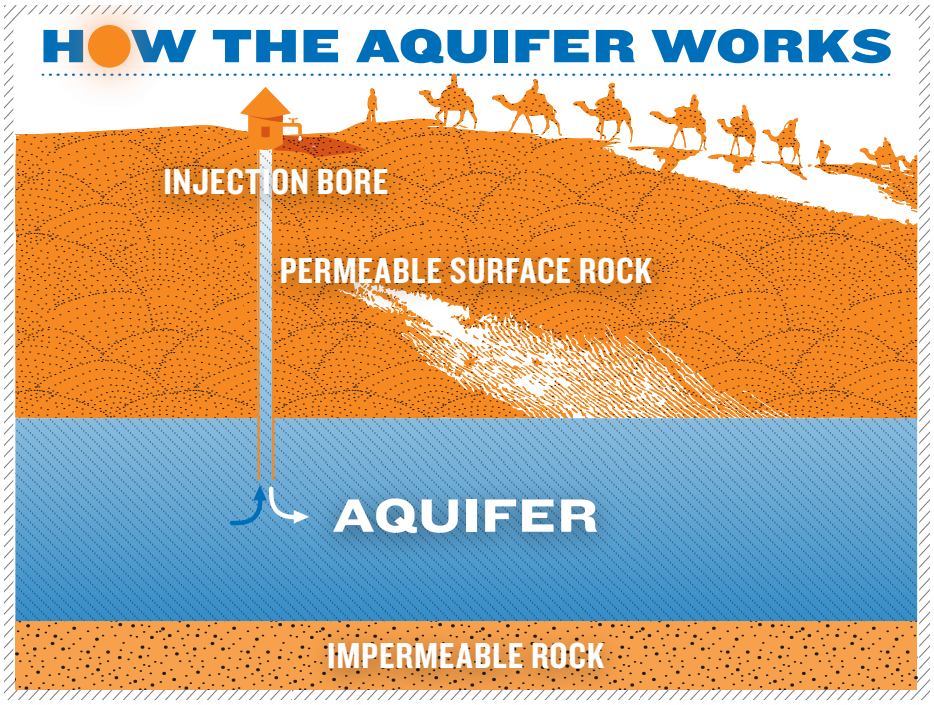
Giant water reserve found beneath African desert

Deep beneath the surface of dry, desertous Namibia, scientists have discovered an invaluable treasure: a huge water supply known as an aquifer, which could stave off drought for 400 years.



GEOGRAPHY

The South-West African nation of Namibia is a vast place, over twice the size of Germany. Yet with a population of just over two million, it has fewer inhabitants than Wales. Why? Because of the Namib desert, a barren and largely uninhabitable expanse of vivid orange sand dotted with mountainous dunes.

Water is scarce here. With over 93 percent of the land covered by desert, rain falls rarely. The few rivers are often dry. But now, scientists have made a discovery that offers the parched country a welcome relief: a vast underground reserve of water, forty-three miles long and twenty-five wide.

Water sources like this are known as an 'aquifers.' They are formed when water seeps through soft surface material like sandstone, and gathers when it reaches an impermeable rock below.

The water gathered in this newly-discovered aquifer has been dormant for over 10,000 years; but deep below the surface, it has remained perfectly pure. If it can be reached without contamination (not an easy task), it could quench Namibia's entire population for four hundred years.

Geologists have only recently realised how rich in aquifers Africa is. The volume of water resting beneath the continent is around one hundred times greater than that on the surface.

This could be hugely important discovery for this famously dry continent. Drought kills 25,000 Africans every year, while one in three lack access to clean water. And as global warming kicks in and rain becomes more scarce, the situation is worsening.

This is not only an issue for Africa. With our water usage growing even faster than the world's ballooning population, we are on the brink of consuming more fresh water than nature provides. By 2025, two thirds of the world will be in shortage. India is set to run out altogether; even highly developed countries like Australia are nearing crisis point.

The discovery of these aquifers is a lifeline – but not a solution: these underground supplies are not renewable. Once we have used them they will be gone forever, and the spectre of water crisis will return.

Water nightmare

The horror of global drought is near, say doom mongers. Rivers will run dry, crops will wither and billions of people will suffer the anguish of hunger and thirst. Yet here we are, they say, blithely continuing to fritter away the last of the world's water. How selfish and complacent humans are.

Enough of this useless fatalism, say optimists. Humans have adapted before, and we can do so again. The situation is bleak; it will take persistence, ingenuity and self-discipline to overcome; But these are qualities we all have within us, they insist – if only we do not despair.

Q & A

Q What can I do to prevent this water crisis?
A For a start, you can use less water: take shorter showers, turn off the tap while you clean your teeth, make sure dishwashers and washing machines are fully loaded. It also helps if you use less energy, since most power plants use a lot of water in cooling systems. All this is hugely important if we want to conserve water for future generations. However, it will not bring water to the corners of the developing world that need it most.

Q So there's nothing we can do about that?
A There are many charities doing inspiring work in bringing water to drought-stricken communities, such as WaterAid and Unicef. The solutions range from digging wells to donating hundreds of cheap pocket water purifiers to villages.

SOME PEOPLE SAY...

'Water is more precious than gold.'

WHAT DO YOU THINK?

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WORD WATCH

Desert – Although we usually think of deserts as enormous stretches of baking unsheltered sand, the technical definition has nothing to do with any of this. Any region that receives less than 400 millimetres of precipitation (rain, snow and so on) counts as a desert; so much of the Arctic and Antarctic are covered by deserts of ice.

Not an easy task – The problem here is that pockets of salty water lurk between the surface and the aquifer. If the ground is drilled carelessly, there is a risk that the impure water could seep into the clean reserve, making the whole aquifer undrinkable.

Water usage growing – As many countries around the world become rapidly wealthier, they use far more water in both industry and the home. Some experts predict that global water usage will grow by a staggering forty percent over the next ten years.

YOU DECIDE

1. Is water shortage the most alarming problem facing the world today? If not, what is?

2. Are humans capable of consciously changing wasteful habits to avoid global water shortage, or are we simply too lazy?

ACTIVITIES

1. Design a pamphlet to raise funds for a charity combating water shortage. Use emotive personal stories and eye-catching facts, and describe the pictures you would include.

2. Do some research and then sketch a map of the world, shading in and labelling the top five regions where water shortage is a serious problem.

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