

Revision Sheets

This is a sample edition of the
Water Conflict Revision Booklet.

The total content has been reduced in this copy, and content watermarked.

The **Revision Booklet** available to download contains 12 pages of content and more detailed exam technique

Revision Sheets

Water is a **fundamental need** to society. **Growing demand** and **diminishing supply** indicates a global deficit, **creating conflict**. The **uneven distribution** of water with and without enough water to meet their demands can be illustrated through the **development gap**.

Global water supply is linked to three main physical factors:

- 1. Climate**
The distribution of water globally is related to the Earth's climatic zones. For instance, regions near the equator receive high levels of annual rainfall, while some tropical areas suffer from recurring drought. Rainfall may also vary with seasons. High mountains with snowpack hold vast reserves of water, some of which is released in late spring and during the summer.
- 2. Rivers**
The world's major rivers store large quantities of water and transport it across continents. The Amazon provides an average discharge of 219,000 m³ per second into the Atlantic Ocean. It drains an area of 6,915,000 km².
- 3. Geology**
Where the rocks under a river basin are impermeable, water will not infiltrate the surface as runoff, creating a high discharge density. Permeable rocks such as chalk and porous sandstones can store large quantities of water underground.

California Geographical Controls

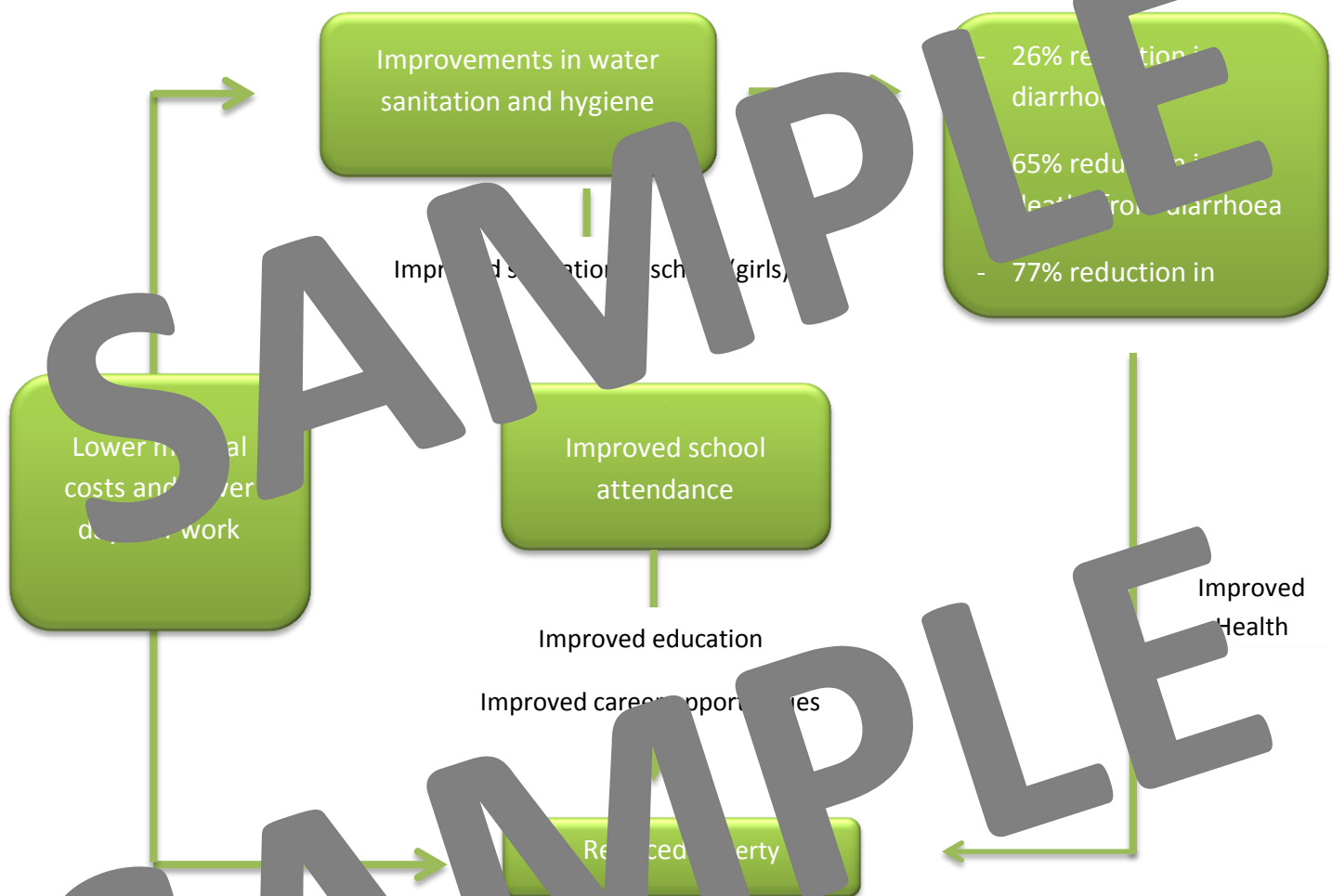
California is almost twice the size of the UK and has wide variations in terms of climate and relief. Geographical controls exert a strong influence on the availability of water.

- Mountain chains prevent moist air reaching inland by blocking prevailing west air flow from the Pacific Oceans forced upwards by the mountains. Clouds are formed – forming a lot of rainfall and sometimes snowfall.
- Most rain falls into the temperate zone which is only 20% of the state wide
- The Central and Far East of California receive less than 100mm of rainfall, due to the rain shadow effect of the Sierra Nevada and Sierra Nevada Mountains.
- Surface runoff occurs over impermeable, saturated or baked surfaces – eventually reaching rivers and the ocean.

Some surface water infiltrates through the surface layer and eventually percolates through the rocks to become groundwater. Nearly a third of California's fresh water comes from groundwater sources, known as aquifers.

Revision Sheets

The Spiral of Wellbeing



Salinisation can be a problem for **irrigated land**. Irrigation water contains **mineral salts** (sulfates and chlorides of sodium, calcium and magnesium), which can become **concentrated** in the **surface layers** of the **soil**. In the **water table** regions and areas, the **moisture evaporates** from the surface layer of the soil – leaving **salt crystals** behind. Most **plants** cannot tolerate the **salts** and can die. **Salinisation** can **destroy** the very **land** that **irrigation** was meant to **improve**.

The **salt** can be **shed out** of the **soil** when it rains – if the layers are not too thick – but **clays** and **nutrients** can also be leached away, causing a **breakdown** of the **soil structure**. The leached particles contain salts which can then be carried back to rivers – increasing the salinity downstream from irrigated areas.

Revision Sheets

Within the USA, the Colorado River Basin is the most heavily used source of irrigation water. The area is used by a variety of players, creating the potential for water conflict.

1. Farmers

Agriculture has always done well out of the river, receiving 80% of the water allocation. However, much of this water is wasted in flood irrigation and inappropriate choices of crop.

City Dwellers

Increasing urbanisation in the west states has created demand for water. California has been accused of using surplus water from its own state to feed the future farmers. There are being squeezed out to supply the cities.

Environmental and Recreationists

Conflicts between two groups acting as recreationists want to increase the recreational development of lakes, whereas the environmentalists would like to see the levels of recreational activity in wilderness and wetland areas. The heavy use of Lake Powell by tourists is threatening the lakeshore areas.

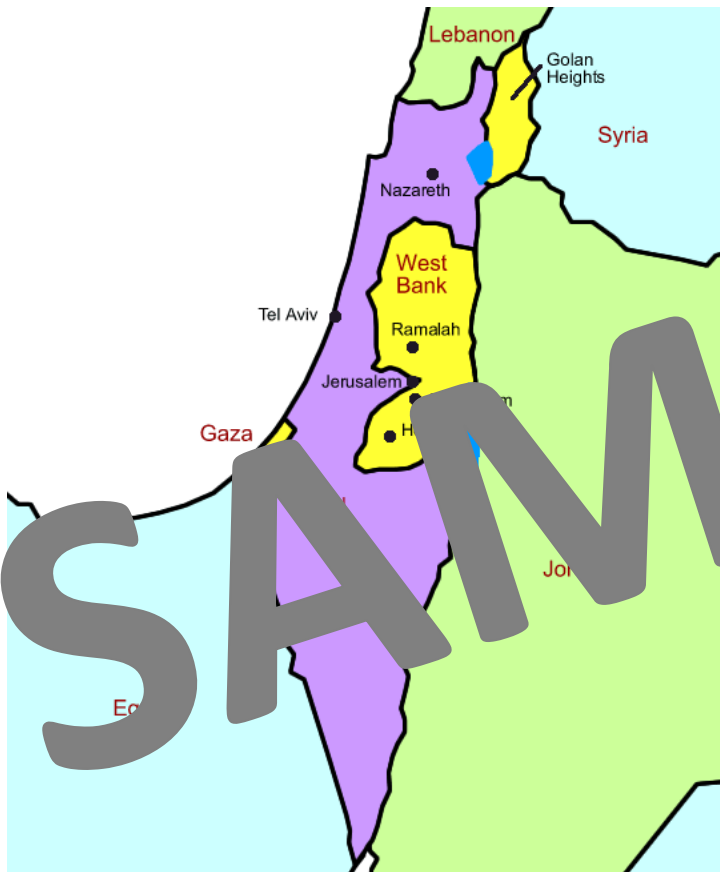
4. Indigenous groups

Native Americans have claims over water rights based on treaties made in the 1880's, ongoing legal battles regarding the issue are taking place.

5. Mexican People

90% of the water is extracted before it reaches Mexico

Supply and Demand Conflict: Israel and Syria



- **Complex** geopolitical relationship between neighbouring countries.
- Israel is **unofficially backed** by the **US**
- In the 1950's the **US** Special Envoy **dictated** national water priorities
- **Syria** attempted to **divert** the **Jordan River** caused the Six Day War, leading in Israel gaining greater control over the river
- In 1974 **Syria built** the **al-Thawra Dam** upsetting Iraq, **reducing** the flow of **Euphrates** by 25%
- In 1994 the **Jordan peace treaty** with Israel initiated regional cooperation over the **sustainable use** of the **Yarmouk River**

Essay Question – Part A (10 Marks)

- Approximately **one** side in the exam book
- Spend approximately **10** minutes writing
- Refer to the **figure** throughout
- Go **beyond** the figure giving **new** information
- Critique the **figure**, good for **evaluation** marks
- Don't waste time with an **introduction** and **conclusion**
- **Structure** your answer using the **figure**

SAMPLE