

## **CHAPTER 16: Water: A Precious Resource**

- World water day is celebrated on 22<sup>nd</sup> March to create awareness about saving water.
- According to the United Nations on an average one individual requires about 50 liters of water per day.
- Safe and clean water is a scanty natural resource.
- In many areas there is shortage of water and people have to wait in long queues to fetch water.
- It is proposed that if not used consciously about one third of the world population will face water shortage.
  
- **HOW MUCH WATER IS AVAILABLE?**
  - Earth's 71% surface is covered with water bodies.
  - These waterbodies include seas, oceans, rivers, lakes, ice caps etc.
  - This water is not potable for drinking or daily use.
  - Less freshwater is available for drinking.
  
- **FORMS OF WATER**
  - Water cycle is an important process.
  - It helps in keeping water in sufficient amount on the surface of the earth.
  - In the water cycle, water can be available in any of 3 forms i.e., solid, liquid and gas at a given time or place.
  - In the solid state, water is in form of snow or ice, which is present as ice caps or snow-covered mountain tops or glaciers.
  - Water of oceans, lakes, rivers is in liquid state.
  - Water vapors are present in the air around us.
  - Water keeps on changing its form and, in this way, the total amount of water on the planet is always constant.
  - Civic bodies in urban towns make use of well-maintained water supply system.
  - A number of villages do not have this facility and have to walk many kilometers to get potable water.
  - Mostly women and children suffer a lot due to this.
  - people can make use of wells, tube wells or hand pumps as well.
  
- **GROUNDWATER AS AN IMPORTANT SOURCE OF WATER:**
  - 1.) If the soil in a particular area is moist, it indicates presence of ground water.
  - 2.) As one goes deeper in the earth's crust, all space between soil and gaps between rocks is filled with water.
  - 3.) Water table is the topmost layer of the water between soil and gaps between rocks.
  - 4.) The water table is different at different places, apart from this it may be deep or quite shallow.
  - 5.) Ground water is found below the water table and is generated from trickling of rainwater, river and pond water into the soil.
  - 6.) Infiltration is the draining of water in soil and recharging groundwater water.
  - 7.) An aquifer is a groundwater reserve between 2 layers of hard rock below the water table.
  - 8.) This water can be retrieved by tube wells or hand pumps.

➤ **DEPLETION OF WATER TABLE:**

- 1.) Recharging of water table is an essential process.
- 2.) The levels of water in the table are maintained by seeping of rainwater by natural process.
- 3.) Increase in population, construction of roads, less rainfall, deforestation, industrial and agricultural activities are factors affecting water table.
- 4.) Consumption of ground water has drastically increased over the years due to use in construction, industries etc.

● **Agricultural activities:**

- 1.) Irrigation is still not quite popular in India in agriculture.
- 2.) In area where rainfall is scanty canals can be constructed, but it may still not be a reliable method if the rainfall is not sufficient that year.
- 3.) Use of ground water has increased leading to depletions in water table.

➤ **DISTRIBUTION OF WATER:**

- The distribution of water on the planet is varied due to difference in rainfall in different parts of the planet.
- If the density of rainfall is high in a particular area it may lead to flood.
- On the other hand, if there is less rainfall it may lead to draught like conditions.

➤ **WATER MANAGEMENT:**

- 1.) It is a very important practice.
- 2.) In many areas well planned network of pipes is used for water supply, where as some problems may arise due to leakage of water.
- 3.) In this case civic authorities should take immediate action to prevent water loss.
- 4.) Due to daily activities of individuals a lot of water is wastage.
- 5.) Apart from this leaking tap in households, free flowing rain water leads to water loss.
- 6.) Rain water can be used to replenish the ground water by rainwater harvesting.
- 7.) Conventional water retention practices like using bawris should be promoted.
- 8.) In agriculture, farmers can make economic use of water by making use of drip irrigation to water the field.

➤ **WHAT ROLE YOU CAN PLAY**

- 1.) If any taps are leaking call plumbers to repair the leakage.
- 2.) Turn off the water supply or taps while brushing
- 3.) Use mops to clean the floor.
- 4.) Practice rain water harvesting.

➤ **EFFECT OF WATER SCARCITY ON PLANTS**

- Due to lack of water the potted plant may die or wilt away.
- Water is essential for the transport of nutrients in plants.
- If plants are not able to survive, it will disturb the food chain and life on the planet will be depleted.
- Apart from food scarcity, lack of oxygen and rain will also occur.