



An ecosystem is a system in which organisms interact with each other and with their environment.

A biome is a large area of distinctive plant and animal groups, which are adapted to that particular environment. The climate and geography of a region determines what type of biome can exist in that region.

Abiotic - These are non-living, such as air, water, heat and rock.

Biotic - These are **living**, such as plants, insects, and animals.

Flora - **Plant life** occurring in a particular region or time.

Fauna - **Animal life** of any particular region or time.

Food chains - show only one species at a particular trophic level.

Food webs - consists of a network of many food chains interconnected together.

Case Study: The Thar Desert

The Thar Desert is located on the border between India and Pakistan in Southern Asia.

Adaptations:

- Cacti - Large roots to absorb water soon after rainfall.
- Camel - Needles instead of leaves to reduce surface area and therefore transpiration provide supplies and rescue people.

Opportunities:

- There are valuable minerals for industries and construction.
- Energy resources such as coal and oil can be found in the Thar Desert.
- Great opportunities for renewable energy such as solar power at Bhaleri.
- Thar Desert has attracted tourists, especially during festivals.

Challenges:

- The extreme heat makes it difficult to work outside for very long.
- High evaporation rates from irrigation canals and farmland.
- Water supplies are limited, creating problems for the increasing number of people moving into area.
- Access through the desert is tricky as roads are difficult to build and maintain.

Desertification means the turning of semi-arid areas (or drylands) into deserts.

Causes: overgrazing, over-cultivation, population growth, deforestation and climate change.

Management: Water management, Tree Planting, Soil Management and Technology.

Case Study: Amazon

The Amazon Rainforest is located across 8 countries, but a large proportion in Brazil, South America. 60% of Brazil is a tropical rainforest.

Importance:

- High biodiversity
- Carbon Sink
- Provide valuable resources such as medicines.

Deforestation: Causes:

- Logging – cutting trees down for resources e.g. furniture.
- Agriculture – commercial and substance farming.
- Mineral Extraction – precious metals.
- Tourism
- Energy – Hydro-electricity
- Road building.

Impacts:

- Climate change -Trees are carbon 'sinks'. With greater deforestation comes more greenhouse emissions in the atmosphere.
- Soil erosion
- Loss of habitats = risk of extinction for animals.
- Economic development – jobs, tax = multiplier effect.

Management strategies:

- Selective logging - Trees are only felled when they reach a particular height.
- Education - Ensuring those people understand the consequences of deforestation
- Afforestation - If trees are cut down, they are replaced.
- Forest reserves - Areas protected from exploitation.
- Ecotourism - tourism that promotes the environments & conservation
- Protected areas