Revision Notes

Class - 8 Social Science (Geography)

Chapter 2 – Land, Soil, Water, Natural Vegetation and Wildlife Resources

Land

Land is one of our greatest natural resources. It covers only about thirty percent of the total surface of the earth and not all parts of that small percentage are habitable.Rugged topography, steep mountain slopes, lowlands sensitive to logging, desert areas, dense wooded areas are usually sparsely populated or uninhabited.

Uses of Land

Land is used for a variety of purposes such as agriculture, forestry, mining, home building, roads and industry creation.This is commonly termed as Land use.Land use is related to physical factors such as topography, soil, climate, minerals and water availability. Human factors such as population and technology are equally important determinants of the land use model.

Types of Land

Land may also be classified according to its ownership: private land and communal land. Private land is owned by individuals, while community land is owned by the community for common purposes such as gathering forage, fruit, nuts or medicinal herbs. This communal land is also called common resources.

Conservation of Land Resource

Population growth and their ever-increasing demand have led to large-scale destruction of forest cover and arable land and created a fear of the loss of this natural resource. Consequently, the current rate of land degradation has to be verified. Afforestation, land rehabilitation, the regulated use of chemical pesticides and fertilizers, and the control of overgrazing are some of the methods commonly used to conserve land resources.

Soil

The thin layer of granular substance covering the earth's surface is known as soil. It has close ties to the land. The landscape determines the type of soil. The soil consists of organic matter, minerals, and altered rocks found on the ground. It occurs by the process of alteration. The appropriate combination of minerals and organic matter makes the soil fertile.

Landslides

Landslides are simply defined as the massive displacement of rock, debris, or ground along a slope. They often occur in the context of earthquakes, floods, and volcanoes. Prolonged rainfall can cause heavy landslides which can block the flow of the river for a period of time. The formation of stream blocks can cause damage to colonies downstream of its rupture. On hilly terrain, landslides have been a major and widespread natural catastrophe that often affects life and property and occupy a position of major concern.

Mitigation Mechanism of Landslide Control

The advancement of science has enabled us to understand the factors that cause landslides and how to manage them. Here are a few general landslide mitigation techniques:

- Hazard mapping to identify areas prone to landslides. Consequently, such areas can be avoided to construct colonies.
- Build a retaining wall to prevent the earth from slipping.
- Increased vegetation cover to prevent landslides.
- Surface drainage control is used to control the motion of landslides, as well as rainwater and spring flows.

Factors of Soil Formation

The most important factors in soil formation are the nature of the original rock and climatic factors. Other factors include topography, the role of organic matter, and the length of time of soil composition.

- Climatic factors: Temperature, rainfall influence the rate of impairment and the formation of humus.
- Relief - Altitude and gradient, determine ground accumulation.
- Parent rock nature: Determines colour, texture, mineral chemistry, strength, permeability.

- Time-taken for soil formation: Determines the width of the soil profile.
- Flora, Fauna and Micro-organism: Affects the rate of humus development.

Degradation of Soil and Conservation Measures

Soil erosion and depletion are the most important threats to soils as a resource. Soil degradation can result from human and natural factors. The factors leading to land degradation include:

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

Methods to Conserve Soil

- Mulching: The bare soil between plants is covered by a layer of organic material like straw. It helps to hold moisture from the ground.
- Contour barriers: Stones, grass, soil are used to construct fences along the contours. Trenches are dug in front of the barriers for water collection.
- Rock dam: The rocks are stacked in order to slow down the water flow. That prevents gullies and ground loss.
- Terrace farming: Wide flat treads or terraces are made on steep slopes so that flat surfaces are available for growing crops. These minimize surface runoff and soil erosion.
- Intercropping: Different crops are grown in alternating rows and are planted at different times to protect the soil against rain.
- Contour ploughing: Plow parallel to the contours of a hillside slope to form a natural barrier allowing water to descend the slope.
- Shelter belts:In coastal, dry areas, rows of trees are planted to control wind movement to protect the vegetation cover.

Water

Water is a natural, renewable resource of life. Three times the world's surface is covered in water. It is therefore rightly referred to as the "planet of water". It is in the early oceans that life began about 3.5 billion years ago. The oceans still cover two-thirds of the Earth's land surface and are home to a rich variety of plants and animals. But ocean water is salty and unfit for human consumption. Freshwater

is just about 2.7%. Nearly 70% of these glaciers occur in Antarctica, Greenland and mountain regions. Because of where they are located, they are inaccessible. Only one percent of freshwater is available and suitable for human use. It exists as groundwater, surface water in rivers and lakes, and water vapour in the atmosphere.

Problems of Water Availability

In many places around the world, water is scarce. Most of Africa, West Asia, South Asia, parts of the western U.S.A., northwest Mexico, parts of South America and Australia as a whole are facing freshwater shortages. Countries in the most drought-sensitive climate zones face significant water scarcity problems. For example, water scarcity can be a consequence of variations in seasonal or annual precipitation or scarcity is caused by overfishing and contamination of water sources.

Conservation of Water Resources

In order to access clean and adequate water supplies, measures have been taken to preserve this resource:

- This means that the precious water resource can be preserved by using these irrigation methods.
- In dry areas where evaporation rates are high, drip-to-drip watering is very helpful.
- The sprinklers efficiently irrigate the area by checking for water losses via infiltration and evaporation.
- The channels used to irrigate the field should be correctly doubled to minimize water infiltration losses.

Natural Vegetation and Wildlife

Natural vegetation and fauna exist only in the narrow contact zone between the lithosphere, the hydrosphere, and the atmosphere known as the biosphere. Within the biosphere, living things are interdependent and interdependent for survival. This vital system is known under the name of ecosystem. Fauna consists of animals, birds, insects and aquatic organisms. They feed on insects and also break down. The vulture because of its capacity to feed on dead cattle is a scavenger

and considered a vital environmental cleaner. So animals, large or small, are all part and parcel of maintaining balance within the ecosystem.

Distribution of Natural Vegetation

Vegetation growth is primarily influenced by temperature and moisture. The world's most important vegetation types are grouped into forests, grasslands, brush and tundra.

In areas of heavy rainfall- Large trees grow- forests are therefore associated with plentiful water supply areas. As moisture levels decrease, tree size and density decrease. In drylands- Spiny shrubs and brush grow in areas of low precipitation.

Conservation of Natural Vegetation and Wildlife

The woods are our treasure. Plants support animals and, together, protect the ecosystem. Climate change and human interference can result in lost natural habitats for plants and animals. Many species have become vulnerable or threatened with extinction, and some are in the process of becoming so. Deforestation, soil erosion, construction activities, wildfires, tsunamis and landslides are part of the human and natural factors that accelerate the process of extinction of these resources. Many countries have passed laws against the trade as well as killing of birds and animals. In India, killing lions, tigers, deers, great Indian bustards and peacocks is illegal. There is a CITES international convention that lists several species of animals and birds that are banned from trade. The conservation of plants and animals is a citizen's ethical obligation.