

CLASS – 10

SOCIAL SCIENCE

Contemporary India-II

CH-3 : Water Resources

Part – 1

Water Resources

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OVERVIEW

1. Water Resources

2. Multi-Purpose River Projects (DAMS)

3. Challenges of Large Dams

4. Rainwater Harvesting

COMPETENCY BASED LEARNING



Understanding Water Resources,
Scarcity and Conservation



WATER RESOURCES

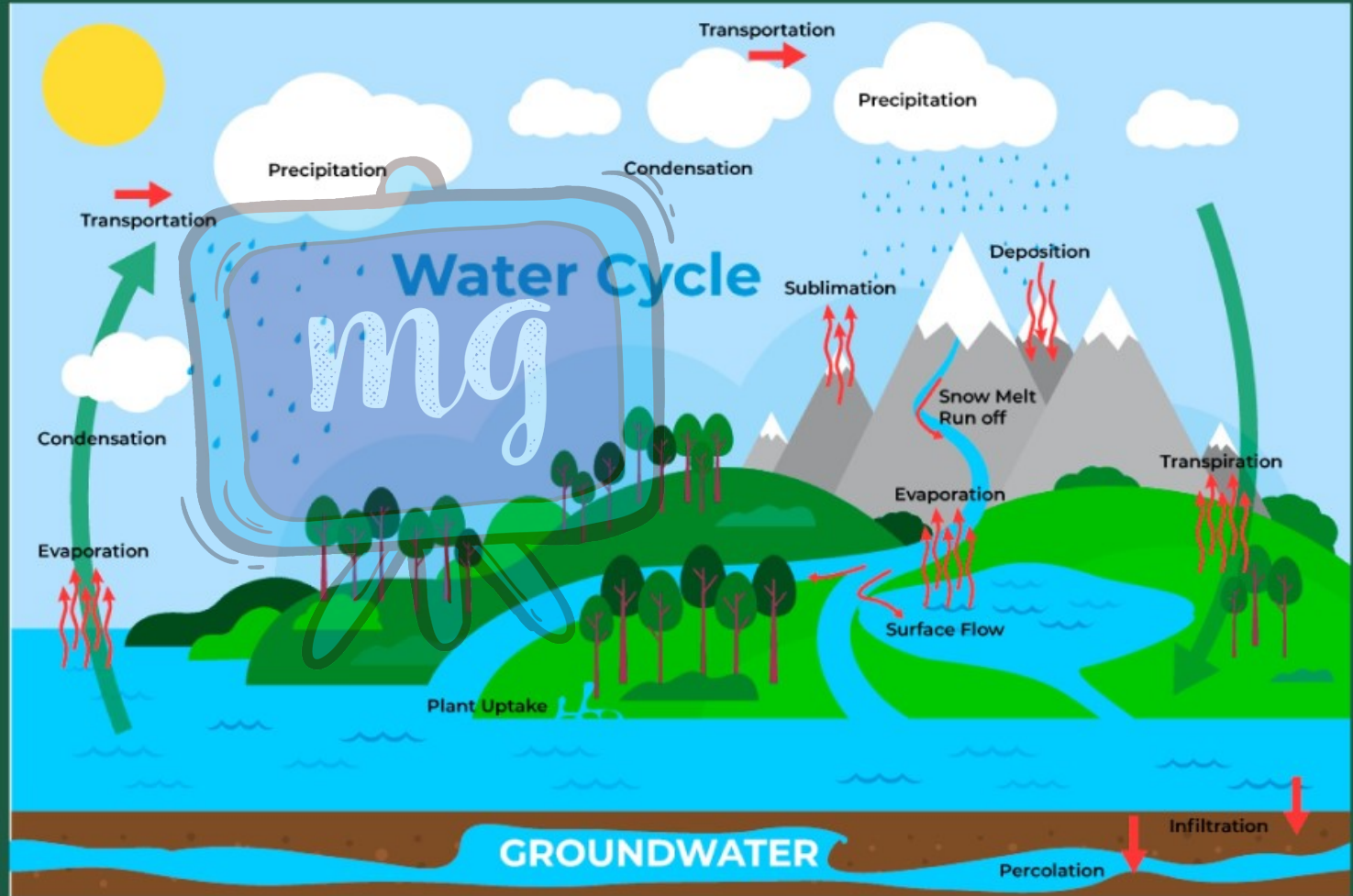
- 3/4th ^{75%} of the Earth's surface is covered with water.
- Only a small proportion of it is freshwater which can be used.

Freshwater mainly obtained from: -

- Hydrological
Cycle
- ✦ Precipitation ✓
 - ✦ Surface Run Off ✓
 - ✦ Ground Water ✓
- 

It is continually being renewed and recharged through the hydrological cycle.

All water moves within the
hydrological cycle.



WATER SCARCITY AND THE NEED FOR WATER CONSERVATION AND MANAGEMENT

- 3/4th of the world is covered with water.
- Water is a renewable resource.
- Yet, countries around the globe suffer from water scarcity.

☛ We associate water shortage with

regions: -

✦ Having low rainfall ✓

✦ Drought prone ✓





▮ We visualize

✦ Deserts of Rajasthan

✦ Women balancing many 'matkas'
(earthen pots) used to collect
and store water.

▮ Women in this region travel long
distances to get water.

mg

Availability of water resources varies over space and time.

Reason

mg

Variations in seasonal & annual precipitation.

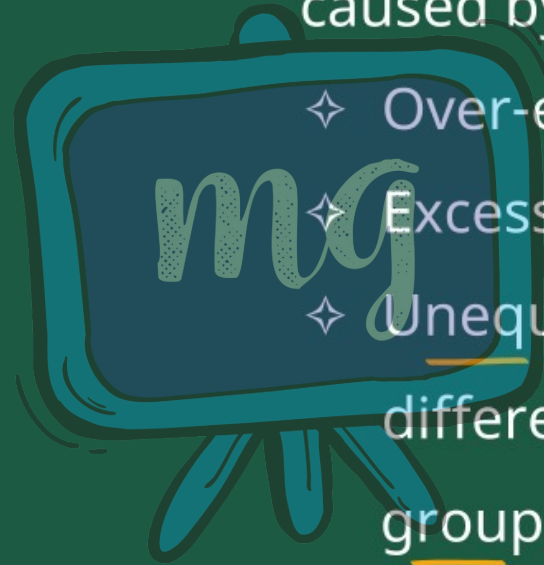


But, water scarcity in many cases is caused by: -

✦ Over-exploitation ✓

✦ Excessive use ✓

✦ Unequal access to water among
different social
groups



▮ Many cities have sufficient water
resources.

▮ But, they are still facing water
scarcity.

▮ Reason

✦ Large and growing population

✦ Greater demands for water

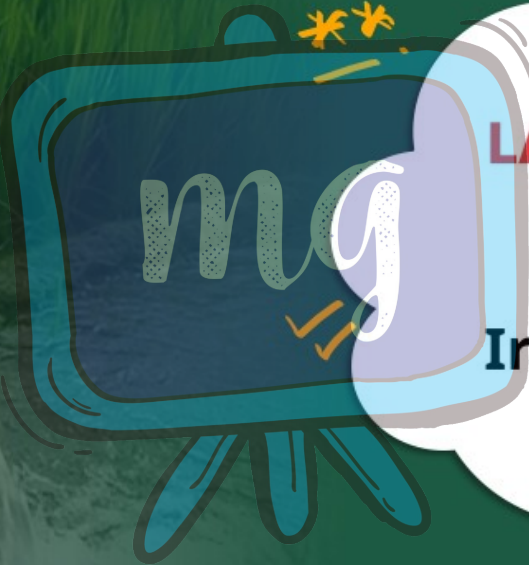
✦ Unequal access to water

Large population requires more water: -

✦ For domestic use

✦ To produce more food

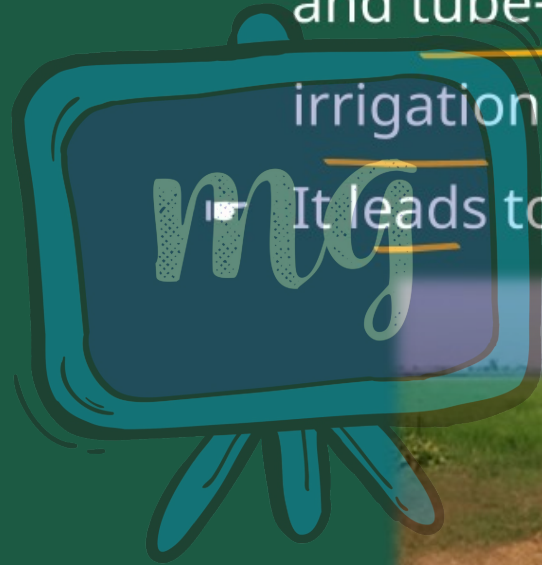
To produce more food-grains, water resources are over-exploited to expand irrigated areas for dry-season agriculture



**LARGEST CONSUMER
OF WATER**

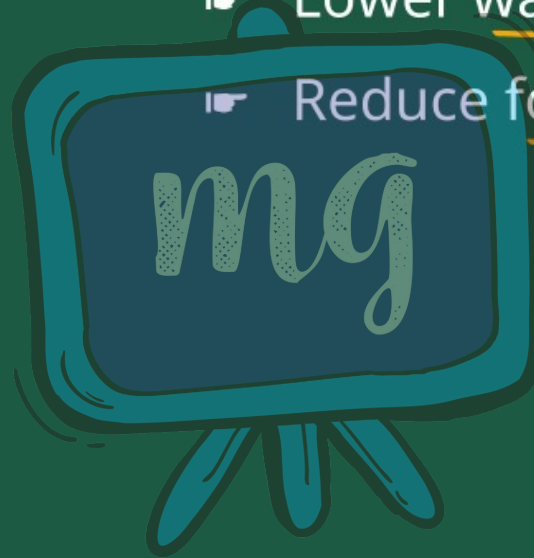
Irrigated Agriculture

- Most farmers have their own wells and tube-wells in their farms for irrigation to increase production.
- It leads to groundwater depletion.



Effect

- ▮ Lower water availability.
- ▮ Reduce food security.



☛ So, need of the hour is to transform the agriculture through developing :-



- ✦ Drought resistant crops
- ✦ Dry farming techniques

MAIN REASON OF WATER-DEPLETION AND WATER-SCARCITY



1.

Industrialisation



2.

Urbanisation



3.

Bad Quality of Water

1. INDUSTRIALISATION

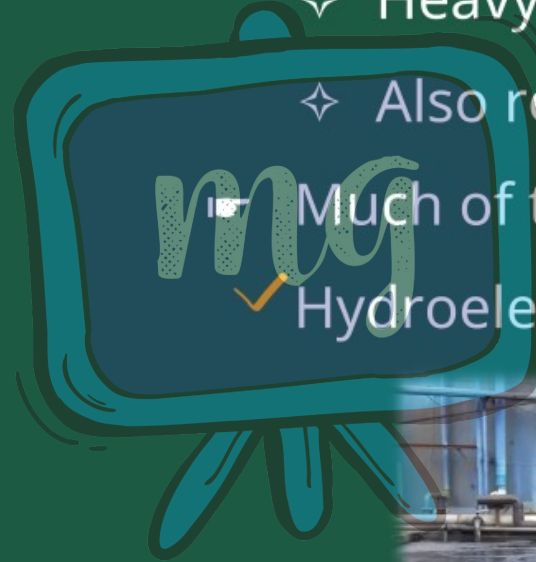
- Intensive industrialisation after independence created vast opportunities for us.
- But, ever-increasing number of industries exerted pressure on existing freshwater resources.

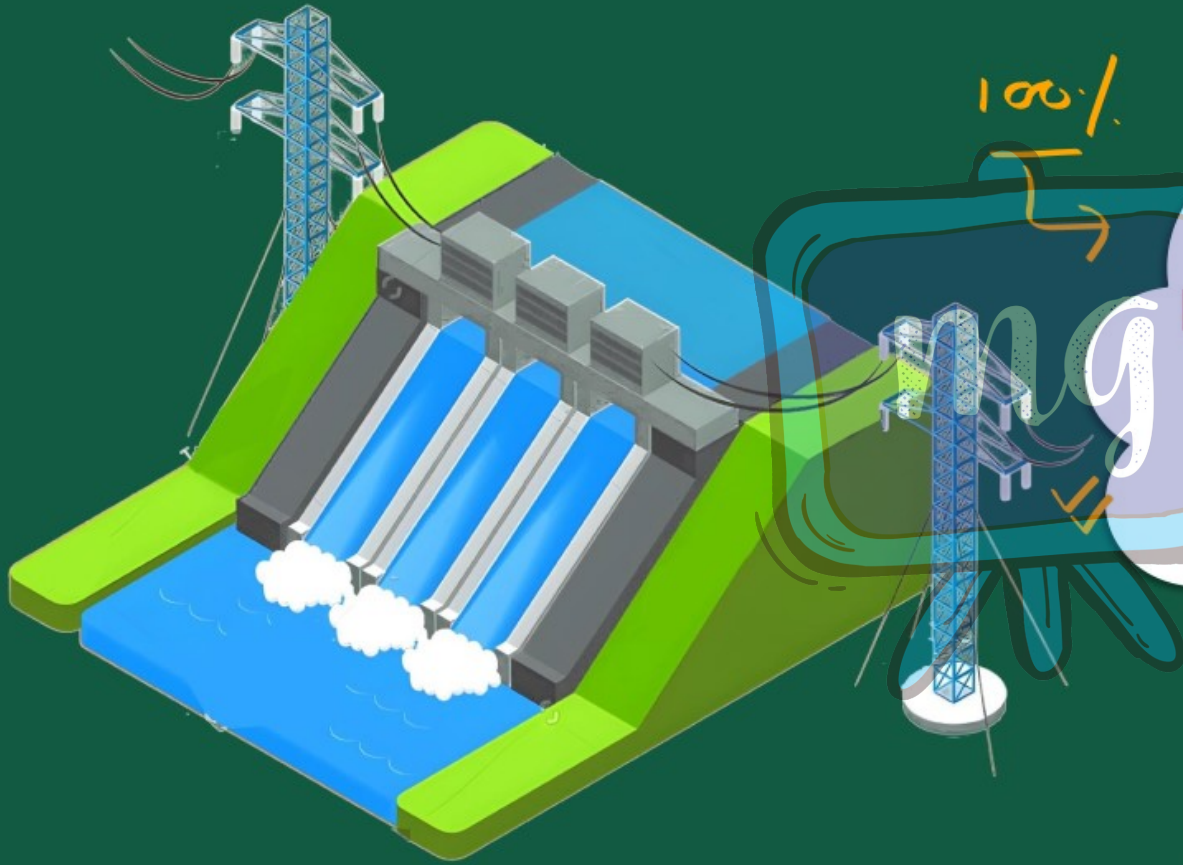
Industries

- ◆ Heavy user of water

- ◆ Also require power/energy

- ◆ Much of the energy comes from Hydroelectric power.





100%

**CONTRIBUTION OF
HYDRO-ELECTRIC POWER
IN INDIA**

**22% of Total Electricity
Produced**

2. URBANISATION

- Urban areas are increasing rapidly.
- Large and dense populations
- Urban lifestyle
- It enhanced water and energy requirements.

- Most of housing societies/colonies in cities have their own groundwater-pumps to meet water needs.



- It over-exploited and depleted the water-resources.



3. BAD QUALITY OF WATER

- ▮ A situation where water is sufficiently available in an area.
- ▮ But, the area still suffers from water scarcity.
- ▮ Reason
Bad quality of water due to pollution.

MAIN REASONS OF POLLUTION



Domestic Waste

Industrial Waste

Chemicals

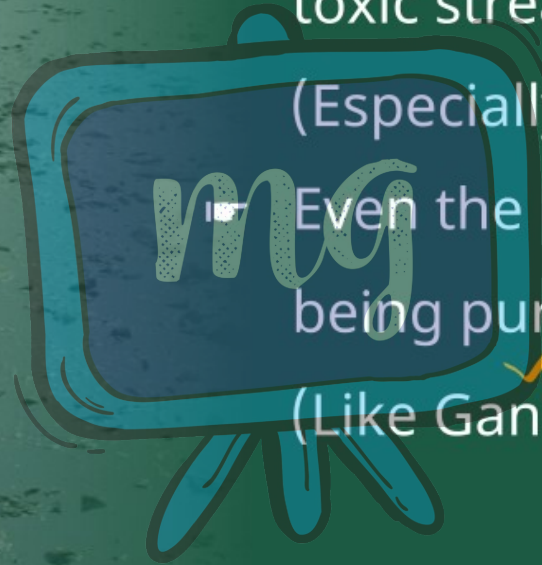
✓ Pesticides & Fertilizers (Agriculture)

India's rivers have all turned into toxic streams.

(Especially the smaller ones)

Even the big ones are far from being pure.

(Like Ganga and Yamuna)



- ▮ The assault on India's rivers is enormous and growing by the day.

Main Reasons



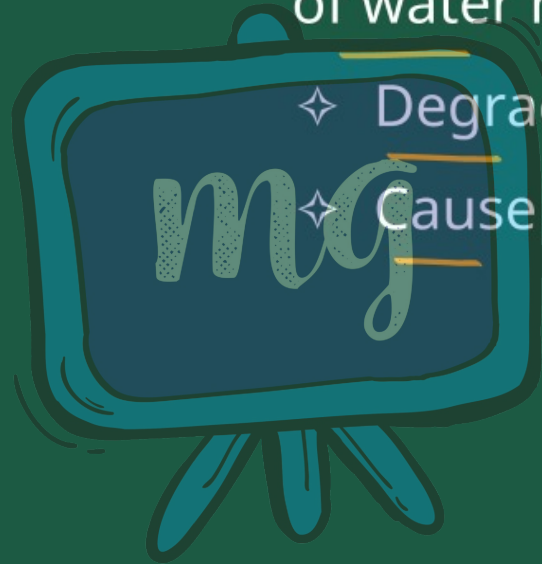
- ✦ Population Growth
- ✦ Urbanisation
- ✦ Industrialisation
- ✦ Agricultural Modernisation

- ▮ This entire life stands threatened.

Over exploitation & mismangement
of water resources will: -

✦ Degrade water resource

✦ Cause ecological crisis



☛ So, the need of the hour is to conserve and manage water resources: -

✦ To safeguard ourselves from health hazards.

✦ To ensure food security

✦ To continue our livelihoods and productive activities.

✦ To prevent degradation of our natural ecosystems.





Har Ghar Jai Jal Jeevan Mission

JAL JEEVAN MISSION (JJM)

Announced by Government of India

(GoI)

Goal

To enable every rural household get assured supply of potable piped water.

(55 Litres Per Capita Per Day)

Through it, GoI aims to: -

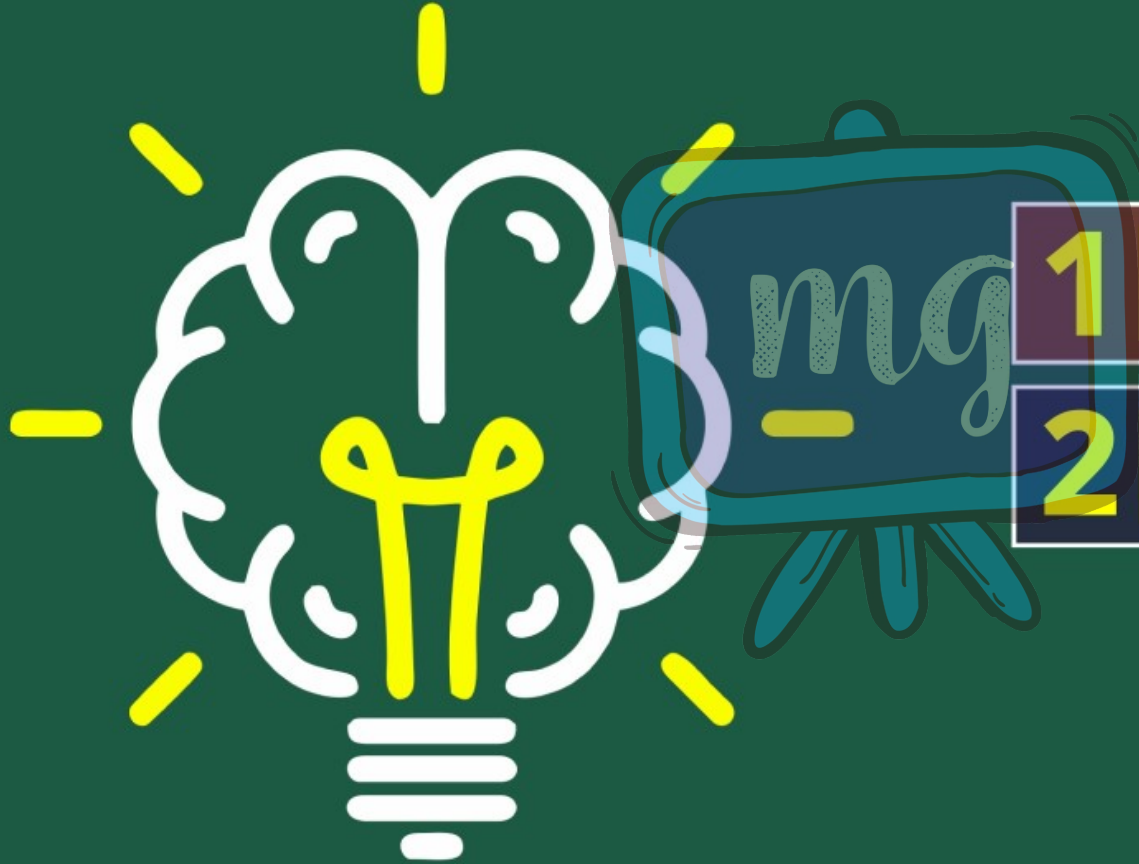
✦ Improve the quality of life.

✦ Enhance ease of living of people.

(Especially the people living in
rural areas)



LEARNING OUTCOME



1

Sources of Freshwater

2

Causes of Water Scarcity

ASSESSMENT



1 The freshwater is mainly obtained from surface runoff and groundwater that is continually being renewed and recharged through the _____.

- A Sulfur Cycle
- B Rock Cycle
- C Hydrological Cycle
- D None of the above

ASSESSMENT



2

In India, _____ contributes approximately 22% of the total electricity produced.

- A Tidal Power
- B Nuclear Power
- C Thermal Power
- D Hydroelectric Power

ASSESSMENT

3

Which of the following is **NOT** a source of fresh water?

A

Glaciers

B

Groundwater

C

Surface Run Off

D

Oceans