

Natural Resource Depletion

Core Subject – Meteorology and Environmental Issues

Unit III

What is a Resource?

- Resource is anything in this environment which has utility.
- Anything obtained from the living and non living environment to meet human needs and wants.

Resources

Erich W. Zimmerman

'A resource is not just a thing or a substance but the function that the thing or substance performs in order to satisfy human needs and wants'

Natural Resources

- A **natural resource** is anything that people can use which comes from nature.
- People do not make natural resources, but **gather** them from the earth.
- Examples air, water, wood, oil, wind energy, iron, and coal.

Natural Resources

- **Natural resources** are naturally occurring substances that are considered valuable in their relatively unmodified (natural) form.
- A commodity is generally considered a natural resource when the primary activities associated with it are **extraction** and **purification**, as opposed to **creation**.

Forest Resource

- Forest is a type of Habitat or Biome which has high density of **Trees**.
- The Forest is in fact a **complex ecosystem** with distinct interrelationships of living organisms (the plants, animals, micro-organisms) and the non-living, inorganic or abiotic part (soil, climate, water, organic debris, rocks) of an environment.
- Forests houses over **two-thirds** of known terrestrial Species of the World.

Forest Resource

Reasons for depletion of forest resource

1. Deforestation

- Permanent destruction of forest
- Is ever increasing
- 46- 58 thousand square miles of forest loss each year (WWF)
- About ½ of the world's tropical forest have been cleared

2. Degradation

- Reduction in productivity of the forest
- Affecting CO₂ absorption capacity, biodiversity, leading to desertification

Forest Resource

3. Clear cutting method

- Causes total destruction of forest land
- As every trees are cut (small, large)

4. Forest fires

- Man made – deliberate, sparks from tools, power lines
- Natural – lightning, hot temperatures, large fallen litter

5. Commercialization of agriculture

- For farmland, pastures, tree plantation

Clear cutting



Forest Resource

6. Unsustainable agricultural practices

- Shifting cultivation

7. Urbanization, developmental projects

- Construction of roads, railway lines, buildings
- Dam constructions, mining activity
- Root cause is overpopulation or overconsumption

8. Violation of laws

- Cutting wood from protected areas, harvesting protected species

Forest Resource

9. Destruction for cattle ranching and fuel production

- In central America, 2/3rd of moist tropical forest has been cleared for cattle ranching within 30 yrs
- In brazil 75% deforestation for cattle ranching
- Increase in population leading to demand of fuel wood

10. Unplanned mining

- Many forest rich in minerals
- The congo basin rich in reserves of gold
- The amazon basin rich in copper, nickel, zinc, bauxite, iron, manganes and gold

Energy Resource

Reasons for depletion of Energy Resources

1. Energy crisis

- Crisis is shortage of energy
- One reason is depleting the stock of energy resource
- Even due to increase in prices lead to shortage of energy supply

2. High rate of consumption

- Rising standard of living, huge growth of secondary and tertiary activities
- Enlargement of transport sector
- Excess demands results in rising prices

Energy Resource

3. More use of non renewable energy resources

- Almost 90% of the current energy supply based on fossil fuels
- Only 10% comes from renewable resources i.e water, biomass

4. Unfavourable Government policies and energy crises

- Tax hikes, nationalisation of energy companies
- Even crisis can develop if strike declared by workers industrial activity affected

Energy Resource

5. Shortage of energy resource due to accidents

- Pipeline failure

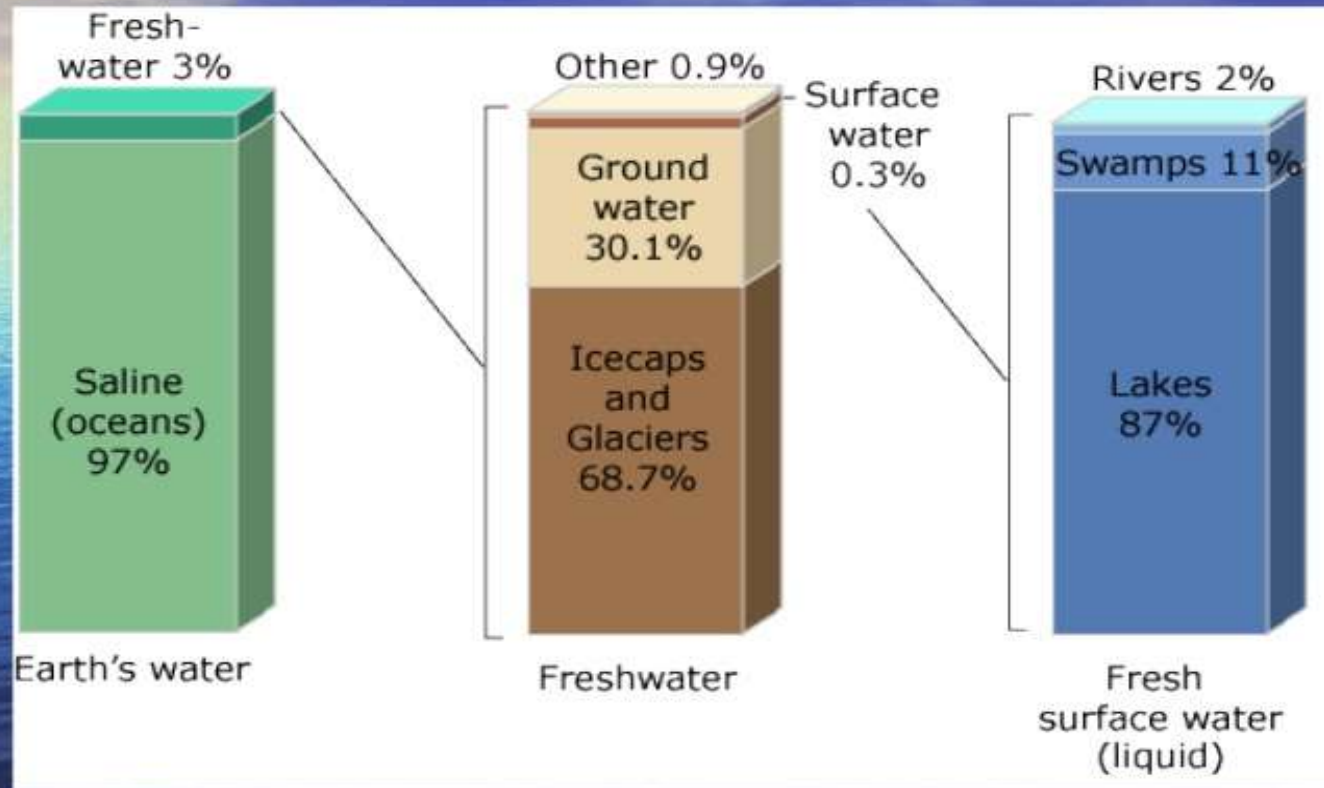
6. Wastage of resources

7. Other problems

- Overconsumption
- Aging infrastructure

Water Crisis

Distribution of Earth's Water



Distribution of fresh water

The fresh water in the form of groundwater, rivers, lakes is unequally distributed

The factors responsible for unequal distribution of water

- Seasonal rainfall
- Types of rocks differs from region to region
- The geological structures differ from region to region
- The temperatures hence evaporation

Distribution of fresh water

The availability of water also depends upon some man-made factors

- Population
- Lifestyle
- Technology to store water
- Industrialization
- Irrigation

Hence even though a region may have natural surplus of water it may suffer due to shortage of water as the demand increases.

Water Resource

Problems associated with management of water resource

1. Improper water discharge management
2. Inadequate sewage treatment plants
3. Lack of mechanism to monitor the water pollution
4. Problem of water pricing policy
5. Lack of access to portable water
6. Growing demand of water with urbanisation and reduction in access to drinking water source
7. Excess use of water due to changing life style
8. Over use of water