

## 5

## Drought

## Lesson at a Glance

- A **drought** is a phenomenon in which there is deficiency of surface or sub-surface water and rainfall. Its consequences include acute shortage of water, food, fodder, crop failure and employment.
- Droughts happen when rainfall is below normal in a region.
- **Environmental degradation** is a major factor that intensifies the hazard. Some causes of droughts are **deforestation**, **loss of biodiversity** and **excessive use of ground or surface water**.
- Drought is one of the most widespread disasters that India faces, since it affects more than 70% of cultivable land. The reaction to droughts is not like disasters like earthquakes, cyclones and floods (which are sudden). Droughts develop over a period of time; hence we call it a **slow onset disaster**.
- The **worst affected** areas in India are usually Rajasthan and Gujarat. Many other parts of the country are also affected by droughts. 191 out of 543 districts of India are drought-prone.
- People living in rural areas, who wholly depend on agriculture and animal husbandry, are the worst affected and most vulnerable to the hazards of droughts.
- Drought usually affects women more because they do not get to eat much due to scarcity. Other members of the rural families are given priority with whatever food the rural families manage during droughts.
- Drought affects employment since a fall in agricultural production leads to a fall in employment opportunities for rural people.
- Due to malnutrition in drought seasons, children are severely affected.
- The **Indian Meteorological Department** forecasts amount of rainfall every year and this indicates possibility of droughts. Since we have ample time, we can try to mitigate the ill-effects. We can reduce the intensity and impact of droughts through collective and individual actions.
- In the long term, effects of drought can be mitigated by promoting community-based rainwater harvesting, watershed programmes,

increasing forest cover, adopting drought-resistant crops like paddy, and encouraging seed insurance schemes.

- Students can contribute by conserving water, promoting rainwater harvesting and planting trees.
- Some traditional methods of water conservation include *guhls* in the western and central Himalayas, bamboo pipes in Meghalaya, *ahar-pyne* irrigation system in Bihar, *Kunds* in Thar Desert and *surangam* in Malabar area.
- The volume of water one can conserve at home is equal to the product of area of house and the amount of rainfall. To this we multiply an **efficiency factor** which indicates how much water is actually conserved.
- If  $W$  be the total volume of water consumed in a day by the family members and  $V$  be the volume conserved through rainfall, the family can consume the conserved water for  $V/W$  days during season of droughts.

## TEXTBOOK QUESTIONS SOLVED

9. 1. Choose the right answer to the following questions:

- The greatest amount of fresh water on the Earth is found in .....
  - the oceans
  - ice caps and glaciers
  - aquifers
  - surface water
- Groundwater is .....
  - not usable because it is dirty
  - another name for watershed
  - too far beneath the Earth's surface to be used
  - another name for an aquifer
- Surface water .....
  - is used to produce electricity
  - can be easily contaminated
  - can be used for recreation
  - all of the above

- Ans.
- (b) ice caps and glaciers
  - (d) another name for aquifer
  - (d) all of the above

**Q. 2.** *How does drought affect our lives?*

**Ans.** Droughts create acute shortage of water, food, fodder, crop failure and employment, thus affecting lives of people in drought-affected areas.

**Q. 3.** *List ways to conserve water in day to day use.*

**Ans.** On a day to day basis, water can be conserved by promoting community-based rainwater harvesting and watershed programmes. Some traditional methods of water conservation include *guhls* in the western and central Himalayas, bamboo pipes in Meghalaya, *ahar-pyne* irrigation system in Bihar, *Kunds* in Thar Desert and *surangam* in Malabar area.

**Q. 4.** *What actions will help us to mitigate drought, individually as well as collectively?*

**Ans.** Since droughts give ample time to prepare before they come, we can try to mitigate the ill-effects. We can reduce the intensity and impact of droughts through collective and individual actions. In the long term, effects of drought can be controlled by promoting community-based rainwater harvesting, watershed programmes. We should increase forest cover, sow drought-resistant crops like paddy, and encourage seed insurance schemes. Students can also contribute by conserving water, promoting rainwater harvesting and planting trees.

**Q. 5.** *What do you understand by rainwater harvesting?*

**Ans.** Rainwater harvesting is a method of water conservation in which rain water is stored in appropriate storage places for times of scarcity of water.

