SOCIAL SCIENCE
WORKSHEET_020325
Geography - Chapter 03 Water Resources
(ANSWERS)

SUBJECT: SOCIAL SCIENCE **MAX. MARKS : 40**

CLASS : X **DURATION : 1½ hrs**

General Instructions:

(i). **All** questions are compulsory.
(ii). This question paper contains **18 questions** divided into five Sections A, B, C, D and E.
(iii). **Section A** comprises of **8 MCQs** of **1 mark** each. **Section B** comprises of 3 questions of **2 marks** each. **Section C** comprises of 4 questions of **3 marks** each. **Section D** comprises of 2 questions of **5 marks** each and **Section E** comprises of 1 Case Study Based Questions of **4 marks** each.
(iv). There is no overall choice.
(v). Use of Calculators is not permitted

SECTION – A

Questions 1 to 8 carry 1 mark each.

1. Which of the following statements about water scarcity is true?
(I) Water scarcity is not only quantitative.
(II) It is recorded only in the semi-arid and arid regions of the country.
(III) Water scarcity causes various food borne diseases to the human population living close to the region.
(IV) Water scarcity can be solved by building hydraulic structures.
Codes:
(a) (I), (II) and (III) (b) (I) and (II) (c) (I) and (IV) (d) (I), (II) and (IV)
Ans. (c) (I) and (IV)
Water scarcity involves unequal availability and access to water resources. It is not only qualitative but also quantitative. To solve this, building hydraulic structures can be a viable step. Hydraulic structures manage the available sources well and also facilitate availability of stored water in regions where precipitation is not regular.

2. Observe the picture and identify the hydraulic structure featured in it.

(a) Khadins (b) Johads (c) Kuls (d) Tanks
Ans. (c) Kuls
A kul (diversion channel) leads to a circular village tank, from which water is released as and when required.
In hill and mountainous regions, people built diversion channels (the ‘guls’ or ‘kuls’ of the Western Himalayas) for agriculture.

3. Arrange in chronological order.
(I) Rooftop rainwater is collected using a PVC pipe.
(II) Water from the well recharges the underground.
(III) Underground pipe takes water to sump for immediate usage.
(IV) Water is filtered using sand and bricks.
Codes:
(a) (I), (III), IV and (II) (b) (II), (III), (I) and (IV)
(c) (I), (IV) (III) and (II) (d) (II), (I), IV and (III)
Ans. (c) (I), (IV) (III) and (II)
This is the process of rainwater harvesting.
(I) Rooftop rainwater is collected using a PVC pipe.
(II) Filtered using sand and bricks.
(III) Underground pipe takes water to sump for immediate usage.
(IV) Excess water from the sump is taken to the well.
(V) Water from the well recharges the underground.

4. Ankur, a resident from Rajasthan, decided to install a submersible water pump in his house, capable of extracting groundwater from depths of 250-300m. This practice of installing similar pumps is becoming increasingly popular across the state.
Which of the following will this growing practice MOST LIKELY lead to in the near future?
(a) Decline in the groundwater quality
(b) Reduced monsoon water resources
(c) Increased number of waterborne diseases
(d) Water scarcity resulting from excessive utilisation
Ans. (d) Water scarcity resulting from excessive utilisation
Extracting groundwater from about 300 metres using submersible pumps causes over-exploitation of groundwater resources. Due to low precipitation in certain areas or low seepage, the rate of extraction exceeds the rate of recharge and leads to a depletion of groundwater reserves, leading to water scarcity.

5. Which of the following statements is not a characteristic of Embankment Dam?
(a) Embankment dams are naturally occurring dams in the northern India.
(b) An Embankment dam is a large artificial dam.
(c) Embankment dams are impervious to seepage.
(d) Embankment dams have concrete floors.
Ans. (a) Embankment dams are naturally occurring dams in the northern India.
An embankment dam is a large artificial dam. It is typically created by the placement and compaction of a complex semiplastic mound of various compositions of soil or rock. It has a semi-pervious waterproof natural covering for its surface and a dense, impervious core.

6. Which of the following statements appropriately describes the objective behind building the Hirakud Dam on Mahanadi river?
(a) The Hirakud Dam provides freshwater to the water starved state of Andhra Pradesh.
(b) The Hirakud Dam was built to augment industrial development in Odisha.
(c) It was built to provide employment to the Santhal tribes residing close to the river.
(d) It was constructed mainly for decorative purposes.
Ans. (b) The Hirakud Dam was built to augment industrial development in Odisha.
The Hirakud Dam has been built across the Mahanadi river, about 15km from Sambalpur district in Odisha in India. It is the longest earthen dam in the world. It is one of the first major multipurpose projects started after India's Independence to augment industrial development in the region.

In the following questions 7 and 8, a statement of assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)
(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A)
(c) Assertion (A) is true but Reason (R) is false
(d) Assertion (A) is false but Reason (R) is true

7. **Assertion (A):** Johad and Khadin are modern methods of water harvesting in India.
Reason (R): Johad and Khadin are present in the western India, particularly in Rajasthan.
Ans. (d) (A) is false but (R) is true.
Johads and Khadins are ancient or traditional methods of water harvesting practiced in the desert state of Rajasthan to keep the soil moist.

8. **Assertion (A):** A dam is a barrier across flowing water that obstructs, directs or retards the flow, often creating a reservoir, lake or impoundment.
Reason (R): Hirakud Dam is the longest earthen dam in the world.
Ans. (b) Both (A) and (R) are true but (R) is not the correct explanation of (A).
Hirakud dam built on Mahanadi river is the longest earthen dam in the world.

SECTION – B

Questions 9 to 11 carry 2 marks each.

9. Multipurpose projects have transformed the social landscapes. Explain.
Ans. The social consequences of multipurpose projects are :
(i) It led to heavy displacement of people which deprived the people of their land and livelihood.
(ii) It has increased the economic gap between the richer landowners and the landless poor.

10. (i) How is freshwater obtained?
(ii) What was the method used in the ancient period to conserve water?
Ans. (i) Mainly obtained from surface runoff and groundwater.
(ii) Dams built of stone rubble, reservoirs or lakes, embankments and canals for irrigation.

11. Why did Jawaharlal Nehru proclaim the dams as the "temples of modern India"?
Ans. Jawaharlal Nehru proclaimed the dams as the "temples of modern India" because :
(i) They eliminate or reduce flooding.
(ii) They provide water for agriculture.
(iii) They provide water for human and industrial consumption.
(iv) Provide hydroelectricity for houses and industries.

OR

What is Bamboo Drip Irrigation? Mention any two features of it.
Ans. (i) Bamboo Drip irrigation system is a 200 years old system of tapping stream and spring water by using bamboo pipe and transporting water from higher to lower regions through gravity.
(ii) Features :
(a) 18-20 litres of water enters the bamboo pipe system, get transported over hundreds of metres and finally reduces to 20-80 drops per minute at the site of the plant.
(b) The flow of water into the pipes is controlled by manipulating the pipe positions.

SECTION – C

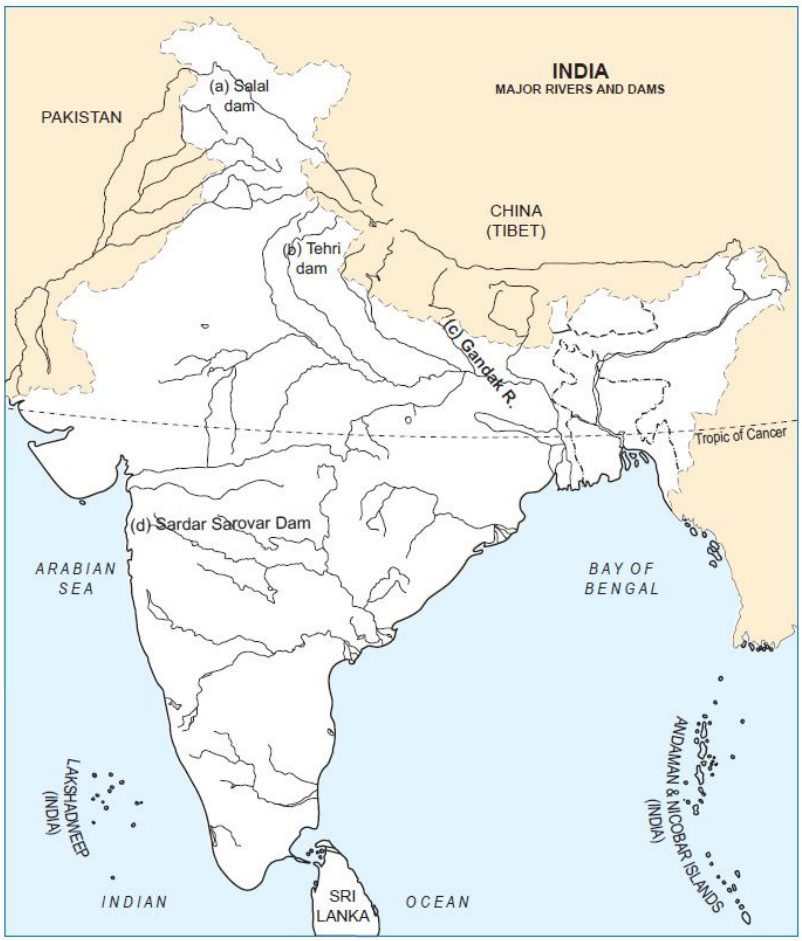
Questions 12 to 15 carry 3 marks each.

12. Explain any three problems faced by local communities due to the construction of large dams.
Ans. Some significant problems faced by local communities due to the construction of large dams are: (i) Dams have resulted in large-scale displacement of local communities.
(ii) Local people have had to give up their land and livelihoods.

(iii) Local people have been deprived of the local resources on which they had some control before the construction of the project. Many settlements and agricultural lands are submerged under water.

13. Locate the following dams and rivers on the given outline map of India. (any three)
(a) Salal dam (b) Tehri dam (c) Gandak river (d) Sardar Sarovar Dam

Ans.



14. ''The dams that were constructed to control floods have triggered floods.'' Analyse the statement.

Ans. Damming of rivers affect their natural flow causing poor sediment flow and excessive sedimentation at the bottom of the reservoir, and poorer habitat for the rivers' aquatic life.

Dams also fragment rivers making it difficult for aquatic fauna to migrate, especially for spawning.

Reservoirs created on the floodplains also submerge the existing vegetation and soil leading to its decomposition.

OR

"Water scarcity may be an outcome of large and growing population in India." Analyse the statement.

Ans. A large population leads to greater demands for water.

(i) A large population means more water not only for domestic use but also to produce more food in various agricultural practices.

(ii) Most of the Indian cities are facing the problem of water scarity due to growing population. This happens because large amount of groundwater is pumped out in densely populated colonies. This has drastically lowered the water table.

(iii) Large industries also make huge demand on water. Further industrial pollution often pollutes the water bodies which further aggravates the situation.

SECTION – D

Questions 16 to 17 carry 5 marks.

15. Why is rooftop water harvesting important in Rajasthan? Explain.

Ans. Rooftop water harvesting is important in Rajasthan because :

(i) It provides a good source of drinking water.

(ii) The rainwater can be stored in the tanks till the next rainfall, making it an extremely reliable source of drinking water when all other sources are dried up, particularly in the summers.

(iii) Rainwater, or palar pani, as commonly referred to in these parts, is considered the purest form of natural water.

(iv) Many houses construct underground rooms adjoining the tanks to beat the summer heat as it keeps the room cool.

(v) Some houses still maintain the tanks since they do not like the taste of tap water.

16. How have multipurpose projects and large dams been the cause of many new social movements?

Ans. (i) Narmada Bachao Andolan and the Tehri Dam Andolan, etc., were the movements to resist large-scale displacement of local communities. Local people often had to give up their land, livelihood and their control over resources for the greater good of the nation.

(ii) Irrigation has changed the cropping pattern from shifting to commercial crops. It is responsible for salinisation of the soil. At the same time, it has its social impact by increasing the social gap between the rich landowners and the landless poor.

(iii) Dams also created conflicts between people wanting different uses and benefits from the same water resource. In Gujarat, the Sabarmati basin farmers were agitated over the priority given to water supply in urban areas, particularly during droughts.

(iv) Interstate water disputes are also common with regard to sharing the costs and benefits of the multipurpose projects. For e.g., Krishna-Godavari dispute, is due to the objections raised by Karnataka and Andhra Pradesh governments regarding the diversion of more water at Koyna by the Maharashtra government for a multipurpose project.

OR

How has intensive industrialisation and urbanisation posed a great pressure on existing fresh water resources in India? Explain with two examples for each.

Ans. Intensive industrialisation and urbanisation has put greater pressure on existing fresh water resources as:

(i) With the rising number of industries, the demand for water, as a consequence, has grown tremendously.

(ii) Industries are heavy users of fresh water as water is required for cooling the machines and processing of goods.
(iii) The untreated industrial effluents which are discharged into water bodies pollute the water making it hazardous for human consumption causing qualitative scarcity.
(iv) Urban lifestyles have further aggravated the problem. Urban population overdraws the groundwater by using their own groundwater pumping devices.
(v) Large populations have greater demand of water for consumption and domestic purposes which in turn has increased the stress on water bodies in regions surrounding them.

SECTION – E (Case Study Based Questions)

Questions 18 carry 4 marks each.

17. Read the following extract and answer the questions that follow :

Narmada Bachao Andolan or Save Narmada Movement is a Non-Governmental Organisation (NGO) that mobilised tribal people, farmers, environmentalists and human rights activists against the Sardar Sarovar Dam being built across the Narmada river in Gujarat. It originally focused on the environmental issues related to trees that would be submerged under the dam water. Recently, it has re-focused the aim to enable poor citizens, especially the oustees (displaced people) to get full rehabilitation facilities from the government.

People felt that their suffering would not be in vain… accepted the trauma of displacement believing in the promise of irrigated fields and plentiful harvests. So, often the survivors of Rihand told us that they accepted their sufferings as sacrifice for the sake of their nation. But now, after thirty bitter years of being adrift, their livelihood having even being more precarious, they keep asking: "Are we the only ones chosen to make sacrifices for the nation?"

(i) With what objective 'Sardar Sarovar Dam' was built? (1)
(ii) Analyse the reason of protest by the tribal people. (1)
(iii) Highlight the issues on which 'Save Narmada Movement' worked on. (2)

Ans. (i) (a) Irrigation
(b) Drinking water for the drought-prone region.
(ii) (a) Huge displacement of people
(b) Demand for rehabilitation
(c) Harm of harvest
(d) Loss of livelihood
(iii) (a) Against huge displacement of people
(b) Environmental issue
(c) Demand for rehabilitation of tribal
(d) To provide tribal the source of livelihood