

ECOLOGICAL PROBLEMS OF WATER RESOURCES IN UKRAINE

Kyrylo Kot, Oleksandra Hutsol

*Educational and Research Institute of Nuclear and Heat Power Engineering,
National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”*

Ukraine, like many other countries, faces various ecological challenges related to its water resources.

Water Pollution: Industrial activities, agricultural run-offs, and improper disposal of waste often lead to the pollution of water bodies in Ukraine. This pollution not only affects the quality of water but also poses a threat to aquatic life and public health.

Deteriorating Water Quality: The quality of water in rivers and lakes is continuously degrading due to the discharge of untreated or partially treated sewage and industrial effluents. This affects the availability of clean water for consumption and agricultural purposes.

Groundwater Depletion: Excessive use of water for agriculture, industry, and

domestic purposes has led to a depletion of groundwater resources in various regions of Ukraine. This has significant implications for agriculture and the overall sustainability of water resources in the country.

Inefficient Water Management: Inadequate infrastructure and inefficient water management practices contribute to the mismanagement of water resources. This results in the unequal distribution of water, particularly during droughts and floods, leading to challenges in maintaining a balance between various water uses.

Lack of Water Conservation Measures: The absence of effective water conservation measures and awareness programs often results in the wastage of water in various sectors, exacerbating the water scarcity problem and putting additional pressure on available water resources.

Eutrophication: Run-off from agricultural fields and the discharge of untreated sewage contribute to eutrophication, leading to excessive growth of algae and other aquatic plants, which can deplete oxygen levels in water bodies and harm aquatic ecosystems.

Transboundary Water Issues: Ukraine shares its water resources with neighboring countries, and the management of transboundary rivers and water bodies often leads to disputes and challenges in maintaining a sustainable and equitable distribution of water resources.

Addressing these ecological problems requires the implementation of effective water management policies, the adoption of sustainable agricultural practices, the improvement of wastewater treatment facilities, the promotion of water conservation measures, and the enforcement of regulations to prevent water pollution. Additionally, international cooperation and collaboration with neighboring countries are essential for effectively managing transboundary water resources.

Support for environmentally friendly technologies: Encouraging the introduction of environmentally friendly technologies in industry and agriculture can help reduce water pollution.

Efficient use of irrigation: Improving irrigation systems and increasing the efficiency of water use in agriculture can help reduce water consumption.

Development of renewable sources of water supply: Involving renewable sources of water supply such as rainwater and underground sources can help in reducing the stress on surface water sources.

Promoting public education and awareness: Raising public awareness of the importance of water conservation and the impact of human activities on aquatic ecosystems can lead to changes in consumption habits and reductions in water pollution.

So, the development of effective systems for monitoring water quality and controlling the use of water resources can help to identify problems in time and avoid further deterioration of water quality. These measures, combined with effective policies and regulations, can help Ukraine overcome environmental water resource challenges and ensure the sustainable use of valuable aquatic ecosystems for future generations.

References:

1. Philpott, B. (2019). War time damage at two London reservoirs. *Dams and Reservoirs*, 29 (4), 133–138. Retrieved from: <https://doi.org/10.1680/jdare.19.00010>
2. Gascon, A. (2015). Battles on the Nile: A war for water? *Bulletin de l'Association de géographes français*, 92 (2). 154–166. Retrieved from: <https://doi.org/10.4000/bagf.565>
3. Hasan, M., Moody, A., Benninger, L., Hedlund, H. (2018). How war, drought, and dam management impact water supply in the Tigris and Euphrates Rivers. *Ambio*, 48 (3), 264–279. Retrieved from: <https://doi.org/10.1007/s13280-018-1073-4>
4. Osadcha, N., Nabyvanets, Y., Osadchyi, V., Ukhan, O., Osypov, V., Luzovitska, Y. et al. (2021). Pressures and impact analysis in the Dnipro River basin within Ukraine. EGU General Assembly 2021. Retrieved from: <https://doi.org/10.5194/egusphere-egu21-6493>