

Wastewater should be recognized as a valuable resource, UN says on World Water Day

22 March 2017 – In a world where the demand for water continues to grow and the resource is finite, a new United Nations report argues that wastewater, discarded into the environment every day, once treated, can help meet the needs for freshwater as well as for raw materials for energy and agriculture.

Needless to mention, treating wastewater and removing pollutants can also remarkably reduce the impact on the environment as well as on health.

“Improved wastewater management is as much about reducing pollution at the source, as removing contaminants from wastewater flows, reusing reclaimed water and recovering useful by-products [as it is about increasing] social acceptance of the use of wastewater,” noted Irina Bokova, the Director-General of the UN Educational, Scientific and Cultural Organization (UNESCO) Director-General in her foreword to the *World Water Development Report 2017* “Wastewater: An untapped resource.”

The report, launched today in Durban, South Africa, on the occasion of World Water Day, also highlights that improved management of wastewater is essential in achieving the 2030 Agenda for Sustainable Development.

“It’s all about carefully managing and recycling the water that runs through our homes, factories, farms and cities,” said Guy Ryder, the Director-General of the UN International Labour Organization (ILO) and the Chair of UN-Water, urging for reducing and safely reusing more wastewater.

“Everyone can do their bit to achieve the Sustainable Development Goal target to halve the proportion of untreated wastewater and increase safe water reuse by 2030.”

Sustainable Development Goal 6 (SDG6) has specific targets on halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally (target 6.3) as well as supporting countries in wastewater treatment, recycling and reuse technologies (target 6.a).

Health and environmental dimension particularly stark for low-income countries

The report also revealed that low-income countries are particularly impacted by the release of waste water into the environment without being either treated or collected, where, on average, only 8 per cent of domestic and industrial wastewater is treated, compared to 70 per cent in high-income countries.

As a result, in many regions of the world, water contaminated by bacteria, nitrates, phosphates and solvents is discharged into rivers and lakes ending

up in the oceans, with negative consequences for the environment and public health.

For instance, in Latin America, Asia and Africa, pollution from pathogens from human and animal excreta affects almost one third of rivers, endangering the lives of millions of people.

Furthermore, growing awareness on the presence of hormones, antibiotics, steroids and endocrine disruptors in wastewater poses a new set of complexities as their impact on the environment and health have yet to be fully understood.

These set of challenges underscore the need for urgent action on collection, treatment and safe use of wastewater.

Wastewater as a source of raw materials

In addition to providing a safe alternative source for freshwater, wastewater is also a potential source of raw materials, noted the report.

Owing to developments in treatment techniques, certain nutrients, like phosphorus and nitrates, can now be recovered from sewage and sludge and turned into fertilizer. It is estimated that nearly 22 per cent of the global demand for phosphorus (a depleting mineral resource) can be met by treating human urine and excrement.

Use of treated wastewater has long been practised by astronauts, such as those on the International Space Station who have been reusing the same recycled water for over 16 years

Similarly, organic substances contained in wastewater can be used to produce biogas, which could power wastewater treatment facilities as well as contribute to energy needs of local communities.

In addition, use of treated wastewater is growing for agricultural irrigation. At least 50 countries around the globe are now using treated wastewater for this purpose, accounting for an estimated 10 per cent of all irrigated land.

Lastly, the report also mentioned that treated wastewater can augment drinking water supplies, although this is still a marginal practice. Cities such as Singapore, San Diego (United States), and Windhoek (Namibia) have been treating wastewater to supplement drinking water reserves.

A great example is use of treated wastewater, long practised by astronauts, such as those on the International Space Station who have been reusing the same recycled water for over 16 years.