ODM Teachers' Note

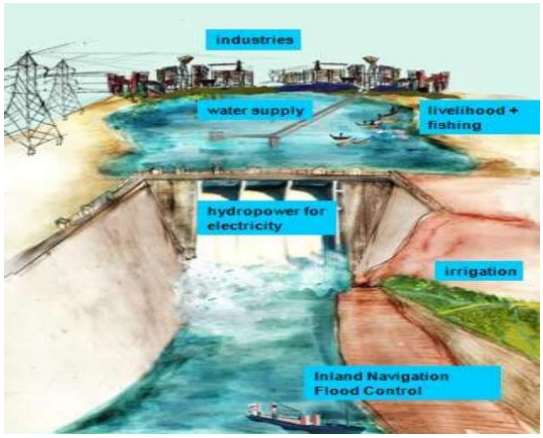
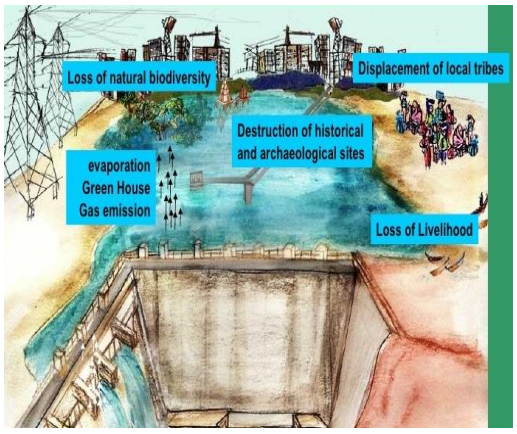
Class	X	Subject	Geography
Prd	1	Chapter	CHAPTER-3: WATER RESOURCES (Theoretical part to be Assessed only in Periodic Tests)
Sub-Concepts	Water Scarcity and The Need for Water Conservation and Management		
Teaching Aid To be used	PPT (Audio-Visual) , India: River Map		
Learning Outcome	1. Students will demonstrate an understanding of the hydrology and the role water has in landscape-forming processes that act on the Earth's surface. 2. Students will be able to describe the processes of and importance of groundwater flow and aquifer systems. 3. Students will be able to compare interactions that occur in various settings and their importance to water resources. 4. Students will be able to describe water scarcity and water stress. 5. Students will be able to describe the interactions between water systems and ecosystems.		

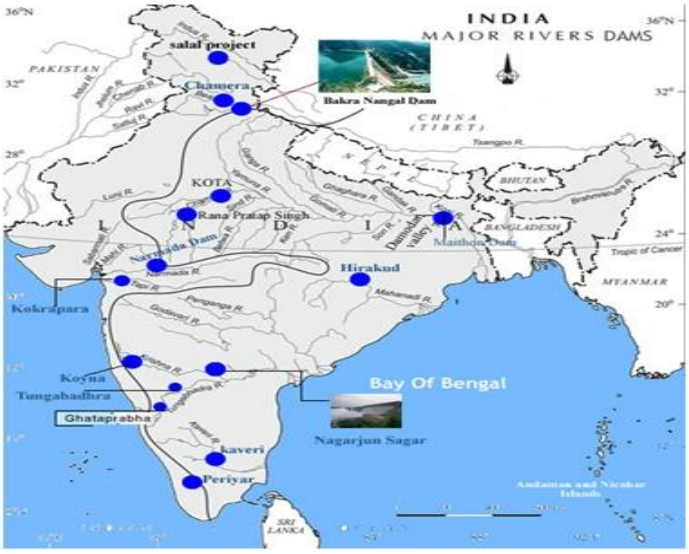
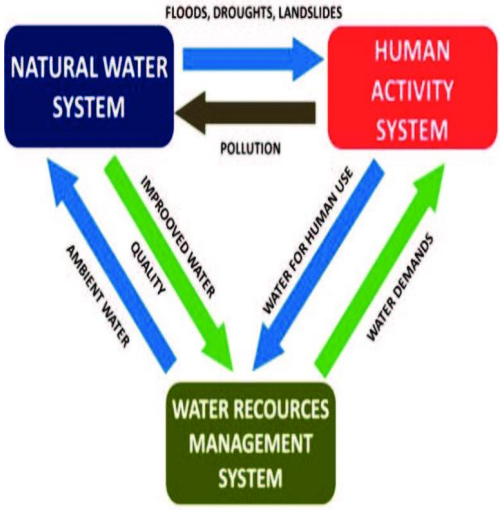
Sl. No	Step Wise (What to be done)
1.Introduction	Teacher will begin the session while asking importance of Water and discussing facts on water availability. Three-fourth of the earth's surface is covered with water but only a small proportion of it accounts for freshwater that can be put to use. Water is a renewable resource.
2 WATER SCARCITY	Water Scarcity: Define and impact, Reasons • Over-exploitation, excessive use and unequal access to water among different social groups. • Water resources are being over-exploited to expand irrigated areas for dry-season agriculture. • water scarcity due to bad quality of water.

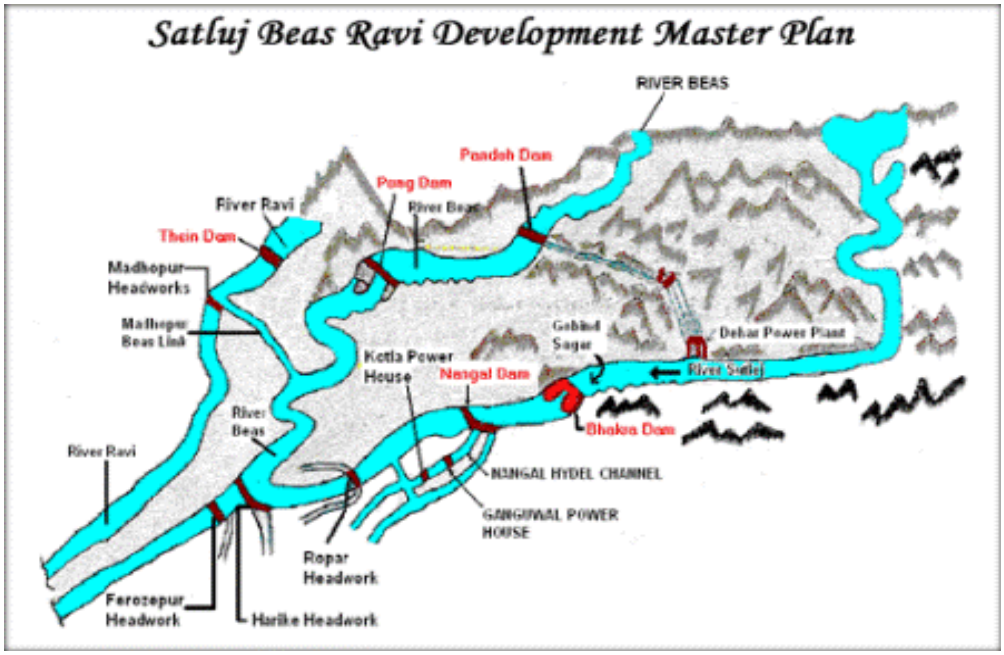
3 NEED	*The Need for Water Conservation and Management* • To safeguard ourselves from health hazards. • To ensure food security, continuation of our livelihoods and productive activities. • To prevent degradation of our natural ecosystems.
4.Home Assignment	1. Define water scarcity? 2. Mention reasons of increasing water scarcity? 3. What is water stress? 4. You grow up in a city of Gujarat and have witnessed many changes. Mention some of the reasons you find for decrease in the water sources.

ODM Teachers' Note

Class	X	Subject	Geography
Prd	2	Chapter	CHAPTER-3: WATER RESOURCES (Theoretical part to be Assessed only in Periodic Tests)
Sub-Concepts	Multi-Purpose River Projects and Integrated Water Resources Management		
Teaching Aid To be used	PPT (Audio-Visual) , Video, India: River Map		
Learning Outcome	Students will demonstrate an understanding of the multi-purpose river projects and integrated water resource management. Students will be able to describe the processes and importance of water management. Students will analyse positive and negative impact of dams.		
Sl. No	Step Wise (What to be done)		

Recapitulation	Teacher will ask following question to check understanding of previous concepts: - How is fresh water obtained? What is Hydrological cycle? What cause water longing (scarcity) in most places? What is water scarcity?
1 Hydraulic Structures	 Video explaining water conservation and efforts since ancient India: - https://www.youtube.com/watch?v=ZMhvzMc0CjI
2	Multi-Purpose River Projects: Pros and Cons  
3	Teacher will explain various efforts taken up by our government towards

	construction multi-purpose river valley projects. 
4	Integrated Water Resources Management  

5	*Dams* Uses of Dam Side effects of Creating Dams 
6	Most of the objections to the projects arose due to their failure to achieve the purposes for which they were built. Most of the dams were constructed to control floods but, these dams have triggered floods. Dams have also caused extensive soil erosion. Excessive use of water has resulted in earthquakes, caused water-borne diseases and pests and pollution.
7Home Assignment	1. Name hydraulic structures of ancient India. 2. What is multi-purpose river valley project? Give Example. 3. Mention merits and demerits of constructing dams. 4. Name any 5 dam and the river they are built over in India

ODM Teachers' Note

Class	X	Subject	Geography
Prd	3	Chapter	CHAPTER-3: WATER RESOURCES (Theoretical part to be Assessed only in Periodic Tests)
Sub-Concepts	Rainwater Harvesting		
Teaching Aid To be used	Smart Board, PPT(Audio-Visual) , India: River Map		
Learning Outcome	Students will demonstrate an understanding of the hydrology and the role water has in landscape-forming processes that act on the Earth's surface. Students will be able to describe the processes of rain water harvesting. Students will be able to compare interactions that occur in various settings and their importance to water resources.		

Sl. No	Step Wise (What to be done)
Recapitulation	Teacher will ask following question to check understanding of previous concepts: - What is the objectives of Multipurpose River Valley Projects? Give examples? Why are dams referred to as multipurpose projects? What are the advantages of dams?
1	Teacher will explain process of Rain Water Harvesting

	
2	Teacher will explain different methods that have been adopted in different areas for Rain Water Harvesting in our country :- In hill and mountainous regions, people built diversion channels like the '**guls**' or '**kuls**' of the Western Himalayas for agriculture. 
3	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 such as 'khadins' in Jaisalmer and 'Johads' in other parts of Rajasthan.

	 
4	The tankas are part of the well-developed rooftop rainwater harvesting system. 
5	Tamil Nadu is the first state in India which has made rooftop rainwater harvesting structure compulsory to all the houses across the state. There are legal provisions to punish the defaulters.
6.Home Assignment	1. Explain rain water harvesting with diagram. 2. Mention some of the examples of rain water harvesting followed in local areas of India.

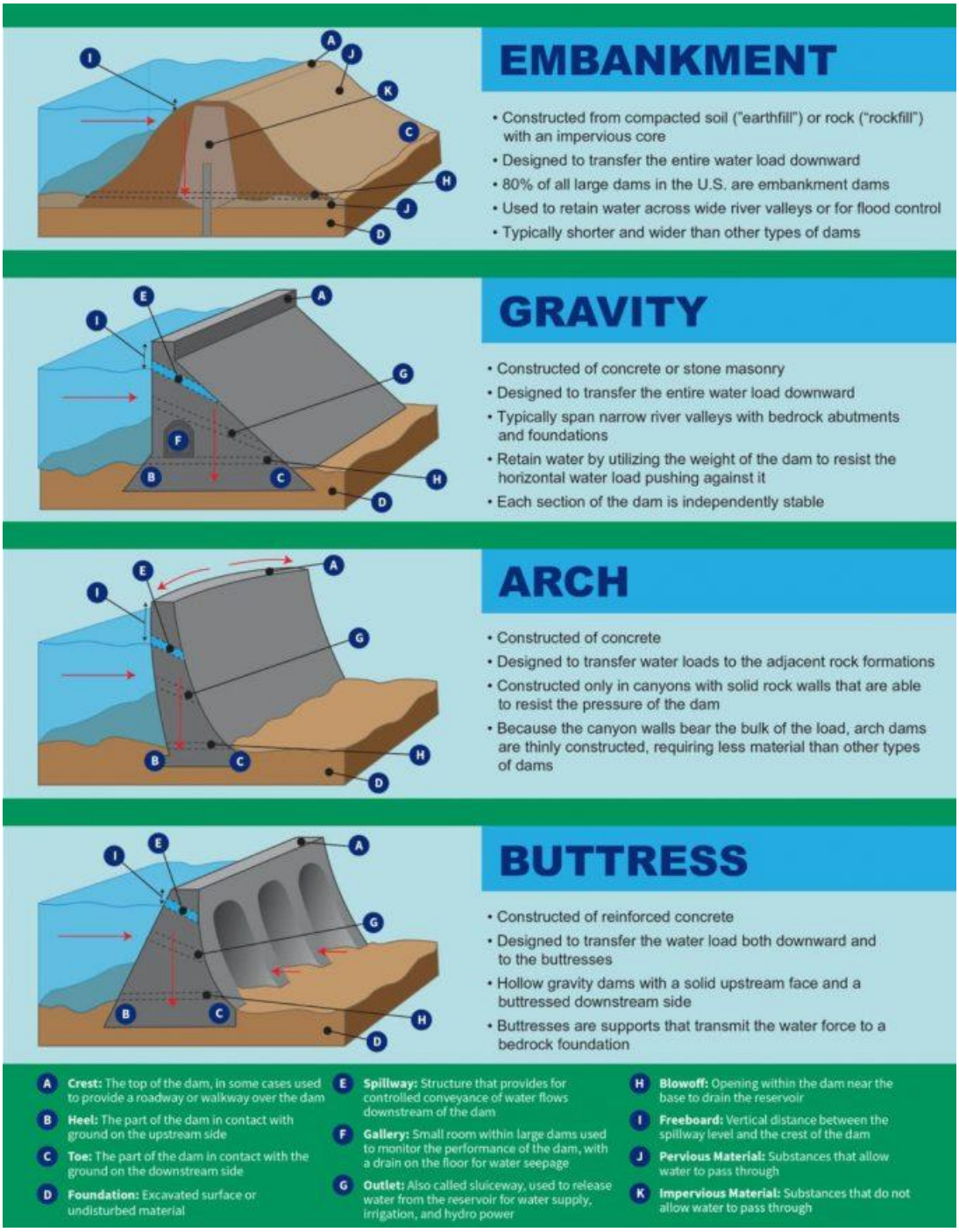
ODM Teachers' Note

Class	X	Subject	Geography
Prd	4	Chapter	CHAPTER-3: WATER RESOURCES (Theoretical part to be Assessed only in Periodic Tests)
Sub-Concepts	Map Practice (to be evaluated in Board Examination)		
Teaching Aid To be used	Smart Board (Audio-Visual) , India: River Map		
Learning Outcome	Students will be demonstrated map plotting, location and labelling for Dams of India. Students will be able to identify major multi-purpose river valley projects, dams and locate them individually. Students will be able to compare structures of dams, their exact location and its impact on the people.		

Sl. No	Step Wise (What to be done)
Recapitulation	Teacher will ask following question to check understanding of previous concepts: - Which water is recharged by roof-top rainwater harvesting technique? Name the diversion channels of western Himalayas? Name two rainwater harvesting structure built in Jaisalmer. Name two rainwater harvesting structures built in Rajasthan?
1	IMPORTANT FOR MAPSKILL EVALUATION

	Dams: a. Salal b. Bhakra Nangal c. Tehri d. Rana Pratap Sagar e. Sardar Sarovar f. Hirakud g. Nagarjuna Sagar h. Tungabhadra
2	

3	*River*	*Dams constructed*	*State/place*
	Mahanadi	Hirakud Dam	Odisha
	Satluj	Bhakhra Nangal Dam	Himachal Pradesh in northern India
	Krishna	Nagarjuna Sagar Dam	Nalgonda District, Telangana State.
	Chenab	Salal Dam*	Jammu and Kashmir.
	Narmada	Sardar Sarovar Project*	Gujarat
	Bhagirathi	Tehri Dam	Uttarakhand
	Ganges	Naraura dam	Uttar Pradesh
	Chambal River	Rana Pratap Sagar Dam	Rajasthan
	Chambal	Gandhi Sagar Dam	Madhya Pradesh

4	
5	Dams: a. Salal b. Bhakra Nangal c. Tehri d. Rana Pratap Sagar e. Sardar Sarovar f. Hirakud g. Nagarjuna Sagar h. Tungabhadra

6.Home Assignment	1. On which river the Sardar Sarovar Dam built? 2. Name any two river valley projects or dams which have led to social movements. 3. Practice Map skill: Dams of India • *Dam on river Narmada* • *Tehri Dam* • *Sardar Sarovar dam* • *Rana Pratap Sagar Dam* • *Bhakhra Nangal Project* • *Hirakud Dam*