

Natural Resources – Introduction & Forest Resources



Dr. Parveen Kumar
Asst. Professor

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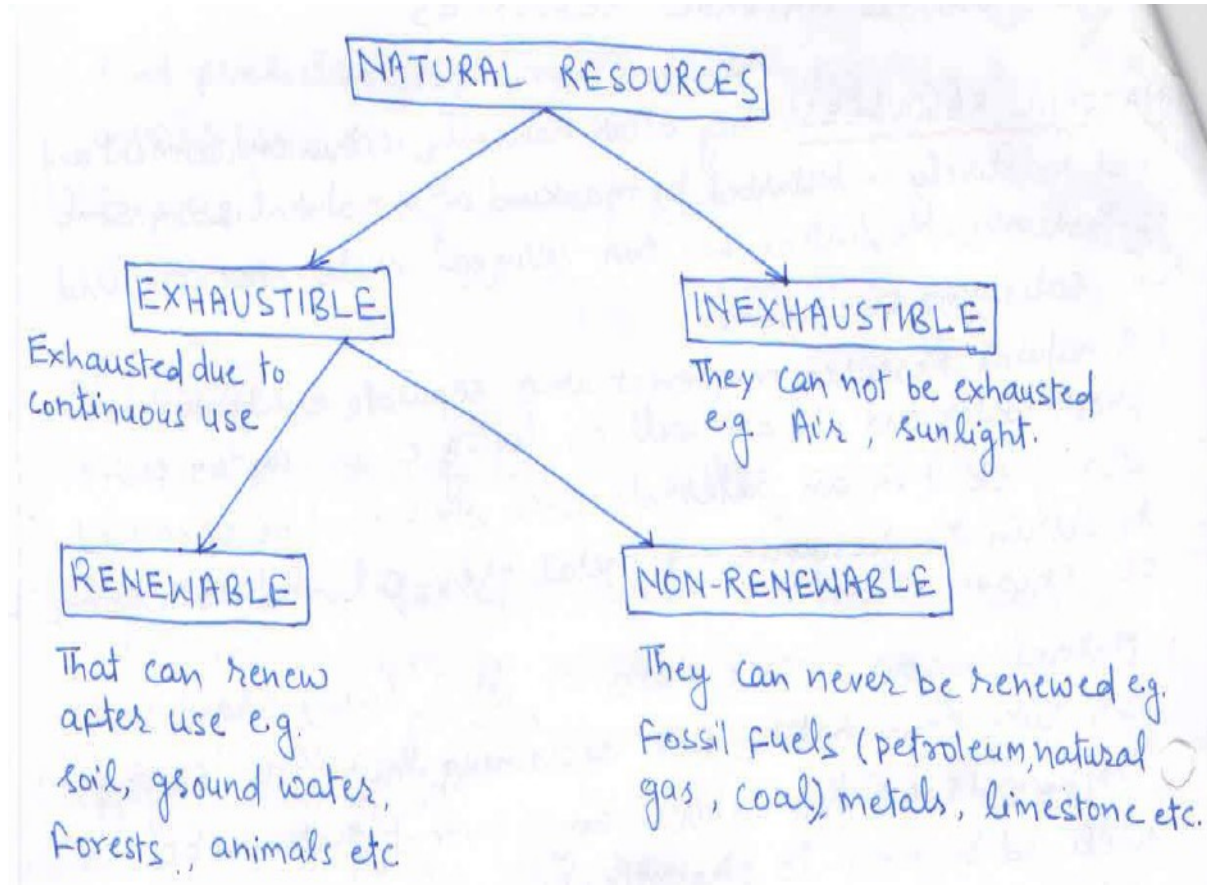
What is a resource?

- **Natural resources** occur **naturally** in environment and are needed for either our survival or satisfying daily needs e.g. air, water, plants, animals, and minerals.



Classification – Natural Resources

- **Biotic resources:** obtained from biosphere (organic and living material) e.g. forest, animals, birds, and fish.
- **Abiotic resources:** obtained from inorganic and non-living materials e.g. soil, water, air, stone, and metals.
- **Where you will keep fossil fuels?**
- **Exhaustible resources**
- **In-exhaustible resources**



Forest Resources

- **Forest** – ‘Foris – Outside’
- Forest cover – **1/3rd** of Earth’s land surface or **10%** of Earth’s



Class	Area (sq km)	Percentage of Geographical Area
Forest Cover		
Very Dense Forest	99,278	3.02
Moderately Dense Forest	3,08,472	9.38
Open Forest	3,04,499	9.26
Total Forest Cover*	7,12,249	21.67
Tree Cover	95,027	2.89
Total Forest and Tree Cover	8,07,276	24.56
Scrub	46,297	1.41
Non-Forest [#]	25,28,923	76.92
Total Geographic Area	32,87,469	100.00

* Includes 4,975 sq km under Mangrove Cover

Non-forest includes Tree Cover (Percentage rounded off)

GREEN COVER IN INDIA

Year
2019

Total forest cover
80.73 million hectare
(% of geographical
area - 24.56%)

TOP THREE STATES SHOWING INCREASE IN FOREST AREA

Karnataka (1,025 sq km)

Andhra Pradesh (990 sq km)

Kerala (823 sq km)

AREA WISE LARGEST FOREST COVER IN THE COUNTRY

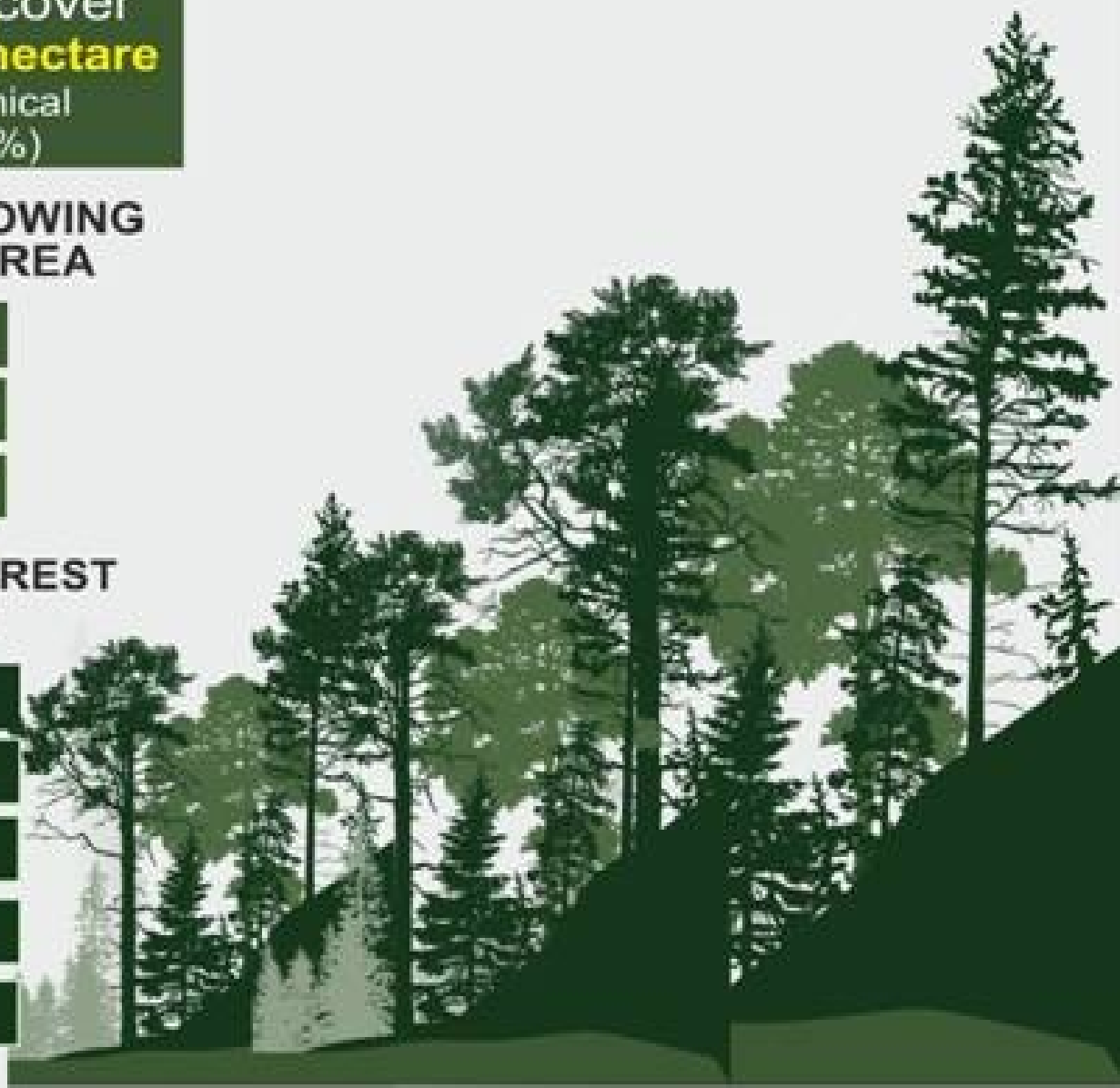
Madhya Pradesh

Arunachal Pradesh

Chhattisgarh

Odisha

Maharashtra



Functions of Forests

- **Protective function:** Protect from soil erosion, drought, flood, noise and radiation.
- **Productive function:** Provide various products – gum, resins, medicines, honey, pulp, bamboo, timber, and fruits etc.
- **Regulative function:** Regulate O₂ and CO₂ in atmosphere. They also control local temperature and humidity.
- **Accessory function:** Tourism and recreational value, home of plants and animals.



Wood and non wood products

- Timber
- Tendu leaves
- Bamboo
- Sal seed
- Honey
- Medicinal plants
- Rubber
- Pickle
- Biodiesel
- Ply wood



Ecological Importance

- Regulation of **global climate** and **temperature**
- Reduction of **global warming**
- Production of **O₂**
- **Soil fertility** maintenance
- Soil protection from **erosion**
- **Water cycle** control - Transpiration
- **Ground water** recharge
- Home of **wildlife**
- **Pollution control** – noise, air, and water etc.

Deforestation – Causes

Deforestation – clear cutting of forest to meet human needs

- **Population explosion** – food demand
- **Shifting cultivation** – Slash and burn farming
- **Fuel wood demand** – rural areas
- **Raw material demand** – wood based industries
- **Infrastructure development** – highway, railway, dams, urbanization, and industrialization.
- **Forest fire** – natural or manmade
- **Overgrazing** by animals
- **Climate change and acid rain**
- **Natural disasters** – cyclones, floods, drought, fire, and avalanche etc.



Deforestation – Effects

- **Soil erosion** – loss of fertile soil
- **Desertification** – formation or expansion of deserts
- **Rainfall reduction**
- **Lowering of water table**
- **Economic loss**
- **Biodiversity loss**
- **Global warming and Climate change**



Forest Conservation

- **Afforestation** – development of forest by planting trees on waste land.
- If trees are cut down, plant new trees.
- Discourage use of wood and wood charcoal for fuel.
- **Social forestry** – Planting on society land.
- **Urban forestry** – Within house in urban areas.
- **Agro-forestry** –
Agriculture+Animal husbandry+Forestry
- **National Forest Policy**
(1952/1988)
- **Forest Conservation Act** (1980)



Case Studies - Joint Forest Management (JFM)

- Midnapore district, West Bengal (1972)
- Making local communities partner in forest conservation.
- Sharing revenue generated with locals.
- A formal agreement which identifies and respects local community rights and needs from forest resources.



Chipko Movement (1970's)

- Villagers, **Garhwal Himalayas**, sought to protect their livelihood through a non-violent movement against forest felling.
- Activists – women and children
- Villagers hugged trees to protect them – 15 year ban on deforestation.
- **Gaura Devi & Sunderlal Bahuguna** led the movement.



Dams Construction & Forests

Dams: Flood control, power generation, food production, water supply, ecosystem and recreation.

- Reduce **water availability** in **river**.
- **High cost** and might be less profitable.
- Huge **water loss** by evaporation
- **Soil salinization** in downstream fields.
- **Sedimentation** of reservoir – life reduction of dam.
- **Submergence** of forest, species, and ecosystem loss.
- **Risk of seismic activity** – catastrophic flood.
- **Resettlement** and **rehabilitation** issues.



HOOVER DAM

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Thank you for attention!!!