



Natural Resources

B.Tech. EVS 101

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Unequal consumption

- The main problem associated with natural resources is unequal consumption.
- A major part of natural resources are consumed in the 'developed' world.
- The developing nations' also over use many resources because of their greater human population.

- However, the consumption of resources per capita (per individual) of the developed countries is upto 50 times greater than in most developing countries.
- Advanced countries produce over 75% of global industrial waste and greenhouse gases.
- Energy from fossil fuels consumed in relatively much greater quantities in developed countries. Their per capita consumption of food too is much greater as well as their waste.

- The USA for example with just 4% of the world's population consumes about 25% of the world's resources. Producing animal food for human consumption requires more land than growing crops.
- Thus countries that are highly dependent on non-vegetarian diets need much larger areas for pastureland than those where the people are mainly vegetarian.
- Our natural resources can be compared with money in bank. If we use it rapidly the capital will be reduced to zero.

'Human development index'.

- These are :
- Increased longevity,
- an increase in knowledge and
- an enhancement of income.
- These three together are known as the 'human development index'. It means a source of supply/support i.e, generally held in reserve natural means, an ecosystem not influenced by man.

- Natural resources can be defined as ‘variety of
- goods and services provided by nature which are necessary for our day-to-day lives’.
- Eg: Plants, animals and microbes (living or biotic part), Air, water, soil, minerals, climate and solar energy (non- living or abiotic part).
- They are essential for the fulfilment of physiological, social, economical and cultural needs at the individual and community levels. Resources are of two types namely Renewable and Non-Renewable Resources.

Renewable resources & Non Renewable Resources

- Renewable resources: Natural resources which can be used but can be regenerated by natural processes provided if there is no intervention in natural regeneration cycle.Ex: water, wood
- Non Renewable Resources: Those which will be exhausted in the future if we
- continue to extract these without a thought for subsequent generations. Example: minerals, fossil fuels.

- Different types of resources viz., *forest, water, food, energy and land resources* are detailed below.

Forest Resources

- A forest can be defined as a biotic community predominant of trees, shrubs or any other woody vegetation usually in a closed canopy.
- It is derived from latin word *'foris'* means *'outside'*.

- India's Forest Cover is 6,76,000 sq.km (20.55% of geographic area).
- Scientists estimate that India should ideally have 33% of its land under forests.
- Today we only have about 12% Thus we need not only to protect our existing forests but also to increase our forest cover.

Forest Functions :

- I. Protective and ameliorative functions.
- II. Productive functions
- III. Recreational and educational functions
- IV. Development functions

I. Protective and ameliorative functions

- A. Watershed protection Reducing the rate of surface run-off of water by increasing infiltrator from rate.
- Preventing flash floods and soil erosion
- Producing prolonged gradual run-off and thus safeguarding against drought.

- B. Erosion control
- Holding soil (by preventing rain from directly washing soil away)
- C. Land bank
- Maintaining soil nutrients and structure.
- D. Atmospheric regulation
- Absorption of solar heat during evapotranspiration
- Maintaining carbon dioxide levels for plant growth
- Maintaining the local climatic conditions

II. Productive Functions

- Local use – Consumption of forest produce by local people who collect it for sustenance
- Food: (consumptive use) gathering plants, fishing, hunting from the forest.
- Fodder for cattle
- Fuel wood and charcoal for cooking and heating
- Poles for building homes in rural and wilderness areas

- Timber for house hold articles and construction
Fiber for weaving baskets, ropes, nets, strings,
etc., Sericulture for silk
- Apiculture for rearing bees for honey (bees as
pollinators)

Medicinal Products

- Medicinal plants for traditional medicines, investigating them as potential source for new modern drugs Market use (productive use)
- Most of the products used for consumptive purposes and good source of income for supporting their livelihood of forest dwelling people.

Minor forest products (NTFPs)

- Minor forest products (NTFPs): Fuel wood, fruits, gum, fiber, etc which are collected and sold in local markets as a source of income for forest dwellers
- Major timber extraction for construction, industrial uses, paper pulp etc.
- Timber extraction is done in India by the forest department, but illegal logging continues in many of the forests of India and the world.

- III. Recreational And Educational Functions: Eco tourism
- IV. Developmental Functions
- Employment functions
- Revenue

Ecological significance of forests:

- 1. Balances CO₂ and O₂ levels in atmosphere.
- 2. Regulates earth temperature and hydrological cycle
- 3. Encourage seepage and reduces runoff losses, prevents drought
- 4. Reduces soil erosion (roots binding), prevents siltation of reservoirs and landslides thereby floods
- 5. Litter helps in maintaining soil fertility
- 6. Safe habitat for birds, wild animals and organisms against wind, solar radiation and rain

- 3. The cash crop economy: Raising cash crops for increased economy.
- 4. Mining
- 5. Increase in population: The needs also increase and utilize forest resources.

- References:
- ecoursesonline.iasri.res.in/mod/page/view.php?id=128630
- ecoursesonline.iasri.res.in/mod/page/view.php?id=128631