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Geography

Use and Over-utilization

This Surface and Groundwater Use of surface and ground water are divided into Consumptive and Non consumptive purposes. In Consumptive use, water will be completely utilized and in non-consumptive use, water will not be completely utilized. Conjunctive use of surface water and groundwater is pivotal for integrated water resources management. It helps to remove susceptibility of water supply systems and to reduce the stress on water supply with reference to climate change. Basically, the global usage of water is divided into three important sectors. i. Agriculture ii. Industry iii. Domestic. Some examples of global water usage are as follows. i Agriculture: Agriculture is most important sector for water use accounts for about 70 percent of both water sources consumption and ground water remain the final resource when surface water sources diminished. The estimated global water demand of agriculture is likely to increase by 19% further due to irrigational demands by 2050. ii. Industry: In the industrial activities approximately 20% of global water is required, which is a huge share of water stored in reservoirs and dams. In industry 60-70% of water is used for generation of hydro power and nuclear power generation, 40% is utilized in industrial process and 1-3% is used in generation of thermal power. Maintaining power generation plants are very difficult & complicated. Nuclear power plants like fossil fuel power plants in which it is used as a solvent, coolant for raw material, a transport agent, and an energy 39 source. The cooling process is attained by evaporation procedure. Out Water Resources of all industries, manufacturing industries like chemical and metal industries consume maximum share of water. iii. Domestic Use: The use of domestic water is depending on the quality of available water for the purpose of drinking, washing of clothes & dishes cleaning, gardening, cooking, individual hygiene and vehicles, etc. Research analysis indicates that on an average person uses 500 –750 liters/day in developed country, when compared to 100-150 liters /day/person in developing country. Water scarcity is one of the global issues because overutilization of surface and ground water continuously has become a serious problem in today's world. There are two main reasons behind this- unprecedented growth of human population and increase in anthropogenic water pollution across the globe. With this result, there has been continuous overuse of the present water sources to meet their needs. Groundwater is the main source of water across the world. But there has been continuous depletion of water resources

without replenishing because of its exploitation by over population and the expeditious leap of urbanization & industrialization. Consequences of Overutilization Approximately three billion people across the world facing severe water crunch. According to World Health Organization (WHO), due to increase in global population growth, climate change and economic growth, there would be tremendous pressure on water supply by 2050. The Research results revealed that more than one billion people are living in areas where demand of water surpass water supply. It is also believed that global climate change can also have an impact on hydrological cycle by rise in evaporation & transpiration of vegetation and drainage pattern of the earth through which, it affects the availability of surface and ground water. Through, these climatic sequences, rate of intensity, amount of precipitation and timing are hugely disturbed. It also alters the water fluidity and storage in surface and subsurface reservoirs. Some of the consequences of water exploitation are as follows: i. Diminishing the water table: Exhausting the ground water by means of pumping can lower the ground water table, which leads to drying of wells. The erratic and inadequate rainfall caused reduction in storage of water in reservoirs.

Conclusion

This also led to decrease in groundwater. ii. Additional Costs: Once the water table decreases, the available water has to be pumped off from farther distance to bring up the surface level by using external force with more energy. This process increases the cost. iii. Diminishing Ground & Surface Water Supplies: Groundwater and surface water are interconnected, hence, whenever groundwater is overused, the rivers, streams, lakes, dug wells as well as bore wells that are connected to these water sources can also have their supply reduced. 40 Natural Resources iv. Land Subsidence: