

Water is Essential - World Water Day 2015

Water is health

Clean hands can save your life.



Water is essential to human health. The human body can last weeks without food, but only days without water. Water is essential

for our survival. Regular handwashing, is for example one of the best ways to remove germs, avoid getting sick, and prevent the spread of germs to others. Up to one trillion germs can live in one gram of poop.

As for the human body, in average it is made of 50-65% water. Babies have the highest percentage of water; newborns are 78% water. Every day, every person needs access to water for drinking, cooking and personal hygiene. Water is essential for sanitation facilities that do not compromise health or dignity. The World Health Organization recommends 7.5 liters per capita per day to meet the requirements of most people under most conditions. A higher quantity of about 20 liters per capita per day will take care of basic hygiene needs and basic food hygiene.

Despite impressive gains made over the last

decade, 748 million people do not have access to an improved source of drinking water and 2.5 billion do not use an improved sanitation facility. Investments in water and sanitation services result in substantial economic gains. The return on investment of attaining universal access to improved sanitation has been estimated at 5.5 to 1, whereas for universal access of improved drinking-water sources the ratio is estimated to be 2 to 1. To cover every person worldwide with safe water and sanitation is estimated to cost US\$ 107 billion a year over a five-year period.

Water is nature

Ecosystems lie at the heart of the global water cycle.



Ecosystems – including, for example, forests, wetlands and grassland – lie at the heart of the global water cycle. All freshwater ultimately

depends on the continued healthy functioning of ecosystems, and recognizing the water cycle is essential to achieve sustainable water management. Yet most economic models do not value the essential services provided by freshwater ecosystems. This leads to unsustainable use of

water resources and ecosystem degradation. For example, the Okavango river in Africa is one of the last unspoilt ecosystems on earth. Pollution from untreated residential and industrial wastewater and agricultural run-off also weakens the capacity of ecosystem to provide water-related services.

There is a need to shift towards environmentally sustainable economic policies that take account of the interconnection between ecological systems. One challenge is to maintain a beneficial mix between built and natural infrastructure and provision of their respective services.

Economic arguments can make the preservation of ecosystems relevant to decision-makers and planners. Ecosystem valuation demonstrates that benefits far exceed costs of water-related investments in ecosystem conservation. Valuation is also important in assessing trade-offs in ecosystem conservation, and can be used to better inform development plans. Adoption of 'ecosystem-based management' is key to ensuring long-term water sustainability.

Water is urbanization

Every week, one million people move into cities.

Today, one in two people on the planet live in a city, and the world's cities are growing at an

exceptional rate – 4 people moved to cities in the time it took you to read this sentence. 93% of the urbanization occurs in poor or developing countries, and nearly 40% of the world's urban expansion is growing slums. Projections show that another 2.5 billion people will move to urban centres by 2050.

The 2014 report of “World Urbanization Prospects” by UN DESA’s Population Division notes that the largest urban growth will take place in India, China and Nigeria.

“Managing urban areas has become one of the most important development challenges of the 21st century. Our success or failure in building sustainable cities will be a major factor in the success of the post-2015 UN development agenda,” said John Wilmoth, Director of UN DESA’s Population Division.



Thousands of kilometres of pipes make up each city’s water infrastructure. Many antiquated systems waste more freshwater than they deliver. In many fast-growing cities (small and medium-sized cities with populations of less than 500,000), wastewater infrastructure is non-existent, inadequate or outdated.

Water is industry

More water is used to manufacture a car than to fill a swimming pool.



Every manufactured product requires water.

Some industries are more water-intense than others. 10 litres of water are used to make one

sheet of paper. 91 litres are used to make 500 grams of plastic.

Industrialization can drive development by increasing productivity, jobs and income. It can provide opportunities for gender equality and youth employment. However, industry's priority is to maximize production rather than water efficiency and conservation.

Global water demand for manufacturing is expected to increase by 400% from 2000 to 2050, which is much larger than other sectors. The main increases will be in emerging economies and developing countries. Many large corporations have made considerable progress in evaluating and reducing their water use and that of their supply chains. Small and medium-sized enterprises (SMEs) are faced with similar water challenges on a smaller scale.

The business case for water efficiency frequently

requires a financial trade-off. Investment in efficient water treatment technology or cooling processes may have longer payback periods than the immediate returns of alternative short-term investment in production.

Technology and smart planning reduce the use of water, and can improve the quality of wastewater. Some progressive textile manufacturers have introduced technology that ensures the water coming out of the mill is as clean or cleaner than the water coming in from the town's drinking water. Large beverage companies are also improving their water use efficiency and have over the past 10 year substantially reduced the water used in their manufacturing plants.

Water is energy

Water and energy are inseparable friends.



Water and energy are natural partners. Water is required to generate energy. Energy is required to deliver water.

Today over 80% of power generation is by thermal electricity. Water is heated to create steam to drive electrical generators. Billions of gallons of water are also needed for cooling. This requires limiting construction and use of the least efficient coal-fired power plants. Worldwide hydropower accounts

for 16% of global electricity production - an expected 3700 major dams may more than double the total electricity capacity of hydropower within the next two decades.

New energy production should use widely adopting dry-cooling or highly efficient closed-loop cooling technologies. Using alternative water sources, such as sea or wastewater, offers a great potential for reducing the pressures on freshwater resources.

Renewable energy comes from resources which are naturally replenished such as sunlight, wind, rain, tides, waves and geothermal heat. These do not require large quantities of fresh water.

Water is food

To produce two steaks you need 15 000 liters of water.



Each American uses 7,500 litres of water per day—mostly for food. One litre of water is needed to irrigate one calorie

food. Inefficient water use can mean 100 litres are used to produce one calorie. Irrigation takes up to 90% of water withdrawn in some developing countries. Globally, agriculture is the largest user of water, accounting for 70% of total withdrawal.

By 2050, agriculture will need to produce 60% more food globally, and 100% more in developing countries.

Economic growth and individual wealth are shifting diets from predominantly starch-based to meat and dairy, which require more water. Producing 1 kilo rice, for example, requires about 3,500 litres of water, while 1 kilo of beef some 15,000 litres. This shift in diet is the greatest to impact on water consumption over the past 30 years, and is likely to continue well into the middle of the twenty-first century.

The current growth rates of agricultural demands on the world's freshwater resources are unsustainable. Inefficient use of water for crop production depletes aquifers, reduces river flows, degrades wildlife habitats, and has caused salinization of 20% of the global irrigated land area. To increase efficiency in the use of water, agriculture can reduce water losses and, most importantly, increase crop productivity with respect to water.

With increased intensive agriculture, water pollution may worsen. Experience from high income countries shows that a combination of incentives, including more stringent regulation, enforcement and well-targeted subsidies, can help reduce water pollution.

Water is equality

Every day women spend 200 million hours carrying water.



In developing nations the responsibility for collecting water every day falls disproportionately on women and girls. On average women in these regions spend 25 percent of their day collecting water for their families. This is time not spent working at an income-generating job, caring for family or attending school. Investments in water and sanitation show substantial economic gains. Every dollar invested shows a return between US\$5 and US\$28.

Climate change negatively impacts fresh water sources. Current projections show that

freshwater-related risks rise significantly with increasing greenhouse gas emissions, exacerbating competition for water among all uses and users, affecting regional water, energy and food securities. Combined with increased demands for water, this will create huge challenges for water resources management.

Natural hazards are inevitable but much can be done to reduce the high number of death and destruction tolls. Ill-advised human activity can both create and accelerate the impact of water-related disasters. These water threats have been increasing with climate change and human activities, in the North and South of our planet, from East to West. But, with preparedness and planning, fatalities and destruction can be decreased. The global community has committed itself to the principles of coherent disaster prevention and response. The need is now for concrete and significant changes to make this happen.

