



CHAPTER

19**THE REGIONAL ENVIRONMENT**

The environment of a region changes considerably due to human activities. The construction of big dams, deforestation, urbanisation or industrialization of a locality are main factors for the changes in the regional environment of the area.

19.1. Human activities and regional environment

How does the construction of a big dam affect the life of the people and the regional environment ?

19.1.1. Advantages

Big dams constructed in the river valley projects are considered to play a key role in the development process due to their multiple uses. India is known for having largest number of river valley projects. These dams take a big role in the development of the nation. The inhabitants of the area are always having big hopes on these projects as they aim at providing employment and raising the standard and quality of life. The big dams have tremendous potential for economic upliftment and growth. They can generate electricity and reduce power shortage. They provide irrigation water to cultivated lands in lower areas. They supply drinking water in remote areas. The dams also can help in checking floods and famines. These also promote navigation, fishery etc.

19.1.2. Limitations – Environmental Problems:

The environmental impacts of big-dams are numerous. Due to this, the construction of big dams very often become a subject of controversy. The impacts can be at the upstream as well as downstream levels, as follows:

(A) The upstream problems include the following:

- (i)** The inhabitants of the nearby area are to be displaced as the water level raises due to construction of the dam.
- (ii)** There is loss of forests, plants and animals.
- (iii)** There are changes in fisheries and the breeding grounds of the fishes.

- (iv) Siltation and sedimentation of reservoirs occurs.
 - (v) Lost of non-forest land occurs.
 - (vi) There may be stagnation and water logging near the reservoir.
 - (vii) There may be increase in vector-borne diseases due to breeding of vectors in the expanding waterlogged areas.
 - (viii) Possibility of earthquakes due to reservoir induced seismicity (RIS).
 - (ix) There will be microclimatic change.
- (B) The downstream problems may be of the following:**
- (i) Micro-climatic change.
 - (ii) In the river, water flow will be reduced and due to this there will be silt deposition in the river.
 - (iii) There may be intrusion of salt water at river mouth.
 - (iv) The fertility of the land along the river will be reduced as the sediments carrying nutrients get deposited in the reservoir.
 - (v) There may be outbreak of vector-borne diseases like malaria.

Although the construction of big dams are of multiple uses for the development of the society, besides there are many serious side effects. Therefore, nowadays, as an alternative, attentions have been given to the construction of small dams or mini-hydel projects.

19.1.3. Water harvesting

Water is the most essential thing of all living organisms. We can live without food for many days. But we cannot live even for few days without water. Water is needed in our body to help in the digestion of the food we eat, to remove the waste products and also to maintain the blood pressure. It is also necessary to grow all the plants.

19.1.4. From where we get this water ?

We get water from different sources in different localities, such as tanks, rivers, lakes, wells, streams, taps etc. But the ultimate source of all these waters is rain. Nowadays we are facing shortage of drinking water in almost all the places. Even in Cherrapunji where the annual rainfall is more than 1100 cm, there is shortage of drinking water. This is due to lack of proper harvesting and proper management of the rain water.

19.1.5. Rainwater harvesting

Rainwater harvesting is done by constructing special water storage tanks, ponds, dugwells, pits, lagoons, check dams etc. Rainwater, wherever it falls is collected and pollution of this water is prevented. Harvesting of rainwater is usefull not only for the poor and scanty rainfall regions but also for the rich ones.

The average annual rainfall in India is 120 cm. In most places it is concentrated over the rainy season, from June to September. So proper arrangement for the storage of water to use in the dry season also is needed. Due to lack of proper harvesting and management of rain water, people face scarcity of water even in the areas where there is the highest annual rainfall.

Rainwater harvesting is done with the following objectives :

1. to check the surface run off loss of water.
2. to meet the increasing demands of water.
3. to avoid flooding of roads.
4. to recharge the ground water for raising the water table.
5. to supplement the groundwater supplies during lean season.

Rainwater harvesting can be done by any one of the following methods:

1. By storing in special storage tanks or reservoirs constructed above or below ground.
2. By constructing pits, dug-wells, lagoons or check- dams on small streams.
3. By recharging the ground water.

In India as a traditional practice, in the high rainfall areas the rainwater is collected from roof-tops into storage tanks. In the foot hills, water flowing from the springs are collected in the embankment type water storage. In Rajasthan people use ‘tankas’ (underground tanks) and ‘khadins’ (embankments) for rainwater harvesting.

The harvested rainwater needs proper management so that it should not be contaminated and also for safe future use.

Let us answer these.

1. What are the advantages of the construction of big dams ?
2. What are the disadvantages of the construction of big dams ?

POINTS TO REMEMBER

- ✱ The construction of big dams take a big role in the development of the nation.
- ✱ Big dams can generate electricity and also supply drinking water.
- ✱ Construction of big dams on the other hand creates many environmental problems.
- ✱ Harvesting of rainwater should be done to meet the shortage of drinking water.
- ✱ Rainwater harvesting can be done by the construction of pits, dug-wells, check dams etc.

EXERCISE

1. The construction of big dams in the river valley projects are considered to play a key role in the development process. Explain.
2. Write the environmental problems faced to the construction of big dams.
3. What are the alternative practices to the construction of big dams to avoid serious side effects?
4. What are the objectives of rainwater harvesting?
5. Write the methods that can be taken up for harvesting rainwater.

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