

YEAR 9 GEOGRAPHY: Resources Knowledge Organiser

CORE KNOWLEDGE FROM LOCKDOWN LEARNING

- What are resources?
- Why has demand increased?
- What are the environmental effects of resource use?
- What factors affect food security?

What are resources? Why are there pressures on resources?

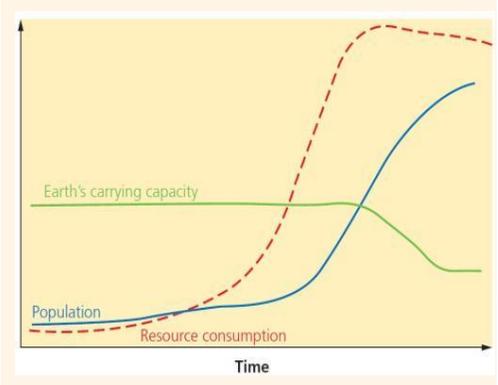
Resources are things that humans require for life or to make our lives easier. We depend on these resources, and they are in high demand.

1. Population Growth

- Currently the global population is **7.3 billion**, reaching **9 billion by 2050**.
- With more people, the **demand** for food, water, energy, jobs and space **will increase**.

2. Economic Development

- As **LIDCs** and **EDCs** develop further, they require **more energy** for industry.
- **LIDCs** and **EDCs** want similar lifestyles to **ACs**, therefore need to **consume more resources**.



Resource Reliance Graph

Consumption – The act of using up resources or purchasing goods and produce.
Carrying Capacity – The maximum number of species that can be supported.

Resource consumption exceeds Earth's ability to provide!

3. Changing Technology and Employment

- The demand for resources has driven **the need for new technology** to reach or gain more resources.
- More people in the **secondary and tertiary industry** has increased the **demand for resources** required for electronics and robotics.

Food Security

'Food Security' is when people at all times need to have physical & economic access to food to meet their dietary needs. **'Food Insecurity'** which is when someone is unsure when they might next eat.

| Human | Physical |
|---|--|
| <ul style="list-style-type: none"> • Poverty prevents people affording food and farmers buying modern equipment. • Poor infrastructure makes food difficult to transport fresh food. • Conflict disrupts farming and prevents supplies. • Food waste due to poor transport and storage. • Climate Change is affecting rainfall patterns making food production difficult. | <ul style="list-style-type: none"> • Temperature needs to be ideal for certain crops to grow. • The quality of soil to ensure crops have the necessary nutrients. • Water supply needs to be reliable to allow food to grow. • Pest, diseases and parasites can destroy vast amounts of crops that are necessary to feed large populations. • Extreme weather events can damage crops (i.e. floods). |

Attempts to Achieve Food Security

There are various measures to maintain or even improve our food security. These measures are often taken to be socially, economically, environmentally viable for the longer term.



Food Waste

- One-third of all food gets lost or wasted.
- Aim to **eat locally sourced food** to reduce waste through transport.
- Eating 'ugly' food despite it not being 'ideal' can prevent waste and **save money**.
- Prevents wasted energy for producing food and transport and therefore **reduces CO2 emissions**.

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Energy

Renewables from natural resources

- **Wind** – turbines are powered by the wind BUT supply is intermittent – supply 10% of UK's energy
- **Hydro** – large dams give reliable energy BUT dams are expensive
- **Solar** – solar panels convert sun into energy BUT solar power is seasonal and needs lots of space
- **Waves** – wave energy converts into electricity BUT costs are high

Non-renewables – from resources that aren't replenished

- **Fossil fuels** were formed from organic matter millions of years ago, eg coal, oil and gas. There are lots of these resources left BUT they have damaging environmental impacts
- **Nuclear power** provides constant power and few carbon emissions BUT initial costs are high, nuclear waste disposal is not sorted and there have been disasters

Fracking extracts oil and gas from rock by drilling horizontally to cracks in shale rock which contain gas. Water and chemicals are pumped down to fracture the rock and release the gas. Fracking is popular in the USA but is controversial.

Supporters see it as a new source of energy, bringing energy security. **Opponents** say it will bring water contamination and the increase in carbon emissions will lead to irreversible global warming.

Fossil fuels – environmental impacts

CASE STUDY – DEEPWATER HORIZON

Fossil fuels produce carbon dioxide which is a greenhouse gas. But there are other environmental impacts from the extraction, transport and use of fossil fuels. The oil rig exploded in 2011 with **social** **economical** and **environmental** impacts.



- **Of the 126 workers at the site that day, 11 were killed by the blast**
- **Oil company BP was responsible – it cost them \$61 billion in court fees, penalties and clean up costs**
- **The oil affected the fish at the base of the food chain and therefore harmed the development of larger fish such as mahi-mahi and blue fin tuna**
- **The Oil spill clean-up boosted the economy - BP spent \$6 billion to hire 4,000 people to clean up the spill compared to \$700 million lost in fishing and tourism**
- **1700 sea turtles and 930 dolphins were found stranded – many of these died**

Recycling

The average UK household creates over a tonne of waste each year. The UK recycling rate for waste from households was 45.2% in 2016. Other countries recycle more than we do - the Netherlands and Germany recycle about 60%. Recycling and reusing;

- reduces the amount of deforestation and mining of new materials
- cuts the amount of energy used to transport and process new raw materials.
- reduces air pollution from the factories producing new resources.

CASE STUDY - DHARAVI is a slum in Mumbai. Seen as a model for sustainability. 80% of plastic waste recycled – only 23% in UK. High value recycling sold on before it reaches rubbish dumps.

Rag pickers work on the dumps - no gloves, children barefoot, each one collects a specific plastic eg straws, bags. Attempts at environmental control poor. Paint drums reconditioned - toxic chemicals which makes it dangerous work. Children work with no protective gear – the downside of their recycling miracle.

Resources and LIDCs

Many LIDCs rely on producing raw materials (commodities).

Mining for minerals can help poor countries get richer – for example oil has helped countries like Saudi Arabia develop.

But it can also lead to problems.

- Countries can run into problems if the price of that mineral goes down
- **Conflict minerals** are mined in war zones and are sold by armed groups, usually with human rights abuses. Examples are diamonds and cobalt in Congo.



The resource curse is the idea that countries with lots of natural **resources** often tend to have less economic growth, less democracy, and be poorer than countries with fewer natural **resources**. It can happen in poorer countries with poor government which have corruption and are unstable