

Chapter - 3 ⇒ Water Resources

* Question - Answer

1. What is rainwater harvesting. Why it is a need to develop rain water harvesting system in India?

⇒ It is a technique of increasing the recharge of ground water by capturing & storing rain water by capturing & storing rainwater by constructing structures such as percolating pits, check dams, etc.

Importance:-

- i) Rainwater harvesting is the need of the hour as demand for water is increasing day by day.
- ii) Rainwater harvesting reduces pressure on existing water resources.
- iii) It is a cheap source of water supply.
- iv) It helps in recharging ground water.
- v) The rainwater store is extremely reliable source of drinking water when all other sources are dried up.

2. Why are different water harvesting systems considered a viable alternative both socio-economically & environmentally in a country like

India?

⇒ i) Water harvesting is a very cheap & affordable method of conservation of water.

ii) Indian people have in-depth knowledge of the rainfall regime & soil type. They have developed techniques to harvest water, ground water, river water & flood water in keeping with local ecological conditions & their water needs.

iii) Rain water harvesting techniques are more environmental friendly as compared to multipurpose river projects.

3. Explain any 4 reasons responsible for water scarcity in India.

⇒ i) Growing population: Growing population is one of the basic factors which is responsible for scarcity of water. Most of our cities are facing this problem due to overpopulation. A large population means more water not only for domestic use but also to produce more food.

ii) Commercialisation of agriculture:- After success of green revolution, our farmers are producing commercial crops. The commercial crops need more water & other inputs. Assured means of irrigation like tube wells & wells are responsible for falling ground water levels.

iii) Industrialisation:- The post independent India witnessed intensive industrialisation & urbanisation. The ever increasing no. of industries has made matters worse by exerting pressure on the existing freshwater resources. Industries, apart from being heavy users of the water, also require power to run them. Much of this energy comes from hydroelectric power.

iv) Urbanisation:- Urbanisation has also aggravated the problem of water scarcity. Most of our cities are overpopulated. Over population leads to over-utilisation of water resources & also pollutes the existing resources.

4. Why should we conserve our water resources? Explain any five reasons.

⇒ i) Precondition for life:- Water is necessary for life on the earth. It is believed that life originated in water before it invaded land. Water is in fact a precondition of life.

ii) Water & Industries: Industries need water as coolant, solvent, raw material, etc.

iii) Water for daily life: Water is also used for drinking & domestic consumption. The growing urbanisation with its modern life style has been demanding greater share of water day by day.

- iv) Water an important component of ecosystem: Conservation of water is also important to prevent degradation of our natural ecosystem.
- v) Water scarcity: It is essential to conserve & manage water because its overuse & misuse has led to water scarcity.
5. Mention any four disadvantages of multi-purpose projects.
- ⇒ i) Adverse effect on fertility of soil: Due to construction of dams, there are no annual floods in rivers and because of this, the soil of the downstream region does not get nutrient rich "silt". This decreases the fertility of soil.
- ii) Adverse impact on aquatic life: Due to the construction of dams on rivers the fish in downstream areas do not get sufficient nutrient material.
- iii) Displacement of local communities:- The buildings of large dams result in displacement of local communities. The local people of the have to give up their land & livelihood & their meagre access & control over resources for the greater good of the nation.

- iv) ~~water~~ change in cropping pattern:- The multipurpose projects are responsible for providing assured means of irrigation to farmers. Due to this, most of farmers have changed cropping pattern shifting to water intensive & commercial crops. This has led to salinisation of soil leading to ecological imbalance.
6. Explain three methods of traditional rain water harvesting in India?
- ⇒ i) People living in arid regions like Rajasthan use Rooftop Rainwater harvesting techniques to store drinking water.
- ii) In these regions rooftops rainwater harvesting system was used to store water & these tanks were part of well developed rooftop rain water harvesting regions. Tanks were connected to sloping roofs through a pipe.
- iii) Rainfalling on the rooftops would travel down the pipe & was stored in these underground "tanks". The first spell of rain was usually not collected, as this would clean roofs & pipes. The rainwater from subsequent showers was then collected.

7. Why is rooftop rainwater harvesting important in Rajasthan? Explain.

=> i) The Rainwater stored in tankas is an extremely reliable source of drinking water when all other sources are dried up.

ii) Rainwater is considered the purest form of natural water.

iii) Many houses constructed underground rooms adjoining the tanka to beat Summer heat as it would keep the room cool.

iv) There is lack of perennial rivers in Rajasthan.

v) The rainfall is not reliable in this region.

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