getconnected

A Global Education resource from World Vision

Water in the world
March 2013
$9.90

How important is water for human development?

What are the water issues facing our world?

How do communities respond to water issues?

getconnected

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About this resource

How important is water for human development?
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This issue of **Get Connected** encourages you to explore these questions and do something constructive with what you learn.

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ISSN 1834-5018

Published by World Vision Australia. 1 Vision Drive, Burwood East 3151.

Front cover image: Water collection from an open well in Niger, West Africa.
Back cover image: Many women and children around the world have to carry water to their homes.





Water for life








All life on Earth depends on water. No plants, animals or humans can live without it. It moves through the environment and is used, valued and managed in different ways across the world.




For you to do

1. Make a list of the ways you use water in your everyday life on the water comparison table at **worldvision.com.au/schoolresources**
2. Look at the photographs on this page and in the rest of the magazine, and list the ways water is used by other people around the world. Record your list on the water comparison table. Compare the two lists – in what ways is your use of water similar to how other people around the world use water?
3. Brainstorm a list of questions about water from observing the images in Get Connected.

Water for Australia

Water is essential for sustaining life and healthy ecosystems. It is also important for Australia's economy, particularly agriculture. In fact, 52 percent of Australia's water use is for agriculture. For example, it takes 1,500 litres to produce one kilogram of grain and 15-20,000 litres of water to produce one kilogram of beef.

Long-term **drought** in many parts of Australia from 2000-2010 has changed the way Australians value water. There is a growing awareness of the impact of increased water use on river health. Taking too much water out of Australia's river and **groundwater** systems can have negative economic and environmental consequences.

Average annual rainfall varies across Australia. Large areas of the country have average annual rainfalls of 600-1,500 millimetres (mm), a range similar to much of Europe and North America. However, about half of the continent experiences an average annual rainfall of less than 300mm. Overall, Australia is the driest inhabited continent, and so water management is critical in maintaining society's water supply.

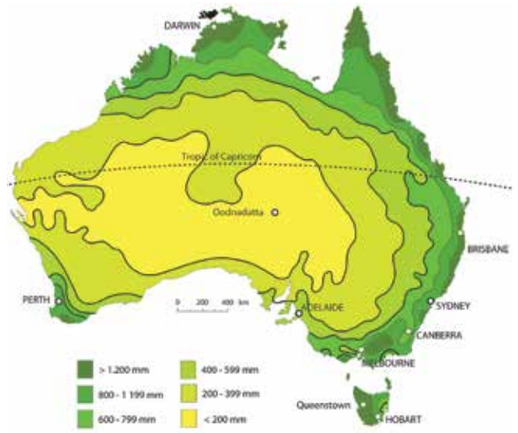
One management strategy is recycling or reusing water. Another strategy is greater conservation of water and looking for ways to reduce the use of water.

Water in Australia comes from different sources. Approximately 72 percent of water used is supplied by rivers, 20 percent from aquifers under the ground (groundwater) and eight percent from harvesting water that flows over the land.

Table 1: How water was used in Australia 2000-2009

Water use type	2000-01 Gigalitres	2008-09 Gigalitres
Agriculture	16,095	8,323
Sewerage and drainage	2,165	2,396
Households	2,278	1,768
Manufacturing/Industry	1,165	1,368

Source: Commonwealth of Australia, Australia State of the Environment 2011



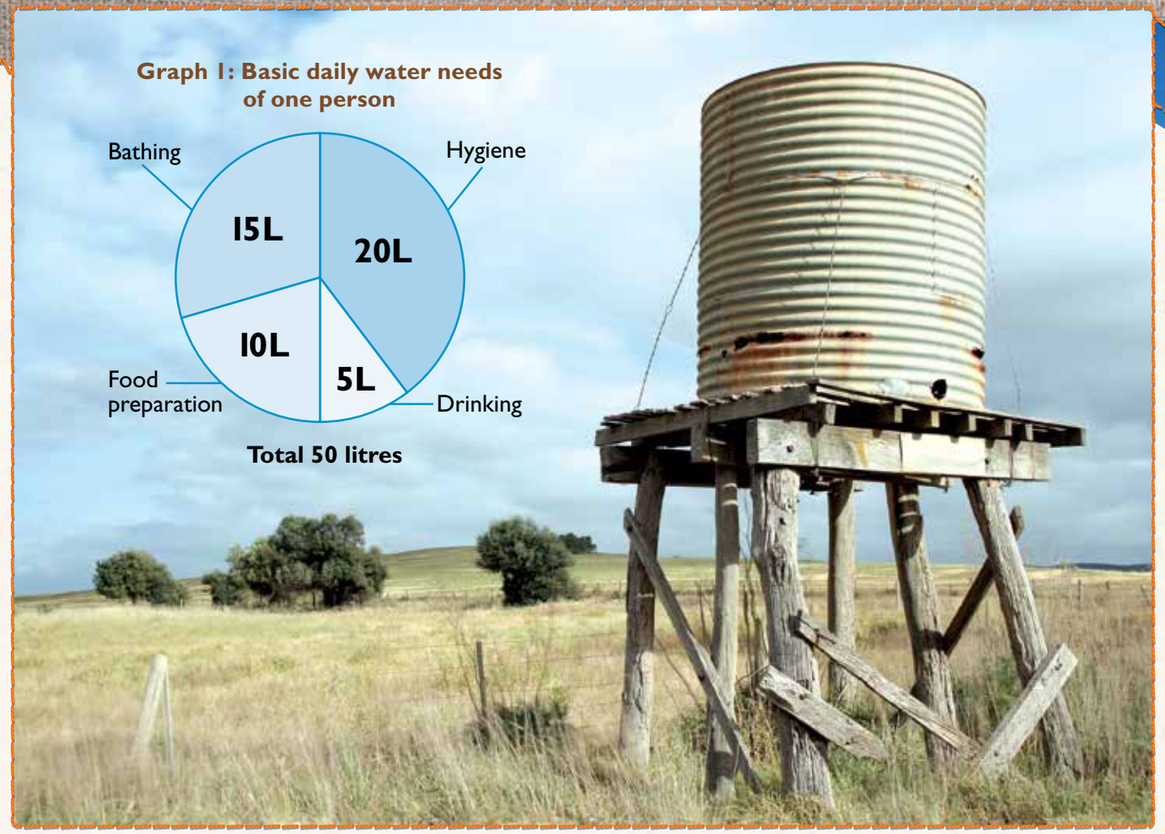
Australia's rainfall 2011
©maximosweb.com

What do you notice about Australia's rainfall patterns? What is the relationship between the distribution of Australia's rainfall and population? How does rainfall impact the use of land?

Table 2: Amount of Australian water use by population and state 2009-10

State/Territory	Percentage of total water use	Percentage of Australia's population
New South Wales	32	32.4
ACT	0.4	1.6
Northern Territory	1.3	1
Queensland	23	20.2
South Australia	8	7.4
Victoria	21.5	24.8
Tasmania	3.5	2.3
Western Australia	10.3	10.3
TOTAL	**100**	**100**

Source: Australian Bureau of Statistics, 4610.0 - Water Account, Australia 2009-10



The basic daily water need for one person is 50 litres, although the average Australian uses 200-250 litres per day. On the other hand, people in some parts of the world are unable to access even 50 litres. For human wellbeing, it is recommended for people to drink 2-5 litres per day.

Did you know?

Water use for a dual flush toilet depends on which way you push the flush handle – three litres for a little job and six litres for a major event. Single flush toilets use 10 litres of water every time.

For you to do

1. Guess how many litres of water your house uses each day. Ask your parents to show you four water bills across four seasons. How much water does your house use per day? Explain why you might use more water in different seasons. How many litres of water does each person in your household use each day?
2. Write a paragraph describing how you could restrict your water usage to just 50 litres each day. Would it be possible? Be creative in thinking of ideas which don't harm your health (that is, you have to brush your teeth every day and wash your hands after going to the toilet).
3. Graph the information in Table 2 on the graph found at **worldvision.com.au/schoolresources**
4. Look at Table 1. How has Australia's water use changed from 2000-2009? Suggest reasons to explain this.

Water for the world

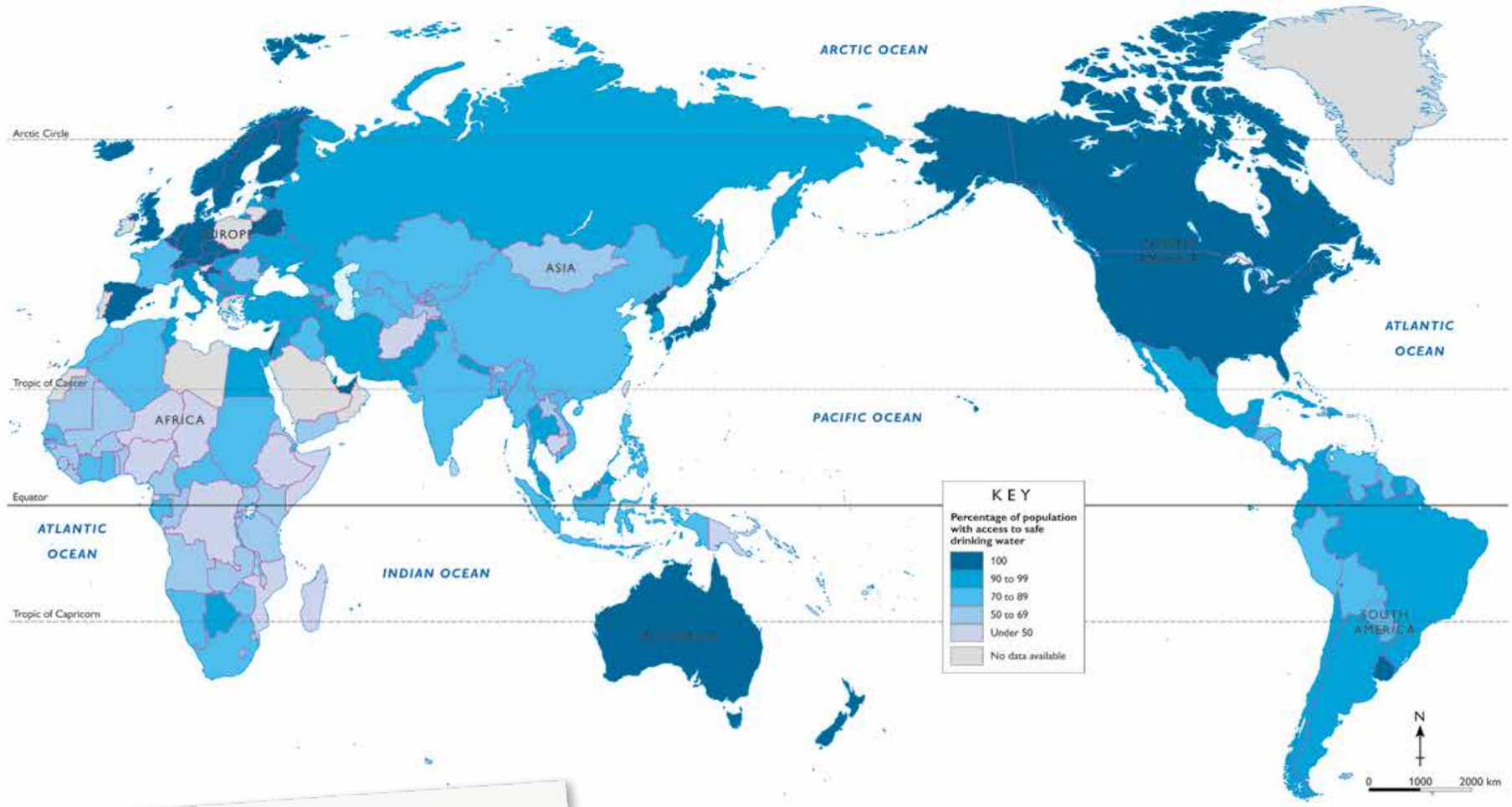
Most of the world's water is salty (97.5 percent). Only 2.5 percent is fresh water and less than one percent is available and suitable for use by humans. Across the world, this precious resource has to be shared between seven billion people. But there is sufficient fresh water on the planet to achieve the dream of "water for all".

In 2012, approximately one person in eight or 884 million people could not enjoy the benefits of water at the turn of a tap. However, since 1990, the good news is that 1.7 billion people have gained access to clean water.

Did you know?

Each day, approximately 5,000 children die from diseases due to dirty, unhealthy water.

World access to safe drinking water



For you to do

1. Using information from the map, and an atlas, complete the following paragraphs.

Access to safe drinking water (is / is not) even all over the world. People in countries such as _____ and _____ have 100 percent access to safe water. People in other countries have much less access to safe water. Two regions that have less than 100 percent access to safe water are _____ and _____. In many countries in Africa, less than _____ percent of people can get safe water. Three of these countries are _____, _____ and _____.

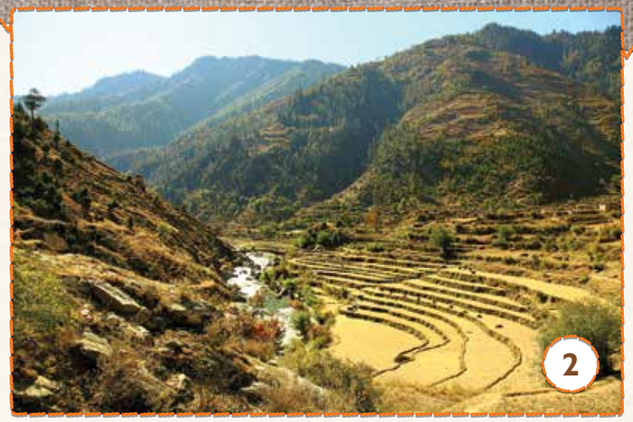
Australia and New Zealand are located in the (Asia-Pacific / African / American) region of the world. All people in Australia have access to good drinking water. However this (is / is not) the same for most of our neighbours in the region. For example, in Indonesia between _____ and _____ percent of people can get safe water to drink. In Papua New Guinea, the water situation is (better / worse) because only _____ percent of people have safe water.

2. How might water scarcity impact the lives of people living in countries where half the population does **NOT** have access to safe water?

Water and food

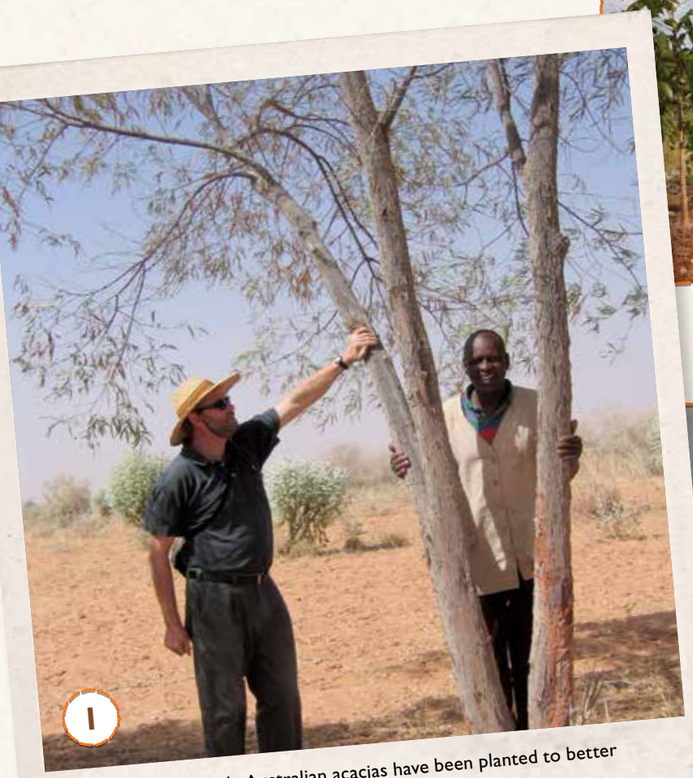
Water is essential to the production of all food. When water is scarce, for example in a drought, it can mean that communities are unable to produce enough food to meet their needs. Worldwide, water used for agriculture accounts for 70 percent of total water use. For example, it takes 1,500 litres to produce one kilogram of grain and 15-20,000 litres of water to produce one kilogram of beef.

Food security depends on conserving water, and using it as efficiently as possible. In places where water is scarce, some of the water-reduction strategies used in agriculture include:



Cutting terraces on hillsides to prevent soil erosion and allow heavy rain to soak into the soil.

In Indonesia, trees have been planted to prevent soil erosion, improve soil fertility, help modify temperatures and act as windbreaks.



In Niger, hardy Australian acacias have been planted to better survive times when water is scarce.

Planting crops that use less water and have higher yields and so produce more food.

Checking for trachoma – a water-washed disease.

Water and health

The majority of the human body is made of water. Water is necessary for life. Without enough to drink each day, humans become **dehydrated**, and increasingly unwell. Water is essential for good health and human wellbeing. However, there are times when water can actually cause ill health.

Water: the everyday killer

There are four ways that water can cause illness:

- Drinking **contaminated** water directly causes illness, which is known as waterborne disease. Illnesses include diarrhoea, typhoid, cholera and dysentery.
- Not enough water for personal **hygiene**, or unhygienic practices which contaminate water, can also cause diseases. Without enough water to wash with, skin and eye infections (including trachoma) are easily spread. These diseases are known as water-washed diseases.
- Aquatic environments provide the habitat for mosquitoes and parasites that cause human diseases. Malaria, schistosomiasis and guinea worm are examples of these water-based diseases.
- Chemically contaminated water, such as water containing excessive amounts of arsenic or fluoride, can damage health over both the short- and/or long-term. Some contaminants are added to drinking water as a result of natural processes and some are due to human activities such as industry and mining.

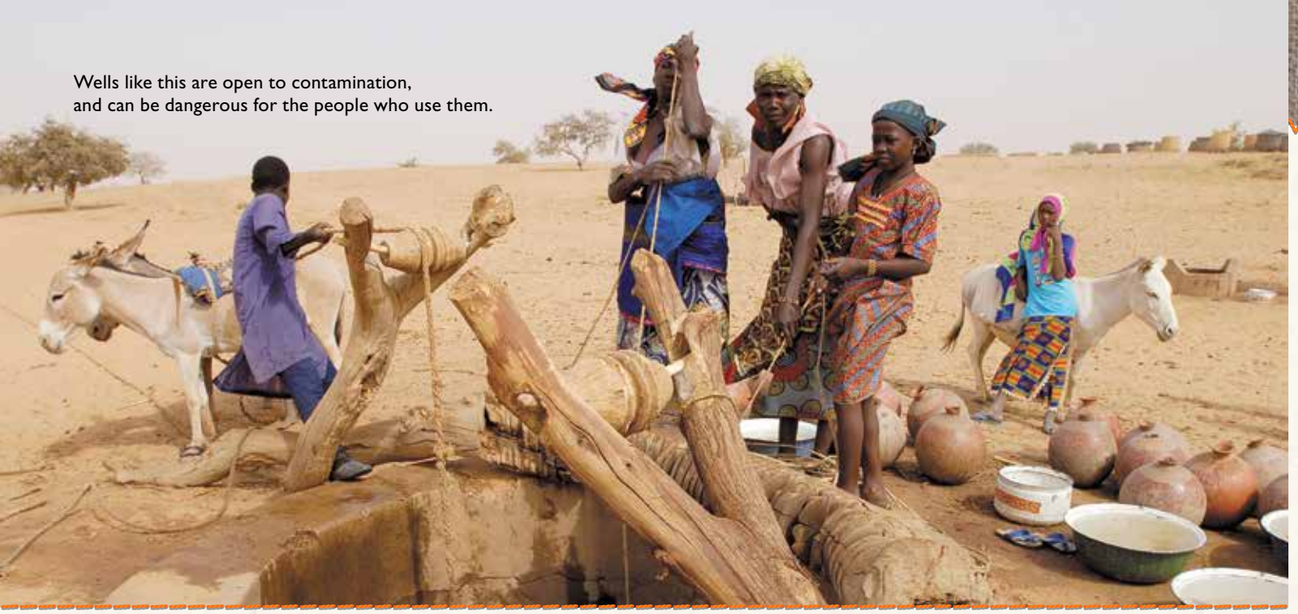
Did you know?

In places like Australia, getting the "runs" is usually a minor problem. But in poorer countries, diarrhoea can be deadly without proper treatment. Worldwide, diarrhoea is the second biggest cause of death of children who are under the age of five.

For you to do

1. View the DVD Chapters *Can You Live With Dirty Water?* and *A Public Health Announcement* and complete the worksheet. The worksheet and film clips are located on the Get Connected: Water in the world page at **worldvision.com.au/schoolresources**
2. In small groups, choose an issue about water and health that you want to inform people about, or a healthy behaviour using water you want to encourage others to start doing. Identify:
   - who is your audience?
   - what is your main message?
   - what do you want your audience to know or do as a result?

   Using the two film clips as examples, create a short play or film clip (around 1-2 minutes long) that will convey your message to your audience. Perform your play for the rest of your class.



Wells like this are open to contamination, and can be dangerous for the people who use them.

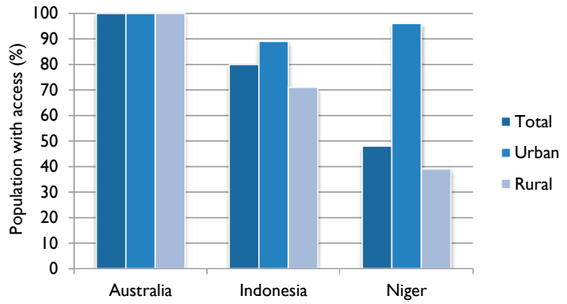
How does your life compare?

How does life in Australia compare with other parts of the world? On average, people in Australia, Indonesia and Niger have very different experiences of life.

The Human Development Index is a combined measure of the health, education and wealth of a nation, ranging from very high development (eg. Australia) to low development (eg. Niger). Indonesia is considered to have a medium level of development. This does not mean that everyone in Australia is wealthy, healthy and educated and everyone in Niger is poor, unhealthy and poorly educated. There is inequality in both countries and this data is based on an average measure.

Having access to an improved drinking water source means that at least 20 litres of safe water is available for each person within one kilometre from where they live. Access to safe drinking water, income, health and education outcomes are all closely related.

Graph 2: Population using improved drinking water sources



Source of data used: United Nations Children's Fund (UNICEF), unicef.org/infobycountry, [accessed: September 2012]

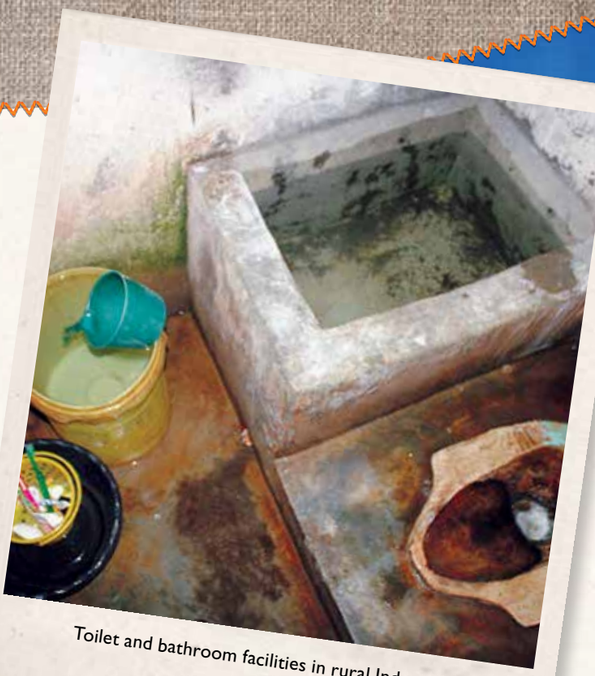
Table 3: Living conditions

Indicator	Australia	Indonesia	Niger
Human Development Index (rank out of 187 countries)	2nd	124th	186th
Population (millions)	22.6	242.3	16.1
Gross national income per capita (US$)	34,431	3,716	641
Population living on less than (US) $1.25 per day (%)	nil	18.7	43.1
Life expectancy at birth (years)	81.9	69.4	54.7
Under five mortality rate (deaths per 1,000 live births)	5	39	160
Adult literacy rate (% aged 15 and older)	99	92.2	28.7

Source: United Nations Development Programme (UNDP), Human Development Report 2011

Table 4: Access to water

Indicator	Australia	Indonesia	Niger
Population using improved drinking water sources, **total** (%)			
Population using improved drinking water sources, **urban** (%)			
Population using improved drinking water sources, **rural** (%)			



Toilet and bathroom facilities in rural Indonesia.

For you to do

1. Use the information in Graph 2 to complete the blank spaces in Table 4. How is access to water different for people in rural and urban areas? Can you suggest any reasons?
2. In Table 3, identify the indicators that show the health, wealth and education levels for the people in that country.

   Health: _____

   _____

   Wealth: _____

   _____

   Education: _____
3. Write a short report describing how access to safe water is related to the health, wealth and education levels in a country. Use evidence from the tables and graph to support your argument.
4. How important do you think having access to safe drinking water is for good health? Put an "x" on the continuum below at the point you think best matches your opinion.

not important — **somewhat important** — **important** — **very important**

Case study: Niger, Africa

Water challenges in Niger

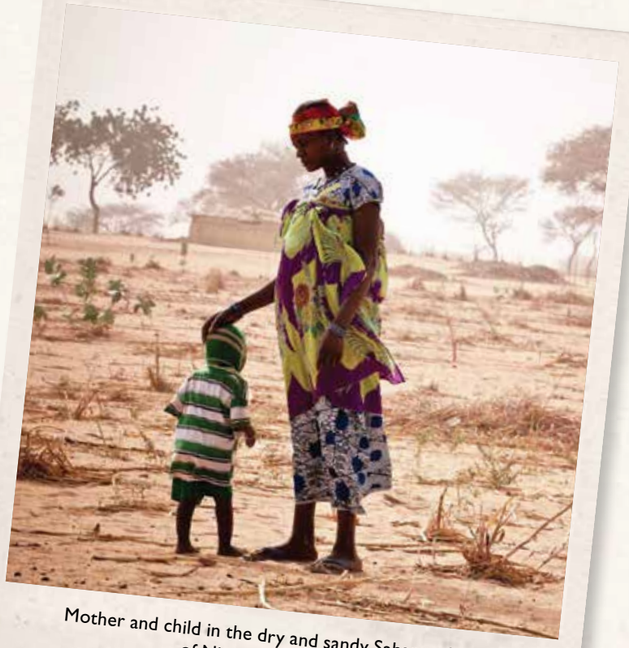
Niger is a landlocked country in West Africa. It is one of the driest and poorest countries in the world. It is mostly **arid** or semi-arid, with unreliable and often minimal rainfall.

Australia is a dry continent where about half of the continent experiences an average annual rainfall of less than 300 millimetres (mm). However, it is surrounded by water and large areas of the country have average annual rainfall of 600-1,500mm. There are very few places in Niger that receive this amount of rainfall. In the east of Niger, average annual rainfall is only about 200mm and in the south west of Niger, the highest rainfall is around 860mm per year.

Not having enough reliable rainfall every year is a challenge. It makes planning ahead difficult if people are not sure how much water they will have. Just like in Australia, if a farmer plants a crop and the rain fails to fall, crops may fail to thrive. Without crops and water for animals to drink, food will be in shorter supply. In fact, Niger and other countries in West Africa regularly experience drought and food shortages leading to hunger and malnutrition.

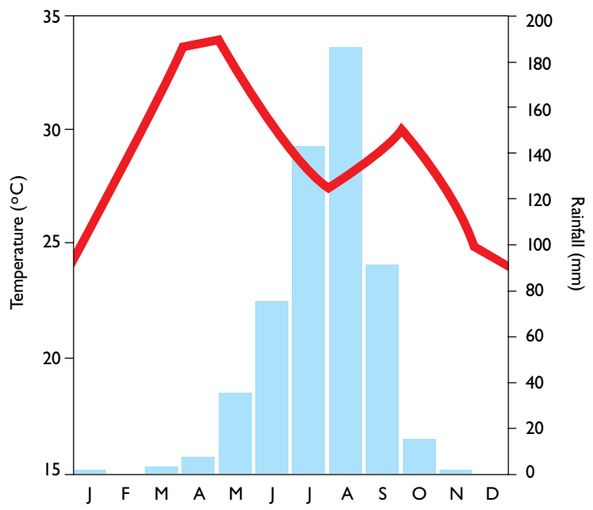
Another challenge is the cleanliness of the water. When water is collected from a polluted river or a well which has no cover over it, diseases will be much more common amongst people. When people are sick, they cannot work or go to school.

Collecting water is also a challenge in Niger. This is mainly done by women and girls who may walk long distances several times a day to collect water. Using ropes, buckets have to be lowered into deep wells and then pulled up to the surface. This is hard work and it takes a lot of time. Only a few villages are fortunate to have pumps that bring water to the surface and allow buckets to be filled from a tap. Women and girls still have to carry the heavy containers back to their homes. As a result, girls have less time at school and mothers have less chance to do other tasks which help the family and community develop a better life.



Mother and child in the dry and sandy Saharan desert of Niger in West Africa.

Niamey – Climate graph



Annual 24-hour average temperature **29.1°C**
Annual average rainfall **556.2mm**
13.27°N 02.06°E 215m above sea level.

Niger, in West Africa, is one of the driest and poorest countries in the world.

KEY

Population density (persons/km²)

- Over 100
- 25-100
- Under 25
- Sahara Desert
- Capital city

For you to do

Use the information in the map and climate graph to correct the statements below.

Niger (is / is not) in sub-Saharan West Africa and lies just (north / south) of the equator.

It is a landlocked country and two-thirds of the land is covered by the (Kalahari / Sahara) Desert.

The capital city is (Maradi / Niamey).

Water places are rare but include the Niger River and Lake (Niamey / Chad).

Nearly 90 percent of the population lives in the greener (north / south).

For the eight months from October to May, rainfall is (less / more) than 100 millimetres.

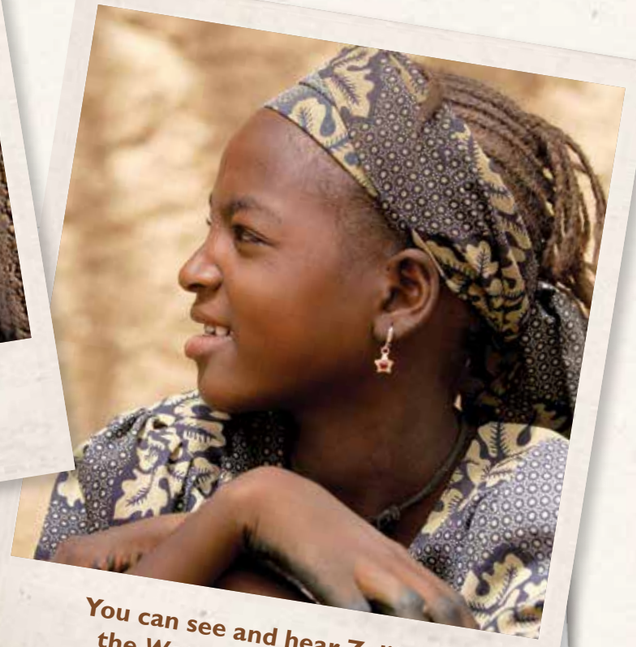
Droughts are (rare / frequent) in Niger.

Precipitation is greatest in (May and June / July and August).

November to February are the (cooler / warmer) months. Temperatures can drop to freezing in the desert at night time but still reach 35 degrees in the day time.

In the hot season, average temperatures are between 30-35°C. During the heat of the day, it is possible for (temperatures / rainfall) to reach over 50°C.

In Niger, Zalifa fills a water bucket from an open well (also see front cover). Why is an open well a source of unsafe drinking water?



You can see and hear Zalifa on the *Water in the world* DVD.

Zalifa's story

Hello

My name is Zalifa and I am 12 years old.
I speak Hausa and French – and French is the official language of my country in West Africa, Niger.

Every day I have to walk about four kilometres to collect water from a well. This can take a couple of hours and sometimes there is hardly any water in the well.

If the well is dry, I have to walk to another village to buy water and then carry it back home. The water is heavy and it hurts my back and my arms.

All of this time collecting water means that I often miss school. I want to be a teacher when I grow up and I like going to school. But time spent collecting water means I don't learn as much as I would like.

Also, the water from these open wells is not very clean and often makes us sick. The wells are not sealed and all sorts of germs and dirt drop into the water. It has even caused some young children to die. I know it can cause illness but I don't have any choice. It's the only water we have. This is another reason why a lot of kids miss out on school.

One day I hope that we can have a well closer to our village. One day, I hope that I can drink clean, safe water – it would make a big difference to my life and the lives of the people in my village.

Zalifa

Did you know?

A running tap uses seven to 10 litres EVERY minute. A slow dripping tap wastes 7,000 litres of water per year.

Abida's story

Bonjour

Je m'appelle Abida. We use French in school instead of our local language Hausa. I enjoy school because I know there are many children in Niger who do not have the opportunity. I am very fortunate.

My main chore is to help my mother collect enough water for the day. After breakfast, mum and I take the two minute walk to the village hand pump well. We pay five francs (two Australian cents) each time we use the well. It's close and the water is safe to drink, so it's worth it. It helps to pay for the cost of pump maintenance.

My mum works the pump handle. Once the bucket is full, I carry it back balanced on my head and empty the water with large storage jars. The bucket is heavy and it takes six trips to get enough water for half the day. We do it all over again before our evening meal. It is hard work.

Now that we have a water pump, the women in my village have started a small soap making business. I like to help and they sell it at the local market. The extra income helps our family.

At the Sunday market, I sell drinks of water to people who are too busy to get their own. One drink costs five francs and I usually make 500 francs (A$2) in a day to help my family. Having a water pump in our village has changed my life and the future of our community.

Abida

You can see and hear Abida and her family on the *Water in the world* DVD.

For you to do

1. Step Inside Abida's World:

   (a) View the DVD *Water in the world*. View the chapter on *Abida's World*. While you are watching, step inside Abida's shoes to consider the following questions:
   - What does Abida see, think and wonder about her world?
   - What might Abida understand or believe about her world?
   - What might Abida care deeply about?

   (b) View the chapter *Safe Water for All*. Repeat the "Step Inside" activity for Zalifa.

   (c) Share your thinking about Abida's world with other class members. Listen to other people's perspective about Abida's world and the challenges she faces. Share your ideas about the positive impact that a new well will have for Zalifa and her village.

2. View the DVD chapter *The 20 litre challenge: Suzy versus Anyaka* and complete the worksheet. The worksheet and film clip are located on the Get Connected: Water in the world page at **worldvision.com.au/schoolresources**

Niger: water management strategies

Lack of rain affects food production in Niger and reduces the size of harvests. This means people don't have enough food to eat during droughts. Occasional **floods** can also damage crops, and contribute to soil erosion which limits the ability to grow more crops in the future.

World Vision has worked with the people of Niger to provide short- and long-term water and food solutions. Short-term solutions include actions like providing food aid. Long-term, sustainable solutions include activities such as drilling boreholes to access groundwater, and working to improve the resilience of farming communities and their ecosystems. This means they are less vulnerable to the effects of future water shortages.

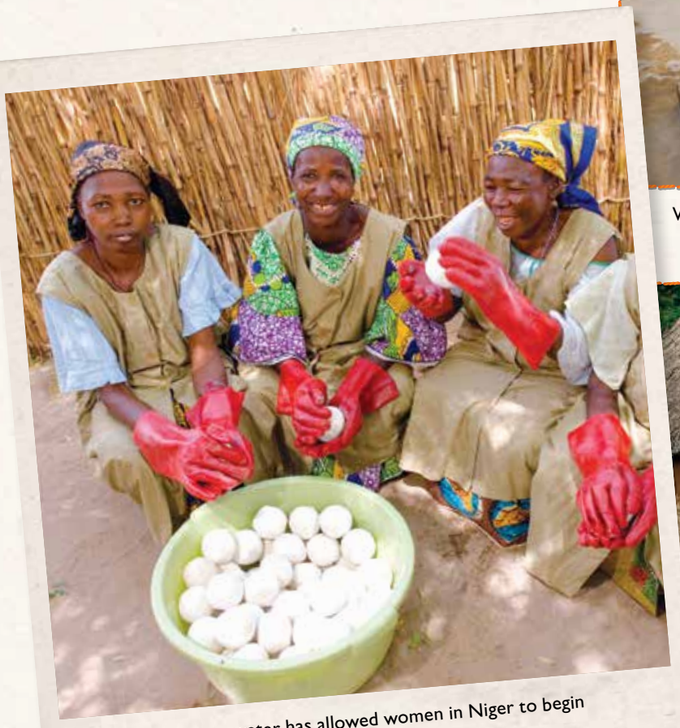
Drilling boreholes

World Vision Niger works with local communities to develop boreholes and water pumps to bring safe, clean water to the people. Firstly, after mapping the area and identifying the best place to drill, it often takes two to three days for the drilling machine to get to 150 metres and find water. The water is then checked to ensure there is sufficient quantity and it is good quality for drinking.

In the *Water in the world* DVD, the local community now maintains the well. Salamou Amadou is the caretaker and says, "My job is to keep the area clean. I also collect 10 francs (about five Australian cents) when people use the well and we use this money to make repairs and maintain the well in good working order. The community now has access to safe drinking water and children no longer suffer from diarrhoea and skin infections."

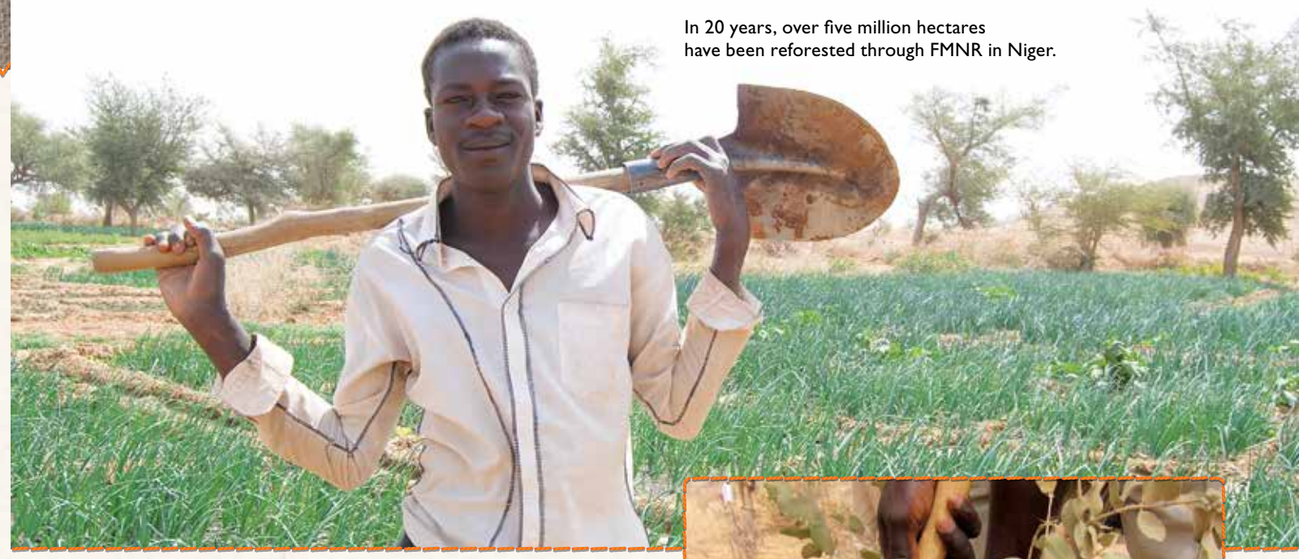
Another positive impact for the community is that they can now build mud brick houses instead of straw houses. These houses give better protection against heat, rain and insects. With training, a group of 40 women have also started a soap making business to improve their income.

Women can now collect water at an enclosed borehole well. Why is this safer than an open well?



Access to water has allowed women in Niger to begin a soap making business.

Access to water has allowed mud brick houses to be built.



In 20 years, over five million hectares have been reforested through FMNR in Niger.

Reforestation

Another long-term solution has been the "re-greening" of southern Niger through Farmer Managed Natural Regeneration (FMNR).

For many years, trees in Niger were cut down to clear land for farming, firewood and building material. This led to deforestation, soil erosion and land degradation as top soil was washed away in rains. It also meant that water was not absorbed into the ground and the soil became less fertile.

Using locally available tools such as machetes and harvesting knives, local farmers prune and manage re-growth of branches growing from existing tree stumps. The cut off branches are used or sold for wood heating and they leave one central stem on the plant to grow straight up. The plant puts its remaining energy into this solitary trunk which enables the plant to grow more rapidly.

The new trees help hold the top soil together, reducing the damage caused by strong winds and occasional floods. Falling leaves trap moisture in the soil and provide nutrients. As a result, the fertility of the soil improves, leading to better harvests and surplus grain.

The communities that have adopted FMNR appear to be coping better with drought and water shortages. Soil fertility has increased, soil structure improved and crop yields are larger. There is greater moisture infiltration and retention in the soils. Farmers have begun to see trees as a sustainable cash crop in their own right. In 20 years, over five million hectares have been reforested through this FMNR system in Niger.

Pruning trees using a sickle.

This story appeared on the ABC Lateline program on 9 July 2012, *Reforestation project adds hope to food crisis* (4 minutes 55 sec). Viewable at: **abc.net.au/lateline/content/2012/s3542254.htm**

For you to do

Watch the Lateline program and see more on FMNR in the film clip *Farmer Managed Natural Regeneration (FMNR): A good news story*, located on the Get Connected: Water in the world page at **worldvision.com.au/schoolresources**

What is the evidence that these aid and development strategies are sustainable?

Case study: Indonesia

Recent issues with water

Like many countries, Indonesia faces numerous water challenges. According to the United Nations, one in five Indonesians lack _____ to safe drinking water. Access to safe drinking water is worse for the urban poor and people living in more remote _____ areas.

Apart from access to safe, clean water, other parts of Indonesia face the risk of water shortages. There simply isn't enough water to meet the _____, so people have to cut back on their water use, and may need to pay more for the water they can buy.

Also, the increasing demand for water in urban areas has meant households and industries have sunk wells to gain access to _____. An unexpected side-effect has been land **subsidence** in large cities, such as Jakarta.

Many people still lack access to basic **sanitation** and so _____ such as diarrhoea and typhoid are common. Poor sanitation can also pollute the rivers and cause _____ of ground and surface water sources. This further spreads disease.

Jakarta is on a flood plain and several large rivers flow through the city, making it prone to _____. Due to poverty, many people live in poorly built houses, located on the river banks. This increases the potential for floods to become _____.

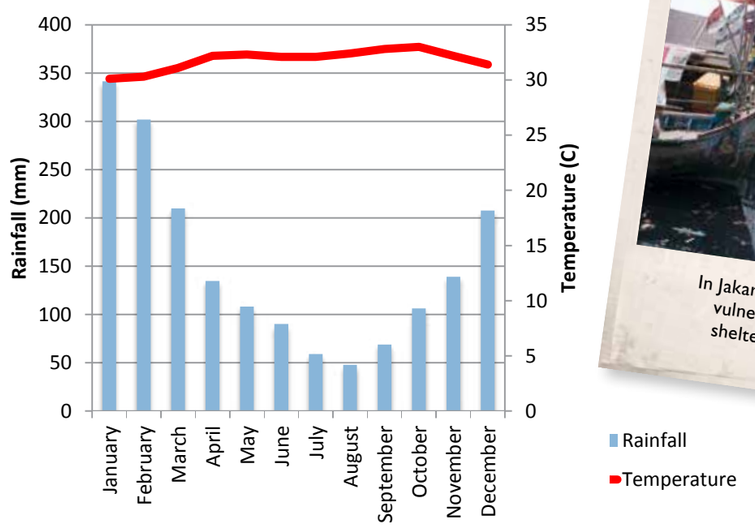
Every year, large parts of Jakarta are flooded during the rainy _____, which starts in November and ends in April. Floods were especially severe in 2002, 2007 and 2013. In 2007, 60 percent of Jakarta was inundated with _____ up to seven metres deep, causing over 70 deaths and displacing 340,000 inhabitants. Flooding also leads to diarrhoea, dengue fever and cholera.

The World Bank has initiated a flood mitigation project (2012-2017) to dredge and rehabilitate the flood-ways and _____ of the city. The World Bank will provide a loan of $189 million to the provincial government of Jakarta to complete this management strategy.

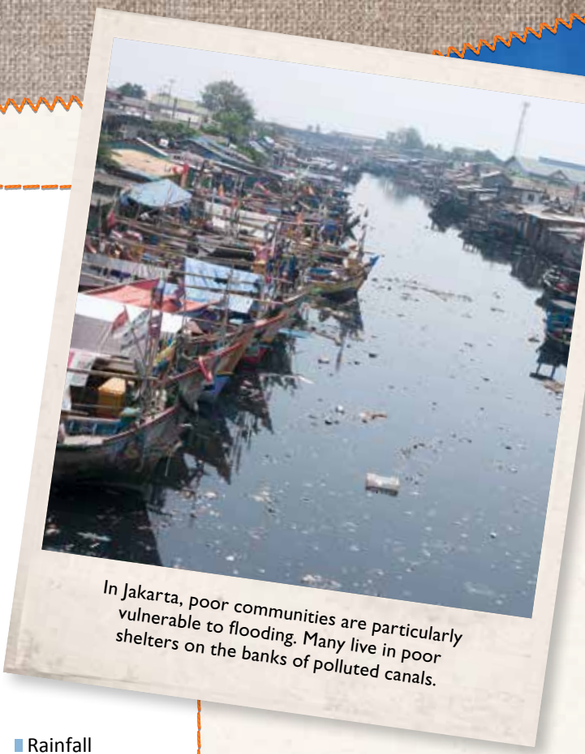
At the same time, non-government organisations like World Vision work with communities to _____ people about keeping their waterways clear of rubbish and waste.

Jakarta, Indonesia: Climate graph

6 12' S, 106 48' E 7m above sea level.



Source of data used: WorldClimate (www.worldclimate.com)



In Jakarta, poor communities are particularly vulnerable to flooding. Many live in poor shelters on the banks of polluted canals.

For you to do

1. Use the words below to complete the text in the section "Recent issues with water":

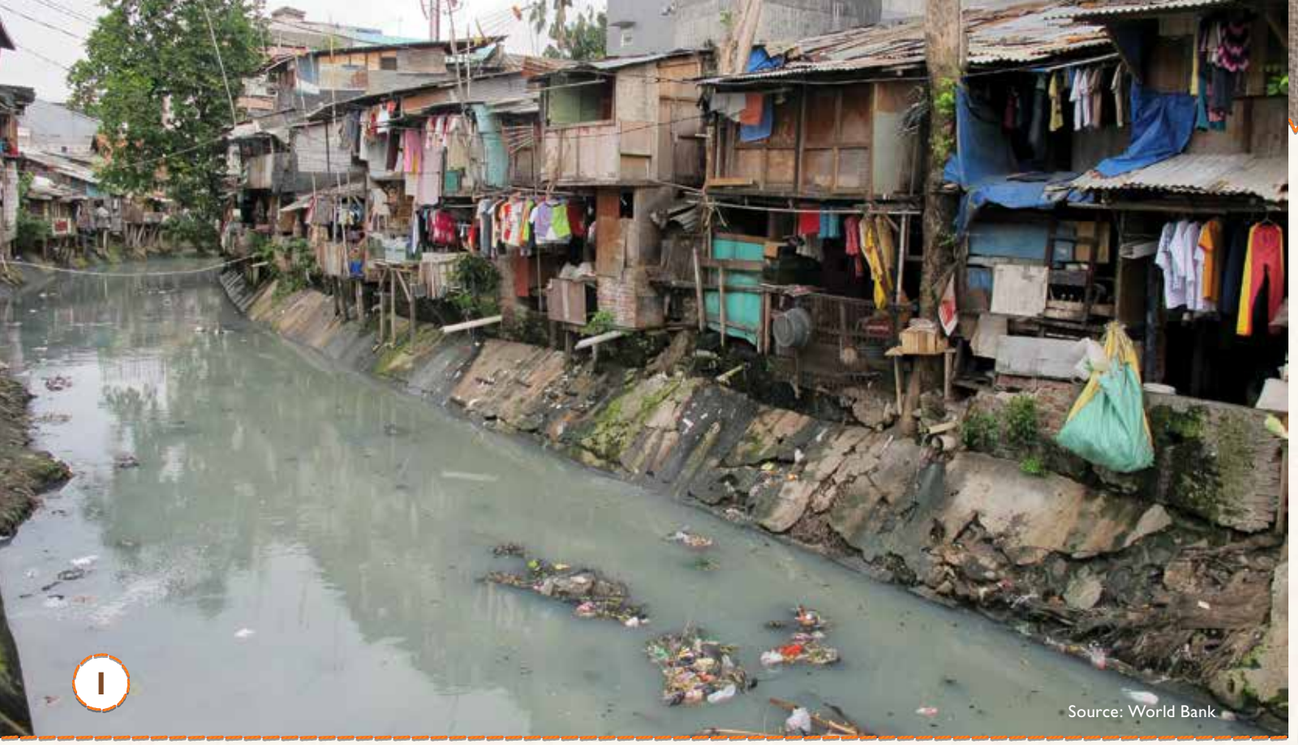
access	canals	contamination	demand
disasters	diseases	educate	flooding
groundwater	rural	season	water

2. Look at the climate graph for Jakarta and complete the worksheet at **worldvision.com.au/schoolresources**

3. When would Jakarta be most vulnerable to flooding? Using the climate graph, list two dry season months and two wet season months.

Dry season: (i) _____ (ii) _____

Wet season: (i) _____ (ii) _____



Indonesia: urban water issues

Large cities in developing countries often experience a range of challenges relating to water. The following photographs were all taken in Jakarta, the capital of Indonesia. Jakarta is a growing megacity of more than eight million people. The images demonstrate some of the water issues faced by poor communities in urban environments.

Did you know?

Floods affect more people than any other hazard. Some 1.5 billion people globally were affected by floods in the last decade of the 20th century. Worldwide, it is estimated that more than 200 million people live in very low-lying coastal zones at high risk of flooding.

For you to do

1. With a partner, match the captions (below) with the correct photograph.

Photo # _____ The streets of Jakarta are flooded during the wet season. In 2007, 70 people were killed.

Photo # _____ People wash in the polluted canals during the floods. Diseases are easily spread in these conditions.

Photo # _____ Without access to piped water, poor residents of Jakarta have to buy water from trolleys in the street.

Photo # _____ Water pollution and waste management is a major issue facing the rivers of Jakarta. Fifteen percent of Jakarta's total solid waste is discarded into the city's canals and rivers.

2. With a partner, pick one of the photos to examine in detail, and complete the worksheet at **worldvision.com.au/schoolresources**

3. Suggest some causes for the flooding in Jakarta and identify how the floods impact the people of Jakarta (ie. economic, social and environmental impacts). Use the information on pages 18-21 to complete the table below:

	Economic impacts	**Environmental impacts**	**Social impacts**
Flooding in Jakarta			

Indonesia: rural water issues

In the rural villages of Flores (see the maps on page 18 and below), access to safe drinking water is a major problem. Typically women have to walk 30 minutes to collect 10 litres of unclean water from a well. This means that women spend much of their day collecting water, and carrying the water on their heads causes neck and shoulder problems. The unclean water also causes health problems such as diarrhoea and skin infections. This also means that children miss out on school and an education. Another consequence of not having access to clean water is that it is difficult to find teachers who want to come and teach in their schools.

In 2005, several villages began to work with World Vision to improve the communities' water supply and knowledge of hygiene and sanitation practices. Improving access to clean water for the villages was a challenge. A natural spring was identified that could supply the water. However, it was 27 kilometres away, on the side of a volcano, and belonged to the people of Hewa village.

With funding and advice from AusAID and World Vision, the villagers built a 27 kilometre pipeline to the villages. The construction took 16 months to complete. The communities receiving the water pay the Hewa village $120 per year for the water and work to protect the water source from contamination. They also formed a management committee that has maintained the pipeline since completion in 2007.

The community learnt more about hygiene and sanitation through classes for school children, and new sanitation facilities were built.

The project has benefited over 6,000 people, with improved access to safe water, sanitation facilities and knowledge of basic hygiene. By 2008, it was found that the number of children under the age of five suffering from diarrhoea reduced from 38.1 percent to 11.7 percent.

As some of the villagers said:

"We now find it easy to do the laundry, the washing and cooking. Also we can water plants and grow small gardens close to our homes. Now we have more time each day to meet with mothers and look after children."

"Instead of spending two to three hours collecting water, we can now use our time more productively and mothers do not have to work so hard or walk so far to get the water."

"We are very proud of our hard work because now we have access to clean water and our children rarely get sick."

"With better access to water, we now have 30 brick-making businesses in the area. This has improved income and housing."

Topographic map of east Flores, Indonesia

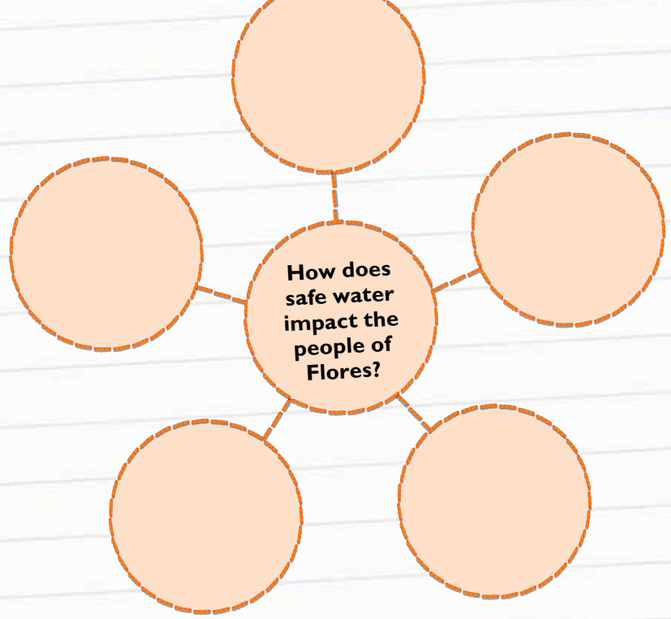
Red line indicates the 27 kilometre water pipeline

Map of east Flores, Indonesia

In Indonesia, many rural women have to walk to collect and carry water to their homes.

For you to do

1. Read the case study and identify five ways the water and sanitation project has impacted the community either economically, socially or environmentally. With a partner, compare your mind maps.

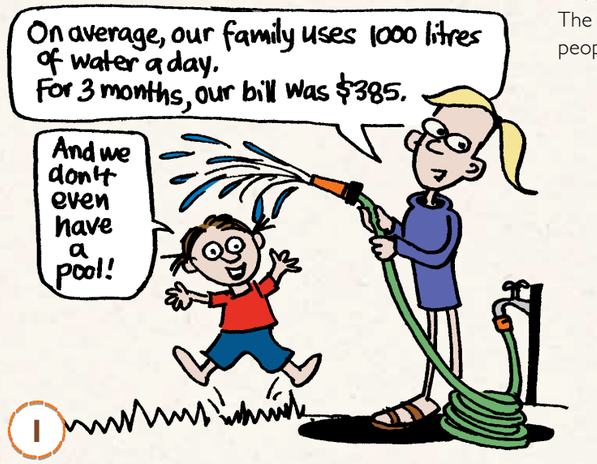


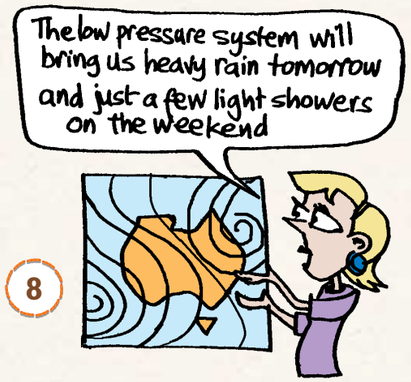
2. In pairs, draw a mind map showing the connections between clean water, improving health, education, gender equality and reducing poverty.

3. Complete the map reading activity at **worldvision.com.au/schoolresources**

Different perspectives on water

Around the world, people use and manage water in different ways. The cartoons below show some of the different perspectives that people have towards water and its importance in their lives.





For you to do

1. Match the cartoon with the following perspectives (1-10):

_____ Australian family _____ Australian farmer _____ Businessman

_____ Doctor _____ Indigenous Australian _____ Indonesian fisherman

_____ NGO aid worker _____ Papua New Guinean mother _____ TV weather reporter

_____ West African farmer

2. When thinking about how others view water, how does that affect your own perspective on this precious resource? **NOTE to TEACHER:** Find the materials for this water perspectives activity at **worldvision.com.au/schoolresources**

Active citizenship

Everyone everywhere needs access to safe water. It is important for the health of the world's people and the environments we live in. While we enjoy access to safe water in Australia, we also have a responsibility to ensure that people in other countries are able to enjoy safe, fresh water. As global citizens, it's good for all people when we help each other.

Bore water is now a safe source of drinking water on Buka Island, PNG.

Personal action

DO: Use a water bottle which you re-fill.

DO: Reduce, Reuse, Recycle – all these actions mean that less water has to be used to make new products which you buy or consume.

DO: Some internet research to find the best water tank for your school. Then present your ideas to the teachers and/or principal.

"Access to safe water is a fundamental need and therefore a basic human right."

– Kofi Annan, former United Nations Secretary General

Small group action

Organise an event for World Water Day in March or Human Rights Day in December to educate people about a water issue.

Write a letter or email to the editor of your local newspaper or your Member of Parliament to raise awareness about a local or global water issue.

Adopt a local waterway and take action to keep the water clean. Contact your local council for ideas.

Conduct an event to raise money to help provide clean water for people around the world who lack access.

Children now enjoy access to safe water at this well on the island of Flores, Indonesia.

National action

The Australian Government (AusAID) and Australian non-government organisations like World Vision work to improve access to safe water for people around the world, including the people of Niger and Indonesia.

International action

The United Nations declared 2013 the International Year of Water Cooperation. The aim of the year is to raise awareness about the need to cooperate when using and managing water. This is an opportunity for everyone around the world to focus on water, especially on World Water Day which is celebrated in March every year.

Keep an eye on events for the International Year of Water Cooperation at **unwater.org/watercooperation2013.htm**

UN WATER World Water Day 2013 International Year of Water Cooperation

For you to do

Use de Bono's six thinking hats to explore the issue of water in the world.

White hat: Write down five facts you have learnt about water scarcity, hazards and management.

Red hat: How does the topic of global water issues make you feel? Does it make you sad, positive, concerned, confused, hopeful, angry, disappointed, or something else?

Black hat: What are some of the negative aspects of global water scarcity and hazards?

Yellow hat: What are some of the positive aspects of global water management activities?

Green hat: Suggest some ways that Australians could be better educated about global water issues.

Blue hat: What new insight have you gained about the issue of global water scarcity?

Jargon busters

Arid: an area that is extremely dry, typically experiencing little or no rain.

Contaminated: water that has something in it, or added to it, that makes it unclean, impure or harmful.

Dehydrated: when the body does not have as much water or fluids as it should. This can be caused either by loss of water from the body, or by not drinking enough water or other fluids to meet the body's needs.

Drought: a prolonged period of below average rainfall.

Flood: the build up of large quantities of water, generally caused by heavy rains, which the soil is unable to absorb.

Gigalitres: 1,000 million litres.

Groundwater: water found underneath the Earth's surface, often in the spaces between rocks, soil or sand.

Hygiene: practices, such as those of cleanliness, that help maintain health and prevent disease. For example, washing hands thoroughly with soap after going to the toilet.

Precipitation: rainfall.

Sanitation: taking precautions against germs and disease by the disposal of sewage and other waste.

Subsidence: when the ground sinks/lowers down due to natural or human-made causes.