

“The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses.”  
— *General Comment 15 on the right to water*

“By means of water we give life to everything.”  
*Koran, 21:30*

## **Criteria: to sufficient, safe, acceptable, physically accessible and affordable water**

General Comment 15 on the right to water, adopted in November 2002 by the Committee on Economic, Social and Cultural Rights, sets the criteria for the full enjoyment of the right to water. The following chapter takes certain elements in the General Comment and supplements them with WHO’s practical knowledge concerning water.

### *Sufficient*

The 1977 United Nations Water Conference in Mar del Plata, Argentina, established the concept of basic water requirements to meet fundamental human needs, which was reiterated at the 1992 Earth Summit in Rio de Janeiro, Brazil in 1992.

In practice, the amount of water collected every day by households is largely determined by how far the source of water is from the home. If it is outside the home, but within around 1 kilometre (or 30 minutes total collection time) - a “basic” level of service - then about 20 litres per person per day will typically be collected.

Over 1 billion people lack access to even a basic level of service. Meeting their needs, plus ensuring that they are aware of the importance of hygiene and are able to act accordingly, remain the principal priorities.

Around 1.6 billion people are served by a basic level of service that contributes much to protect their health, although they may still invest heavily in the collection of water. At this basic level of service, good hygiene practices and treatment of water in the home will further reduce the likely spread of disease.

WaterAid / Tom Sparill



## Service level and quantity of water collected

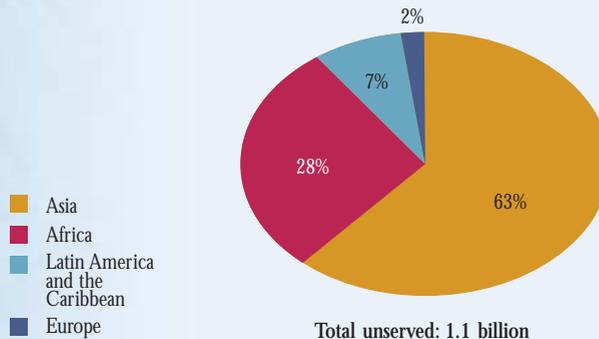
Service level	Distance/time	Likely volumes of water collected	Needs met	Intervention priority and actions
<b>No access</b>	More than 1 kilometre/more than 30 minutes round trip	Very low (often below 5 litres per capita per day)	Consumption cannot be assured Hygiene practice compromised Basic consumption may be compromised	<b>Very high</b> Provision of basic level service
<b>Basic access</b>	Within 1 kilometre/within 30 minutes round trip	Average unlikely to exceed approximately 20 litres per capita per day	Consumption should be assured Hygiene may be compromised Laundry may occur off-plot – i.e. away from home	<b>High</b> Hygiene education Provision of intermediate level of service
<b>Intermediate access</b>	Water provided on-plot through at least one tap (yard level)	Average of approximately 50 litres per capita per day	Consumption assured Hygiene should not be compromised Laundry likely to occur on-plot – i.e. within the confines of the household	<b>Low</b> Hygiene promotion still yields health gains Encourage optimal access
<b>Optimal access</b>	Supply of water through multiple taps within the house	Average of 100-200 litres per capita per day	Consumption assured Hygiene should not be compromised Laundry will occur on-plot	<b>Very low</b> Hygiene promotion still yields health gains

Source: Howard G, Bartram J. *Domestic water quantity, service level and health*. Geneva, World Health Organization, 2003.

Where water is supplied through a single tap, within the confines of the household's living area ("on-plot"), the water used is typically about 50 litres per person per day. This means access to an intermediate level of service and, at this level, it is much easier to ensure good hygiene. For example, it is estimated that households may use 30 times more water for child hygiene compared with those who have to collect water from a communal source. Households who do not have to travel to collect water have more time for economic activity, food preparation, child care and education.



**DISTRIBUTION OF THE GLOBAL POPULATION NOT SERVED WITH IMPROVED WATER SUPPLY, BY REGION**



### *Safe and acceptable*

Water must be safe for drinking and other household uses. Drinking-water must be free from microbes and parasites, and chemical, physical and radiological hazards that constitute a threat to a person's health. It must also be acceptable in terms of colour and odour so that individuals will choose this water rather than polluted alternatives that may look more attractive.

Measures of drinking-water safety are usually defined by national and/or local standards for drinking-water quality. WHO's *Guidelines for drinking-water quality* provide a basis for the development of national standards that, if properly implemented, will ensure the safety of drinking-water.

The ability of less developed countries to monitor water quality comprehensively may be inhibited by limited resources, and some countries lack the knowledge, resources, and infrastructure to develop water quality standards. The WHO *Guidelines* therefore include guidance on developing standards from them appropriate for economic, environmental and socio-cultural conditions.

### *Accessible*

Everyone must have safe and easy access to adequate facilities and services in order that clean drinking-water is secured and useable.

For many people in the world today, the goal of providing access to water at home will not be realized in the short- or even medium-term. Practical, achievable interim goals are therefore a priority.

Increasing access to drinking-water provides water for drinking, food preparation and hygiene. It potentially encourages hand-washing, general physical cleanliness and laundry, and improved living conditions.

When water has to be collected at distant sources, there are risks – both direct and indirect – to health. It is usually women who collect water, and they may be physically attacked while performing this task. Carrying heavy loads may also cause spinal injuries. Children may miss school in order to collect water and will encounter similar risks.

**Respecting** safety means refraining from and preventing any actions that would lower the quality of drinking-water to unsafe levels.

**Protecting** safety means ensuring that water sources that are currently safe do not become unsafe as a result of pollution.

**Fulfilling** safety means improving water sources and the treatment of drinking-water; thus reducing or preventing pollution. Actions to fulfil may include support for treatment of water in households if this is the only reliable way of getting safe water to people.

Accessible drinking-water can help to avoid potentially risky methods of water storage and gathering. For instance, India witnessed a severe outbreak of dengue fever when people stored water in their homes for use through dry spells, thus providing ideal habitats for *Aedes* mosquitoes. In the same way, flooded areas may also be breeding grounds for the *Culex* mosquito, which can carry Japanese encephalitis.

### *Affordable*

Water must be affordable for everyone. It is a sad irony that it is often the poor who receive the lowest levels and least reliability of service and water of inferior quality, who pay most per litre for their water— for example, from water vendors in the street. According to one recent estimate, the poor pay on average 12 times more per litre of water than their counterparts with a municipal supply.

Ensuring the affordability of water requires that services match what people can pay. This is not simply a matter of the total cost of water. Many people earn money on an irregular basis, which inhibits them from entering into long-term regular financial commitments that might be cheaper in the long run.

Matching services with people's ability and willingness to pay implies the need for a ('demand driven') approach. It may be necessary to offer a range of levels of service and technologies, with the potential for progressive upgrading.

In order to meet the obligations to *respect, protect, and fulfil*, governments will generally monitor the water market, and take action to ensure that all can access a minimum service, through mechanisms such as pricing policy and tariff regulation.

### **Daily needs, requirements and uses**

#### *Reduce the risk of water-related disease*

Water that is consumed must be safe. Drinking contaminated water can lead to infectious diseases and diseases caused by toxic chemicals - both may be life threatening.

Infectious waterborne diseases such as diarrhoea, typhoid, and cholera are leading causes of death and illness in the developing world, while outbreaks of waterborne infectious disease caused by agents such as *Cryptosporidium*, *Campylobacter* and *E. coli* O157 continue to occur in industrialized countries worldwide.

Unsafe water may contain toxic chemicals from natural sources as well as from pollution. Some naturally occurring toxic chemicals such as arsenic and fluoride affect many people. In Bangladesh, for example, as many as 35-77 million inhabitants, of a population of 125 million, may be exposed to arsenic through their drinking-water.

“An adequate amount of safe water is necessary to prevent death from dehydration, reduce the risk of water-related disease and provide for consumption, cooking, personal and domestic hygienic requirements.”

— *General Comment 15 on the right to water*

### *Consumption and preventing death by dehydration*

The daily individual requirement for drinking-water implies a minimum that must be safe to consume (by drinking or through food) to prevent the effects of dehydration, whether mild or severe and potentially life threatening.

How much water a person needs for drinking and food preparation varies considerably, according to diet, climate and the work they do. Yet those with least access to water supply tend to live in warm climates and engage in at least moderately strenuous work. Pregnant women and breastfeeding mothers need more water. The minimum amount of water needed for drinking ranges from about 2 litres in temperate climates to about 4.5 litres per day for people in hot climates who have to carry out manual work (Howard and Bartram, 2003).

### *Cooking*

Water is critical for food in many ways: it is used in irrigation, aquaculture and livestock watering to produce food. The scope of the General Comment on the right to water concerning cooking is restricted to aspects of household use: water as an ingredient of foodstuffs (e.g. rice, pasta, bread), and water as a requirement for food hygiene – to ensure that food is safe to eat.

Most people need at least 2 litres of safe water per capita per day for food preparation.

### *Hygiene*

Huge health benefits can be gained by ensuring that people have access to water and by encouraging its use for good hygiene. The *Shigella* bacterium causes dysentery or bloody diarrhoea, and is a major contributor to the millions of water-related deaths each year. Simple measures like washing hands with soap and water reduce *Shigella* and other diarrhoeal diseases by up to 35%.

Providing clean water for washing can prevent trachoma, the leading cause of preventable blindness. More than 6 million people worldwide are irreversibly blinded by trachoma and more than 150 million people are in need of treatment.

### Some water-related diseases:

Arsenicosis, Campylobacteriosis, Cholera, Cyanobacterial toxicoses, Dengue and Dengue Haemorrhagic Fever, Diarrhoea, Fluorosis, Guinea-Worm Disease (Dracunculiasis), Infectious Hepatitis, Japanese Encephalitis, Lead Poisoning, Leptospirosis, Malaria, Malnutrition, Methaemoglobinemia, Onchocerciasis (River Blindness), Ringworm (Tinea), Scabies, Schistosomiasis, Spinal Injury, Trachoma, Typhoid and Paratyphoid Enteric Fevers.

Accessibility of water supply and the effective use of water for cleanliness are the most important influence on hygiene. Washing hands at critical times – after defecating and before food preparation or eating – leads to very significant improvements in health even when the overall quantity of water available is limited.

“Water is required for a range of different purposes, besides personal and domestic uses, to realize many of the Covenant rights. For instance, water is necessary to produce food (right to adequate food) and ensure environmental hygiene (right to health). Water is essential for securing livelihoods (right to gain a living by work) and enjoying certain cultural practices (right to take part in cultural life).”

— *General Comment on the right to water*

## **Water for food, environment, culture, employment and housing**

While the General Comment emphasizes the right to water for personal and domestic uses, other uses are also important. Water is essential for numerous activities that sustain human life and ensure human dignity.

### *Water for food (right to adequate food)*

Globally, some 70% of all water resource use is for agriculture, and the bulk of global food production depends on a range of agricultural systems in which water is the critical factor. Land used for agriculture amounts to about 1.5 billion hectares (11% of the total land surface) and of this some 270 million hectares are under irrigation. This mere 18% of land under cultivation produces over 40% of the world's staple foods.

While global nutrition has consistently improved over the past four decades, the absolute number of undernourished people is reducing at a much slower rate than anticipated. Currently, some 777 million people in developing countries are estimated not to have access to sufficient and adequate food. Access to water for irrigation is, however, not the limiting factor; rather, inequitable distribution systems, poverty and the lack of purchasing power and the incapacity of subsistence farmers to produce enough food for their own consumption.

Water is essential for food security at two levels. Domestic water is used for household food production (vegetable gardens, domestic livestock) and contributes to diet variety and nutritional balance; large-scale water supply for agricultural production systems produces food for local consumption or for export and trade to food deficient regions. While opinions differ on the pathway to achieving global food security - some claiming that global market mechanisms increasingly free from government regulation are the best option, others underscoring the role of governments in ensuring equitable access to basic food needs - governments expressed their willingness to halve the number of undernourished people by 2015 at the 1996 World Food Summit.

“Attention should be given to ensuring that disadvantaged and marginalized farmers, including women farmers, have equitable access to water and water management systems, including sustainable rain harvesting and irrigation technology.”

— *General Comment on the right to water*



WaterAid/Caroline Penn

### *Water for environmental hygiene (right to health)*

Human livelihoods are intimately connected to natural life on the planet, and that, in turn, depends on water for survival.

Natural ecosystems are often found in water or are heavily dependent on it. Without water, soil would parch, forests would wither, and species would die out.

More than 100 constitutions throughout the world guarantee a right to a clean and healthy environment, impose a duty on the state to prevent environmental harm, or mention the protection of the environment or natural resources. Over half of these constitutions explicitly recognize the right to a clean and healthy environment, including nearly all constitutions adopted since 1992. Some 92 constitutions impose a duty on the government to prevent harm to the environment.

Dinah Shelton, health and human rights working paper series available at [http://www.who.int/hhr/information/Human\\_Rights\\_Health\\_and\\_Environmental\\_Protection.pdf](http://www.who.int/hhr/information/Human_Rights_Health_and_Environmental_Protection.pdf)

Every minute, 1.1 million litres of raw sewage are dumped into the Ganges River. (World Watch Vol. 12 No 4 (July/August 1999).

Water scarcity in some regions goes hand in hand with degradation, thus aggravating the water supply situation. The emphasis of the General Comment on the right to water is on the protection of drinking-water sources. This implies not only the immediate surroundings but generally a catchment or even resource-wide approach and in turn requires that adequate attention is applied to the control of pollution from agriculture and industry, as well as to sanitation (including water borne sewerage). The General Comment on the right to water states that sanitation is one of the principal mechanisms for protecting the quality of drinking-water supplies and resources.

It is essential to create a better understanding of the impact of water resource development upon the surrounding environment and those that depend on its health for their own health.

Aquatic environments are essential to the ecology of mosquitoes and other vectors of diseases, including malaria and schistosomiasis. The hydrological and demographic changes incurred by water resources development will often lead to increased transmission risks of vector-borne diseases, and this will disproportionately undermine the health status of the most vulnerable groups. The voluntary risk-taking of developers and investors in dams, irrigation schemes and other water projects runs parallel to the involuntary risks imposed on local communities, affecting their right to health, usually without offering even adequate compensation, let alone health safeguards.

Aspects of water for environment from the viewpoint of the individual are also dealt with through the perspective of environmental hygiene and the General Comment on the right to health.



### *Water for cultural practices (right to take part in cultural life)*

General Comment 15 on the right to water requires that access to traditional water sources be protected from unlawful encroachment and pollution. This applies particularly to the access of indigenous peoples to water resources on their ancestral lands, and also embraces the right to follow traditional cultural practices, such as performing religious ceremonies with water, for example the Hindu washing rites on the river Ganges in India.

The right to water is violated if governments fail to take adequate steps to safeguard the cultural identity of various ethnic or religious groups. Examples include the destruction, expropriation or pollution of water-related cultural sites by state or non-state actors, or the offering by state authorities of land titles to individual members of indigenous peoples when these peoples traditionally take a collective approach to using property and attendant water resources, thereby threatening the cultural identity and existence of the entire group.

### *Water for securing livelihoods (right to work)*

Water is a productive resource - but one that tends to be taken for granted. Few goods are made or services provided without water. Through hydroelectricity, water can be used as a renewable source of energy.

Fresh water is particularly important to food production and agriculture - whether mechanized or at subsistence level. Agriculture accounts for 69% of water abstracted globally, and on some continents the percentage is as high as 90.

### *Water for households (right to adequate housing)*

*“No dwelling should be deprived of water because such deprivation would render it unliveable.”*  
— *Special Rapporteur on adequate housing (E/CN.4/2002/59, para. 56)*

Globally, it is estimated that 600 million people in cities and 1 billion in rural areas live in poor quality housing. The number of people without access to improved water sources in 2000 was a staggering 1.1 billion globally. The number of urban dwellers without access to these services reached 157 million, which represents an increase of 44 million over the comparable figure in 1990. The situation with global sanitation is much worse, with almost three times as many people denied even minimal sanitation facilities.

“Human rights cannot be secured in a degraded or polluted environment. The fundamental right to life is threatened by soil degradation and deforestation and by exposures to toxic chemicals, hazardous wastes and contaminated drinking water. Environmental conditions clearly help to determine the extent to which people enjoy their basic rights to life, health, adequate food and housing, and traditional livelihood and culture. It is time to recognize that those who pollute or destroy the natural environment are not just committing a crime against nature, but are violating human rights as well.”

— Klaus Toepfer, Executive Director of the United Nations Environment Programme, Statement to the 57th Session of the Commission on Human Rights in 2001