

Board –CBSE

Class –10th

Topic – Management of Natural Resource

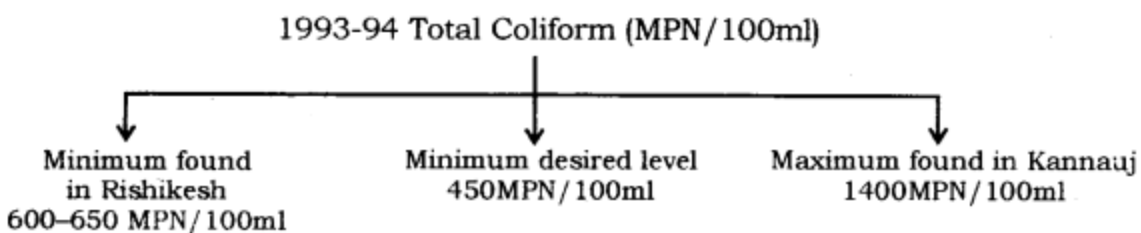
Introduction

Natural resources are the basic substances present in nature that are being utilized by living organisms for their survival. Some natural resources like **water, soil, forests, wildlife, coal, petroleum**, etc., should be utilized in a sustainable manner in order to conserve our environment. Overexploitation of natural resources is done by the humans for the following reasons

- (i) To fulfill the demands of the ever-increasing human population.
- (ii) Large scale industrialisation and urbanisation.
- (iii) Construction of buildings and housing complexes, etc.

A number of laws at a national and international level are enforced to safeguard our environment.

Ganga Action Plan (GAP) was introduced in 1985, to improve the poor water quality of the Ganga river. Ganga Action Plan (GAP) was formulated to reduce the pollution load of river Ganga by more than 75%. The water quality has been tested from time to time by checking coliform (a group of harmless bacteria in the human intestine) number/100 ml. Accordingly, a survey was conducted and data was collected for total coliform (a group of bacteria found in the human intestine) between 1993-1994 which was as below:



We can adopt the **3 R's – Reduce, Recycle and Reuse**, to save our environment.

- Reduce involves the less use of resources.
- Recycling involves recycling used items like plastic, paper, glass, metal, etc., and converting them into new items.
- Reuse involves using things again and again.

The judicious use of resources will prevent wastage and conserve our natural resources. The management should ensure equitable distribution of resources so that all rich and poor benefit from the development of these resources.

Forests are 'biodiversity hotspots'. The loss of its biodiversity leads to a loss of ecological stability. The main aim of conservation is trying to preserve the biodiversity we have inherited.

The stakeholders of forests are the local and tribal people of the area, the Forest Department of the Government, the industrialists, and the wildlife and nature enthusiasts. Each of these groups of **stakeholders makes use of forests in the following ways:**

- The people who live in or around the forests are dependent on the forest products for various needs like shelter, food, transport, fuel, medicines, and cattle grazing. After the British took control of the forests, these people were forced to depend on much smaller areas and forest resources started becoming overexploited to some extent.
- The Forest Department of India destroyed the huge biodiversity of forests by converting them into monocultures of commercially important plants, such as pine, teak, or eucalyptus. Such forests are useful for industrial purposes and not for local needs.
- Industrialists consider the forest as merely a source of raw materials for its factories. They are not interested in the sustainability of the forest in one particular area. They do not have any stake in ensuring that one particulate area should yield an optimal amount of some products for all generations to come.
- The wildlife and nature enthusiasts play an active role in conserving the forest in its pristine form.
- The local people should be actively involved in forest management since they ensure its sustainability.

The government of India has recently instituted the **'Amrita Devi Bishnoi National Award'** for Wildlife Conservation in the memory of late Amrita Devi Bishnoi, who laid down her life in 1731 with 363 other people for the protection of **'Khejri'** trees in Khejrli village near Jodhpur, Rajasthan. Deforestation is mainly caused by industrialism, tourism, and development projects. The forests are a vast and complex entity that offers a range of natural resources for our use. There are many movements led by the local people against misuse and overexploitation of forest resources. For example:

- The **Chipko Andolan** (which originated in the **Reni village of Garhwal**), the villagers used to hug the forest trees and prevent their mass felling by the contractors. The local people use the forest resources without destroying the trees.
- The destruction of forests affects the soil quality and water sources, in addition to the reduced availability of forest resources.
- In 1972, the West Bengal Forest Department by actively involving the villagers in the management of the Arabari forest range was able to revive the degraded Sal forests of the region.
- In return, the villagers were given employment in both sericulture and harvesting operations and allowed fuelwood and fodder collection on payment of a nominal fee. By 1983, a previously worthless forest was valued at 12.5 crores.

Water as a Resource

Water is a basic necessity as we need it for fulfilling all our needs. Rains in India are largely due to monsoons which are available only for a few months of the year. Irrigation methods like dams, tanks, and canals have been used in various parts of India since ancient times. The management of all these water resources was carried out locally and optimally, according to the agricultural and daily needs of the local people.

- Large dams serve the dual purpose of irrigation and electricity generation. The canal systems leading from these dams can transfer large amounts of water to great distances, e.g., **the Indira Gandhi Canal in Rajasthan**.
- The mismanagement of large dams and canal systems leads to unequal distribution of water and its benefits. Therefore, building large dams brings about several social, economic, and environmental problems.
- The construction of several dams like the Tehri dam and Tawa dam displaced several poor tribals and peasants without satisfactory rehabilitation or compensation.
- Watershed management emphasizes scientific soil and water conservation in order to increase biomass production with an aim to conserve the ecosystem. It not only increases production and income but also mitigates droughts and floods.

Restoring the ancient water harvesting systems has recharged groundwater levels and is a viable option for large-scale water storage projects.

Advantages of Dams

- Water from a dam is used for irrigation in fields through a network of canals. Dams ensure round the year water supply to the crop fields and help raise agricultural production.
- Water from a dam is supplied to the people in towns and cities through pipelines after suitable treatment. In this way, the construction of dams ensures a continuous water supply in the region.
- The falling water (or flowing water) from the dam is used for generating electricity. The water rushing down the dam turns turbines which run electric generators.

Disadvantages of Dams

- **Social Problems:** Due to the construction of high-rise dams, a large number of human settlements (or villages) are submerged in the water of a large reservoir formed by the dam, and many people are rendered homeless. This creates a social problem.
- **Environmental Problems:** The construction of high-rise dams on the rivers contributes to deforestation and the loss of biodiversity. This is because a vast variety of flora and fauna (plants and animals) get submerged in the water of a large reservoir formed by the dam and disturb the ecological balance.
- **Economic Problems:** Some people say that the construction of high-rise dams involves the spending of a huge amount of public money without the generation of proportionate benefits.