

CLASS – 10

SOCIAL SCIENCE

Contemporary India-II

CH-3 : Water Resources

Part – 3

Challenges of Large Dams

Pankaj Vaishnav

OVERVIEW

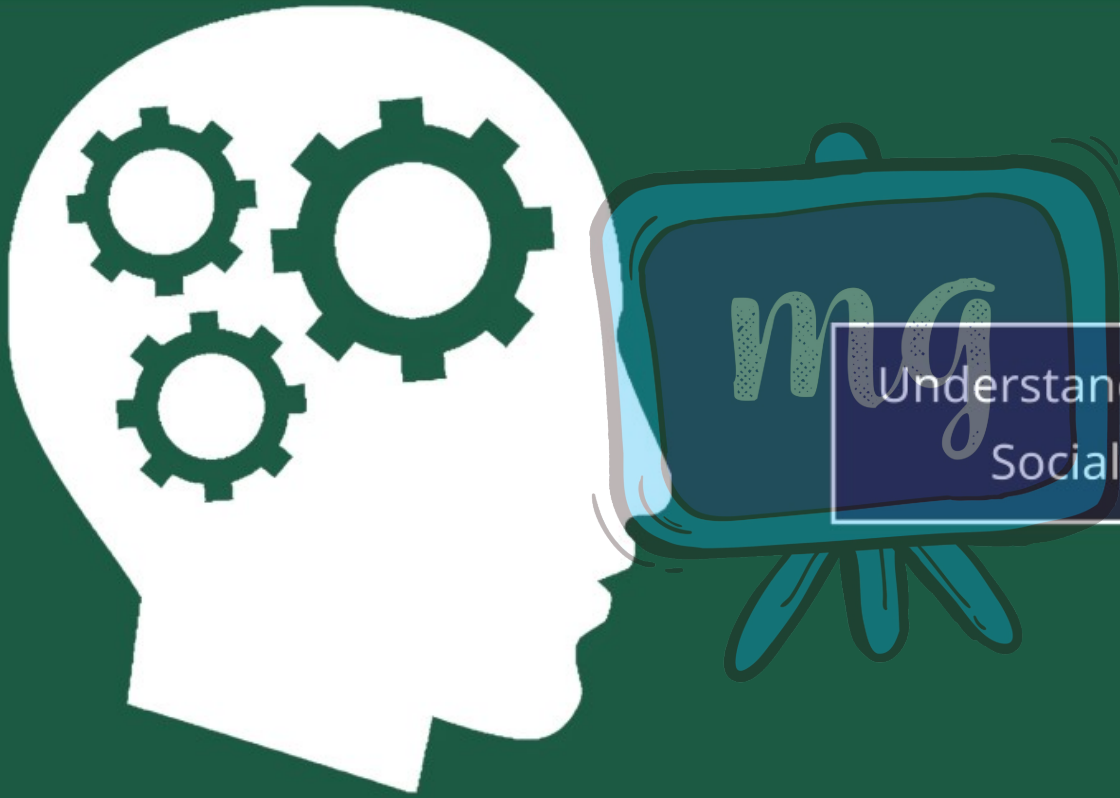
1. Water Resources

2. Multi-Purpose River Projects (DAMS)

3. Challenges of Large Dams

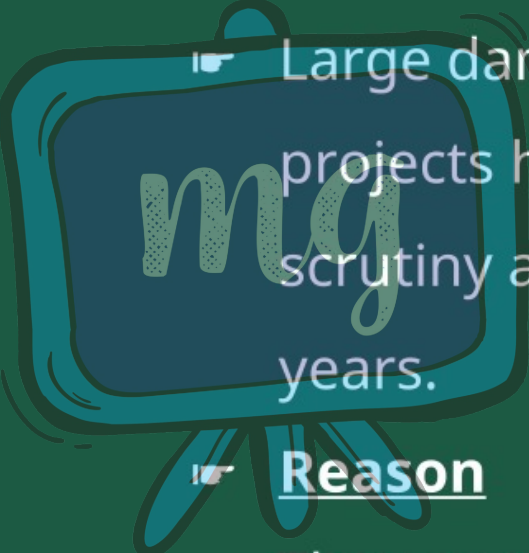
4. Rainwater Harvesting

COMPETENCY BASED LEARNING



Understanding the Environmental and
Social Impact of Large Dams

RESISTANCE TO LARGE DAMS



- Large dams and multi-purpose projects have subjected to great scrutiny and opposition in recent years.

- Reason

They cause many problems.

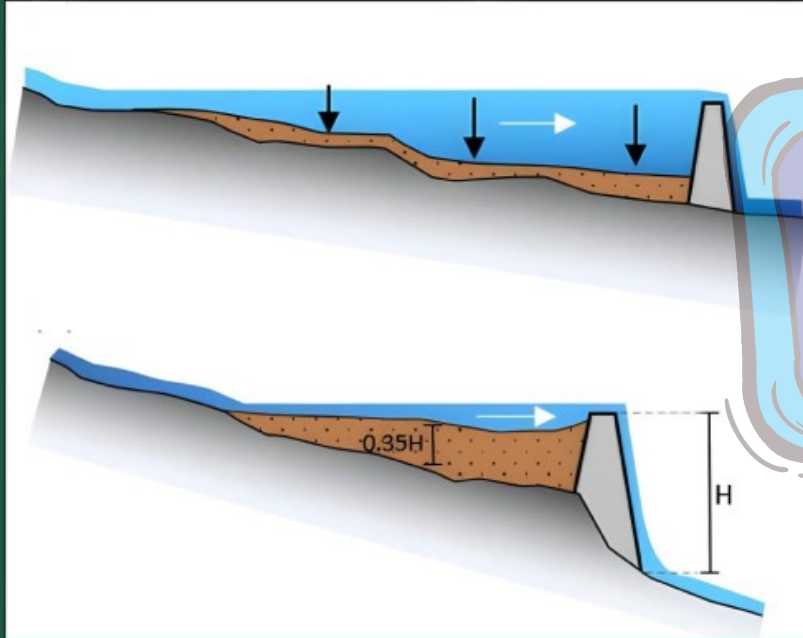
PROBLEMS DUE TO LARGE DAMS AND MULTIPURPOSE PROJECTS

1. Sedimentation

2. Fragmentation of Rivers

3. Submergence of Soil and Vegetation

4. Large-Scale Displacement of Local Communities



1. SEDIMENTATION

- Regulation & Damming of rivers affect natural flow.
- Poor sediment flow.
- Excessive sedimentation at the bottom of reservoir.
- Rockier stream beds.
- Poorer habitats for aquatic organisms.

2.

FRAGMENTATION OF RIVERS

- ▮ Dams on rivers/streams.
- ▮ Fragmentation of Rivers.
- ▮ Create difficulty in migration of aquatic animals.
- ▮ Problem in spawning.

3.

SUBMERGENCE OF SOIL AND VEGETATION

- ▮ Reservoirs created on floodplains.
- ▮ Submerge soil and vegetation.
- ▮ Decomposition over a period of time.

4.

LARGE-SCALE DISPLACEMENT OF LOCAL COMMUNITIES

For construction of dams, local people often had to give up their: -

- ◆ Land
- ◆ Livelihood
- ◆ Resources

ENVIRONMENTAL MOVEMENTS

Large dams & Multi-purpose projects have also been the cause of many environmental movements.

- ✦ Narmada Bachao Andolan
- ✦ Tehri Dam Andolan



NARMADA BACHAO ANDOLAN

- ▮ Save Narmada Movement.
- ▮ It mobilised tribal people, farmers, environmentalists and human rights activists.
- ▮ Against Sardar Sarovar Dam being built across the Narmada river (Gujarat).



Original Focus

- ▮ Environmental issues.

(Related to trees that would be submerged under the Dam-water)

The logo for Mission Gyan, featuring the letters 'mg' in a stylized, cursive font inside a blue rounded square with a hand-drawn border. The logo is positioned in the center of the slide, overlapping the text of the 'Original Focus' and 'Re-Focused Aim' sections.

mg

Re-Focused Aim

- ▮ Enable poor citizens (especially displaced people) to get full rehabilitation facilities from the Government.

SARDAR SAROVAR DAM

- ▮ Narmada River, Gujarat.
- ▮ One of the largest water-resource projects of India.



👉 Covers 4 States: -

✦ Gujarat

✦ Rajasthan

✦ Maharashtra

✦ Madhya Pradesh



▸ The project would meet water-need
in drought-prone and desert areas

of: -

missiongyan

✦ Gujarat

(9,490 Villages)

(173 Towns)

✦ Rajasthan

(124 Villages)



OTHER PROBLEMS DUE TO DAMS

1. Change in Cropping Pattern
2. Transformation of Social Landscape
3. Inter-State Water Disputes
4. Failure in Achieving the Purpose

5. Sedimentation

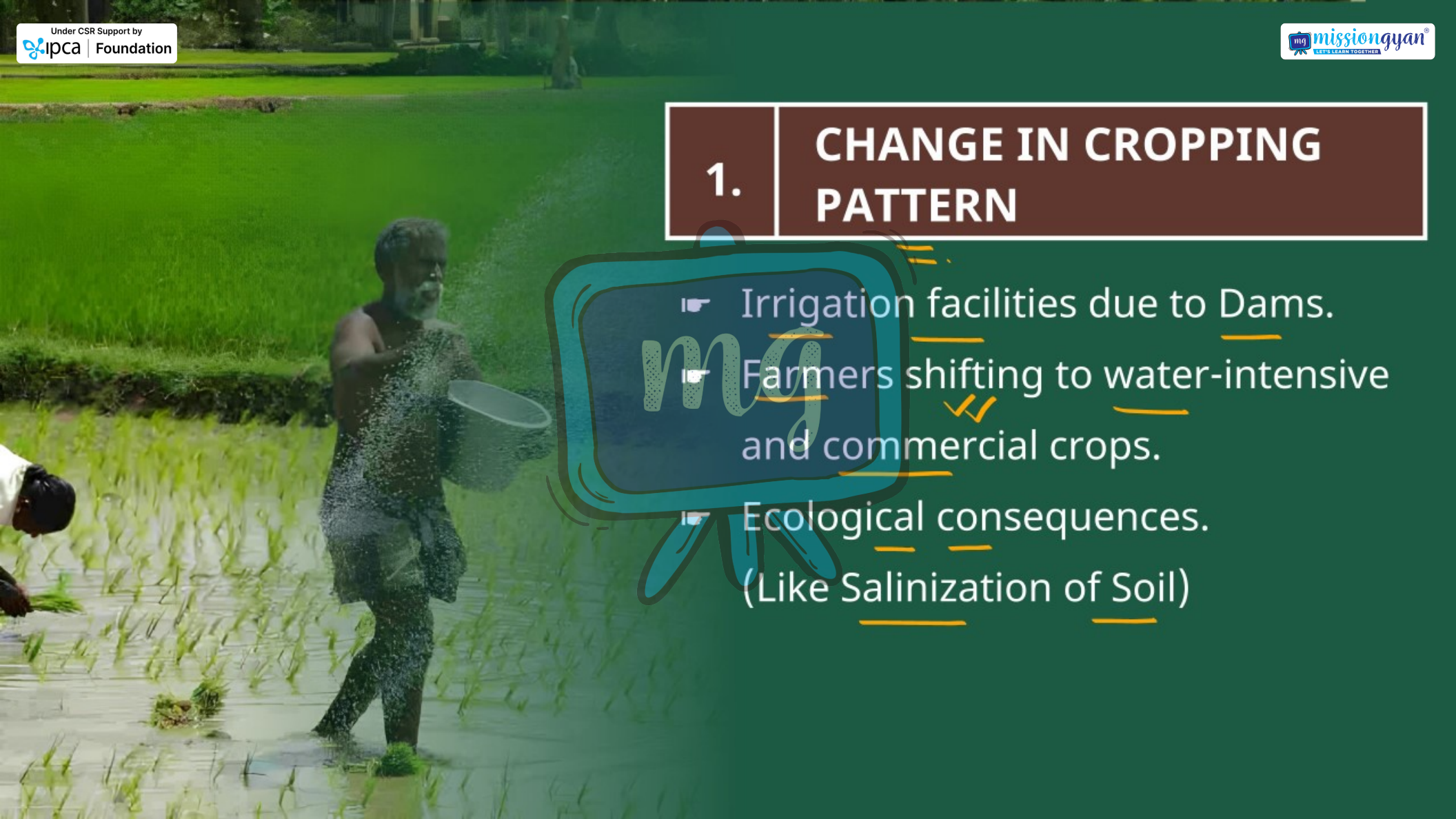
6. Other Effects



1.

CHANGE IN CROPPING PATTERN

- ▣ Irrigation facilities due to Dams.
- ▣ Farmers shifting to water-intensive and commercial crops.
- ▣ Ecological consequences.
(Like Salinization of Soil)



2.

TRANSFORMATION OF SOCIAL LANDSCAPE



- ▣ People want different uses & benefits from same water resources.
- ▣ Conflicts between people.
- ▣ Increasing social gap between rich landowners & landless poor.





GUJARAT

- ▮ Sabarmati-basin farmers agitated.
- ▮ Almost caused a riot over the higher priority given to water supply in urban areas.
(Particularly during droughts)



3.

INTER-STATE WATER DISPUTES

- With regard to sharing the costs & benefits of the multi-purpose project.



→ KRISHNA-GODAVARI DISPUTE



- ▮ Diversion of more water at Koyna by the Maharashtra Government for a multipurpose project.
- ▮ Reduction of downstream flow in Karnataka & Andhra Pradesh.
- ▮ Adverse effects on Agriculture & Industry.
- ▮ Objections raised by Karnataka and Andhra Pradesh Government.

4.

FAILURE IN ACHIEVING THE PURPOSE

Constructed to control floods, have triggered floods.

Reason

Sedimentation in the reservoir.



Unsuccessful in controlling floods at the time of excessive rainfall.

During heavy rainfall, release of water from dams aggravated flood situation.

Example

Maharashtra and Gujarat (2006).

Effects of Flood

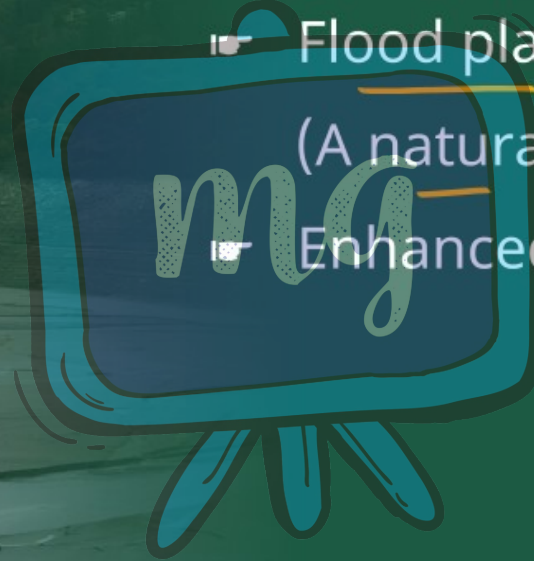
- ▮ Devastation of life ✓
- ▮ Destruction of property. ✓
- ▮ Extensive soil erosion.

The logo for Mission Gyan, featuring the letters 'mg' in a stylized, cursive font with a dotted pattern, enclosed in a blue rounded rectangle with a drop shadow and a stand-like base.

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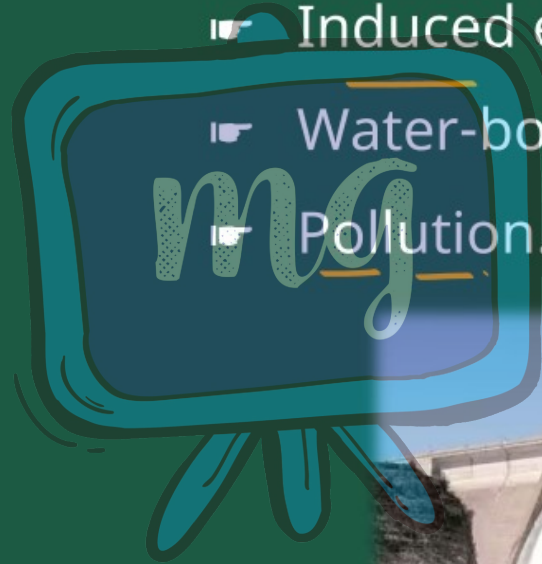
5. SEDIMENTATION

- ❑ Flood plains deprived of silt.
(A natural fertiliser)
- ❑ Enhanced land degradation.

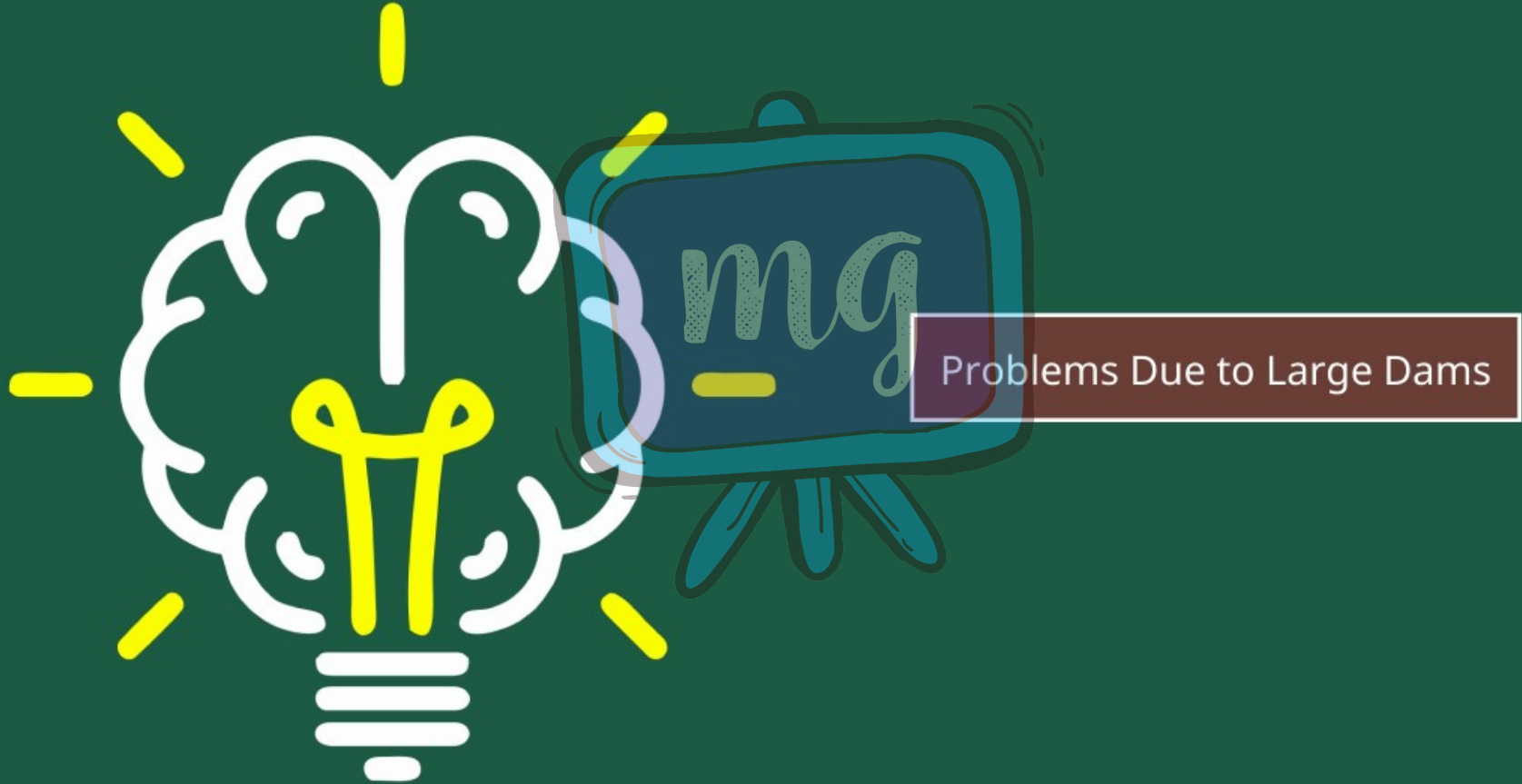


6. OTHER EFFECTS

- ▣ Induced earthquakes.
- ▣ Water-borne diseases & pests.
- ▣ Pollution.



LEARNING OUTCOME



ASSESSMENT

1

Which state is **NOT** included under the Sardar Sarovar Dam Project?

- A Rajasthan ✓
- B Gujarat ✓
- C Madhya Pradesh ✓
- D Tamil Nadu ✓

ASSESSMENT

2 | What was the original focus of 'Narmada Bachao Andolan'?

- A Social Displacement
- B Rehabilitation Facilities
- C Environmental Issues
- D Earthquake Prevention

ASSESSMENT

3

What is the main reason of Krishna-Godavari dispute?

- A Pollution from industrial wastes
- B Deposition of sediment in rivers
- C Diversion of water for multipurpose project at Koyna
- D Failure of the monsoon