture, applying technologies in industry that save and enable the reuse of water, introducing desalination facilities and modern wastewater treatment plants into practice. Currently, the sharp reduction of water in water bodies and protection from sanitary pollution require the expenditure of large financial resources. In Uzbekistan, strong legislation has been created to solve the problem, in particular the Law "On Water and Water Use", as well as a number of subordinate legal acts [1,2].

Methods and Object of Study.

In conducting the study, we took samples over the years from an open water body flowing through a residential area and analyzed them in a laboratory. The obtained results were compared and analyzed against the legal regulatory document SanPiN and M No. 0318-15 “Hygienic and Anti-Epidemic Requirements for the Protection of Water Bodies in the Republic of Uzbekistan.”

Obtained Results.

Based on the above, we examined the pollution status of water in water bodies during the period of 2019–2021 and obtained the following results: In 2019, the total number of samples taken for microbiological indicators was 3,028, of which 63 (2.08%) did not meet hygienic requirements.

In 2020, the total number of samples taken was 1,024, of which 93 (9.08%) did not meet hygienic requirements (Table 1).

Table 1.

Samples by microbiological and sanitary-chemical indicators in 2019.

№		Microbiological indicators	Sanitary-chemical indicators

1	Total number of samples	3028	1024
2	Number of samples not meeting hygienic requirements	63	93

In 2020, the results of microbiological and sanitary-chemical analysis of open water bodies were as follows: The total number of samples taken for microbiological indicators was 2,491, of which 37 (1.4%) did not meet hygienic requirements. For sanitary-chemical indicators, the total number of samples taken was 781, of which 68 (8.7%) did not meet hygienic requirements (Figure 1).

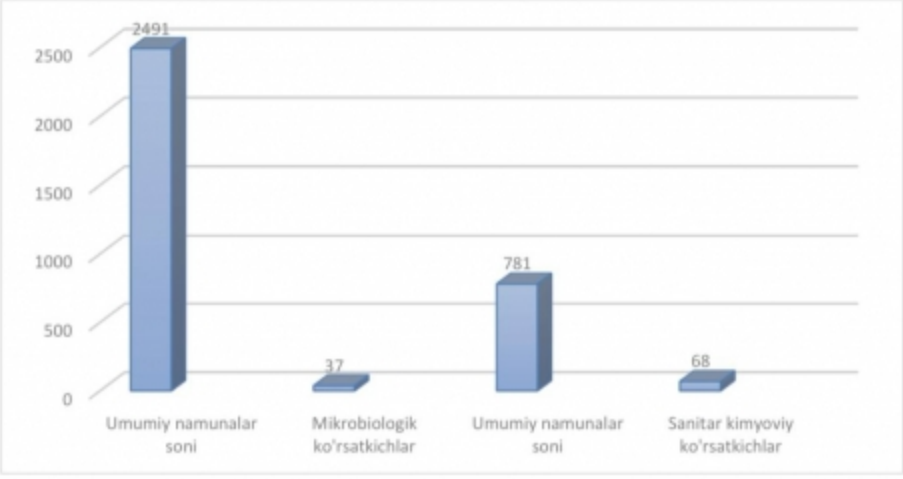

Figure 1. Samples by microbiological and sanitary-chemical indicators in 2020.

In 2021, the total number of samples taken for microbiological indicators was 2,865, of which 59 (2.05%) did not meet hygienic requirements. For sanitary-chemical indicators, the total number of samples taken in 2021 was 943, of which 91 (10.2%) did not meet hygienic requirements (Figure 2).

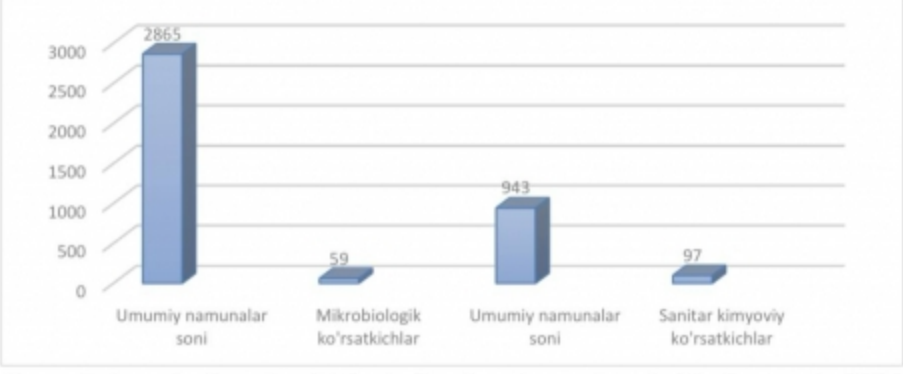

Figure 2. Samples by microbiological and sanitary-chemical indicators in 2021.

Conclusion: From the above results, it can be concluded that the quality indicators of water at the points of use do not meet the requirements of SanPiN and M No. 0318-15 "Hygienic and Anti-Epidemic Requirements for the Protection of Water Bodies in the Republic of Uzbekistan." In particular, the highest microbiological indicator was recorded in 2019, while the sanitary-chemical indicators were higher than the

microbiological ones in all years, with 10.2% of samples in 2021 not meeting hygienic requirements. Monitoring the quality indicators of water in water bodies over the years is of great importance for their use for various purposes, especially in the energy sector and for preserving public health. At the same time, it serves as a basis for developing scientifically grounded preventive measures.

REFERENCES:

1.O‘zbekiston Respublikasi Qonuni "Suv va suvdan foydalanish to‘g‘risida". T. 2011y.

2.SanQ va M №0318-15 “O‘zbekiston Respublikasida suv havzalari suvini muhofazalash bo‘yicha gigiyenik va epidemiyaga qarshi talablar”.

3. Abduvaliyeva, F. T., Azizova, F. L., Akromov, D. A., & Sherkuziyeva, G. F. (2022). APPROVAL AND ECOLOGICAL-HYGIENIC ASPECTS OF WATER SUPPLY TO POPULATION POINTS.

4. Sherkuzieva, G. F., Turakhonova, F. M., & Mustanov, J. A. Results of laboratory research of the quality of drinking water/Tomsk, 2017.

5. Sherkuzieva, G. F. (2021). Сузиш бассейнлари сувининг ифлосланиш муаммоларининг замонавий холати. Молодой ученый, (21), 624-627.