CHAPTER - 6
WATER RESOURCES

GIST OF THE LESSON:

WATER RESOURCES IN INDIA

1. India accounts 2.45% of world surface area
2. 4% of world water resource
3. 16% of population
4. Total water available from precipitations 4000 cubic km.
5. Surface water and replenish able wateris 1869 cubic km
6. 60% only useful is about 1122 cu.km

SURFACE WATER RESOURFCES

1. There are four major sources of surface water
2. Rivers, lakes, ponds, tanks
3. 10,360 rivers are present with more than 1.6 km length each
4. Mean annual rainfall is about 1869 cubic km
5. 60% only usable it is equal to 1122cubic.km

GROUND WATER RESOURCES

1. Total replenishable ground water is 432 cu.km
2. 46% available from Ganga and Brahmaputra river basins
3. Level of utilization ofground wateris high in NW and south India
4. Low in Chhatisgarh or Kerala
5. Moderate in Gujrat, Uttar Pradesh, Bihar
6. Agriculture=89%domestic=9% industrial – 2%

DEMAND FOR IRRIGATION

1. Uneven distribution of rainfall
2. Seasonal rainfall
3. High temperature causesmore evaporation
4. To grow water intensivecrops
5. To increase production
6. Forcrops in dryseason
7. To introduce green revolution

DETERIORATION OF WATER QUALITY

1. Per-capita availability of water is dwindling day by day
2. Increasing population
3. Increase the standard ofliving
4. Ground water pollution
5. Urban waste and industrial waste is left in to the rivers
6. Cultural activities produce more wastage in to the rivers
7. Ganga and Yamuna are most polluted rivers in India

WATER CONSERVATION AND MANAGEMENT

1. Adopt laws and acts to conserve water
2. Use water saving methods and technology
3. Prevent water pollution
4. Water shed development
5. Rain water harvesting
6. Water recycling and reuse

PREVENTION OF WATER POLLUTION

1. The central pollution control board along with state pollution control boards should monitor the pollution
2. Frequent supervision is essential
3. The other rivers such as Sabarmati, Gomati, Kali, Adayar, Vaigai, also to monitor for pollution
4. Monitoring the industries located along the river banks

RECYCLE AND REUSE OF WATER

1. Low quality of water can be used for industries
2. Water from domestic centers to be used for garden
3. Water used for cleaning vehicles also used for gardening

WATER SHED MANAGEMENT

1. Efficient management of surface and ground water and conservation is called water shed development.
2. Prevention of run off, storage and recharge of groundwater through percolation tanks, recharge wells.
3. Bring balance between natural availability and utility
4. It depends on community participation

6. NERU-MEERU by Andhra Pradesh govt. ARVARY PANI SANSAD by govt of Rajasthan
7. Construction of checkdams, plantation,
8. Making compulsory to the public to make rainwater harvesting plant before constructing building.

RAIN WATER HARVESTING

1 It is the method of capturing and storing rainwater, for various uses.
2. Refilled the groundwater wells
3. It improves water quality
4. Reduces the water pollution
5. Dilution of salts takes placein the water
6. Rain water harvesting is practiced in different areas by different tribes
7. Harvesting through service wells, recharge wells kund or tanka
8. It increases ground water level

NATIONAL WATER POLICY

1. Multipurpose projects should include drinking water
2. Provide drinking water to all animals and manis first priority
3. Regulation of exploitation of ground water
4. Both ground and surface water quality should beregularly
5. Increase the efficacy use of water
6. Awareness of importance of water to be imparted to the common people
7. Conservation of water to be realized by the all people

CASE STUDY RALEGAN SIDDHI

1. It is anexample for watershed development
2. A retiredarmypersonnel realized theimportanceofwatershed and convinced the public
3. Voluntaryparticipation took place and developedthe watershed
4. Thestatus of villageis changed
5. Dependencystarted declining
6. Tarun mandal was formed to control pollution
7. Controlled grazing started
8. Drycrops werestarted growing
9. Community leaders took control of the village
10. People cooperated with each other
11. It is the model village in India

Very short Answer type question (1 mark each)

1. What is the percentage of earth covered with water?

Ans: 71%

2. Mention any two states where ground water level utilization is very high.

Ans: Punjab and Haryana

3. Which sector grounds for most of the surface and ground water utilization?

Ans: Agriculture

4. Why is irrigation required? Give one reason?

Ans: Because of variability in rainfall in the country.

5. Who sponsored Hariyali programme?

Ans: Central govt of India

6. Mention two highly polluted rivers in India?

Ans: Ganga and Yamuna

7. What is the local name of rain water harvesting structure in Rajasthan?

Ans: Kund or Tank

Short Answer type question (3 mark each)

Q. 1. What are the aim of rain water harvesting?

Ans:
1. It is the method of capturing and storing rainwater, for various uses.
2. Refilled the groundwater wells
3. It improves water quality
4. Reduces the waterpollution
5. Dilution of salts takes placein the water
6. Rainwater harvesting is practiced in different areas by different tribes
7. Harvesting through service wells, recharge wells kund or tanka
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Q. 2. How can we conserve the water resources?

Ans:
1. Adopt laws and acts to conserve water
2. Usewater saving methods and technology
3. Prevent water pollution
4. Watershed development
5. Rainwater harvesting
6. Water recycling and reuse

Q. 3 Why is the demand of water for irrigation increasing day by day in India?

Ans: 1. Irrigation is needed due to variable and uncertain rainfall in India.

2. Drought prone areas like N-W India and Deccan plateau needs more irrigation.

3. Dry seasons of winter and summer need irrigation for agriculture.

Long answer question (5marks each)

Q. 1 Describe the main features of India's National Water Policy.

Ans: 1. Multipurpose projects should include drinking water

2. Provide drinking water to all animals and manis first priority

3. Regulation of exploitation of ground water.

4. Both ground and surface water quality should beregularly monitored for quality.

5. Increase the efficiency in the useofwater

6. Awareness of importance of waterto be imparted to the common people

7. Conservation of water to be done by all the people.

Q. 2 What is watershed management? Do you think it can play an important role in sustainable development?

Ans: Watershed management basically refers to the efficient management and conservation of surface and groundwater resources.

It involves prevention of runoff and storage and recharge of groundwater through various methods like percolation tanks recharge wells, etc.

1) Rain water harvesting

2) Re cycling of water

3) Conjunctive use of water for sustaining water supply in long run.

4) Prevention of water pollution

5) Saving water in household work

6) Re use of water

7) Creates awareness among people about water conservation

Q. 3 Discuss different methods of water conservation.

Ans: i) Construction of Dams on rivers

ii) Recycling of polluted Water

iii) New Technique of Irrigation

iv) Drought Resistant Crops

v) Use of drip irrigation

vi) Inter basin Transfer of water

vii) Rainwater harvesting