

Chapter 3 - Water Resources

Summary :

Hydraulic Structure in Ancient India :

- In the first century B.C. Sringaverapura near Allahabad had sophisticated water harvesting system channeling 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, Nagarjuna Konda, Bennur, Kohlapur etc.
- In 11th century, Bhopal lake, one of the largest artificial lakes of its time was built.
- In 14th century, the tank of Hauz Khas, Delhi, was constructed by Iltutmish for supplying water of Siri Fort area.

Dam :

A dam is a barrier across flowing water that obstructs, directs or retards the flow, often creating a reservoir, lake or impoundment.

- Classification of dams according to structure, intended purpose or height.
- Based on structure or material used, dams are classified as timber dams, embankment dams or masonry dams, with several sub-types.
- According to the height dams can be categories as large dams and major dams or alternatively as low dams, medium height dams and high dams.

3. Rain Water Harvesting :

- In hill and mountainous regions, people built diversion channels like the 'guls' or 'kuls' of the western Himalayas for agriculture.
- Rooftop rain water harvesting was commonly practiced to store drinking water, in Rajasthan.
- 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.
- Tankas - underground tanks or tankas for storing drinking water.
- In Bikaner, phalodi and Barmer.
- The tanks could be as large as a big room.
- Roof top rainwater harvesting as drinking water.

- The first spell of rain was usually not collected as this would clean the roofs and the pipes.
- Rain water called as Palar Pani.
- Many houses constructed underground rooms adjoining the 'tankas' to beat the summer heat as it would keep the room cool.
- Some houses still maintain the tanks since they do not like the taste of tap water.
- In Gendathur, a remote backward village in Mysore, Karnataka, villagers have installed, in their house hold's roof top, rainwater harvesting system to meet their water needs.

Answer the following questions :

1. Describe the Hydraulic structures made in ancient India?
2. What is dam? On which bases down are categorized?
3. What are the methods of rain water harvesting?
4. In which parts of India 'Guls' or 'Kuls' are found?
5. What are the methods of rain water harvesting in Rajasthan?
6. What is Tank? Where and why these are constructed?
7. Why first spell of rain was not collected?
8. Why underground rooms were constructed along with Tankas?