

NCERT Solutions Class 10

Social Science - Geography

Chapter 3: Water Resources

1. Multiple choice questions.

(i) Based on the information given below classify each of the situations as 'suffering from water scarcity' or 'not suffering from water scarcity'.

- (a) A region with high annual rainfall.**
- (b) A region having high annual rainfall and large population.**
- (c) A region having high annual rainfall but water is highly polluted.**
- (d) A region having low rainfall and low population.**

Answer.

- (a) A region with high annual rainfall – Not suffering from water scarcity**
- (b) A region having high annual rainfall and large population – Suffering from water scarcity**
- (c) A region having high annual rainfall but water is highly polluted – Suffering from water scarcity**
- (d) A region having low rainfall and low population – Not suffering from water scarcity**

(ii) Which one of the following statements is not an argument in favour of multipurpose river projects?

- (a) Multi-purpose projects bring water to those areas which suffer from water scarcity.**
- (b) Multi-purpose projects by regulating water flow help to control floods.**
- (c) Multi-purpose projects lead to large scale displacements and loss of livelihood.**
- (d) Multi-purpose projects generate electricity for our industries and our homes.**

Answer.

- (c) Multi-purpose projects lead to large scale displacements and loss of livelihood**

(iii) Here are some false statements. Identify the mistakes and rewrite them correctly.

- (a) Multiplying urban centres with large and dense populations and urban lifestyles have helped in proper utilisation of water resources.**
- (b) Regulating and damming of rivers does not affect the river's natural flow and its sediment flow.**

(c) In Gujarat, the Sabarmati basin farmers were not agitated when higher priority was given to water supply in urban areas, particularly during droughts.

(d) Today in Rajasthan, the practice of rooftop rainwater water harvesting has gained popularity despite high water availability due to the Indira Gandhi Canal.

Answer.

(a) Multiplying urban centres with large and dense populations and urban lifestyles have resulted in improper utilisation of water resources.

(b) Regulating and damming of rivers affect the river's natural flow and its sediment flow.

(c) In Gujarat, the Sabarmati basin farmers were agitated when higher priority was given to water supply in urban areas, particularly during droughts.

(d) Today in Rajasthan, the practise of rooftop rainwater water harvesting popularity is declining due to high water availability from Indira Gandhi Canal.

2. Answer the following questions in about 30 words.

(i) Explain how water becomes a renewable resource.

(ii) What is water scarcity and what are its main causes?

(iii) Compare the advantages and disadvantages of multi-purpose river projects.

Answer.

(i) Water is a renewable resource as it gets renewed by water cycle that includes three processes - evaporation, condensation and precipitation. The water that disappears from the surface of earth due to evaporation comes back in the form of rain. This process of water cycle is never ending which makes it a renewable resource.

(ii) Scarcity of water is defined as a situation where there is lack of fresh water resources to meet water demand. Growing population, over-exploitation and unequal distribution of water among social groups are the main causes of water scarcity.

(iii) Advantages of multi-purpose river projects: They are useful for irrigation, electricity generation, flood control, inland navigation, fish breeding, water supply for industrial and domestic purposes and tourist attraction.

Disadvantages of multi-purpose river projects: The local flora and fauna gets destroyed. Many native villages are submerged. The natural flow of water is also affected.

3. Answer the following questions in about 120 words.

(i) Discuss how rainwater harvesting in semi-arid regions of Rajasthan is carried out.

(ii) Describe how modern adaptations of traditional rainwater harvesting methods are being carried out to conserve and store water.

Answer.

(i) In the semi-arid and arid regions of Rajasthan, almost all the houses have traditionally constructed tanks for storing drinking water. They are large and are a part of the well-developed rooftop rainwater harvesting system. They are built inside the main house or the courtyard, and are connected to the sloping roofs of the houses through a pipe. Rain falling on the rooftops flows down through the pipe and gets stored in these tanks. The first spell of rain is not collected as it cleans the roofs and the pipes. The rainwater from the next showers is then collected. The rainwater can be stored in the tanks is considered as the most reliable source of water particularly in summers when most of the water sources are dried up. This stored water can be used till the next rainy season.

(ii) Modern adaptations of traditional rainwater harvesting include:

- In the semi-arid and arid regions of Rajasthan 'Rooftop rainwater harvesting' is practiced to store drinking water.
- In hills and mountainous regions, people build diversion channels like the 'guls' or 'kuls' of the Western Himalayas for agriculture.
- In arid and semi-arid regions, agricultural fields were converted into rain fed storage structures that allowed the water to stagnate and moisten the soil like the 'Khadins' in Jaisalmer and the 'Johads' in other parts of Rajasthan.
- In Gendathur village, Mysore, about 200 households have adopted the rooftop rainwater harvesting method to conserve water.
- In Tamil Nadu, it has been made compulsory for all the houses to have rooftop rainwater harvesting structures.
- In the flood plains of Bengal, people developed inundation channels to irrigate their fields.
- Bamboo drip irrigation system is also being used in Meghalaya and other states in the North-East of India.