

Water for Everyone ★ Unit 1 Resource A

Why is water precious?

Water is precious!

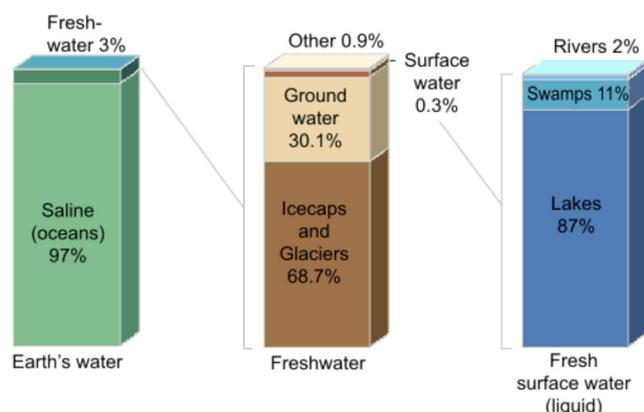
We rarely give water a thought in the UK. As long as we pay our water bills, we expect to have unlimited access to it.

Yet we actually have less water per person in this country than Greece, Italy or Spain, and London has less rainfall than Istanbul.

People who pay for their water supply using a meter are likely to be more aware of what water is worth. But water needs to be much more valued by everyone on our planet if there is to be a sustainable supply for future generations.



A World of Water?



Stand on a beach looking out to sea and it's hard to believe we might ever need to worry about water.

While it's true that around 70% of our planet is covered by water, it's mostly sea water. Only around 3% is fresh water. Of that small amount, most is ice and not immediately available to us. The rest is found as *ground water* and *surface water*. From these very limited supplies we need to find enough water to support a growing population of over 7 billion people.

Distribution of Earth's Water

Source: www.ga.water.usgs.gov/edu/waterdistribution.html

Water from where?

Sea water, one source of *surface water*, can be made fit for drinking through a process called 'desalination'. This process, however, is very energy dependent and expensive, so most of our water needs are supplied by fresh surface water, from rivers and lakes, and from ground water found below the ground.

The storage of *fresh surface water* in many countries is aided by the damming of rivers to create *reservoirs*. These are most suited to areas with deep valleys, high rainfall and cooler climates. Reservoirs may provide additional capacity but they require expensive dam construction, occupy huge areas of land and, in hot climates with more limited rainfall, may not be appropriate.

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Ground water storage, extracted generally from *wells*, is based on rain water that has seeped down through the soil to the bedrock, building up over thousands of years. In some places changes to a dryer climate have meant there is now not enough rainfall to replenish the ground water, as happened in the past.

In areas where too much water is extracted from the ground, the water table falls, requiring deeper wells to be built. Near to coasts, taking water out of the deep earth results in sea water being increasingly sucked into the rocks. Where huge amounts of irrigation water have been pumped out of the ground to feed agriculture or other industries, the ground water has become increasingly salty ('brackish') and is no longer fit to be used.

Even when people have access to water, their problems are not necessarily over. Ideally fresh water should be purified to make it fit for us to drink ('potable'). However, the costs of purification are high, and for millions of people the only water available is dirty and dangerous.

Whose water?

Many places in the world do not have enough water and will find they have even less in the future. This situation is called *water scarcity*. There are two kinds of water scarcity:

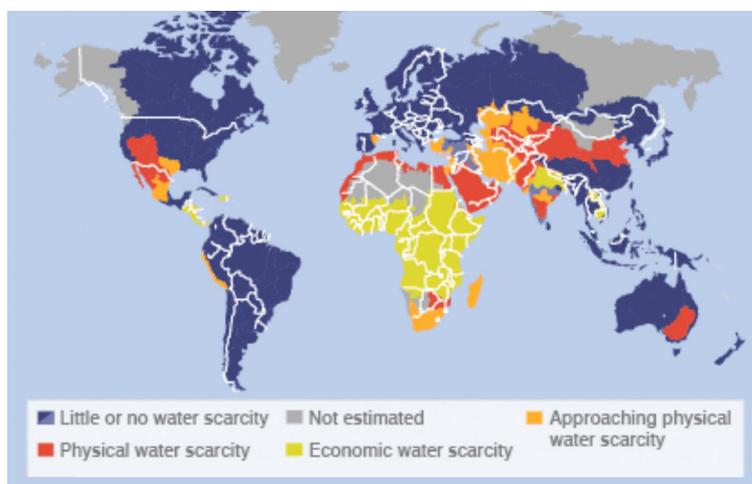
Physical water scarcity – not enough rainfall or groundwater to supply people with their water needs.

Economic water scarcity – not enough money, infrastructure or political will to supply people with their water needs.

It seems inevitable that water scarcity will become a bigger problem. As populations rise around the world and countries develop higher standards of living, the demand for water will rise. And as the climate changes, rainfall patterns are set to become less predictable, making existing dry conditions worse in many instances.

This map shows that many countries in the poorer regions of the world are at risk from water scarcity. But even in countries where the map indicates water resources are adequate, they may not be shared equally. One factor contributing to economic water scarcity is the massive rise in international tourism in recent years. Here's why:

Many poor countries have the combination of sunshine and scenery that people in richer countries long for. However, as more tourists flock to popular destinations like Goa, Bali and Zanzibar, their high demand for water increases the burden on local water supplies. This is particularly true in resorts on islands and coastlines.



Source: International Water Management Institute, August 2006