

# 10

## India–Water Resources

### Lesson Plan

#### Contents

- ▶ Water on Earth
- ▶ Sea water, fresh water, rainfall
- ▶ Utilisation of water and methods
- ▶ Conservation of water resources

#### Objectives

- ▶ Learning about the availability of water on Earth
- ▶ Sea water, fresh water and rainfall
- ▶ The uses, sources and methods used to access water
- ▶ Conservation of water resources

#### Teacher's Aids

- ▶ Maps of India – Political and Physical
- ▶ Maps showing water resources
- ▶ Atlases
- ▶ Blank maps of India for the students
- ▶ Blackboard, the internet, pictures, magazines, etc.

#### Tips for Teacher

- ▶ Explain that water is a very limited resource.
- ▶ The importance and urgency of conserving water should be communicated.
- ▶ The topics of rainwater harvesting and saving every drop of water should be explained.

#### Gear Up, Background and Reading

- ▶ The picture in Gear Up shows what is called a Baoli. Baolis were built by kings and rich merchants to tap groundwater, underground springs or used as reservoirs for rain water. This picture shows Abhaneri, a baoli in Rajasthan.
- ▶ Read the lesson and also the points to remember aloud and explain them.
- ▶ Explain that water is a scarce resource, that every drop must be saved.

- ▶ Show pictures of the different methods mentioned in the text for storing, pumping water. All pictures will be available on the internet.
- ▶ 71% of the Earth's surface is covered with water.
- ▶ Difference between sea water and fresh water.
- ▶ Rainwater – harvesting and storage.
- ▶ Sources of water – rivers, lakes, snow, underground water.
- ▶ Variation in availability of water from place to place and season to season.
- ▶ **Utilisation:** drinking, washing, cleaning, farming, industry, etc.

### /// Irrigation Systems

- ▶ **Farming** – Widespread occupation in India: needs irrigation systems
- ▶ **Rainwater** – Rivers, streams – some collected as groundwater – most flows off into the sea.
- ▶ **Canals** – Channels from rivers to fields – good canal irrigation systems in the Northern Plains and the delta regions of the Southern coastal plains – can only be done in the plains.
- ▶ **Dams and reservoirs** – Artificial lakes for storage and controlled flow of water with canals – also used for generating hydroelectric power – thus called multipurpose river valley projects.
- ▶ **Indira Gandhi or Rajasthan Canal** – Transforming parts of the desert into farmland.
- ▶ India has one of the largest systems of canal irrigation in the world.
- ▶ **Persian wheels** – Used in villages to draw up underground water – for domestic use and irrigation.
- ▶ **Wells and tubewells** – Using a pump to draw up underground water from deep down – but can irrigate only limited area – UP [largest number], Bihar, Gujarat, Rajasthan, Madhya Pradesh, Maharashtra, Haryana, Punjab and Tamil Nadu. Helped create Green Revolution in India.
- ▶ **Tanks** – Depressions in the rocky plateau areas that get filled with water – rocky area; therefore, cannot dig wells – for domestic use and irrigation – dry up in summer; therefore, of little use for irrigation – Tamil Nadu, Andhra Pradesh, Telangana, Odisha, Maharashtra, Karnataka and Bengal.

### /// Conservation of Water Resources

- ▶ Water shortage in India.
- ▶ **Causes:** Uneven distribution, excessive usage, increasing demand, pollution of water bodies, few storage systems.
- ▶ **Solution:** Careful usage of water, storage, rainwater harvesting, ensure removal of pollutants from water bodies, avoid polluting water bodies, etc.