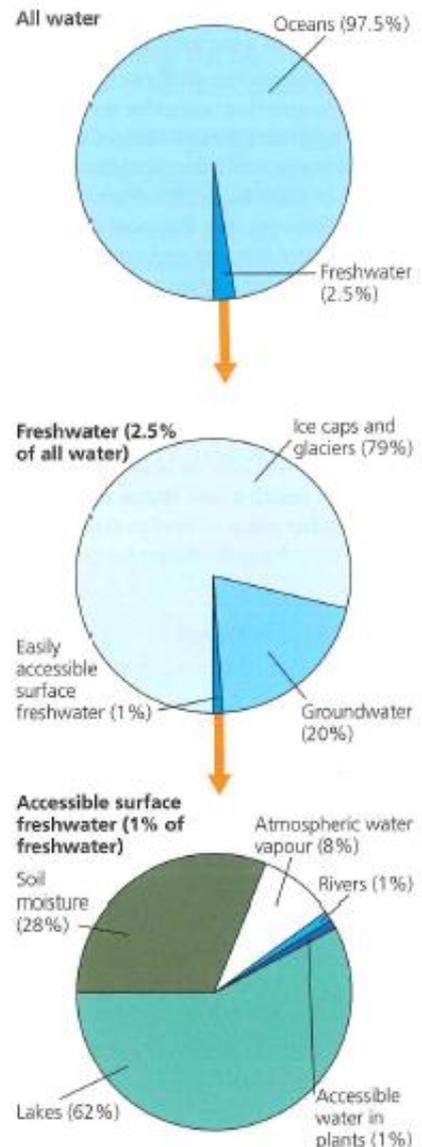
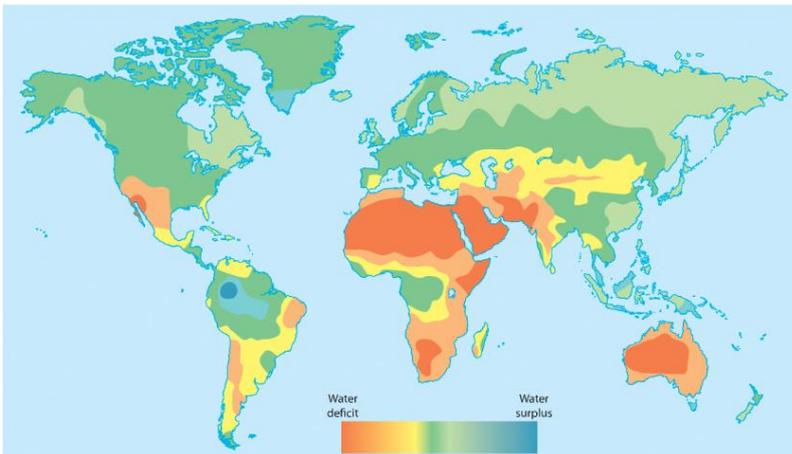


Paper 2

Water - Resource management booklet

In the paper answer Q5 Water

Water supply worldwide



▲ Figure 24.1 The world's stock of water

Water surplus _____

Water deficit _____

Recap -

Areas with a deficit link to the Hadley cell work we did.

Areas with a surplus are linked to equatorial climate or temperate climates.

Challenge - Even though there is only 2.5% of freshwater on the planet - this is enough for everyone by why doesn't everyone have an equal share?

Why is water important?

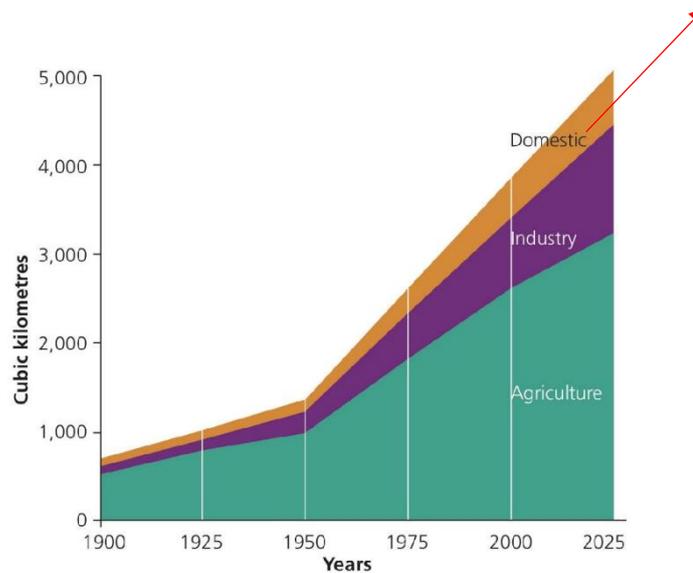
6% DOMESTIC use -
everyday living
drinking, cooking and
washing.

Freshwater
is needed for
the following:

Challenge - How has our usage changed over time?

Why is water consumption increasing?

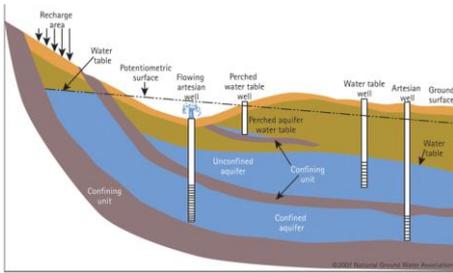
Population growth
Growing rapidly in the last 50
years so people need water for
living.



Challenge - What is the link between rising standards of living and water consumption?

Let's think about the supply...

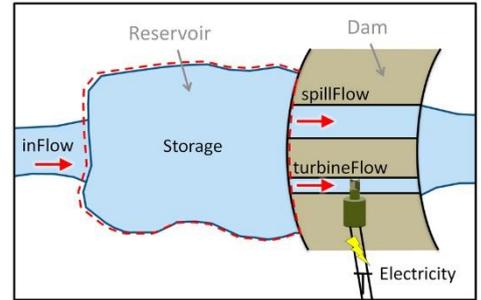
The three main sources are:



Aquifers



Rivers and lakes



Reservoirs

Two physical factors that can affect water availability are *Climate* and *Geology*:

Climate (most important)

Most availability are in _____ or humid areas. The _____ regions also receive large amounts of rainfall.

A climate that is ____ and ____ do not receive as much rainfall and there are greater requirements for water which cause shortages.

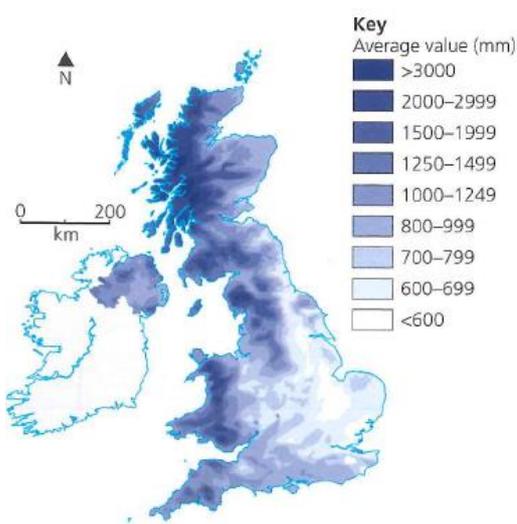
hot mountainous dry tropical

Geology

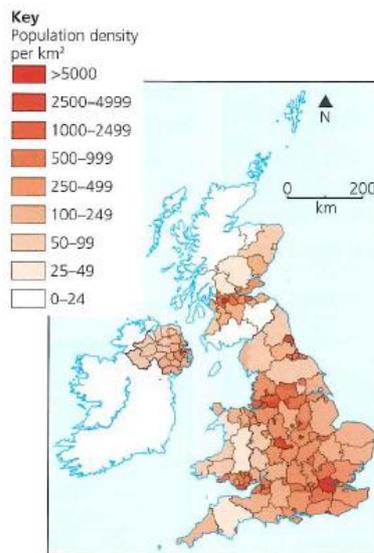
Very important in creating aquifers or groundwater stores. Porous rock helps to store water.

However, people can affect the availability by:

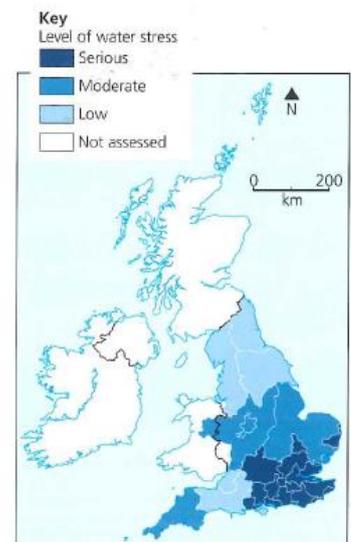
- 1.
- 2.
- 3.
- 4.



▲ Figure 22.6 Annual rainfall in the UK



▲ Figure 22.7 Population density in the UK



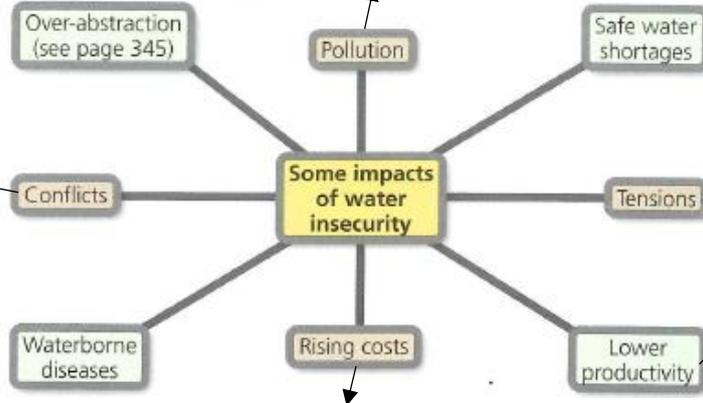
▲ Figure 22.8 Areas of water stress in the UK

Water insecurity:



Impacts of water security

Waste water...
Chemicals from...
Diseases such as...



Water wars could be started by...

Conflicts can occur over rivers that are shared between two or more countries.

For e.g...

Water and food prices may increase because...

Crop yields -

Livestock -

Costs of water may rise which would affect...

How can water supply be increased?

Method	How does it work?	Advantages	Disadvantages
Water Transfer			
Reservoirs			
Desalination			

The South-North transfer, China

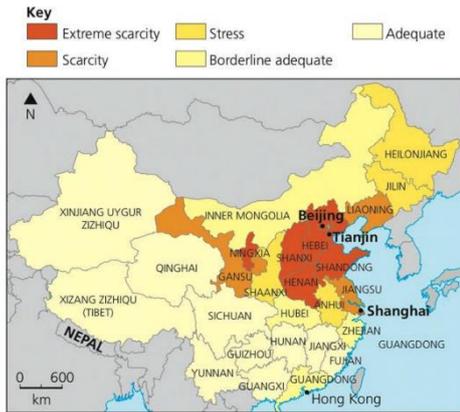


Figure 24.14 Water availability in China

Describe the water availability in China.

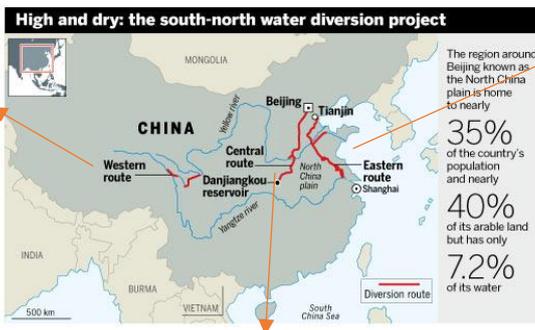
Areas of stress are located:

Areas where it is adequate are

The problems in the north are

About the project

Western route



Eastern route

Central route

Has the project been successful?

Costs	Benefits
Displacement of huge numbers of people	Provides reliable water supply in the water-deficient north
Wildlife and ecosystems badly disturbed	Improves availability of safe water therefore reduces health risks
Loss of antiquities	Water for industrial growth
Huge capital investment - taxpayers to pay	Water for irrigation
Water exports might run the south dry	
Evaporation losses from canals	

Alternative ways to help with supply:

Why might the people and industry in the north be more supportive of the water transfer project than farmers and people in the south?

Water conservation

What is water conservation?

The strategies and actions needed to:

- Manage _____ as a sustainable resource
- To protect the water environment from _____ and _____
- To meet present and future water _____

Method of sustainable use of water	How it works?	How sustainable is it and why?	Rank (1 = most sustainable - 7 = least)
1. Groundwater management			
3. Improving irrigation practice			
4. Controlling pollution			
5. Water recycling			
6. Using grey water			

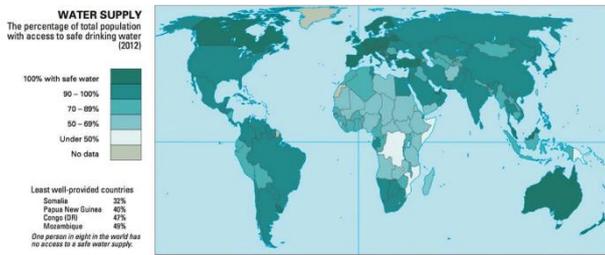
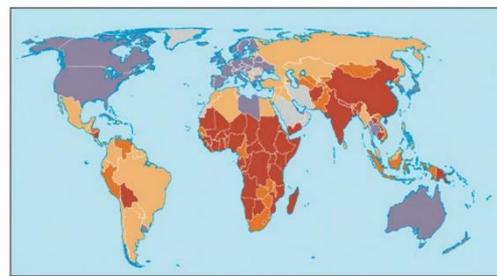


Figure 24.20 (a) Access to safe water



Key
Population with no access to sanitation in % of the total population (2004)

Figure 24.20 (b) Without access to sanitation

Why is a safe water supply so important in LICs?

Sustainable Water Projects in Hitosa, Ethiopia

The strategies used here are small scale, local and make use of appropriate technology.

Funds came from:

To implement WASH which stands for:



Figure 24.21 The location of Hitosa, Ethiopia

The plains here are _____ and _____ and have been extensively _____ for wheat, barley and oil producing crops. Prior to the scheme water was collected from _____

The scheme that was put into place during the 1990s was:

Evaluation of the scheme:

Successes

Problems

What is your overall opinion about the scheme?

