

NCERT Class 10th Science Notes

Chapter 16 - Management of Natural Resources

- **Natural resources** are naturally occurring assets that are used to sustain life and meet our daily needs.
- It includes forests, water, coal, natural gases, and petroleum reserves.
- **Depletion** i.e., reduction in number or quality of natural resources is increasing at an alarming rate.
- We should use our resources wisely so as to sustain the resources and conserve our environment.
- One such measure to protect our environment was the **Ganga Action Plan** (GAP) taken by the national body to conserve River Ganga because it contained disease-causing microorganisms.
- We must follow **three R's** to protect our environment and these are:
 1. **Reduce:** Means to use less or to reduce our daily consumption of resources.
For example: Use less water for bathing, walking or cycling to save petrol
 2. **Recycle:** This means processing wastes like plastic, paper, metals to new and usable products again.
 3. **Reuse:** The process of using things again and again in order to protect the environment.
For example: Using same cloth bag for shopping rather than using many polythene bags
- Reusing the substances again is best because it does not need any external energy for the things to be used again.

Why do we need to manage our resources?

- Because the resources available to us are **limited** and take millions of years to form.
- With the human population increasing at a tremendous rate the demand for resources is also increasing which increases the use of resources.
- Exploiting or reckless use of natural resources causes **damage to the environment**.
- The management of natural resources should be in a sustainable manner so that these will last for generations to come.

- And should be available to everyone i.e., should be equally distributed to everyone.

Forest and wildlife:

- **Forests** are called **the lungs of earth** because it provides oxygen which is our most important demand for survival
- We depend on forests directly or indirectly for our survival. It provides home and food to innumerable species.
- **Forests** also **offer** watershed protection, prevent soil erosion and floods and reduce climate change.
- **Stakeholders:**
Stakeholders are the people who depend upon forests for various perspectives of life. These include,
 - a. The forest department of the country**
 - b. The industrialists**
 - c. The wildlife and nature enthusiasts**
- Some examples of local people working for the conservation of forests include the case of the Bishnoi community in Rajasthan who protected ‘khejri’ trees in Khejarli village near Jodhpur in Rajasthan.
- We have to conserve forests. The importance of forests cannot be underestimated.
- Forest resources should be used in a manner that is both environmentally and developmentally beneficial.
- **Sustainable development:**
- **Sustainable development** is the idea of utilizing natural resources in present without compromising the need of future generations.
- It can be achieved by **using the resources judiciously** and realizing the fact that if these resources get exhausted it will create problems.

Water for all:

- Water is a **basic necessity** for all biotic life. All organisms need water to exist and survive.
- Water is essential because our daily activities are dependent on water.
- The lack of water and consumption of contaminated water can cause serious health issues.
- Despite having 71% water available on earth in many areas water scarcity has been observed since the freshwater is only 3%.

- Despite nature's monsoon bounty in India, we are unable to sustain underground water and water pollution has resulted in the loss of vegetation cover.
- Rainwater harvesting (for recharging groundwater), irrigation using dams, tanks, and canals help to sustain water resources.
- **Dams:**
 - It is the structure used to control the flow of water in rivers and canals.
 - It is used to convert the kinetic energy of flowing water to electrical energy with the help of motors.
 - The dam is a good alternative for non-renewable sources of energy and also causes less harm to the environment.
 - It also helps in water storage which could be used at the time of water shortage in the area.
 - The dam also assures the consistent flow of water in rivers and prevent floods and drought-like situations
 - Although, the dam has adversely affected marine life as well as humans.
- **Water harvesting:**
 - **Water harvesting** is the process of collecting rainwater and reusing it rather than making it run away.
 - It is an **age-old concept** in India used in many states of India.
 - Water harvesting techniques have many benefits such as help in irrigation, helps to recharge the natural well, etc.
 - Giving people control over their local water resources ensures that mismanagement and over-exploitation of these resources will be reduced.
 - The **advantages of groundwater** are that it does not evaporate and does not provide breeding grounds.
- **Coal and petroleum:**
 - Coal and petroleum were formed from the degradation of fossils millions of years ago.
 - These are resources that will be exhausted in the future no matter how carefully we use them still we should use them in a sustainable manner.
 - **Combustion of coal and petroleum** gives out products like carbon dioxide, water, oxides of nitrogen, and oxides of sulphur which are poisonous at high concentrations.

- Carbon dioxide is a **greenhouse gas** which when increased leads to **global warming**.
- Therefore, we need to use these resources judiciously and look for alternative sources of energy like solar energy, wind energy, etc.

- **An overview of natural resource management:**
 - **Natural resources** are not available in abundance so we should realize that selfish goals will lead to the misery of lots of people.
 - Sustainable management of natural resources is becoming important despite being a difficult task. We should try our best to conserve them.
 - And **use the natural resources very wisely** so that our coming generation can also benefit.