MODULE III

NATURAL RESOURCES

3.6 Land resource

3.6.1 Land degradation

3.6.2 Soil erosion

3.6.3 Desertification

3.6.4 Land Slides

3.6 Land resource

❖ The land is the upper weathering layer of the solid earth crust.

❖ Land is a renewable resource.

❖ Soil is a mixture of inorganic (rocks & minerals) & organic materials (dead animals & plants)

Uses of land resources

1. Land is the home for humans, wild animals & birds
2. It provides food, wood, minerals, nutrients, for us.
3. Coal & gold is extracted from land.
4. It is used as watershed (or) reservoir.
5. It act as a dustbin for most of the wastes created by the modern society.
6. It is used for construction of buildings, industries etc.

3.6.1 Land degradation

Land degradation is the process of deterioration of soil (or) loss of fertility of the soil.

Causes

1. **Population :**
   As population increases, the need of over usuage of land area increases for producing food, fiber, fuel wood.

2. **Urbanization :**
   Urbanization leads to deforestation, it affects millions of plants and animal species.

3. **Fertilizers & Pesticides :**

High application of fertilizers & pesticides causes land pollution & soil degradation water logging, soil erosion, salination, contamination of soil with industrial wastes causes land degradation.

Consequences

1. Soil texture & soil structure are destroyed.
2. Loss of soil fertility due to loss of nutrients.
3. Increase in water logging salinity alkalinity & acidity problems.
4. Loss of economic social & biodiversity.

3.6.2 Soil erosion

The removal of the top layer of the soil from its original place by H_2O, wind & glaciers is called soil erosion.

Causes:

1. Water causes soil erosion in the form of rain, runoff rapid flow, wave action.
2. Wind carry the fine particles of soil and creates soil erosion.
3. Flood, cyclone, forest fire, over grazing, mining, deforestation cause soil erosion.
4. Landslide, lack of proper drainage, shifting cultivation also causes soil erosion.
5. Construction of dams, buildings, roads removes the fertility of top soil causes soil erosion.
6. **Consciquence**
1. Loss of soil fertility
2. Water absorbing capacity of the soil becomes low.
3. Destroy of crop lands.
4. Deposition of sand & gravel in agricultural land.
5. Productivity & bio diversity of the eco system become very low.

Prevention of soil erosion

1.   Improve afforestation
2.   Control of wind speed by Basin listing, pan breaking terrace making, contour trenching, contour forming.
3.   Strip cropping, terrace cropping.

3.6.3Desertification

Desertification is a progressive destroy of arid &semi arid lands into desert. It is a process of land degradation & land destruction. The land becomes unfertile and unsuitable for cultivation.

Causes:

1.   Due to low rainfall, failure of monsoon, dry climatic conditions, droughts, deforestation causes desertification.
2.   Depletion of ground water, salination of land, complete loss of vegetation, over grazing results dry, loose and more prone to soil erosion and leads to desert.
3.   Mining & quarrying also affect the vegetable cover, and destroy of land area leads to desertification.
4.   Excessive usuage of fertilizers, pesticides & disposal of toxic water into the land leads to desertification.

Consequence

i.   Loss of bio diversity
ii.   Loss of vegetation
iii. Loss of productivity
iv.   Loss of employment opportunity
v.   Migration of people

3.6.4 Land Slides

The downward flowing of land mass (or) rock mass caused by the human activity is called man induced land slides.

Causes

i. Removal of vegetation : Deforestation in the slope region creates soil erosion, which causes land slides.

ii. Construction of roads, movements of vehicles in the unstable slope region produces land slides.

iii. Construction of dam, bridges, buildings leads to landslides.

iv. Over exploitation of ground water leads to land slides.

Consequence

i. Destruction of trees.

ii. Blocking of roads & railway lines, cannels & rivers.

iii. Loss of habitat and bio diversity.

iv. Loss of infrastructure and economic loss.

v. Turbidity of river water.

vi. Submergence of houses.

vii. Loss of productivity