UN WATER

United Nations Educational, Scientific and Cultural Organization · World Water Assessment Programme

The United Nations World Water Development Report 2017
Wastewater: The Untapped Resource

Main Messages

Improved wastewater management generates social, environmental and economic benefits, and is essential to achieving the 2030 Agenda for Sustainable Development[1].

"In a world where demands for freshwater are ever growing, and where limited water resources are increasingly stressed by over-abstraction, pollution and climate change, neglecting the opportunities arising from improved wastewater management is nothing less than unthinkable in the context of a circular economy."

(United Nations World Water Development Report 2017 – Wastewater: The Untapped Resource)

HUMAN ACTIVITIES PRODUCE WASTEWATER

1. The quantity of wastewater produced and its overall pollution load are increasing worldwide.
2. Over 80% of the world's wastewater – and over 95% in some least developed countries – is released to the environment without treatment.
3. Pollution from untreated wastewater adversely effects on human health and the environment and reduces freshwater availability.

NOT A BURDEN BUT A RESOURCE

4. Treated wastewater is a reliable source of water that can be safely used to offset growing water scarcity.
5. Wastewater can be a cost-effective and sustainable source of energy, nutrients and other recoverable by-products, with direct benefits to food and energy security.
6. As an essential component of a circular economy, wastewater use and by-product recovery can generate new business opportunities while helping finance improved sanitation services.
7. The costs of improved wastewater management are usually outweighed by benefits in terms of human health, socioeconomic development and environmental sustainability.

OPPORTUNITIES TO BE SEIZED

8. Accelerating urbanisation and aging infrastructure provide opportunities for adopting alternative low-cost approaches to wastewater management tailored to meet specific local needs.
9. Phosphorus recovery from wastewater is becoming an increasingly viable alternative to scarce and depleting mineral phosphorus reserves.
10. Healthy ecosystems complement engineered approaches to wastewater treatment in a cost-effective manner.
11. Capacity building, research and development aimed at improving wastewater management generate employment opportunities and promote green growth.

MEETING THE CHALLENGES

12. Actions to improve wastewater management fall under one of the '4 R's': reducing pollution at the source; removing contaminants from wastewater flows; reusing treated wastewater; and recovering useful by-products.
13. Barriers to the use of reclaimed water and recovered by-products are often economic and regulatory, rather than technical.
14. Overcoming negative public perceptions (i.e. the 'yuck factor') is critical to implementing water reuse schemes.
15. Appropriate pricing of water from all sources to reflect its actual cost enables investments that can translate into affordable service delivery for all, including the poor.

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[1] Target 6.3 of the Sustainable Development Goals (SDGs) explicitly focuses on reducing pollution and its impact on ambient water quality by increasing the treatment and safe use of wastewater globally. This target is highly relevant to achieving several other SDGs.