IMPORTANCE, AVAILABILITY, UTILITY AND MANAGEMENT OF WATER RESOURCES

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Abstract: Water is prime life sustaining natural resource which cannot be created like other commodities. It is a nature's gift to all living beings on the earth. Water is the elixir of life. Unfortunately for our planet, supplies are now running dry – at an alarming rate. The world's population continues to soar but that rise in numbers has not been matched by an accompanying increase in supplies of fresh water. In India, the increasing stress on the availability of water is due to population explosion and improved standard of living. The scarcity is compounded further because of massive agricultural and industrial development coupled with improper and indiscriminate exploitation of groundwater resources.

Keywords : Water, Water management, Groundwater resources.

INTRODUCTION

70.87 percent of the world is aquatic while 29.13 percent is only land. Only 2.1 percent of the total water is usable while 37.39 percent is saline. Due to the continuous increase in population, the demand for water is also increasing continuously. On one hand, due to the increase in population, there is a continuous increase in demand for water due to the need for growth in industries and agriculture sector, on the other hand there is a continuous decrease in water supply due to increasing water pollution and exploitation, which is a challenge for the world. Is becoming The agricultural sector in India is continuously declining due to water scarcity. Many industries in the country are shutting down due to lack of water.

India has 5 percent of the total water resources of the world. According to Pro. K.L. Rao, there are about 10360 rivers of at least 1.6 km length in the country, with an average annual flow of 1869 cubic kilometers. Due to geographical constraints and anomalous distribution, only 690 billion cubic km (32 percent) of this surface water is used. In addition to this, there is about 432 billion cubic meters of water available at the national level for conventional storage and diversion. The maximum flow of surface water is in the Indus, Ganges and Brahmaputra, which is 60 percent of the total flow. From the detailed picture of the country's annual potential 1869.35 cubic km, it is clear that where there is scarcity of water resources in the country and where there is sufficiency and excess. According to the first basins, Ganga, Godavari and Krishna have a large area with many rainy areas. The Ganges basin extends in the southwest to Chambal, Sindh, Betwa and Cane. Even after receiving sufficient rainfall in the Krishna Basin, many dry areas are located in their flow areas. Most of the eastward flowing rivers originate from the Western Ghats, which are nourished by adequate rainfall sources, yet east of the Western Ghats there is a rain shadow area from Dhule in Maharashtra to Bijapur Bellary. Similarly, rivers with adequate water supply flow in the eastern part.

MEANING OF WATER MANAGEMENT

Water management means dealing with water in the best possible way. This can be done by local authorities (municipal water management) or it can be done by individuals at home (when we use our water supply). Good water management involves organizing water so that everyone gets enough water, and controlling the water supply and water treatment center (and other equipment and water-related logistics) so that they work optimally. Thus often some knowledge of the chemical properties of water is included. The management of water resources means "to create a program that can adequately supply good quality water for various uses without harming any water source or reservoir."

WATER RESOURCES AVAILABILITY

Distribution of water resources from a geographical point of view - Water in nature is distributed in different sources at different stages, from where it keeps circulating. Water does not remain permanently in any source. About 13,84,120000 cubic kilometer of water is found in different conditions in the water body, -

1. Ocean - 97.39 percent
2. Snow Hats, Snow Blocks, Glaciers - 2.01 percent
3. Groundwater and soil moisture - 0.58 percent
4. Lakes and Rivers - 0.02 percent
5. Atmosphere - 0.001 percent

The water found in the water body is distributed in various forms on the earth. Majority of water is 97.39 percent saline, while clean water is very low i.e. only 2.61 percent. Aquatic distribution includes surface, underground and oceanic waters. The distribution of water has not been uniform since ancient times, 70.87 percent of the Earth is aquatic.

UTILITY OF WATER RESOURCES

Water is a natural resource, which can be recycled after use and made usable. Water is the only resource that we need for regular supply that we get from rivers, lakes, ponds, ground water, oceans and other mutual water storage areas. The maximum use of water is 70 percent in irrigation, 23 percent in industries, only 7 percent in domestic and others.

1. Drinking water for humans
2. Drinking water for livestock
3. Other domestic, commercial and local bodies for use.
4. Agriculture
5. Energy production
6. Environment and ecology for use
7. Industry
8. Other uses such as cultural and tourism related uses.

IMPORTANCE OF WATER RESOURCES

Water management affects many aspects of our lives. Water is so common that we often don't think about where it comes from or where it is managed. But, poor water management can really hit us hard. The maximum use of water resources is 70 percent in irrigation, 23 percent in industries and 7 percent in domestic and other uses. Less than 10 percent of the total pure water on the earth is being used by people. Water resources are being used in the following areas:

1. Drinking water - A man needs to drink about 8 glasses of water per day to get enough burns. So clean drinking water is an essential for us. Without water, we can live mostly for only a few days but, if we have no water and no food, we can live for several weeks. This shows how important it is that we have daily access to clean water that is suitable for drinking. If we have pets, they too will need daily access to water.

2. In the use of washing, cleaning and other household works - Water is not evenly distributed in nature, but human beings have made adjustments with nature by developing water usage methods according to its available quantity. In dry areas, less water and multipurpose is used. We use water to maintain ourselves, our clothes and our homes are clean and clean. A clean water supply is also important for this. Washing our hands before eating to deep clean the hospital floor, we need clean water for almost all aspects of good hygiene.

3. Use in irrigation - 70 percent of the maximum use of water is used in irrigation works. Surface and ground water are being used in irrigation works. Surface water is used by canals and ponds, while ground water is used by wells and tube wells. 1/4 of the world's land is of such dry conditions, which depends entirely on irrigation. Irrigation produces rice, wheat, sugarcane, cotton, fruits, vegetables etc. on a large scale. Two to three crops of rice are taken in areas with high population load which require irrigation. Similarly, for taking summer crops, more water is required in irrigation. At present, water crisis has occurred in countries which have exploited ground water more than surface water in irrigation. In the United States, 25 percent of groundwater and 75 percent of surface water are used in irrigation, while in countries like India, groundwater is being used blindly for irrigation. Most of the surface water gets into the oceans without use and the water crisis is getting deeper.

4. Use in industries - 23 percent of the total pure water is used in industries, which is why most industries are set up near reservoirs. Use of water in industries for steam making, condensation of steam, solution of chemicals, washing of textiles, dyeing, printing, for temperature control, iron cooling in iron-steel industry, coal washing, textile refining and paper pulp making etc. Is done for

5. Relaxation and Fun - Water is involved in swimming, boating and many other leisure activities. Swimming pools and other facilities should be well maintained so that they remain safe and recreational places. It needs to be controlled by treating swimming pool water with chlorine and regularly testing the levels of bacteria and other substances, for example, to ensure that it is safe for people to swim.

5. Biodiversity - Managing water well ensures that we reduce or neither contaminate rivers, lakes and other important water sources that feed on birds, mammals, fish, reptiles and amphibians as well as that water is their houses.

6. Hydropower - 23 percent of the world's potential hydropower energy exists in Africa, but the hydro power developed there is only 1 percent of the world. Similarly, in South America, the hydro power potential is 17 percent and the developed water power is only 4 percent. The main use of oceans is in transportation. In addition, the ocean is also the future energy store.

7. Canals - In case of anomaly of land, canals are constructed along the rivers. The canals are constructed for multipurpose use of water, among which irrigation, transport, hydropower, flood control, etc. are prominent.

8. Transportation - Surface water resources located in rivers, canals and lakes are used in nine transports. The flow direction of river or canal water, quantity of water amount, seasonal effect, length of rivers and canals play a major role in transportation.

WATER CRISIS AND ENVIRONMENTAL DISASTERS

The most impact of climate change was on water resources. About 2 percent of the total water resources available in nature is stored in the form of snow and only less than one percent water is available for human use. This water is also towards qualitative and quantitative depletion by environmental disasters and human activities, while pure water is being polluted by acid rain. Thus, the presently available water resources in nature affect the activities of climate change, world warming, acid rain, melting of snow, etc., due to which the availability of water is continuously reduced and giving rise to water crisis. Arbitrary tampering with nature has stunted the steps of a balanced climate for centuries. Due to rapid industrialization and vehicles, the earth is warming up day by day. Pole ice is melting due to climate change. In 1988, the United Nations Environment Program and the World Meteorological Organization formed an international team of scientists - the intergovernmental panel on climate change, whose research found that average temperatures increased from 0.3 to 0.6 degrees Celsius during the last century. Just because of this, the climate has stagnated and dangerous results are coming. During this time, the water level of the oceans has risen to 10.25 cm high, with the increase of 2.7 cm due to the spread of water due to the increased temperature.

Climate is a complex system. Changes in it affect the atmosphere as well as the oceans, ice, land, rivers, lakes and mountains and ground water. The change of these factors also reflects the effect on the flora and fauna found on the earth. The colorful flora found on the coral reefs called the rain forests of the ocean is being affected.

Climate change will cause drought which will have a direct impact on food production. The availability of water will also decrease because currently 50 percent of the total clean water is being used in human use. Water crisis will occur in waterlogged countries like Kuwait, Jordan, Israel, Rwanda and Somalia. The US Security Agency has estimated that the annual water supply in California could decrease by seven to sixteen percent due to the heat generated by doubling the amount of carbon dioxide. Climate change can change the natural structure of forests as well as agriculture. From micro flora to poisonous trees, temperature and humidity adapt to a particular range. Due to change in it, these flora will either change their place or will be lost forever. It is estimated that due to increasing population and urbanization, they will have to take another route. Thus, one-third of the world's forests are threatened by climate change. Incidents of forestry are also increasing due to high temperature. Vanagni can increase the amount of carbon dioxide in the atmosphere.

The initial water crisis has arisen due to the uneven distribution of water found in nature, which has deepened due to increasing demand. For example, Asia is home to 60 percent of the world's population, while the total river flow is 36 percent of the world. On the other hand, 6 percent of the world's population lives in South America and there is 20 percent of the total surface flow in the world.

Most of the water resources available for human use lie in rivers and lakes on the ground surface which is controlled by the amount of rainfall evaporation. Both these actions are the major processes of the aquatic cycle as elements of climate and play an

important role in redistribution of water. Increasing human intervention in the last decades of the 20th century has largely changed the nature of the hydrological cycle. The process of desertification intensified due to continuous deforestation and related economic activities in the dry parts of India, resulting in a decrease in the amount of rainfall. The annual availability of water in the Indian subcontinent depends on the balanced activation of the monsoon whose low pressure center is located in the Thar Desert.

MANAGEMENT OF WATER RESOURCES IN INDIA

There are many water management methods available in the world, and they are being respected all the time as scientists and engineers have found new ways to take care of our water supply. Below are 5 major water management strategies that are widely used today.

1. Waste Water System - Recycling and Treatment: Sewage systems help in disposing of waste water in a clean and safe manner. They also often recycling and treating water so that it can be piped back to people's homes and used for drinking, washing and so on. This system is absolutely necessary to ensure that our waste water does not give us a reason to become ill.

2. Irrigation System - Good quality irrigation system can be deployed to promote crops in drought affected areas. These systems can be managed so that water is not wasted and they can use recycled water or rain water to avoid undermining the water supply unnecessarily.

3. Water Conservation - Both large companies and private individuals can conserve several gallons of water every day, not only without running taps or using water-melting devices unnecessarily. Water can generally be conserved by low consumption. Many people do not know how much water goes to produce a car or an item of clothing, for example reducing the amount of things we buy. Can actually reduce the amount of water that is required to support our lifestyles.

4. Taking Care of Natural Water Supply - Natural water sources such as lakes, rivers and seas are very important. Both fresh water ecosystems and marine ecosystems are home to different types of different organisms and without the support of these ecosystems, these organisms Will likely be extinct. Good water management thus also involves ensuring that we do not pollute natural water sources.

5. Effective Implementation of Schemes - Ensuring that everyone has sufficient water. There is no denying that all human beings should enjoy the easy right to access fresh, clean, safe water. However, in many parts of the world, people have to walk many miles to reach clean water. Therefore, good water management systems are only truly appreciated if they are implemented all over the world so that everyone can take advantage of them. Good water management does not mean a convenient and safe water supply for some people - but water is necessary for everyone to use.

CONCLUSION

Good water management should be an absolute priority for every generation, and more must be done for every government around the world to ensure that every person around the world has daily access to safe, clean water that they drink, Can use for washing and growing crops.

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