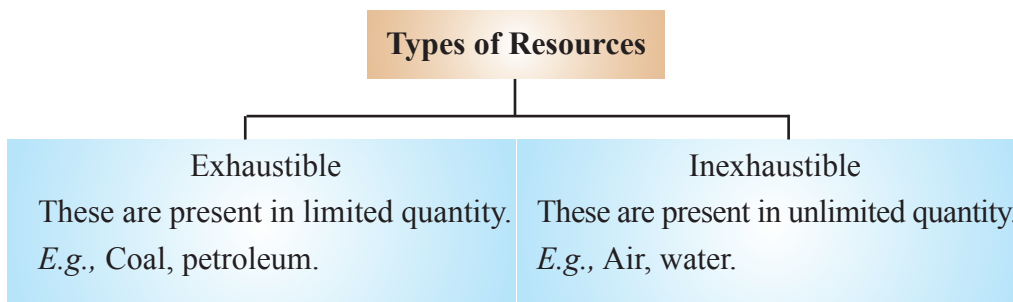




Chapter - 16 Management of Natural Resources

Natural Resources : Anything in the environment ‘which can be used’ is called natural resource. For example, soil, air, water, forests, wildlife, coal and petroleum.



Management of Natural Resources : It is the use of natural resources in such a way so as to avoid wastage and conserve them for future.

There are national and international laws and acts to protect the environment.

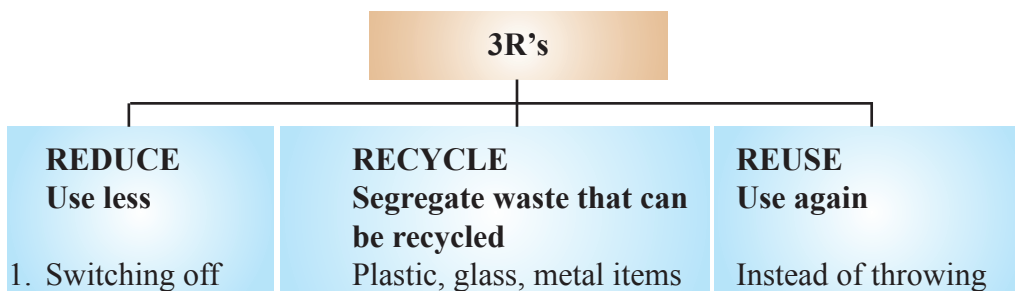
GANGA ACTION PLAN (GAP) : Multi crore project came in 1985 to improve the quality of Ganga.

Contamination of river water is indicated by :

- (i) The presence of coliform (a group of bacteria found in human intestine) whose presence indicate contamination by disease causing bacteria.
- (ii) The pH of water that can be easily checked by using universal indicator.

Management of Natural Resources

Three R's to save the environment :



unnecessary lights and fans.	can be recycled instead of synthesizing or extracting new ones.	things away, they can be used again.
2. Repairing leaky taps.		
3. Not wasting food.		

Reuse is better than recycling as it saves energy.

We need to use our resources carefully because

- (a) they are limited.
- (b) demand for all resources is increasing as human population is increasing at a tremendous rate due to improvement in health care.

Sustainable Management

Management of resource wisely so that they meet current basic human needs while preserving them for the needs of future generations.

The management of natural resources require :

- (a) Long term perspective so that these will last for generations to come.
- (b) Ensure equitable distribution of resources so that all economic sections benefit from these resources.
- (c) Safe disposal of waste.

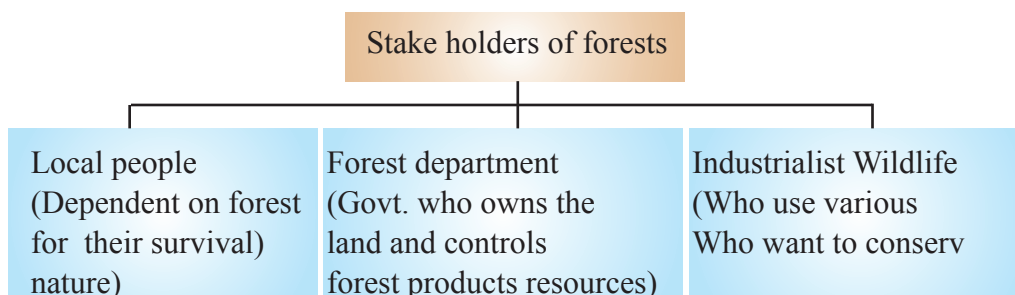
Forest and Wildlife Conservation

Forest are biodiversity hot spots. Main aim of conservation is to preserve the biodiversity as loss of diversity may lead to ecological instability.

Biodiversity : Biodiversity of an area is the number of plant and animal species found in that particular area like bacteria, fungi, insects, birds, plants etc.

Hot spots : It means an area full of biological diversity.

Stake holder : A person having interest or concern for something is called stake holder.



Instances where various people has played an important role in conservation of forests

- (i) **Khejri Trees** : Amrita Devi Bishnoi, in 1731, sacrificed her life along with 363 others for the protection of Khejri trees in a village in Rajasthan.
Govt. of India instituted 'Amrita Devi Bishnoi' National award for wildlife conservation in her memory.
- (ii) **Chipko Andolan** : This movement originated in a remote village in Garhwal. Women of the village reached the forest when contractor's men came to cut the trees. Women clasped the tree trunk thus preventing the workers from felling the trees. The Chipko Movement quickly spread across communities and forced govt. to rethink their priorities in the use of forest products.
- (iii) West Bengal Forest Department revived the degraded SAL forest of Arabari.

Water for all

- Water is the basic necessity for all terrestrial forms of life.
- Rain is an important source of water.
- Irrigation methods like dams, tanks and canals have been used in various parts of India.

Dams

Dams ensure the storage of adequate water for irrigation and are also used for generating electricity.

Various dams have been built on rivers to regulate the flow of water.

- E.g.,*
- (a) Tehri Dam – On river Ganga
 - (b) Sardar Sarovar Dam – On river Narmada
 - (c) Bhakra Nangal Dam – On river Satluj

Interesting facts :

Hirakud Dam built across Narmada river is the longest man-made dam in the world – 26 km in length.

Tehri Dam is Asia's highest dam – 261 m high.

Bhakra Nangal Dam is Asia's second highest dam at 225.5 m.



Advantages of Dams

- (a) Ensures adequate water for irrigation.
- (b) To generate electricity.
- (c) Continuous supply of water to cities and towns.

Disadvantages of Dams

(a) Social problems :

- (i) Many tribals and peasants are displaced and rendered homeless.
- (ii) They do not get adequate compensation or rehabilitation.

(b) Environmental problems :

- (i) Deforestation
- (ii) Loss of biodiversity
- (iii) Disturb ecological balance

(c) Economic problems :

- (i) Huge amount of public money is used.
- (ii) No proportionate benefit to people.
- (iii) No equitable distribution of water.

Rain Water Harvesting

Rain water harvesting is to make rain water percolate under the ground so as to recharge 'groundwater'.

- Rain water harvesting is an age old practice in India.
- Various ancient methods of water harvesting :

Method	State
Khadin, tanks, nadis	Rajasthan
Bandharas, tals	Maharastra
Bundhis	Madhya Pradesh, UP
Pynes, ahars	Bihar
Kulhs	Himachal Pradesh
Ponds	Jammu region
Eris (tanks)	Tamil Nadu
Bawlis	Delhi

Advantages of storing water in the ground

- (a) It does not evaporate.
- (b) It spreads out to recharge wells.
- (c) It provides moisture for vegetation over a wide area.
- (d) It does not provide breeding grounds for mosquitoes.
- (e) It is protected from contamination by human and animal waste.

Coal and Petroleum

- Coal and Petroleum are **non-renewable** natural resources.
- Coal and Petroleum are called **Fossil Fuels**.
- **Formation :**

Coal : Coal was formed from the remains of trees buried deep inside the earth some 300 million years ago.

Petroleum : Petroleum is formed by the bacterial decomposition of dead marine plants and animals (buried at the bottom of the seas). This decomposition takes place under high pressure and temperature and formation of petroleum take millions of years of time.

- Coal and petroleum will exhaust very soon.
 - (a) **Coal :** At present rate, coal will last another 200 years.
 - (b) **Petroleum :** At present rate of usage, it will last for about 40 years.

Harmful effects of using fossil fuels

Air pollution : Combustion of coal and hydrocarbons release a large amount of carbon monoxide, carbon dioxide, oxides of nitrogen etc. which cause air pollution.

Diseases : This polluted air causes various diseases like respiratory and throat problems, congestion etc.

Global Warming : Excessive emission of green house gases like carbondioxide cause a rise in atmospheric temperature leading to global warming.

- Fossil fuels should be used judiciously.
 - (a) Because they are limited and exhaustible.
 - (b) Once exhausted they will not be available in near future because they are formed very slowly over a period of many years.
- **Steps taken to conserve energy resources (like coal and petroleum)**
 - (a) Switch off electric appliances when not in use.



- (b) Use electric appliances that are energy efficient like CFL at home.
- (c) Use public transport like bus or metro instead of private vehicles.
- (d) Use stairs to climb instead of lift.
- (e) Whenever possible, use solar cookers.

QUESTIONS

VERY SHORT ANSWER TYPE QUESTIONS (1 Mark)

1. Name a clean fuel other than LPG and Natural gas.
2. Name two fossil fuels.
3. Name the most common practice used to recharge ground water.
4. Name any two inexhaustible resources.
5. Name the bacteria whose presence in water indicate contamination of water.
6. Write full form of CFC.
7. What is biodiversity ?
8. Why is reuse better than recycle ?
9. Name the person who is remembered for protection of Khejri trees in Rajasthan.
10. Who are called stake holders ?

SHORT ANSWER TYPE QUESTIONS (2 Marks)

1. What is meant by sustainable development ?
2. Name two measures you would take to conserve electricity in your house.
3. Why should fossil fuels be used judiciously ?
4. List two advantages of water harvesting.
5. List two disadvantages of building dams.
6. Why should we conserve forest and wild life ?
7. What are the 3R's to save our environment ?
8. How is burning of fossil fuels affecting our environment ?
9. What are the uses of coal and petroleum products ?
10. Name the rivers with which following dams are associated :
 - (a) Tehri Dam
 - (b) Bhakra Dam