

CLASS- X

SUBJECT- GEOGRAPHY

CHAPTER- WATER RESOURCES {2ND TERM}

1. **Irrigation-** It is the process of watering the agricultural plants through artificial means, at a required time and amount.
2. **Artificial irrigation is necessary in India, because :-**
 - The rainfall is uncertain and unequally distributed.
 - Certain types of crops require additional water, which could be only fulfilled by means of artificial irrigation.
 - To grow more crops for catering to the needs of the huge growing population.
 - To provide raw materials to all the agro-based industries, crops are to be grown throughout the year with the help of irrigation.
3. **Different means/types of irrigation which are commonly practiced in India:**
 - *Canal irrigation-*
 - ❖ This method is widely practiced in the Northern plains of India
 - ❖ 2 types of canal
 - a) Perennial canal- these type of canals supply water throughout the year
 - b) Inundation canal- these type of canals supply water only during the time of flood
 - ❖ Conditions necessary for digging canals:-
 - a) Low level relief with deep fertile soil.
 - b) There must be perennial sources of water i.e. snow fed rivers.
 - ❖ Example- Indira Gandhi canal- one of the longest canals in India.
 - *Tank irrigation-*
 - ❖ This method is widely practiced in peninsular India including Maharashtra, Tamil Nadu, Karnataka, Andhra Pradesh and Kerala.
 - ❖ Advantages-
 - a) It is cheaper than any other types of irrigation, as the rain water is collected in the natural depression which is easily available in peninsular India.
 - b) In the absence of perennial rivers and canals, tanks provide a source of water during dry seasons.
 - ❖ Disadvantages-
 - a) Tanks use up large areas of land, which could be used for agriculture.

- b) They are non- perennial and dry up in summer and so cannot be used throughout the year.

➤ *Well irrigation-*

❖ 3 types of well irrigation-

- a) Tube wells
- b) Lined wells
- c) Unlined wells (ordinary wells)

❖ Conditions necessary for construction of a tube well-

- a) Water table should be high
- b) The ground should be soft for digging.
- c) There should be hydroelectric power nearby to operate water pumps.

❖ Advantages of Tube wells-

- a) Tube wells occupy less area as compared to other means of irrigation.
- b) It can be installed in any part of a field.
- c) It can supply water throughout the year

❖ Disadvantages of Tube wells-

- a) Tube well is useless if the water is brackish (salty)
- b) It is an very expensive method
- c) It can only irrigate a small area.

4. Recent or modern methods of irrigation-

- *Furrow Irrigation-* In this method of irrigation, water is directed to flow through narrow channels dug between the rows of the crops.
- *Spray Irrigation-*In this method of irrigation, a long hose is set to a water source on one side and on the other side the water is released through the spray guns to the field.
- *Drip Irrigation-* In this method of irrigation, perforated pipes are placed between rows of crops or buried along the root lines and give water directly onto the crops.
- *Sprinkler Irrigation-* In this method of irrigation, sprinklers are setup in the fields and supplied with water by hoses from the source of waters.

5. Rain water harvesting- Collecting and storing of rain water by various means is known as rain water harvesting.

➤ *Advantages/objectives-*

- ❖ It reduces soil erosion
- ❖ It raises the ground water table by adding to ground water reserves.
- ❖ It helps to control flood.
- ❖ It fulfils the increasing demand of water.

6. Reasons for conservation of water-

- The rapid growth of population has resulted in water scarcity
 - Rapid development of industries requires more water.
 - Deforestation has led to drought and reduction of rainfall.
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