

Water and Health

Information brief



Lack of safe water, sanitation and hygiene remains one of the world's most urgent health issues. Almost one tenth of the global disease burden could be prevented by improving water supply, sanitation, hygiene and management of water resources. Ensuring poor people's access to safe drinking-water and adequate sanitation and encouraging personal, domestic and community hygiene will improve the quality of life of millions of individuals. Better managing water resources to reduce the transmission of vector-borne diseases (such as viral diseases carried by mosquitoes) and to make water bodies safe for recreational and other uses can save many lives and has extensive direct and indirect economic benefits, from the micro-level of households to the macro-perspective of national economies (WHO, 2008).

Water-related health risks

- **Diarrhoea** causes 4% of all deaths and 5% of health loss to disability worldwide. It is most commonly caused by gastrointestinal infections, which kill around **2.2 million people** globally each year, mostly children under five in developing countries. **88% of that burden is attributable to unsafe water supply, sanitation and hygiene.**
- -More than 50 countries still report **cholera** to WHO.
- **Cancer and tooth/skeletal damage:** millions exposed to unsafe levels of naturally-occurring arsenic and fluoride.
- -An estimated 260 million are infected by **schistosomiasis**.
- -Emerging challenges: increasing use of **wastewater in agriculture** is important for livelihood opportunities, but also associated with serious public health risks.

For more information: [WHO \(2014\)](#)

How does safe water contribute to global health?

Safe water supplies, hygienic sanitation and good water management are fundamental to global health. Almost one tenth of the global disease burden could be prevented by:

- -increasing access to safe drinking water;
- -improving sanitation and hygiene; and
- -improving water management to reduce risks of water-borne infectious diseases, and accidental drowning during recreation.

Annually, safer water could prevent:

- -1,4 million child deaths from diarrhoea;
- -500.000 deaths from malaria;
- -860.000 child deaths from malnutrition; and
- -280.000 deaths from drowning.

In addition, 5 million people can be protected from being seriously incapacitated from lymphatic filariasis and another 5 million from trachoma.



The UN Commitment

The Millennium Development Goals

The Millennium Development Goals (MDGs), agreed in 2000, aimed to halve the proportion of people without sustainable access to safe drinking water and basic sanitation between 1990 and 2015.

Drinking-water

The MDG drinking water target was met in 2010, five years ahead of schedule. Drinking-water coverage in 2011 remained at 89% – which is 1% above the MDG drinking-water target. While this is a tremendous achievement, continued efforts are needed.

In contrast to the “unfinished business” of access to safe drinking water, water quality has so far been a neglected topic in global debates. Symptomatic of this neglect is the fact that approximately 80% of wastewater is discharged to the natural environment without any form of treatment (UNEP and UN-Habitat, 2010). Pollution resulting from diffuse agricultural and other land use activities has a very serious, but largely unquantified, damaging impact on the quality of both freshwater and marine water bodies (UN-Water, 2014).

Sanitation

The world will miss the sanitation target by more than half a billion people. A staggering, 1 billion people (15% of the world population) remain with no access to toilets, latrines or any form of sanitation facility, and have no other choice than to defecate in the open, resulting in high levels of environmental contamination and exposure to the risks of microbial infections, diarrhoeal diseases (including cholera), trachoma, schistosomiasis and hepatitis. Encouraging progress has been made, 1.9 billion people gained access to improved sanitation facilities between 1990 and 2011. The continued trend of population growth and rapid urbanization further strains a deteriorating water and sanitation infrastructure (GLAAS, 2012).

These global aggregates mask large disparities between nations and regions, rich and poor, between rural and urban populations, as well as between disadvantaged groups and the general population.

Access to water, sanitation and hygiene (WASH)

- -An estimated **768 million** people did not use an improved source for **drinking water** in 2011.
- -2.5 billion people lack access to **improved sanitation** (more than 35% of the world’s population).
- -Greatest progress has been made in East Asia, where sanitation coverage has increased from 27% in 1990 to 67% in 2011. This amounts to 626 million people gaining access to improved sanitation facilities over 21 years.
- -1 billion (15% of the world population) still practice **open defecation**. The majority (71%) of those without sanitation live in rural areas and 90% of all open defecation takes place in rural areas.

For more information: [WHO \(2014\)](#)

Recognizing a human right

In July 2010, the General Assembly adopted a resolution, which “recognized the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights” (GA res 64/292).



Towards the future we want: UN-Water Recommendations for a Post-2015 Global Goal on Water -

With the MDGs' deadline of 2015 approaching, discussion over what should succeed the MDGs - known as the "Post-2015 development agenda" - is one of the most important conversations of this century. There are several UN consultative and intergovernmental processes underway to inform and help shape the next development agenda.

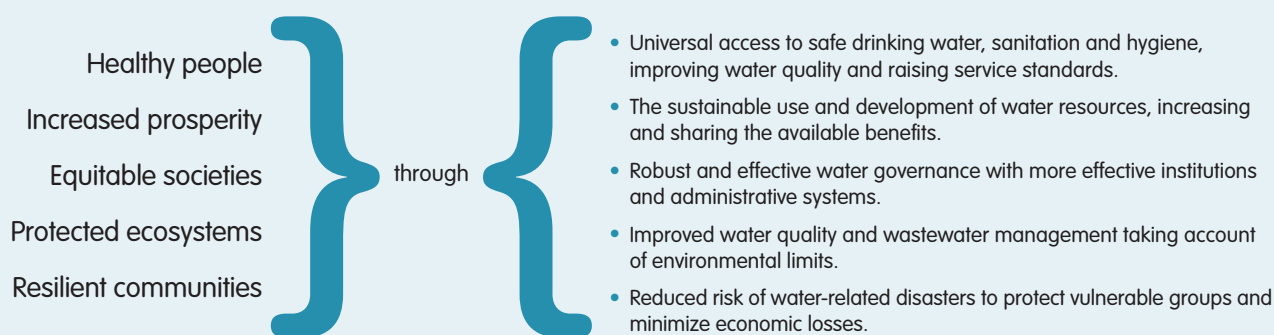
A global goal for water is fundamental to all other development goals and the proposed framework applies to all countries. The targets for the goal for water have important explicit and implicit inter-linkages, making them mutually supportive.

The water goal and targets thus directly address the development aims of societies, promote human dignity and ensure achievements are sustainable over the long term leading to the following development outcomes, amongst others:

UN-Water proposed target for safe drinking water, sanitation and hygiene (WASH)

By 2030: to eliminate open defecation; to achieve universal access to basic drinking water, sanitation and hygiene for households, schools and health facilities; to halve the proportion of the population without access at home to safely managed drinking water and sanitation services; and to progressively eliminate inequalities in access".

Post-2015 Sustainable Development Goals: Global Goal for Water



For more information: <http://bit.ly/Prg2lt>

Achieving the target will require actions covering the following elements:

- No Open Defecation: to eliminate open defecation;
- Basic Access: to achieve universal access to basic drinking water, sanitation and hygiene for households, schools and - health facilities; -
- Safely Managed Services: to halve the proportion of population without access at home to safely managed drinking water and sanitation services;
- To progressively eliminate inequalities in access.

During consultations schools and health facilities were consistently identified as the top priorities.

Economic benefits

Investment to improve drinking water, sanitation, hygiene, and water resource management systems makes strong economic sense: every dollar invested leads to up to eight dollars in benefits. US\$ 84 billion a year could be regained from the yearly investment of US\$ 11.3 billion needed to meet the water and sanitation targets.

In addition to the value of saved human lives, other benefits include higher economic productivity, more education, and health-care savings.



Recommended measures -

Efforts to improve water, sanitation and hygiene interact with each other to boost overall health. Access to sanitation, such as simple latrines in communities, prevents drinking water contamination from human waste and reduces infections. High-tech public health measures are not necessarily the best: frequent hand-washing with soap and safe storage of drinking water are high-impact practices.

Environmental management effectively lowers the rates of malaria and other diseases spread by insects and prevents death. These measures include eliminating habitats - such as standing water - for breeding, and screening doors and windows for protection from mosquitoes.

Sound drinking water guidelines, water safety plans (WSP) and information monitoring systems can also be instrumental to achieve the required robust and transparent water information and governance.

Drinking water guidelines

The quality of drinking water is a powerful environmental determinant of health. Drinking-water quality management has been a key pillar of primary prevention for over one-and-a-half centuries and it continues to be the foundation for the prevention and control of waterborne diseases.

How are water quality guidelines useful?

The WHO's Guidelines for Drinking water provide a state-of-the art perspective on issues of water quality and health and on effective approaches to water safety management.

Objectives of water quality guidelines

- Guidelines are intended to support the development and implementation of risk management strategies that will ensure the safety of drinking-water supplies through the control of hazardous constituents of water.
- Guidelines can help water quality managers to define water quality management objectives and measures that are required to protect various environmental values/uses.
- Water quality guidelines can be an important source document used by state authorities, consultants and water resources management practitioners to guide water management decision-making.

Nature of the WHO guidelines for drinking-water quality

WHO produces international norms on water quality and human health in the form of guidelines that are used as the basis for regulation and standard setting, in developing and developed countries worldwide.

The WHO guidelines for drinking-water quality aim to protect public health and a key way to ensure this is through the adoption of Water Safety Plans.

For more information: <http://bit.ly/1lu1001>



Information monitoring services

Information systems are essential for the efficient management of water resources, as they can allow for quick and easy access to data as well as providing for data quality control.

Why is it useful?

Its objective is to ensure awareness of, and access to, high-quality information relating to: the health burden associated with water, sanitation and health; the impacts of actions in water, sanitation and hygiene upon health; concerning present state of progress and trends; and concerning major areas of activity in health protection, based on water and sanitation management is an important focus of activity.

Information systems technology is also needed to educate and empower different groups on public health problems and to link them together to take effective action.

Information systems allow data to be made easily accessible and transferable.

For instance, the WHO and UNICEF Joint Monitoring Project (JMP) reports on global status and trends in the water supply and sanitation sector; provide water supply and sanitation coverage figures for the UN system; and provide support to monitoring international targets, including MDGs.

For more information: <http://www.wssinfo.org/introduction/>

Drinking Water Safety Plans. Managing drinking-water quality from catchment to consumer

What are the Water Safety Plans?

A WSP is the most effective means of consistently ensuring the safety of a drinking-water supply through the use of a comprehensive risk assessment and risk management approach that encompasses all steps in water supply from catchment to consumer.

Why are the WSPs needed?

WSPs are designed to...

- Minimize direct contamination in source waters,
- Reduce or remove contamination by treatment,
- Prevent contamination during storage, distribution and handling.

For more information: http://www.who.int/water_sanitation_health/dwq/4safetyplans.pdf

Since those with important roles to play in population health are so diverse, encompassing public health agencies at various levels, health professionals and institutions, managed-care plans, public and private organizations, policymakers, and consumers is very important. Information systems technology is also needed to educate and empower different groups on public health problems and to link them together to take effective action.



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