

CBSE Notes Class 8 Social Science Geography Chapter 2

Land, Soil, Water, Natural Vegetation and Wildlife Resources

Land

A very important natural resource Land covers 30% of the earth's surface and not every part is habitable. Cause for the uneven population in certain parts is varied characteristics of land and climate.

Areas that are sparsely populated or uninhabited	Densely populated areas
• Rugged topography • Steep slopes of the mountains • Low-lying areas susceptible to water	• Plains • River valleys These are lands suitable for agriculture

Uses of Land

The land is used for different purposes such as agriculture, forestry, mining, building houses, roads and setting up of industries. This is commonly termed as Land use.

- Physical Factors determining the use of land- topography, soil, climate, minerals and availability of water.
- Human Factors that are human determinants of land use pattern- population and technology

Land can also be classified into private land and community land on the basis of ownership. Private land owned by individuals whereas community land is owned by the community for common uses such as the collection of fodder, fruits, nuts or medicinal herbs. Another name for community lands is common property resources. Even though people's demands are ever growing availability of land is limited thus leading people to encroach land to build commercial areas, shopping complexes in urban areas and to expand agricultural land in rural areas. This expansion of agriculture and construction activities also lead to major threats like land degradation, landslides, soil erosion and desertification.

Conservation of Land Resource

Ever Growing population and their growing demands lead to large scale destruction of forest cover and other natural resources. Meanwhile, given below are the common methods used to conserve land resources:

- Afforestation

- land reclamation
- regulated use of chemical pesticide and fertilisers
- checks on overgrazing

Soil

The thin layer of grainy substance covering the surface of the earth and closely linked to the land. Landforms determine the type of soil. Soil is made up of organic matter, minerals and weathered rocks found on the earth through the process of weathering. The right mix of minerals and organic matter make the soil fertile.

Landslides

The mass movement of rock, debris or earth down a slope is known as Landslides and it often takes place in conjunction with earthquakes, floods and volcanoes. Meanwhile, a prolonged spell of rainfall can also cause a landslide.

Mitigation Mechanism

Development in scientific techniques has empowered us to understand what factors cause landslides and how to manage them. Some of the broad mitigation techniques of landslide are given as follows:

- Hazard mapping to locate areas prone to landslides. Hence, such areas can be avoided for building settlements
- Construction of retention wall to stop the land from slipping
- Increase in the vegetation cover to arrest landslide
- The surface drainage control works to control the movement of a landslide along with rainwater and spring flows

Factors of Soil Formation

- The nature of the parent rock
- Climatic factors
- Topography
- Role of organic material
- Time taken for the composition of soil formation

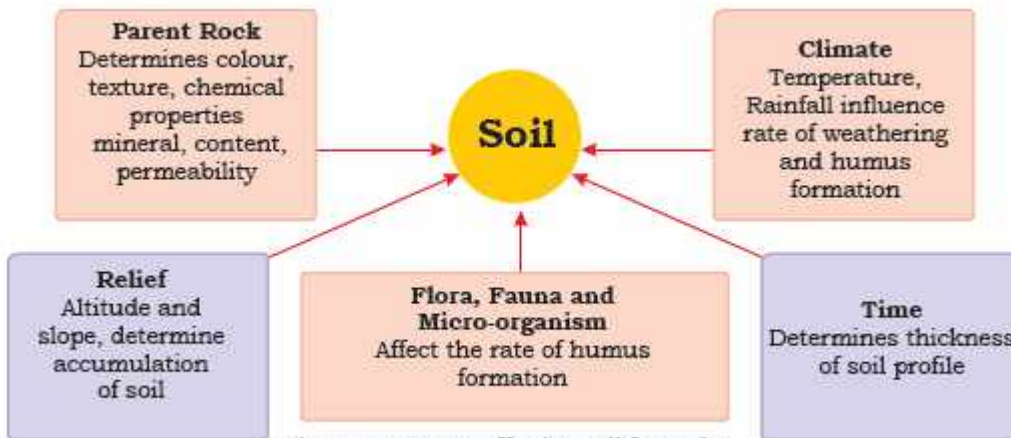


Fig. 2.4: Factors affecting soil formation

Degradation of Soil and Conservation Measures

Soil erosion and depletion are the major threats to the soil as a resource. Both human and natural factors can lead to degradation of soils. Factors which lead to soil degradation are:

- deforestation
- overgrazing
- overuse of chemical fertilizers or pesticides
- rain wash
- landslides and floods

Meanwhile, some methods of soil conservation are given below:

Mulching: The bare ground between plants is covered with a layer of organic matter like straw and it helps to retain soil moisture

Contour barriers: Stones, grass, soil are used to build barriers along contours. Trenches are made in front of the barriers to collect water

Rock dam: Rocks are piled up to slow down the flow of water and also help to prevent gullies and further soil loss

Terrace farming: Broad flat steps or terraces are made on the steep slopes so that flat surfaces are available to grow crops, thus reducing surface runoff and soil erosion

Intercropping: Different crops are grown in alternate rows and are sown at different times to protect the soil from rain wash

Contour ploughing: Ploughing parallel to the contours of a hill slope to form a natural barrier for water to flow down the slope

Shelterbelts: In the coastal and dry regions, rows of trees are planted to check the wind movement to protect soil cover

Water

Three fourth of earth's surface is covered with a vital renewable natural resource known as water. Oceans covers about 2/3rds of the earth's surface and supports a rich variety of plant and animal life. However, it is saline and not useful for human consumption. Freshwater accounts for only 2.7% and 70% of these occurs as ice-sheets and glaciers in Antarctica, Greenland and mountain region and they are inaccessible because of their location. Thus, only 1% of freshwater is useful for human consumption.

Water can neither be added nor subtracted from the earth and its total volume remains constant. Its abundance seems to vary only because of the constant motion, cycling through the oceans, the air, the land and back again, through the processes of evaporation, precipitation and run-off. This as you already know is referred to as the 'water cycle'.

Problems of Water Availability

Most parts of the world are facing shortages in the freshwater supply. Countries located in climatic zones most susceptible to droughts face great problems of water scarcity. Thus, water shortage may be a consequence of variation in seasonal or annual precipitation or the scarcity is caused by over-exploitation and contamination of water sources.

Conservation of Water Resources

To get access to clean and adequate water sources, steps have been taken to preserve this resource:

- Forest and other vegetation cover slow the surface runoff and replenish underground water harvesting is another method to save the surface runoff
- The canals used for irrigating field should be properly lined to minimise losses by water seepage
- Sprinklers effectively irrigate the area by checking water losses through seepage and evaporation
- In dry regions with high rates of evaporation, drip or trickle irrigation is very useful
- The valuable water resource can, therefore, be conserved by adopting these means of irrigation

Natural Vegetation and Wild Life

Natural vegetation and wildlife exist only in the narrow zone of contact between the lithosphere, hydrosphere and atmosphere that we call the biosphere. In the biosphere living beings are interrelated and interdependent on each other for survival. This life-supporting system is known as the ecosystem. Wildlife includes animals, birds, insects as well as the aquatic life forms. The birds feed on insects and act as decomposers as well. Vulture due to its ability to feed on dead livestock is a scavenger and considered a vital cleanser of the environment. So animals big or small, all are integral to maintaining balance in the ecosystem.

Distribution of Natural Vegetation

The growth of vegetation depends primarily on temperature and moisture. The major vegetation types of the world are grouped as forests, grasslands, scrubs and tundra.

In areas of heavy rainfall- Huge trees thrive- forests are thus associated with areas having abundant water supply. As the number of moisture decreases- the size of trees and their density reduces-short stunted trees and shrubs grow in regions of moderate rainfall. In dry areas- Thorny shrubs and scrubs grow in low rainfall areas.

Conservation of Natural Vegetation and Wildlife

Changes of climate and human interferences can cause the loss of natural habitats for the plants and animals. Deforestation, soil erosion, constructional activities, forest fires, tsunami and landslides are some of the human and natural factors that accelerate the process of extinction of these resources. One other major concern is the poaching that results in a sharp decline in the number of particular species. National parks, wildlife sanctuaries, biosphere reserves are made to protect our natural vegetation and wildlife. Conservation of creeks, lakes, and wetlands is necessary to save the precious resource from depletion.

Awareness programmes like social forestry and Vanamohatasava are also established at the regional and community level. School children are also encouraged to bird watch and visit nature camps so that they appreciate the habitat of varied species. Many countries have passed laws against the trade as well as the killing of birds and animals. In India, killing lions, tigers, deers, great Indian bustards and peacocks is illegal. Meanwhile, an international convention CITES has been established that lists several species of animals and birds in which trade is prohibited.