

Problems associated with natural resources

- ***The unequal consumption of natural resources***

A major part of natural resources today are consumed in the technologically advanced or 'developed' world, usually termed 'the west'. The 'developing nations' of 'the east', including India and China, 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 up to 50 times greater than in most developing countries. Advanced countries produce over 75% of global industrial waste and greenhouse gases.

- ***Planning land use***

Land is a major resource, needed for not only for food production and animal husbandry, but also for industry and growing human settlements. These forms of intensive land use are frequently extended at the cost of 'wild lands', our remaining forests, grasslands, wetlands and deserts. This demands for a pragmatic policy that analyses the land allocation for different uses.

Forest Resources

- Forest is important renewable resources. Forest vary in composition and diversity and can contribute substantially to the economic development of any country .Plants along with trees cover large areas, produce variety of products and provide food for living organisms, and also important to save the environment.
It is estimated that about 30% of world area is covered by forest whereas 26% by pastures.

- **Significance of forests**

Forest can provide prosperity of human being and to the nations. Important uses of forest can be classified as under

Commercial values

- Ecological significance
- Aesthetic values
- Life and economy of tribal

- ***Commercial values***

Forests are main source of many commercial products such as wood, timber, pulpwood etc. About 1.5 billion people depend upon fuel wood as an energy source. Timber obtained from the forest can used to make plywood, board, doors and windows, furniture, and agriculture implements and sports goods. Timber is also a raw material for preparation of paper, rayon and film.

- Forest can provide food , fibre, edible oils and drugs.
- Forest lands are also used for agriculture and grazing.
- Forest is important source of development of dams, recreation and mining.

- *Life and economy of tribal*
- Forest provide food, medicine and other products needed for tribal people and play a vital role in the life and economy of tribes living in the forest.

Ecological uses

Forests are habitat to all wild animals, plants and support millions of species. They help in reducing global warming caused by green house gases and produces oxygen upon photosynthesis.

Forest can act as pollution purifier by absorbing toxic gases. Forest not only helps in soil conservation but also helps to regulate the hydrological cycle.

- **Over exploitation of forests**

Forests contribute substantially to the national economy. With increasing population increased demand of fuel wood, expansion of area under urban development and industries has lead to over exploitation of forest .At present international level we are losing forest at the rate of 1.7 crore hectares annually. Overexploitation also occurs due to overgrazing and conversion of forest to pastures for domestic use.

- **Deforestation**

Forest are burned or cut for clearing of land for agriculture ,harvesting for wood and timber , development and expansion of cities .These economic gains are short term where as long term effects of deforestation are irreversible

- Deforestation rate is relatively low in temperate countries than in tropics If present rate of deforestation continues we may losses 90% tropical forest in coming six decades
- For ecological balance 33% area should be under forest cover but our nation has only 20.6% forest cover.

Causes of deforestation

- *Commercial logging*

It is an important deforestation agent. It may not be the primary cause but definitely it acts as a secondary cause, because new logging lots permit shifting cultivation and fuel wood gatherers access to new logged areas.

c) Need for fuel wood

Increased population has led to increasing demand for fuel wood which is also acting as an important deforestation agent, particularly in dry forest.

- ***Expansion for agribusiness***

With the addition of cash crops such as oil palm, rubber, fruits and ornamental plants, there is stress to expand the area for agribusiness products which results in deforestation.

e) Development projects and growing need for food

The growing demand for electricity, irrigation, construction, mining, etc. has led to destruction of forest. Increased population needs more food which has compelled for increasing area under agriculture crops compelling for deforestation.

f) Raw materials for industrial use

Forest provides raw material for industry and it has exerted tremendous pressure on forest. Increasing demand for plywood for backing has exerted pressure on cutting of other species such as fir to be used as backing material for apple in J&K and tea in northeast states.

- ***Major effects of deforestation***

Deforestation adversely and directly affects and damages the environment and living beings .Major causes of deforestation are

- Soil erosion and loss of soil fertility
- Decrease of rain fall due to affect of hydrological cycle
- Expansion of deserts
- Climate change and depletion of water table
- Loss of biodiversity ,flora and fauna
- Environmental changes and disturbance in forest ecosystems

Timber extraction

- There has been unlimited exploitation of timber for commercial use. Due to increased industrial demand; timber extraction has significant effect on forest and tribal people.
- *Logging*
 - Poor logging results in degraded forest and may lead to soil erosion especially on slopes.
 - New logging roads permit shifting cultivators and fuel wood gatherers to gain access to the logging area.
 - Loss of long term forest productivity
 - Species of plants and animals may be eliminated
 - Exploitation of tribal people by contractor.

- **Mining**

Major effects of mining operations on forest and tribal people are:

- Mining from shallow deposits is done by surface mining while that from deep deposits is done by sub-surface mining. It leads to degradation of lands and loss of top soil. It is estimated that about eighty thousands hectare land is under stress of mining activities in India
- Mining leads to drying up perennial sources of water sources like spring and streams in mountainous area.

- The forested area has declined at an average rate of 33% and the increase in non-forest area due to mining activities has resulted in relatively unstable zones leading to landslides.
- Indiscriminate mining in forests of Goa since 1961 has destroyed more than 50000 ha of forest land. Coal mining in Jharia, Raniganj and Singrauli areas has caused extensive deforestation in Jharkhand.
- Mining of magnetite and soapstone have destroyed 14 ha of forest in hilly slopes of Khirakot, Kosi valley and Almora.
- Mining of radioactive minerals in Kerala, Tamilnadu and Karnataka are posing similar threats of deforestation.

Effects of dams on forests and tribal people

- Pandit Jawaharlal Nehru referred dam and valley projects as “Temples of modern India”. These big dams and rivers valley projects have multi-purpose uses. However, these dams are also responsible for the destruction of forests. They are responsible for degradation of catchment areas, loss of flora and fauna, increase of water borne diseases, disturbance in forest ecosystems, and resettlement of tribal peoples.

- India has more than 1550 large dams, the maximum being in the state of Maharashtra (more than 600), followed by Gujarat (more than 250) and Madhya Pradesh (130).
- The highest one is Tehri dam, on river Bhagirathi in Uttaranchal and the largest in terms of capacity is Bhakra dam on river Satluj in Himachal Pradesh.
- The Silent valley hydroelectric project was one of the first such projects situated in the tropical rain forest area of Western Ghats which attracted much concern of the people.

- For building big dams, large scale devastation of forests takes place which breaks the natural ecological balance of the region.
- Floods, droughts and landslides become more prevalent in such areas.
- Forests are the repositories of invaluable gifts of nature in the form of biodiversity and by destroying them (particularly, the tropical rain forests), we are going to lose these species even before knowing them. These species could be having marvellous economic or medicinal value and deforestation results in loss of this storehouse of species

Forest conservation and management

- Conservation of forest is a national problem, thus it should be tackled with perfect coordination between concerned government departments.
- People should be made aware of importance of forest and involved in forest conservation activities.
- The cutting of trees in the forests for timber should be stopped.
- A forestation programmes should be launched
- Grasslands should be regenerated.
- Forest conservation Act should be strictly implemented to check deforestation.