

UN-Water Statement on Water Quality

World Water Day, March 22, 2010

Clean, safe, and adequate freshwater is vital to the survival of all living organisms and the functioning of ecosystems, communities, and economies. But the quality of the world's water is increasingly threatened as human populations grow, industrial and agricultural activities expand, and as climate change threatens to alter the global hydrologic cycle. There is an urgent need for the global community—both public and private sectors—to join together to take on the challenge of protecting and improving the quality of water in our rivers, lakes, aquifers, and taps. To do so we must commit to preventing future water pollution, treating waters that are already contaminated – including purification for human consumption, and restoring the quality and health of rivers, lakes, aquifers, and aquatic ecosystems. These actions will be felt all the way from the headwaters of our watersheds to the oceans, fisheries, and marine environments that together help sustain humanity.

The Problem

Water quality has become a global issue. Every day, millions of tons of inadequately treated sewage and industrial and agricultural wastes are poured into the world's waters. Every year, lakes, rivers, and deltas take in the equivalent of the weight of the entire human population—nearly 7 billion people—in the form of pollution. Every year, more people die from the consequences of unsafe water than from all forms of violence, including war—and the greatest impacts are on children under the age of five. The economic losses due to the lack of water and sanitation in Africa alone is estimated at \$US28.4 billion or about 5% of GDP. Water contamination weakens or destroys natural ecosystems that support human health, food production, and biodiversity. Studies have estimated that the value of ecosystem services is double the gross national product of the global economy, and the role of freshwater ecosystems in purifying water and assimilating wastes has been valued at more than \$US400 billion. Most polluted freshwater ends up in the oceans, damaging coastal areas and fisheries.

The Good News: Effective Solutions Are Available

Effective solutions to water-quality challenges are being implemented in a number of places; it is time for a global focus. There are three fundamental solutions to water-quality problems: (1) pollution prevention; (2) treatment; and (3) restoration of ecosystems.

Preventing the pollution of water resources by reducing or eliminating contaminants at the source is almost always the cheapest, easiest, and most effective way to protect water quality. Prevention includes reducing or eliminating the use of hazardous substances, pollutants, and contaminants; modifying equipment and technologies so they generate less waste; reducing leaks and fugitive releases; and reducing energy and water consumption. Preventing pollution permits communities to spend less money on waste handling, storage, treatment, remediation, and regulatory monitoring. As the world takes on the unfinished challenges of improving water quality, meeting Millennium Development Goals for water and sanitation, and tackling climate change, pollution prevention should be prioritized at every level.

Many water sources and watersheds are already of poor quality—and many effective technologies and approaches do exist to improve water quality and treat wastewater, from high-tech to low-tech, low-energy, ecologically focused approaches. More effort to expand their deployment is needed, which means increased investment in existing water-quality systems and in research to improve the treatment of new contaminants, reduce the cost of treatment, and increase the reliability of existing methods.

Further, key to treating our water-quality problems is restoring and protecting natural ecosystems by determining and providing minimum ecosystem needs for water quality and quantity. Ecosystem protection and restoration must be considered a basic element of sustainable water-quality efforts.

Moving Forward

Much more can be done to identify and implement water-quality solutions including:

Improve Understanding of Water Quality: Ongoing monitoring and good data are the cornerstones of improving water quality. Addressing water-quality challenges will mean building capacity and expertise in developing countries and deploying real-time, low-cost, rapid, and reliable field sampling tools, technologies, and data-sharing and management institutions.

Expand Communication and Education: A concerted global education and awareness-building campaign around water-quality issues is needed, with targeted regional and national campaigns that connect water quality to issues of cultural, social, and historical importance.

Improve Financial and Economic Approaches: Adequate access to financing and appropriate pricing or subsidy programs is needed. Understanding of the economic value of maintaining ecosystem services and water infrastructure will help protect water quality, permit sufficient cost recovery, ensure adequate investments, and support sustainable long-term operation and maintenance.

Expand the Use of Effective Technologies: The capacity for logistical support, management, and technical training is required for the successful deployment, maintenance, and operation of systems to collect, transport, and treat human wastes, used water, stormwater, industrial wastes and agricultural runoff. This requires a focus on developing the capacity of communities, governments, and businesses to utilize effective water-quality technologies and approaches, and developing new technologies when needed.

Use Appropriate Legal, Institutional, Regulatory Tools: From the international level to watershed and community levels, laws on protecting and improving water quality should be adopted and adequately enforced, model pollution-prevention policies disseminated, and guidelines developed for ecosystem water quality. Standard methods to characterize in-stream water quality, international guidelines for ecosystem water quality, and priority areas for remediation need to be addressed globally.

Clean Water for Today and Tomorrow

As a global community, we must refocus our attention on improving and preserving the quality of our water, a challenge that requires bold steps internationally, nationally, and locally. Directing global priorities, funding, and policies to improve water quality can ensure that our water resources can once again become a source of life. We already have the knowledge and skills to protect our water quality. Let us now have the will. Human life and prosperity rest on our actions today to be the stewards, not polluters, of this most precious resource. *Clean water is life.*