HOW IS WATER DISTRIBUTED ACROSS THE WORLD?

Interdependence and globalisation

Get the water facts!
- water is the world's most important natural resource
- water is a renewable resource – if used and managed properly, water can be reused or renewed
- water is a vital product for survival
- water covers 70 per cent of the Earth's surface – humans can survive for weeks without food but only days without water
- there is an estimated 1.4 billion cubic kilometres of water on Earth – 97 per cent of it is salt water and only three per cent is fresh water
- 70 per cent of fresh water resources are stored as ice, permanent snow cover in mountainous regions and at the North and South Poles.

The water cycle is a circulation system powered by the sun – no water leaves the system. The same amount of water exists on Earth today as did in the age of dinosaurs. Energy passes through, into and out of the system, transferring water through the atmosphere and back to the land and the sea. The basic stages of the water cycle include: evaporation, condensation, precipitation, infiltration and runoff.

Evaporation – the key to the water cycle

Evaporation changes water from liquid to a gas in the form of water vapour. Lakes, rivers, seas and oceans provide 90 per cent of the moisture in our atmosphere with the remaining 10 per cent coming from plant transpiration. Seventy per cent of the Earth is covered by oceans, allowing large amounts of evaporation to occur. The rate of evaporation from the oceans is so great that if they were not recharged by precipitation, runoff and discharge from aquifers, the Earth's oceans would empty.
Figure 1.4 Fresh water resources — volume (km³) by continent

Figure 1.5 It has been estimated by that every day across the world, women spend a total of over 200 million hours collecting water for domestic use. In developing countries, women and girls walk an average of six kilometres per day to collect fresh water.
HOW IS WATER USED BY PEOPLE?

Identity and cultural diversity

Everyone has access to water, however, not everyone has access to clean, safe drinking water. It is this uneven access that is an issue. Approximately one billion people across the world lack access to safe drinking water. Each year, 3.5 million people die as a result of water-related diseases. And for those who can least afford to pay – they are spending over 15 per cent of their annual household income on water alone.

![Average Water Use Per Person Per Day](chart)

**United Nations Development Program - Human Development Report 2006**

**Figure 3.1** The average water use for each Australian is almost 500 litres per day compared to the average water use for people in Angola, Cambodia, Ethiopia, Haiti, Rwanda, Uganda and Mozambique, which is less than the World Health Organisation’s minimum of 20 litres per person per day.

Out of daily necessity

Everyone needs water to carry out basic daily functions such as drinking, cooking and personal hygiene. More time spent collecting water means less opportunity to go to school or work. In rural areas of many countries, it is mainly women and children who collect water each day. This adds to the poverty cycle as family members cannot make a living or further their education when so much time is spent getting water.

In developing countries, the poor living in slums can often pay five to ten times more per litre of water than wealthy people living in the same city.

**Water costs nothing for those with everything and everything for those with nothing**

The poor pay huge sums for small amounts of water. To get it, they walk great distances, wait hours, and compete with other equally desperate people for the precious resource. Overcoming inequality is more than making sure that all people receive 20 litres of water everyday – those 20 litres must be clean and affordable – and free for the poor.

**Figure 3.2** Water inequality
Bottled water – think again

The worldwide sales of bottled water is between $50–100 billion per year and yet to provide access to fresh drinking water for half of the one billion people currently without access to safe water would cost between $10 and $30 billion.

What is the real cost of a bottle of water?

- the average bottle of water costs AU$2.53 per litre but only one cent from the tap
- manufacturing bottled water is between 240 and 1000 times more expensive despite the fact that 25 per cent of all bottled water comes from the tap
- over 90 per cent of the cost of a bottle of water is the bottle, lid and label
- 70 per cent of bottles will end up in landfill and will take over 1000 years to break down
- Australians spend more than half a billion dollars on bottled water each year
- more than 200 millilitres of oil is used to produce a one litre bottle of water
- in Australia during 2009–2010, almost 46 000 tonnes of carbon dioxide was emitted in the production of bottled water
- an Australian newspaper recently analysed bottled water and found that it was no better than the tap water from Melbourne, Sydney and Adelaide.

Waste not, want not

Figure 5.7 Plastic water bottles in India are cleaned and reused over and over again. Plastic mechanics will mend broken bottles by heating the plastic. If the bottle is beyond repair, scavengers known as rag pickers will collect the bottles to sell them at the waste markets – plastic is sold for 12 rupees (AU$0.25 cents) per kilogram

The cost for Fiji of bottled water

For more than 20 years, a Los Angeles-based company has sourced water from the artesian aqueduct in Fiji to bottle water. The operation, Fiji Water, provides employment for over 700 locals and generates over US$150 million for the Fijian economy as well as additional community development programs. Despite the positive aspects of this industry, there are many negative. For example, Fiji Water bottles more than 3.5 million litres of water each month and sells each of these litres for US$3–4, while one-third of the Fijian population does not have access to a clean drinking water supply. Other negative aspects in the production of Fiji Water are the energy costs required to transport the bottled water thousands of kilometres around the world as well as the plastic waste created.

In late 2010, the Fijian government announced a tax increase on the extraction of water from one third of a Fijian cent per litre to 15 Fijian cents per litre. The company that owns Fiji Water