🏞️ Different Lives, Different Lands

Mamba, a girl from Tanzania, walks miles to fetch water and helps her family raise goats on rocky land. In contrast, Peter in New Zealand lives in a modern sheep-rearing region and uses the latest farming technology.

📷 Fig. 2.1 – Salzburg, Austria: shows multiple land uses

This difference in lifestyle is due to the uneven distribution of resources — like soil, water, land, animals, and the level of technology.

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🌍 Land

Land is a basic natural resource. Though it covers 30% of Earth's surface, only a small part is habitable. Some areas — like mountains, deserts, or dense forests — are sparsely populated. Flat plains and river valleys are more suitable for living and farming.

🟦 Land Use – How land is used: for farming, housing, roads, mining, forestry, or industries.

Land use is affected by:

- **Physical factors: topography, climate, soil, minerals, water**
- **Human factors: population, technology**

🟦 Land Ownership:

- **Private land – owned by individuals**
- **Community land – used collectively (e.g., for grazing, collecting herbs)**

Unplanned use of land has led to problems like land degradation, soil erosion, and desertification.

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🛡️ Conservation of Land Resources

To protect land from damage, we can:

- **Plant more trees (afforestation)**
- **Avoid overgrazing**
- **Use fertilisers and pesticides wisely**
- **Reclaim land and prevent encroachment**

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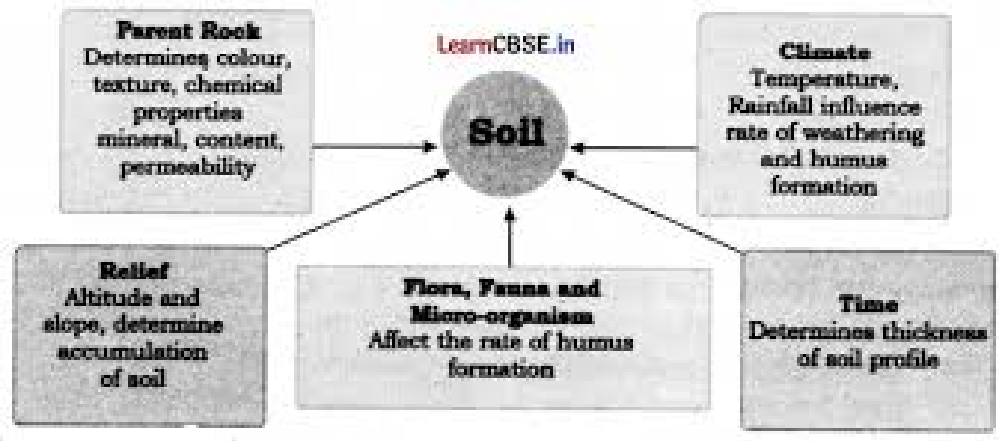
🧱 Soil

🟦 **Soil – A thin layer of loose material covering Earth's surface, made of minerals, organic matter, and weathered rock.**

🟦 **Weathering – The breakdown of rocks by wind, water, plants, or temperature**

Soil formation depends on:

📷 *Fig. 2.3 – Soil Profile: layers of soil from topsoil to bedrock*



📷 *Fig. 2.4 – Factors affecting soil: climate, time, rock, organisms, relief*

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🛑 Soil Degradation and Conservation

Soil can degrade due to:

- **Deforestation**
- **Overgrazing**
- **Overuse of chemicals**
- **Landslides and floods**

🟦 **Soil Conservation Methods:**

- **Mulching – Covering soil with straw to retain moisture**
- **Contour barriers – Stones/soil barriers to stop water flow**
- **Rock dams – Reduce water speed**
- **Terrace farming – Flat steps on hills to grow crops 📷 Fig. 2.5**

- **Intercropping – Growing different crops together**
- **Contour ploughing – Along hill slopes to block water flow 📷 Fig. 2.6**

- **Shelter belts – Tree rows to stop wind erosion 📷 Fig. 2.7**

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💧 Water

Water is a vital renewable resource. About ¾ of Earth's surface is water, but only 2.7% is fresh. Of that, only 1% is usable — the rest is locked in glaciers or deep underground.

🟦 **Water Cycle – Water moves through evaporation, condensation, and rainfall.**

🟦 **Main Uses: Drinking, farming, industry, electricity (via dams)**

📷 *Fig. 2.8 – River Yamuna polluted by waste*

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🚱 Problems of Water Availability

Many areas (Africa, West Asia, parts of India, USA) face water shortages due to:

- **Overuse**
- **Pollution**
- **Climate (less rainfall)**
- **Droughts**

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💦 Conservation of Water Resources

To conserve water:

- **Treat sewage and waste before releasing into rivers**
- **Reduce overuse of water**
- **Use efficient irrigation (sprinklers 📷 Fig. 2.9, drip irrigation)**

- **Rainwater harvesting — collect rooftop water for reuse**

🟦 **Water Market – In places like Amreli (Gujarat), people buy water daily due to shortage**

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🌿 Natural Vegetation and Wildlife

🟦 **Biosphere – Zone where land, water, and air meet and support life**

🟦 **Ecosystem – Interdependent relationship between living and non-living elements**

Plants and animals are essential. Plants give timber, oxygen, food, medicines, shelter, and prevent soil erosion. Animals give milk, meat, leather, wool, and help pollinate plants.

📷 *Fig. 2.10 – Silkworms*

Fig. 2.11 – Brahma Kamal (Medicinal plant)

Fig. 2.12 – Blue Kingfisher

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Types of Natural Vegetation

Vegetation depends on rainfall and temperature:

- **Forests – In high-rainfall areas**
- **Grasslands – Moderate rainfall**
- **Shrubs & scrubs – Dry areas**
- **Tundra – Mosses and lichens in cold polar zones**

📷 *Fig. 2.13 – Forest and Grassland*

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🛑 Conservation of Vegetation and Wildlife

Due to deforestation, forest fires, floods, and hunting, many species are endangered or extinct.

🟦 Poaching – Illegal killing or capture of wild animals

Some protected species: tiger, elephant, black buck, snow leopard, peacock

📷 *Fig. 2.14 – Python in forest*

📷 *Fig. 2.15 – Student collage of forest*

📷 *Fig. 2.16 – Forest loss after tsunami*

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🏞️ Steps to Protect Nature

- **Set up national parks, wildlife sanctuaries, and biosphere reserves**
- **Ban trade of animals under international law (📘 CITES agreement)**
- **Spread awareness through Vanmahotsav, school camps, social forestry**
- **Involve local people in conservation**

📷 Fig. 2.17 – Black buck

📷 Fig. 2.18 – Herd of Cheetals

📷 Fig. 2.19 – Elephants in Kaziranga National Park

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📚 Important Definitions

Term	Meaning
Land use	How land is used (farming, roads, etc.)
Soil	Upper layer of Earth made from rocks and organic material
Weathering	Breaking down of rocks by natural forces
Water Cycle	Movement of water through evaporation, rainfall, and runoff
Ecosystem	All living things interacting with each other and the environment
Biosphere Reserve	Protected area for conserving biodiversity
CITES	Global agreement to stop trade in endangered species
Shelter Belt	Rows of trees to reduce wind force
Terrace Farming	Step-like farming on hills
Contour Ploughing	Ploughing along hill slopes to reduce soil erosion