

A graphic of a fireball or comet streaking across the top of the page.

ONE SHOT

REVISION SERIES

CLASS 10 GEOGRAPHY

WATER RESOURCES





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Water Resources

One Shot Live Revision Series

Date	Class 10 th Live @ 6:00 PM Daily	Class 9 th Live @ 8:45 PM Daily
17 Sep 23	The rise of nationalism in Europe	The French Revolution
18 Sep 23	Resources and Development	India - Size and Location
19 Sep 23	Power Sharing	What is democracy? Why democracy?
20 Sep 23	Development	The story of village Palampur
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22 Sep 23	Forest and Wildlife Resources	Physical Features of India
23 Sep 23	Federalism	Constitutional Design
24 Sep 23	Sectors of the Indian Economy	People as Resource
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26 Sep 23	Water Resources	Drainage

Introduction

- Water is essential for all forms of life
- All water moves within the **hydrological cycle**, ensuring that water is a renewable resource

Water scarcity**Causes****Conservation and management**

- **Multi purpose river projects and integrated water resources management.**
- **Rain water harvesting**

Jeevan Mission (JJM)

The Goal of JJM is to enable every rural household get assured supply of potable piped water at a service level of 55 litres per capita per day regularly on long-term basis by ensuring functionality of the tap water connections.

Causes of water scarcity



Quantitative and Qualitative aspect 🤔

Causes

- Uneven availability of water resources
- Over-exploitation, excessive use and unequal access to water
- Population growth
- Wastage of fresh drinking water Intensive industrialisation and urbanisation
- Agriculture as the major consumer of water

Factors Affecting the Quality of Water

- Domestic and industrial wastes
- Indiscriminate use of chemicals like fertilisers and pesticides
- Overdrawing of groundwater leading to fluoride concentration

∴ Conservation and management is essential.



How?

Multipurpose River Projects and Integrated Water Resources Management**Hydraulic Structures in Ancient India**

- In the first century **B.C.**, **Sringaverapura** near **Allahabad** had sophisticated water harvesting system channelling the flood water of the **river Ganga**.
- During the time of **Chandragupta Maurya**, dams, lakes and irrigation systems were extensively built.
- Evidences of sophisticated irrigation works have also been found in **Kalinga**, (**Odisha**), **Nagarjunakonda** (**Andhra Pradesh**), **Bennur** (**Karnataka**), **Kolhapur** (**Maharashtra**), etc.
- In the 11th Century, **Bhopal Lake**, one of the largest **artificial lakes** of its time was built.
- In the 14th Century, the tank in **Hauz Khas**, Delhi was constructed by **Iltutmish** for supplying water to Siri Fort area.

Dams

A dam is a barrier across flowing water that obstructs, directs or retards the flow, often creating a reservoir, lake or impoundment. "Dam" refers to the reservoir rather than the structure. 🤔

Multipurpose river projects

- Used to irrigate agricultural fields.
- Electricity generation
- Water supply for domestic and industrial uses.
- Flood control
- Recreation.
- Inland navigation and fish breeding

∴ Jawaharlal Nehru proudly proclaimed the dams as the **temples of modern India** 🤔

Opposition and criticism of dams

- Regulating and damming of rivers **affect their natural flow** leading to poorer, habitats for the river's aquatic life.
- Dams Created on the floodplains **submerge the Existing vegetation and Soil,** leading to its decomposition over a period of time
- Creating large dams has been the cause of many new Environmental movements like the '**Narmada Bachao Andolan** and the **Tehri Dam Andolan** etc. **leading to large scale displacement.**
- Many times **local people had to give up their land, livelihood** and their Control over resources for the Construction of the dam.
- **Changed the cropping pattern** and increased the social gap.

Most of the objections to the projects arose due to their failure to achieve the purposes for which they were built



- **Caused flood** → Floods have devastated life and property.
- Caused extensive soil erosion.
- Sedimentation also meant that the flood plains were deprived of silt, a natural fertiliser, further adding on to the **problem of land degradation**.
- It was also observed that the multi-purpose projects **induced earthquakes**.
- Caused **water-borne diseases and pests and pollution**.

Rain water harvesting**Need****Meaning****Structures**

Sophisticated ancient water harvesting system.

- In hill and mountainous regions, people **built diversion channels like the 'guls' or 'kuls'** of the Western Himalayas for agriculture
- In the flood plains of Bengal, people developed **inundation channels** to irrigate their fields.
- In arid and semi-arid regions, agricultural fields were converted into rain fed storage structures that allowed the water to stand and moisten the soil like the **'khadins'** in Jaisalmer and **'Johads'** in other parts of Rajasthan.
- In the semi-arid and arid regions had underground **tanks or tankas** for storing drinking water. The tankas were part of the well-developed rooftop rainwater harvesting system. **Rooftop rainwater harvesting** was commonly practised to store drinking water, particularly in Rajasthan.

Rooftop rainwater harvesting in practise

- Modern Rooftop rainwater harvesting.
- Tanka system is semiarid and arid regions
 - Reliable source of drinking water
 - Beat the summer heat
- 200 household in Gendathur, Mysuru, Karnataka have installed household rooftop rainwater system.
- Bamboo drip irrigation system in Meghalaya.





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
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