Grey water treatment

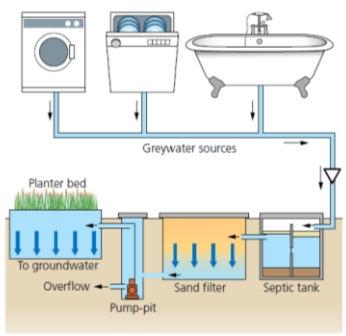

Figure 24.19 Advanced grey water treatment

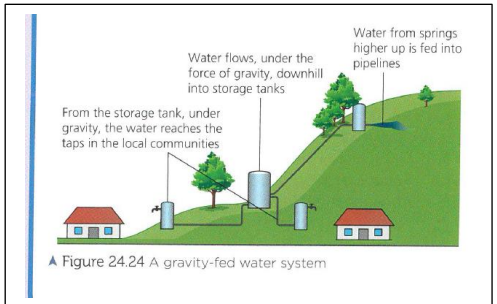

Figure 24.24 A gravity-fed water system

The principle behind a gravity fed water system, as used in Hitosa, Ethiopia

Case study: SNWTP China

Figure 24.17 Some costs and benefits from the SNWTP

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	

Figure 24.14 Water availability in China

Resources key terms:

Agribusiness: Application of business skills to agriculture.	**Geothermal energy:** Energy generated by heat stored deep in the Earth
Carbon footprint: A measurement of all the greenhouse gases we individually produce.	**Hydro(electric) power:** Electricity generated by turbines that are driven by moving water.
Energy mix: The range of energy sources of a region or country, both renewable and non-renewable.	**Nuclear power:** The energy released by a nuclear reaction, especially by fission or fusion
Food miles: The distance covered supplying food to consumers.	**Renewable energy sources:** A resource which is not diminished when it is used; it recurs and cannot be exhausted.
Resource management: The control and monitoring of resources so that they do not become depleted or exhausted.	**Solar energy:** The Sun's energy exploited by solar panels, collectors or cells to heat water or air or to generate electricity
Biomass: Renewable organic materials, such as wood, agricultural crops or wastes, especially when used as a source of fuel or energy.	**Solar energy:** The Sun's energy exploited by solar panels, collectors or cells to heat water or air or to generate electricity
Energy conservation: Reducing energy consumption through using less energy and becoming more efficient in using existing energy sources.	**Sustainable development:** Development that meets the needs of the present without limiting the ability of future generations to meet their own needs.
Energy security: Uninterrupted availability of energy sources at an affordable price.	**Wind energy:** Electrical energy obtained from harnessing the wind with windmills or wind turbines.

Resources key ideas:

Food, water and energy are fundamental to human development.

The changing demand and provision of resources in the UK create opportunities and challenges.

Demand for water resources is rising globally but supply can be insecure, which may lead to conflict.

Different strategies can be used to increase water supply.

Resources case studies/examples:

An example of a large scale water transfer scheme to show how its development has both advantages and disadvantages.	**South-North Water transfer scheme, China**
An example of a local scheme in an LIC or NEE to increase sustainable supplies of water.	**Gravity fed water system, Ethiopia**
Decision-making exercise- Paper 3 practice	**Reservoir building, Oxford**