Chapter-6
Water Resources

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 water is 1869 cubic km
6. 60% only useful is about 1122 cu.km

Surface water resources:

1. There are four major sources of surface water
2. River, lake, 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

Surface water resources:

1. Four major sources of surface water
2. River, lakes, ponds, tanks
3. There are 10,360 rivers with the length of more 1.6 km
4. There is about 1869 cu, km of water is available
5. Only 690 cu,km usable

Ground water resources:

1. Total replenish able ground water is 432 cu.km
2. 46% available from Ganga and Brahmaputra river basins
3. Level of utilization of ground water is high in NW and south India
4. Low in CHH, OR, Kerala
5. Moderate in GUJ, UP, BI, Tripura, MS

Water utilization:
Surface water:

1. Agriculture= 89% domestic=9% industrial 2%

Ground water resources:
Agriculture=92% industrial= 5 domestic=3%

Demand for irrigation

1. Uneven distribution of rainfall
2. Seasonal rain fall
3. High temperature causes more evaporation
4. To grow water intensive crops
5. To increase production

6. To crops in dry season
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 of living
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. Watershed development
5. Rainwater 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, Kai, Addayar, 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 runoff, storage and recharge of groundwater through percolation tanks, recharge sells.
3. Bring balance between natural availability and utility
4. It depends on community participation
5. **"HARYALI"** is the water shed development started by Central Govt.
6. "NERU-MEERU" by AP govt. **"ARVARY PANI SANSAD"** by Government of Rajasthan.
7. Construction of check dams, plantation,
8. Making compulsory to the public to make rainwater harvesting before constructing building done in TN

Key Notes

Rainwater harvesting:

1. It is the method of capturing and storing rainwater, for various uses.
2. Refilled the ground water wells
3. It improves water quality
4. Reduces the water pollution
5. Dilution of salts takes place in the water
6. Rainwater 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 man is first priority
3. Regulation of exploitation of ground water
4. Both ground and surface water quality should be regularly
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 an example for watershed development
2. A retired army personnel realized the importance of water shed and convinced the public
3. Voluntary participation took place and developed the water shed
4. The status of village is changed
5. Dependency started declining
6. Tarunmandal was formed to control pollution
7. Controlled grazing started
8. Dry crops were started growing
9. Community leaders took the control of the village
10. People developed each other
11. It is the model village in India