



CHAPTER 18 NATURAL RESOURCES

NOTES

NATURAL RESOURCES

- We derive innumerable benefits from natural resources like **air, water, soil, minerals, forests, wildlife, coal etc.**
- There are two kinds of natural resources: **Renewable resources** and **Non-renewable resources**.
Renewable resources are inexhaustible resources like forests, wildlife, solar energy etc. that can be regenerated within a span of time.
- The renewable resources may become non-renewable resources when we exploit them to such extent that their rate of consumption exceeds their rate of regeneration.
Non-renewable resources are exhaustible resources like coal, petroleum etc. that can't be replenished once they become exhausted.
- If a species is exploited too much, its population declines to a great extent that is not able to sustain itself. So, it gradually becomes endangered and finally extinct.
- There is a need for **judicious use** of natural resources - **for future generations/prevent exhausted earlier.**

FOREST RESOURCES

- Forest, an important natural resource covering about 1/3 of the earth's land surface.
- IMPORTANCE OF FORESTS (Commercial value/Ecological services)**
- Apart from **commercial value** (such as timber, firewood, pulpwood, food items, resins, gums, non-edible oils, fibres, rubber, lac, bamboo, medicines etc.); forest provides many useful ecological services.
 - **Such ecological services** are worth more than 3 times its commercial value.
- Production of oxygen:** Oxygen essential for all the living organisms are released from the forests through photosynthesis.
- Reduction of global warming:** Forest absorbs CO₂ which is a greenhouse gas and thereby reduces global warming.
- Habitat for wild life:** Forests are the homes of millions of wild animals and plants.
- Pollution control:** Forest absorbs toxic gases as well as noise and thus, reduces air and noise pollution.



Regulation of hydrological cycle: The forest releases water absorbed from the soil into the atmosphere through transpiration as vapour and help in bringing down rain.

DEFORESTATION:

- It means reduction or destruction of forest cover in an area.

Causes:

- The growth of human population exerts a tremendous pressure on the forest. In order to accommodate the increasing population, more houses are required and thus more construction materials leading to exploitation forest. Therefore, the increase in human population results in deforestation.
- Practice of **shifting cultivation**, construction of dams, roads, hydro-electric projects and mining and indiscriminate use of forest products such as woods for making furniture, railway sleepers, ply-wood, boxes and paper etc. to meet the demands of growing population are responsible for **deforestation**.

MAJOR CONSEQUENCES OF DEFORESTATION

- The existence of wild life is threatened by destruction of their natural habitats.
- Rainfall is affected and increases problem of soil erosion and loss of fertility.
- It leads to landslides in hilly areas.

FOREST CONSERVATION

- Conservation of reserve forest:** It includes protected areas such as National parks, Sanctuaries, Sacred Grooves, Biosphere Reserves, and all ecologically fragile areas.
- Forest plantations:** Extensive plantations for commercial forestry
- Social forestry and Agroforestry:** Trees and shrubs are planted in unused areas (social forestry) Agroforestry (combination of agriculture and forestry) for productive land use system.

FOREST CONSERVATION THROUGH LAW

- **Forest (conservation) Act, 1980** was enacted **to conserve forest** by checking indiscriminate de-reservation and diversion of forest land for non-forest purposes.
- **The forest conservation Act, 1980 was amended in 1988**, to incorporate stricture penal provisions against violators.
- National Forest Policy, 1952, one third of the geographical area of the country should be under forest.

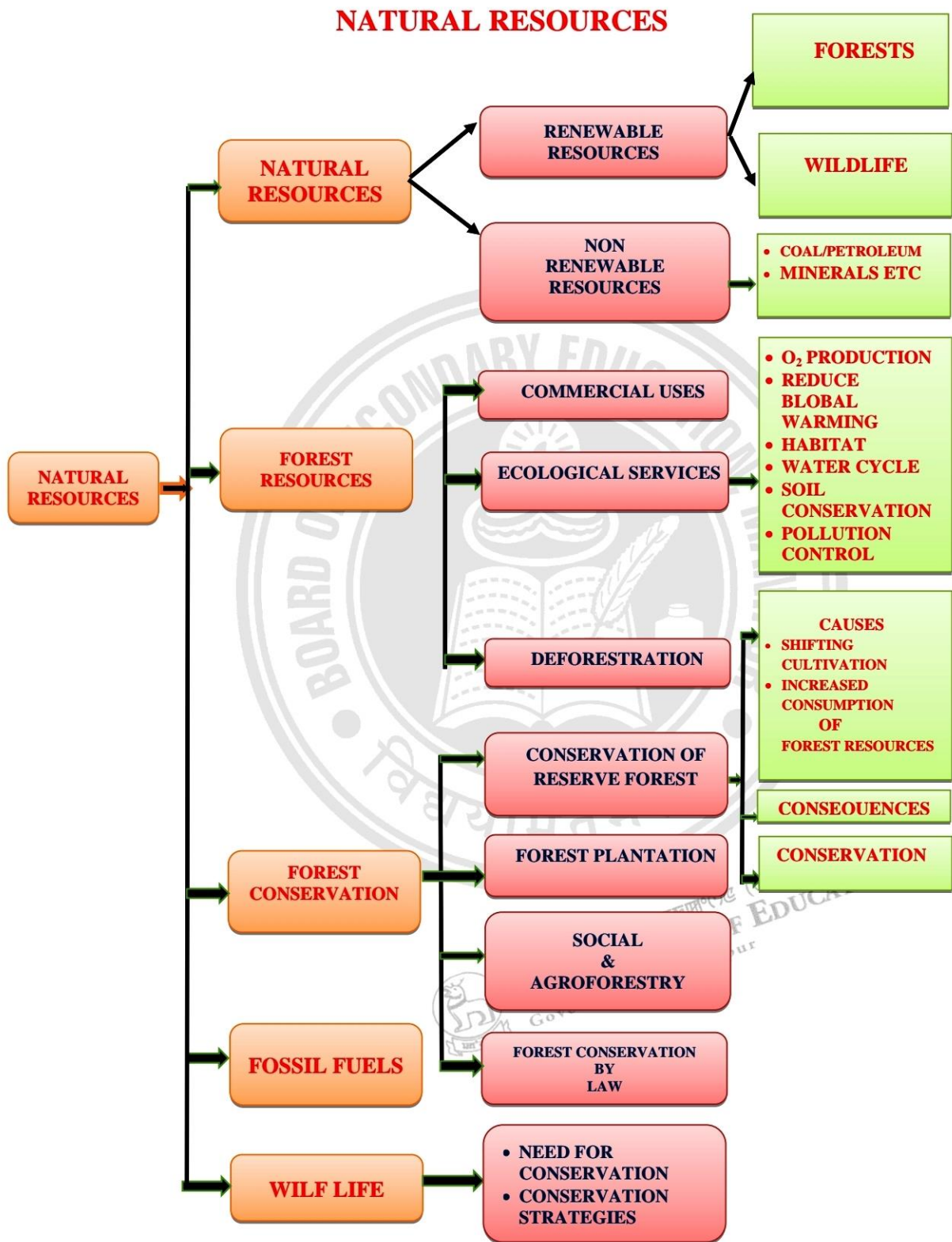


Fig: A Flowchart of Natural Resources



শিগাৰোফাংলৈ আৰু নগৰাংলৈ (সংগ)

DEPARTMENT OF EDUCATION (S)

Government of Manipur

IMPORTANT AMENDMENTS:

- No state government or other authority may direct that any forest land may be assigned by way of lease or otherwise to any person, corporation etc. without prior approval of the Central government.
- No forest land or any portion thereof may be cleared of trees which have grown naturally in that land or portion, without prior approval of Central Government.
- Scope of existing “non-forest purposes” has been extended to other areas as cultivation of tea, coffee, spices, rubber, palms, medicinal plants etc.
- Admissible punishment to the offender of the provision of Section 2 of the Act.

WILDLIFE

- All kinds of non-cultivated and non-domesticated animals living freely in their natural habitats without human interference, dominance and control are called wildlife.
- Significance of wildlife conservations are: Ecological balance, utility to man, helps to our survival, science and education, aesthetic value, etc.

REASONS FOR CONSERVATION OF WILDLIFE:

Ecological balance: Every animal has a specific role in the ecosystem and their existences are required for ecological balance.

Utility to man: Humans derive several benefits like meat, honey, silk, timber, medicine etc. from wildlife.

Helps to our survival: By protecting natural habitat of wild life, the whole ecological balance is maintained through normal rainfall and climatic conditions.

Tourist attraction: Many people like to see the wild animals in their natural habitats and also at zoos.

Science and Education: Animals are use in learning by students and scientist.

Aesthetic value: Many animals by their beauty and pattern, majestic elegance, sweet voice, playful behaviour appeals to the aesthetic sense of man and often become subject of inspiration for painting, poetry, sculptures and writing.

WILDLIFE CONSERVATION:

- Protecting natural habitat and establishing Biosphere reserves.
- Improving the existing protected areas and imposing restriction on human activities in such areas.
- Imposing protection of wild life through legislation.
- Creating awareness for need of environmental protection.



COAL AND PETROLEUM

- Both are non-renewable and exhaustible fossil fuels and found in earth's crust.
- Coal was formed 255-350 million years ago in the damp places and converted into coal over millions of years. The present coal reserve are likely to last for about 200 years while petroleum reserve will last for about 40 years .
- Crude petroleum is purified and refined by the process of fractional distillation to obtain products such as petroleum gas, kerosene, petrol, diesel, fuel oil, lubricating oil, paraffin, wax, plastic etc.

Practices for the conservation of coal and petroleum are:

- Save electricity, water, etc. by turning off appliances when not required.
- To use solar cookers or natural source of heat, pressure cooker to cut down expenses on LPGs.
- To encourage the use of biogas as domestic fuel.
- To promote plantation at proper places.
- To use public transportation whenever possible.
- To wear adequate woolen warm clothes in winter days.
- To ride bicycle or just to walk down small distances instead of using car and scooter.
- To use as far as possible renewable energy sources like solar, wind energy, hydro-power sources etc.
- Fuel efficient motor vehicle should be designed to reduce consumption of petrol and diesel etc.
- **CNG** stands for **Compressed Natural Gas**. There has been great reduction in vehicular pollution in cities like Delhi by using CNG in daily means of transportation.
- It is more efficient and greatly reduced vehicular pollution.