

Water, Sanitation and Hygiene Links to Health FACTS AND FIGURES - *updated March 2004

"Water and Sanitation is one of the primary drivers of public health. I often refer to it as "Health 101", which means that once we can secure access to clean water and to adequate sanitation facilities for all people, irrespective of the difference in their living conditions, a huge battle against all kinds of diseases will be won." Dr LEE Jong-wook, Director-General, World Health Organization.

Diarrhoea

- 1.8 million people die every year from diarrhoeal diseases (including cholera); 90% are children under 5, mostly in developing countries.
- 88% of diarrhoeal disease is attributed to unsafe water supply, inadequate sanitation and hygiene.
- Improved water supply reduces diarrhoea morbidity by 21%.
- Improved sanitation reduces diarrhoea morbidity by 37.5%.
- The simple act of washing hands at critical times can reduce the number of diarrhoeal cases by up to 35%.
- Additional improvement of drinking-water quality, such as point of use disinfection, would lead to a reduction of diarrhoea episodes of 45%.

Malaria

- 1.2 million people die of malaria each year, 90% of whom are children under 5.
- There are 396 million episodes of malaria every year, most of the disease burden is in Africa south of the Sahara.
- Intensified irrigation, dams and other water related projects contribute importantly to this disease burden.
- Better management of water resources reduces transmission of malaria and other vector-borne diseases.

Schistosomiasis

- An estimated 160 million people are infected with schistosomiasis.
- The disease causes tens of thousands of deaths every year, mainly in sub-Saharan Africa.
- It is strongly related to unsanitary excreta disposal and absence of nearby sources of safe water.
- Basic sanitation reduces the disease by up to 77%.
- Man-made reservoirs and poorly designed irrigation schemes are main drivers of schistosomiasis expansion and intensification.

Trachoma

- 500 million people are at risk from trachoma.
- 146 million are threatened by blindness.
- 6 million people are visually impaired by trachoma.
- The disease is strongly related to lack of face washing, often due to absence of nearby sources of safe water.
- Improving access to safe water sources and better hygiene practices can reduce trachoma morbidity by 27%.

Intestinal helminths (Ascariasis, Trichuriasis, Hookworm disease)

- 133 million people suffer from high intensity intestinal helminth infections, which often leads to severe consequences such as cognitive impairment, massive dysentery, or anaemia.
- These diseases cause around 9400 deaths every year.
- Access to safe water and sanitation facilities and better hygiene practice can reduce morbidity from ascariasis by 29% and hookworm by 4%.

Japanese encephalitis

- 20% of clinical cases of Japanese encephalitis die, and 35% suffer permanent brain damage.
- Improved management for irrigation of water resources reduces transmission of disease, in South, South East, and East Asia.

Hepatitis A

- There are 1.5 million cases of clinical hepatitis A every year.

Arsenic

- In Bangladesh, between 28 and 35 million people consume drinking-water with elevated levels of arsenic in their drinking-water.
- The number of cases of skin lesions related to arsenic in drinking-water in Bangladesh is estimated at 1.5 million.
- Arsenic contamination of ground water has been found in many countries, including Argentina, Bangladesh, Chile, China, India, Mexico, Thailand and the United States.
- The key to prevention is reducing consumption in drinking-water with elevated levels of arsenic, by identifying alternative low arsenic water sources or by using arsenic removal systems.

Fluorosis

- Over 26 million people in China suffer from dental fluorosis due to elevated fluoride in their drinking water.
- In China, over 1 million cases of skeletal fluorosis are thought to be attributable to drinking-water.
- The principal mitigation strategies include exploitation of deep-seated water, use of river water, reservoir construction and defluoridation.

DRIVING FORCES

Access to water supply and sanitation

- In 2000, 2.4 billion people lacked access to improved sanitation. 81% of these were in rural areas.
- In 2000, 1.1 billion people lacked access to improved water sources. 86% of these were in rural areas.
- Coverage for both improved water supply and sanitation lags behind in the poorest communities - in rural areas and in urban/peri-urban slums.

The sanitation gap

- Only 53% of the sub-Saharan population is served with sanitation services.
- In South Central Asia only 38% of the population is served with sanitation services.
- Access to sanitation in rural areas is much worse than in urban areas.
- 930 million people live in slums and most population growth is expected to occur in urban areas.

Emergencies and disasters

- Almost two billion people were affected by natural disasters in the last decade of the 20th century, 86% of them by floods and droughts.
- Flooding increases the ever-present health threat from contamination of drinking-water systems from inadequate sanitation, with industrial waste and by refuse dumps.
- Droughts cause the most ill-health and death because they often trigger and exacerbate malnutrition and famine, and deny access to adequate water supplies.
- Disaster management requires a continuous chain of activities that includes prevention, preparedness, emergency response, relief and recovery.

Water resources development

- The development of water resources continues in an accelerated pace to meet the food fibre and energy needs of a world population of 8 billion by 2025.
- Lack of capacity for health impact assessment transfers hidden costs to the health sector and increases the disease burden on local communities.
- Environmental management approaches for health need to be incorporated into strategies for integrated water resources management.

THE GLOBAL RESPONSE

Millennium Development Goals (MDGs)

By including water supply, sanitation and hygiene in the MDGs, the world community has acknowledged the importance of their promotion as development interventions and has set a series of goals and targets.

Goal 7: Ensure environmental sustainability

- Target 9: Integrate the principles of sustainable development into country policies and program and reverse the loss of environmental resources.
- Target 10:
 - Halve by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.
 - Integrate sanitation into water resources management strategies.
- Target 11: Have achieved by 2020, a significant improvement in the lives of at least 100 million slum dwellers.

Goal 4: Reduce child mortality

- Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate.

Goal 6: Combat HIV/AIDS, malaria, and other diseases

- Target 8: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases.

Water for Life Decade: 2005-2015

- UN Declares 2005-2015 "Water for Life" as the International Decade for Action and set's the world agenda on a greater focus on water-related issues.

Salient quotes

"We shall not finally defeat AIDS, tuberculosis, malaria, or any of the other infectious diseases that plague the developing world until we have also won the battle for safe drinking water, sanitation and basic health care." Kofi Annan, United Nations Secretary-General

"The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses" – General Comment No. 15 (2002): The Right to Water.

*All figures are best available estimates as of March 2004

World Health Organization 2004