

Water scarcity

Growing up in a country where fresh water flows with a turn of a tap, it might be easy to assume it is limitless. It is not. In fact, in May 2000, an article in the business magazine *Fortune* included the statement: 'Water promises to be to the 21st century what oil was to the 20th century.'

The Earth has abundant supplies of water, but most of it is salty. Only 2.5 per cent is fresh. Three-quarters of this relatively small amount of fresh water is contained in the world's glaciers and permanent snow cover, with virtually all of the rest stored in underground aquifers. Only about 0.05 per cent of it is readily available for human use (i.e. held in lakes and rivers etc.).

Pressures of a growing population

The world's rapidly growing population is the main pressure on its fresh water supplies. For example, the amount of fresh water available per head of the world's population in 1990 was one-third less than it was in 1970. Currently, some 1.1 billion people (most of them in developing countries) have no access to clean fresh water. This figure is expected to increase significantly over the next 20 years.

The pressure this demand is placing on water stores in the world's aquifers is intense, and some are becoming depleted. These 'natural underground sponges' can take hundreds of years to fill up. Yet, each year, the world is using some 180 000 billion litres more water from its aquifers than is being refilled.

Currently, around 70 per cent of the fresh water consumed worldwide is used for agriculture. Industry consumes another 22 per cent, with the balance used for domestic purposes. As the bar chart opposite indicates, there are, however, substantial imbalances around the world in the way water is consumed for domestic purposes.

Bad water management practices can make the situation even more extreme, and seriously impact on the environment. For example, salinity can become a problem in heavily irrigated regions (by helping to raise the water table) and fresh water river systems can become clogged as their waters are diverted into dams.

Pressures of other factors

Other pressures on available fresh water supplies include pollution and the shortages in rainfall predicted to occur in some parts of the world due to global warming. These factors have additional implications for the environment and for people's health.



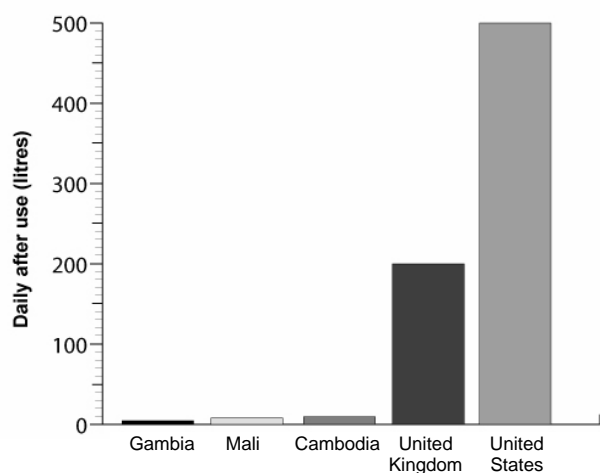
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Average daily water use (per head) in selected countries

Use the information in this worksheet and in the sources listed in the References to complete the following activities:

- With so much water on Earth, why is there so little readily available for human consumption?
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- List three impacts of water scarcity around the world that concern you.
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- What are the pressures being exerted on the world's available stocks of fresh water? Which do you think is the most significant, and why?
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- Compare water usage in sub-Saharan Africa and America.
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- Of possible technical solutions to water scarcity, justify which **one** you feel would be the most practical.
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