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# Water Use and Rights

*United Nations treaties guarantee the human right to water. Although states must fulfill this human right and businesses must respect the state's obligation, approximately 900 million people around the world do not have access to safe drinking water. Despite growing awareness of the need for sustainable water use by companies, increasing global population and inequitable access to water will create controversy and lead to conflict.*

All human beings are born with equal and inalienable rights and duties. The right to water is an implicit part of the right to an adequate standard of living and the right to the highest attainable standard of physical and mental health, both of which are protected by the International Covenant on Economic, Social and Cultural Rights, adopted by the United Nations in 1966. The human right to water is explicit in two United Nations human rights treaties: the Convention on the Elimination of All Forms of Discrimination against Women (1979) and the Convention on the Rights of the Child (1989). The Geneva Conventions (1949, 1977) guarantee the protection of this right during armed conflict.

The United Nations Committee on Economic, Social and Cultural Rights (CESCR) monitors the implementation of the International Covenant on Economic, Social and Cultural Rights, and in its General Comment 15 on the right to water in 2002, CESCR stated that “the water supply for each person must be sufficient and continuous for personal and domestic uses.”

About thirty governments (including South Africa, Uruguay, and Ecuador) have explicitly recognized the right to water in their constitutions or national laws. These states have three types of obligations (World Water Council 2005):

- **Respect:** Government must refrain from unfairly interfering with people's access to water (for example, disconnecting their water supply).

- **Protect:** Government must protect people's access to water from interference by others and provide an effective remedy for those who are denied this right (for example, when third parties set unaffordable prices for access to water).
- **Fulfill:** Government must take all possible steps with available resources to realize people's right to water (for example, passing legislation and implementing programs to increase access to water and monitor progress toward achieving this right).

As such, this explicit recognition aims to ensure water for all and gives the poorest and most excluded consumers a voice to hold governments accountable for their obligations. In 2006, 93 percent of the population in South Africa had access to safe drinking water, according to the World Health Organization (WHO) and United Nations Children's Fund (UNICEF) Joint Monitoring Programme (JMP) for Water Supply and Sanitation (2008). Nevertheless, around the world approximately 900 million people currently do not have access to this right to water for drinking, personal sanitation, washing of clothes, food preparation, or personal and household hygiene (WHO and UNICEF JMP 2008).

## The Role of Business

Those states that have recognized the right to water have a duty to ensure that everyone enjoys access without discrimination. While states have overall responsibility for ensuring that the right to water is realized, each individual state determines the manner in which services are provided, managed, or regulated to meet its obligations. The right does not prescribe the particular model for service delivery, the role of public and private sectors, or the role of civil society.



An emerging area of debate relates to whether water as a right is at odds with the view of water as profit: who guarantees the right when government confers water provision to a private company? When rights are in place and prioritized, are governments equipped to adequately regulate them? The Dublin Principles recognize that water has an economic value in all its competing uses and should be recognized as an economic good (International Conference on Water and the Environment 1992). A WHO and UNICEF cost-benefit analysis showed that every dollar invested in improved drinking water and sanitation services could yield economic benefits of four to thirty-four dollars (2005, 4). Managing water as an economic good is claimed to be an important way of achieving efficient and equitable use, and of encouraging conservation and protection of water resources.

CESCR's General Comment 15 makes clear that having a right to water does not mean having a right to free water, but the water must be:

- safe (of adequate quality)
- accessible (within safe physical reach and affordable)
- sufficient (adequate, continuous, water supply for personal/domestic uses)

Some private water providers, including Suez Environment, have explicitly recognized the right to water: "We see progress towards universal access to water and sanitation as one of the *raison d'être* of a private water operator" (Suez Environment 2007, 1). In addition, PepsiCo adopted a human-right-to-water policy for its domestic and overseas operations in 2009. The announcement committed PepsiCo to respecting the right to sufficient clean water, as well as individuals' rights to be involved in the development of processes that extract water from their communities (PepsiCo Inc. 2009). Such recognition is not just altruistic; it is also driven by the enlightened self-interest of a company that intends to operate over the long term. Consideration of water uses and water rights

can decrease the costs of operations in water-scarce areas, increase profit margins, mitigate risks to operations (including social, economic, regulatory, and reputational risks), and ensure that communities give companies the social license to operate (Morikawa, Morrison, and Gleick 2007).

Thus, companies have legal and moral obligations to operate in ways that do not undermine the state's obligation to respect, protect, and fulfill human rights. John Ruggie, the United Nations

special representative on the issue of human rights and transnational corporations and other business enterprises, has developed a framework that outlines the state's general duty to protect human rights and the responsibility of business to respect human rights (Ruggie 2008; Morikawa, Morrison, and Gleick 2007).

## Raising Awareness of Unsustainable Practices

Concepts such as *virtual water*, *water footprints*, and *water offsetting* have been developed to discuss how domestic, industrial, environmental, and agricultural uses of water contribute to water stress or environmental impacts.

*Virtual water* (or embodied water) is a measure of the total water used in production of a good or service. For instance, one cup of coffee requires 140 liters of water to grow, produce, package, and ship the beans. That is roughly the same amount of water that an average person in England uses daily for drinking and household needs. Proponents of this concept believe that consumption will be cut, and sustainability will improve, if consumers are aware of how much water is used to produce everyday items.

Companies are using the *water footprint*—an indicator of the total volume of fresh water that is used to produce the goods and services consumed by an individual or community or produced by the business—to better understand water sustainability issues in their operations and supply chain. For instance, the water footprint of SABMiller's beers in South Africa and the Czech Republic has been measured as equivalent to 155 liters of water for every liter of beer (SABMiller and WWF 2009).

The *water-neutral* or *water-offset* concept (similar to that of carbon-neutral or carbon-offset) requires that individuals and corporations undertaking water-consuming activities make their activity "water neutral" by investing in water-saving technology, water-conservation or environmental-protection measures, wastewater treatment, and clean water supply to the poor. Such enlightened self-interest will contribute to the company operating over the long term. For instance, PepsiCo India is working to achieve a positive water balance by reducing water use in manufacturing plants, saving water through reuse and recycling initiatives, constructing rainwater-harvesting structures on manufacturing facilities, and implementing projects like the direct seeding of paddy fields in Punjab, Rajasthan, Tamilnadu, and Karnataka.

Concepts like virtual water, water footprints, and water neutrality or water offsetting might be useful for raising awareness—informing consumers of how much water is used in products and services—but conclusions drawn from such measurements often need clarification. It is necessary to assess products both for how much water they use and



the impact on the country where they are produced. For example, a high-water-content item imported from a dry country should be rated worse than one from a place where water is abundantly available. If labeling products to inform consumers of the amount of water used in their production leads to boycotting, negative consequences for economic growth and poverty reduction could result. It remains to be seen whether these tools are attempts at corporate “bluewashing” (equivalent of greenwashing for the water and sanitation sector)—or whether concern for sustainable water use will remain a long-term business concern.

One potential mechanism to assist companies—both directly and through supply chains—in the development, implementation, and disclosure of water sustainability and sanitation policies and practices is the CEO Water Mandate. This public-private initiative was launched in July 2007 by the United Nations Global Compact, the government of Sweden, and a group of companies. As of 11 November 2009, it had fifty-eight signatories. The CEO Water Mandate expects industrial water users to make a commitment to water stewardship and to ensure that their activities have a favorable impact on the right of access to water (for example, undertaking a human rights impact assessment before setting up a facility; ensuring access to information and community participation; abiding by relevant laws, regulations, and policies; ensuring that wastewater and industrial byproducts are treated to minimize their impact on communities, aquatic systems, and water sources).

## Controversies

Globally, roughly 10 percent of all water is used for domestic purposes, 20 percent is used for industrial uses, and 70 percent is used for agriculture. Changing certainty of water resource availability affects all water-using sectors—agriculture, hydropower, water supply and sanitation, and the environment.

## Water Scarcity

While the global population is expected to rise significantly, accessible freshwater supplies are not. Inequitable access to water (both supply services and the natural resource) results in unmet water needs and causes economic, social, and environmental problems. In addition, it is expected to trigger conflict in and between countries. For example, as water scarcity becomes more apparent, instances of violence and conflict over water availability will increase at the global level and down—for example, in the Middle East region (Zeitoun 2008), in the country of Darfur (Tearfund 2007), and at the local level in the Sanjay Nagar slum in Bhopal, where family members who drilled

a hole in a water pipe to collect water during a drought were murdered by angry neighbors who accused them of stealing water (Chamberlain 2009).

Sub-Saharan Africa is more at risk from water scarcity and water stress than other regions. In 2006, only 58 percent of the population of sub-Saharan Africa had clean drinking water (JMP 2008). And the United Nations Environment Programme (UNEP) estimates that by 2025, up to twenty-five African nations—roughly half the continent’s countries—will suffer from a greater combination of increased water scarcity and water stress. Experts recommend that countries at the greatest risk of climate variability require significant investment in rainwater harvesting and water storage: yet Ethiopia has only 43 cubic meters of storage capacity per capita (World Bank 2009), less than 1 percent of the 5,000 cubic meters of storage capacity per capita of the United States and Australia (World Bank 2009). In Kenya, flooding in 1997 and 1998 cost the country 11 percent of its gross domestic product (GDP), while the drought in 1999 and 2000 cost the country 16 percent of its GDP. Better water storage could have prevented that drought from significantly affecting Kenya’s economy (Malkiewicz 2008).

## Industrial and Agricultural Uses

Without sufficient water, agriculture and industry are impossible. Agricultural development has the potential to increase economic growth, yet just 3.7 percent of arable land in sub-Saharan Africa is irrigated (compared with 26 percent in Asia) (UNECA 2003, 2). The Commission for Africa recommends a doubling of this area by 2015 to help poor farmers cope with rainfall variability and increase their productivity (2005).

In relation to soil, water, and agriculture, commentators refer to *blue water*, the water in rivers and streams, and *green water*—which accounts for two-thirds of water supply—the water that is in the soil and available to plants. Thus water access and water rights are often linked to land distribution. Yet this is a source of great inequity in many societies. Nine out of ten poor people in rural areas are smallholder farmers who depend on plots of less than two hectares for their food. And while women perform the majority of the world’s agricultural work, they often do not have secure land tenure since customary laws often prevent women from inheriting land. The right to property, land reform, and small-scale agricultural improvements (such as drip irrigation) offer a solution to





water stress and could play an important role in ensuring access to a dependable food supply.

Along with concern about developed countries using the water resources of some of the world's driest countries (manifest in measurement tools such as water footprints), more recently alarm has been raised about agri-colonialism—the acquisition of arable land and water by water-and-resource-scarce countries (for instance, those in the Middle East) in other more water-abundant countries (for example, Madagascar or Sudan) to ensure their own food security.

Similarly, beverage companies have been criticized for exacerbating water shortages in regions that suffer from water scarcity (Girard 2005). Extraction of groundwater for soft-drink and bottled-water production can compete with smallholder farmers' dependence on water for their livelihoods, in some cases leaving them unable to irrigate their lands and exposing poor households to the risk of losing their livelihoods. Complaints have also been made that these companies have contaminated groundwater, which further depletes the quantity of available usable water.

### Traditional or Customary Users of Water

Customary law and customary water rights, particularly in rural areas and those countries where customary law constitutes a legitimate source of law, can also have a significant role in water resource management. Where water is scarce, the impact of inequitable distribution of water use and rights can be a cause of stress in communities. For instance, conflict may arise where official mechanisms for regulating the extraction and use of water resources through government permits or licenses conflict with customary practices. Moreover, conflict may result where access to safe drinking water for personal and domestic uses is prioritized over agricultural uses or where there are tensions between sedentary and nomadic pastoralists competing for water and grazing land.

Water is central to the well-being and survival of livestock, a key asset and often a source of income in many communities for providing traction power, manure for crop growing, and milk and meat for nutrition. In the case of a drought, nomadic and sedentary herders lose their livestock and their livelihoods, leaving them with no financial resources to acquire food.

### Water, Food, and Energy Nexus

Almost 70 per cent of all available freshwater is used for agriculture. According to the United Nations Environmental

Programme (UNEP), approximately 20 percent of worldwide water use is industrial (UNEP 2002). Increasing population will need more food and more electricity, meaning that two of the largest water users (water for agriculture and storage for hydropower generation—19 percent of the total electricity product, according to Walter Hauenstein [2005]) are in potential competition for a predictable supply. Investment in hydropower and irrigation has a clear role to play in fostering economic development. Yet economic development, industrialization, population growth, and rapid urbanization can, in turn, increase pressure on the quantity of available water and create tensions about how water is assigned to new urban and industrial development.

### Sociocultural Activities

Water plays a role in many religious and cultural ceremonies or beliefs (for instance, the ceremony of baptism for Christians, the cleansing ritual of *abbisheka* for Hindus, and ablutions like *ghusl* and *wudu* for Muslims). Some cultures believe in water animism—that river water, lakes, and springs are living and possess souls. But there is still very limited understanding of how the use of water for cultural and religious activities fits within a rights-based approach (Zenani and Mistri 2005).

### Transboundary Water

Conflicts over water in regions where water resources are shared between countries, such as those in the Nile Basin, have economic and political implications for food and water security in those river basins. Increasing cooperation and investment in the fair allocation of water resources will help reduce water scarcity and conflict and promote economic development. Yet questions remain about how to regulate, govern, and implement treaties aimed at managing cross-boundary resources.

### Outlook for the Next Decade

The realization and implementation of the human right to water has yet to be evaluated for the improvements it has made to drinking-water supply in developing countries. Research is required to establish what the right means, the difference it makes to access, and the impact of context on the realization and implementation of the right. For instance, Article 25 of the U.N.'s Universal Declaration of Human Rights (adopted in 1948) acknowledged the following: "Everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food." Yet the 2008 Global Hunger Index stated that thirty-three countries, mostly in Africa,



face a “grave” threat of hunger. Altogether the number of people chronically hungry worldwide rose from 848 million in 2007 to 923 million people in 2008—about one-sixth of the world’s population (von Grebmer et al. 2008).

## Right to Sanitation

One of the targets of the United Nations Millennium Development Goals (MDGs) is to halve the proportion of people without access to basic sanitation by 2015—that is, sanitation that prevents human contact with human waste. Yet in 2006, 2.5 billion people around the world did not have access to a basic toilet (WHO and UNICEF JMP 2008, 2). At the current rate of progress in sub-Saharan Africa, this target will not be met for another century. Lack of sanitation has implications for health, dignity, education, and economic growth.

Access to sanitation benefits the economy: studies have shown that for every dollar invested in sanitation, the economic return is nine dollars (WHO and UNICEF 2005). Lack of sanitation also has direct consequences for individual businesses: companies that do not provide accessible, sufficient, suitable, and separate sanitation facilities for men and women prevent employees from performing their jobs effectively and interfere with the employees’ right to work in healthy and safe working conditions. Women are particularly affected by a lack of sanitation, especially during menstruation and pregnancy.

## Water Use and Climate Change

The impacts of climate change for water use and water rights must also be considered. The Stern Review on the Economics of Climate Change (HM Treasury 2006) and the fourth Intergovernmental Panel on Climate Change (IPCC 2009) Assessment Report, published in 2007, both noted that the majority of the impacts resulting from climate change would be experienced through the impact on water. By 2025, it is estimated that 3 billion people will live in water-stressed countries—75 to 250 million in Africa alone (UNDP 2006). The Intergovernmental Panel on Climate Change estimates that by 2080 an extra 1.8 billion people—a quarter of the world’s current population—could be living and dying without enough water. In just twenty-five years the glaciers in the Himalayas,

which provide water for three-quarters of a billion people, could disappear entirely. And although not clearly attributable to climate change, El Niño events have become more common in recent decades, bringing droughts and heavy rain that result in flooding. Such water shortages, droughts, and floods result in damage to crops, livestock, infrastructure, and homes; increased drylands; lost biodiversity; declining water quality; changing patterns of pests and disease; and reduced economic growth.

Lower and more erratic rainfall together with water shortages will increase the difficulty of accessing safe drinking water and basic sanitation, especially for the poorest and most vulnerable people. This has serious implications for MDG targets to halve the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015. And its consequences for water use and water rights require further investigation.

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*See also* Agriculture; Climate Change Disclosure; Ecolabeling; Ecosystem Services; Energy Industries—Hydroelectric; Energy Industries—Wave and Tidal; Health, Public and Environmental; Human Rights; Public–Private Partnerships; United Nations Global Compact


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