

WATER POLLUTION AS ONE OF THE MAIN ECOLOGICAL PROBLEMS OF SLOVAKIA

*Reporter – Anna Kromskay, mag.,
Univerzita Komenského, Slovakia*

Water is a strategic resource and natural wealth and it is indispensable for life and economy. With regard to climate change, its shortage becomes a key issue not only for developing countries, but also for many developed countries. For the coming period, therefore, at least a good state of water and efficient use of water resources will be a priority.

Water consumption in the Slovak Republic (SR) decreases annually and is one of the lowest in the EU. Slovakia has one of the largest sources of quality drinking water in Central Europe in the Danube Region, and at the same time, it belongs to countries that use only a fraction of their reserves each year. Due to the uneven distribution of groundwater resources in Slovakia, there are also areas with insufficient groundwater reserves (e.g. Krupina or Košice). Total water consumption has slightly declined in the long run, which may have a positive environmental trend, but it can also have a negative impact on the health of population and maintenance of basic hygiene principles. Drinking water is a key factor in the environment, which affects the health condition of the population. Household water consumption has fallen below the sanitary minimum recommended by the World Health Organization in recent years. The reason may be the increase in prices of water, improvement of technologies using water, or purely statistically, due to higher use of individual wells of which their supply is not recorded in official statistics. Global climate change will put increasing demands on water supplies and therefore it is essential to ensure a sustainable consumption. All public water supply networks comply with the hygienic limits and they currently supply 88% of the population. While the quality of drinking water from public water supply networks is regularly controlled and meets hygiene limits for its consumption, the quality of water from private wells does not always meet the requirements for safe drinking water, and its use can be risky.

The basic need for the functioning water bodies is their good functional state, which still some of them fail to reach. More than a half of surface water bodies achieve good ecological state or potential and almost all of them achieve good chemical status. Surface water bodies are in most cases in a good chemical and good quantitative state. In Slovakia, less than two-thirds of the population is connected to public sewers. Despite the public sewer system already built, tens of thousands of citizens remain voluntarily unconnected. The development of this area, despite the progress, lags behind the development of public water supply networks. A half less of waste water is discharged into the water courses than in 1995. The share and absolute value of the discharged

polluted waste water have been reduced. Approximately, half of the total waste water has undergone tertiary treatment.

Illegally discharged waste water from households, commerce and services, but also from the industry or leakage from environmental burdens and agricultural activity, significantly pollute surface and ground water. Strengthening and streamlining of controls, documentation of legal waste water disposal and a threat of real effective sanctions will help limit these actions. An application of good agricultural practices, countermeasures in agricultural landscape, preventing spillage from fields and drainage systems into waters are key measures, which help reduce water pollution caused by agricultural activity. Mandatory damping green lines and accompanying vegetation along the water courses are an effective measure to mitigate such pollution.

A proportion of the population connected to public water supply and public sewers will be increased by building new infrastructure and by connection of citizens, who have not used this option yet. Where it is efficient, the public sewer system will be completed also in agglomerations with less than 2,000 inhabitants, even in locations that have had limited opportunities to apply for a financial contribution. A priority will be given to the locations in protected water management areas or in areas with extensive pollution.

In spite of the existing possibility, a number of inhabitants, due to various causes are still yet to connect to public sewers. A system of accounting and inspection will therefore be strengthened. Slovakia will thus increase the connection of population to waste water treatment plants, and by 2030, agglomerations with more than 2,000 inhabitants will reach 100% and agglomerations with a lower number of inhabitants will reach 50% of drainage and waste water treatment. The problem of cost-effectiveness is more visible in smaller municipalities than in larger agglomerations, which may also lead up to the construction of smaller and less efficient water treatment plants, which will improve the status of surface water.

If it possible in regards to the local and regional conditions, Slovakia will make use of the innovative (environmentally friendly) infrastructure (e.g. vegetation, membrane, container waste water treatment plants, etc.) and decentralized cleaning. Rainwater in Slovakia is mostly discharged through a unified sewer network into the waste water treatment plant, and thus part of the waste water. The optimization of the waste water infrastructure will enable rainwater and wastewater to be collected separately.

In terms of the impact on water status, there are three main groups of significant hydromorphological changes: a disruption of longitudinal connection of the rivers and the habitats, a disruption of transverse connection of wetlands and inundation with sewer and other morphological changes and hydrological changes. Potential negative impacts are also caused by new infrastructure projects. In connection with the implementation of new infrastructure projects, a principle of maintaining the flow of water courses will be applied, and in the case of existing barriers, an objective of their gradual removal will be pursued. The insufficient hydromorphological status is one of the obstacles to achieving a good ecological state of water courses.