Economic Resources

Finite resources and sustainability

There are only a **finite** - or limited - number of workers, machines, acres of land and reserves of oil and other natural resources on the earth. Because most resources are finite, we cannot produce an unlimited number of different goods and services. Indeed by supplying more for an ever-growing and richer population we are in danger of destroying the **natural resources** of the planet.

Our **ecological footprint** will affect the **long-term sustainability** of economies and have huge implications for our future living standards. Environmental pressure groups such as Friends of the Earth and Greenpeace seek to highlight the permanent damage to the stock of natural resources and the dangers from rapid development and global warming.

The Worldwide Fund for Nature has claimed that the natural world is being degraded "at a rate unprecedented in human history" and has warned that if demand continues at the current rate, two planets will be needed to meet global demand by 2050. Resources are being consumed faster than the planet can replace them

One issue is the threat posed by the shortage of water as the world's demand for household and commercial use continues to grow each year. Experts predict that half the world's population will be affected by water shortages in just 20 years' time. During the 20th century the world population increased fourfold, but the amount of freshwater that it used increased nine times over. Already 2.8 billion people live in areas of high water stress. For more on this issue visit the World Heath Organisation's special web site on water scarcity.

At the heart of **improving resource sustainability** is the idea of **de-coupling** – a process of trying to increase the efficiency with which resources are used and breaking the link between increasing demand and resource depletion.

Factors of Production

Land: Land includes all of the **natural physical resources** – for example the ability to exploit fertile farm land, the benefits from a temperate climate or the harnessing of wind power and solar power and other forms of **renewable energy**.

Some nations are richly endowed with natural resources and then specialise in the their extraction and production – for example – the development of the **North Sea oil and gas** in Britain and Norway or the high productivity of the vast expanse of farm land in Canada and the United States and the oil sands in Alberta, Canada. Other countries are reliant on importing these resources.

Labour: Labour is the **human input** into production. An increase in the size and the quality of the labour force is vital if a country wants to achieve **growth**. In recent years the issue of the **migration of labour** has become important. Can migrant workers help to solve labour shortages? What are the long-term effects on the countries who suffer a drain or loss of workers through migration?

Capital: Capital goods are used to produce other consumer goods and services in the future.

- **Fixed capital** includes machinery, equipment, new technology, factories and other buildings.
- **Working capital** means **stocks** of finished and semi-finished goods (or components) that will be either consumed in the near future or will be made into consumer goods

New items of capital machinery, buildings or technology are used to enhance the **productivity** of labour. For example, improved technology in farming has vastly increased productivity and allowed millions of people to move from working on the land into more valuable jobs in other industries.

Infrastructure - Examples of critical infrastructure include road & rail networks; airports & docks; telecommunications e.g. cables and satellites to enable web access.

The World Bank regards infrastructure as an essential pillar for economic growth in developing countries. India is often cited as a country whose growth prospects are being limited by weaknesses in national infrastructure.

Entrepreneurship

An **entrepreneur** is an individual who supplies products to a market to make a profit. Entrepreneurs will usually invest their own **financial capital** in a business and take on the risks. Their main reward is the **profit** made from running the business.

Renewable and Finite Resources

Renewable resources are commodities such as solar energy, oxygen, biomass, fish stocks or forestry that is inexhaustible or replaceable over time providing that the rate of extraction of the resource is less than the natural rate at which the resource renews itself.

This is an important issue in environmental economics, for example the over-extraction of fish stocks, and the global risks of permanent water shortages resulting

Finite resources cannot be renewed. For example with plastics, crude oil, coal, natural gas and other items produced from fossil fuels, no mechanisms exist to replenish them.

Suggestions for further reading on economic resources and sustainability

BBC "Costing the Earth" podcasts (free to download)

BBC science and environment news

Environmental news from the Guardian

Inside the environment – news from the Independent

TED video talks on the environment