



Sanitation sustains clean environments

A healthy living environment depends on adequate sanitation. Without sanitation systems, human waste enters groundwater and surface waters. Faeces deposited during open defecation contaminate the land. Accumulated excrement dumped from buckets or latrines on fields, streams or rivers is an environmental hazard. This is often accompanied by inadequate disposal of sewage via pipes and through seepage from pit latrines.

In the developing world, roughly 90 per cent of sewage is discharged untreated into rivers, lakes and coastal areas,¹ with a widespread negative impact on health. Each year, an estimated 2.5 billion cases of diarrhoea occur among children under age 5. Water and sanitation interventions can reduce diarrhoea child deaths by 88 per cent.²

The sanitation crisis is particularly severe in high-density informal settlements across the globe. With no way to safely dispose of either faeces or garbage, around a billion slum dwellers must resort to 'flying toilets', plastic bags that are used then thrown away, and to dumping human waste in public spaces.

This situation is not limited to urban settlements and can be found in impoverished suburbs, small market towns, large villages, peri-urban settlements and other places across the developing world. Worldwide, about 1.1 billion people still defecate in the open,³ leaving their faeces on the ground to contaminate the surrounding environment, enter waterways and, eventually, impact the livelihood and health of entire communities.

Living in a squalid environment harms physical and psychological health. It is stigmatizing, often presents employment challenges and deepens human poverty. Poor sanitation creates a host of health hazards, as well as a bleak and disheartening visual landscape. Roads are full of mud, puddles and piles of garbage and debris, along with disease-carrying insects, microbes and rodents. Odours are often unpleasant, sometimes overpowering.

Ending open defecation is crucial

If open defecation is widely practised, a healthy living environment that supports human dignity and is free of disease-transmitting conditions is impossible. This is one reason countries called for an end to open defecation, in the United Nations resolution that established the Drive to 2015. Related facts include:

- Globally, 15 per cent of the population still defecates in the open.⁴
- Rates are highest in Asia and sub-Saharan Africa, at 44 per cent and 27 per cent, respectively.⁵
- Faecal sludge collected in latrines is frequently not taken to treatment plants. Instead, it is dumped into the environment, due to a lack of regulation and enforcement, or inadequate infrastructure.

Sanitation and waste-water treatment support environmental sustainability

If we look beyond the immediate health implications of open defecation, we find significant environmental damage due to large amounts of untreated sewage and faecal sludge discharged untreated into rivers, lakes and coastal areas. Often this practice is associated with the developing world. It is, however, still an issue in other regions, including Eastern Europe, where waste-water treatment plants are currently being developed.

¹ Corcoran, Emily, et al., editors, *Sick Water? The central role of wastewater management in sustainable development – A rapid response assessment*, United Nations Environment Programme, UN-HABITAT and GRID-Arendal, www.grida.no, 2010.

² United Nations Children's Fund and World Health Organization, *Diarrhoea: Why children are still dying and what can be done*, UNICEF and WHO, New York and Geneva, 2009, p. 1.

³ WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation, *Progress on Drinking Water and Sanitation: 2012 update*, United Nations Children's Fund and World Health Organization, New York and Geneva, 2012, p. 15.

⁴ Ibid, p. 15.

⁵ Ibid, p. 18.

This type of pollution impacts the usability of ground and surface water, and leads to severe disruption of environmental processes and the destruction of ecosystems. Aquatic dead zones, locations with reduced or no oxygen in the water, have grown to cover 245,000 kilometres of marine environment, including in Asia, the Caribbean, Europe and North America. In South-East Asia alone, 13 million metric tons of faeces are released into inland water sources every year – along with 122 million cubic metres of urine and 11 billion cubic metres of grey water.⁶ This presents a major health threat to people who depend on open streams and wells for their drinking water, as well as an economic challenge to people whose livelihoods depend on fisheries.

Along rivers, upstream water users usually enjoy better-quality water, whereas downstream users are often faced with diluted 'sewage sinks'. The impact of poor waste-water systems and non-existent sanitation is costing billions of dollars and degrading ecosystems. It is also hindering achievement of the Millennium Development Goals, sustainable development, jobs, labour productivity, environmental sustainability, as it jeopardizes the health of hundreds of millions of people worldwide.

Water pollution stemming from poor sanitation costs South-East Asia more than US\$2 billion per year. In Indonesia and Viet Nam, it creates environmental costs of more than US\$200 million annually, primarily from the loss of productive land.⁷

Reusing waste has many benefits

Sanitation involves a range of actions, but for a sustainable environment and community health, the top priority is preventing contact with excreta and its host of biological pathogens.

Ending open defecation is an essential first step. Innovative approaches, such as Community-led Total Sanitation, help establish defecation-free practices within communities by raising awareness and supporting community-wide responsibilities.

To realize full health, social and economic benefits, additional waste-management techniques must be considered, providing sustainable sewage and faecal sludge management in addition to sewage treatment. This does not necessarily involve investment in large-scale infrastructure; small, decentralized systems can be even more effective.

Sustainable sanitation offers innovations in productive sanitation by reusing nutrients contained in sewage and sludge. Reuse has a number of advantages. It can be used as a fertilizer in organic agriculture, allowing for the production of more food with less land. The approach can help reduce the use of expensive inorganic fertilizers. Capturing the energy in sludge for biogas production helps alleviate reliance on conventional energy sources and provides an affordable energy source for cooking. Reusing treated waste water for irrigation reduces consumption of drinking water for these purposes. All these practices must be carried out safely and in accordance with standards such as World Health Organization Guidelines for safe reuse of waste water.

Handled properly, good sanitation and productive disposal of human waste can create employment while boosting public and ecosystem health. Instead of being a problem source, human waste, whether managed at the household level or collected in urban waste-water treatment systems, can be an environmental asset – leading to improved food and energy security, health and economic activity.

Take action!

Take action for sanitation by kick-starting your own Sanitation Drive to 2015 campaign. Big or small – sanitation for all! Visit www.sanitationdrive2015.org for more information.

⁶ Water Supply and Sanitation Collaborative Council, 'Resources', www.wssc.org/resources/resource-statistics, accessed 17 July 2012.

⁷ Water and Sanitation Programme, *Economic Impacts of Sanitation in South East Asia: A four country study conducted in Cambodia, Indonesia, the Philippines and Vietnam under the Economics of Sanitation Initiative*, February 2008, p. 32.



About us: The Sanitation Drive to 2015 builds on the United Nations resolution endorsed by all Member States in 2010 – calling for redoubled efforts to meet the MDG target to halve the number of people living without sustainable access to basic sanitation. UN-Water, which includes 30 United Nations entities and 22 partners, is coordinating the work. Civil society groups around the globe have pledged their support.

www.sanitationdrive2015.org