

## WATER POLLUTION AS A MAJOR WORLDWIDE PROBLEM

Water is essential for maintaining an adequate food supply and a productive environment for the human population and for other animals, plants, and microbes worldwide. Over two thirds of Earth's surface is covered by water so less than a third is taken up by land. As Earth's population continues to grow, people are putting ever-increasing pressure on the planet's water resources. In a sense, our oceans, rivers, and other inland waters are being "squeezed" by human activities and their quality is reduced. Poorer water quality means water pollution.

Discharge of domestic and industrial effluent wastes, leakage from water tanks, marine dumping, radioactive waste and atmospheric deposition are major causes of water pollution. Heavy metals that are disposed of and industrial waste can accumulate in lakes and river, proving harmful to humans and animals. Toxins in industrial waste are the major cause of immune suppression, reproductive failure and acute poisoning [2]. Poor quality water destroys the crop production and infects our food which is hazardous for aquatic life and human life. Pollutants disturb the food chain and heavy metals, and iron especially affects the respiratory system of fish. Iron pollutants clog fish gills and are lethal to them, and when these fish are eaten by humans, it leads to a major health issue.

Closely associated with the overall availability of water resources is the problem of water pollution and human diseases. At present, approximately 20% of the world's population lacks safe drinking water, and nearly half the world population lacks adequate sanitation. Untreated water is used for drinking, bathing, and washing, resulting in serious human infections and illnesses. Overall, water borne infections account for 90% of all human infectious diseases in developing countries. The lack of sanitary conditions contributes to approximately 12 million deaths each year, primarily among infants and young children. Approximately 40% of fresh water is deemed unfit for drinking or recreational use because of contamination by dangerous microorganisms, pesticides, and fertilizers [1]. There is a direct association between pollution and health problems. Disease causing microorganisms are known as pathogens and these pathogens are spreading disease directly among humans. Some pathogens are found worldwide and some are found in well-defined areas. Many water borne diseases are spreading man to man [3].

As human populations and economies grow, global fresh water demand has been increasing rapidly. In addition to threatening the human food supply, water shortages severely reduce biodiversity in both aquatic and terrestrial ecosystems, while water pollution facilitates the spread of serious human diseases and diminishes water quality. Humans obtain the great majority of their nutrients from crops and livestock, and these nutrient sources require water, land, and energy for production. Food supplies (cereal grains) per capita have declined by 17% over the past 20 years, in part because of an increase in human population and concurrent shortages of fresh water and cropland. Population growth, accompanied by increased water use, will not only severely reduce water availability per person but also create stress on biodiversity in the entire global ecosystem. Other major factors that limit water availability include rainfall, temperature, evaporation rates, soil quality, vegetation type, and water runoff [1].

**Conclusion.** Providing adequate quantities of pure, fresh water for human use and for their diverse activities appears to be a major problem worldwide. If further competition for water resources in regions and between countries continues to escalate, this will have negative impacts on essential freshwater supplies for personal and agricultural use. Thus, the future agricultural, industrial and urban use of water resources must be carefully managed to prevent a critical situation.

### References

1. Water Resources: Agricultural and Environmental Issues [Electronic resource] – Access mode: [https://www.researchgate.net/publication/242703023\\_Water\\_Resources\\_Agricultural\\_and\\_Environmental\\_Issues](https://www.researchgate.net/publication/242703023_Water_Resources_Agricultural_and_Environmental_Issues)
2. Water pollution and human health [Electronic resource] – Access mode: <https://www.alliedacademies.org/articles/water-pollution-and-human-health.pdf>
3. WORLD WATER QUALITY FACTS AND STATISTICS [Electronic resource] – Access mode: [https://www.pacinst.org/reports/water\\_quality/water\\_quality\\_facts\\_and\\_stats.pdf](https://www.pacinst.org/reports/water_quality/water_quality_facts_and_stats.pdf)
4. Хоменко І.О. Проблеми та напрями переробки твердих побутових відходів в Україні / І. О. Хоменко, Л. В. Бабаченко, Я.В. Падій // Економіка та суспільство. 2017. – № 12. – С. 454-458.