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A STUDY OF MANAGEMENT AND CONSERVATION OF WATER RESOURCES AS TODAY'S NEED

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ABSTRACT

Water, forests and land together form the earth's ecosystem, in which life is flourishing, nourishing and protecting. Water is not only the main component of the biological ecosystem on earth, but it is also the life force of the earth, the sustainability of growth, sustainability of the environment and synonymous with life on earth. Water is a prerequisite for the continuity of life, livelihood, food, security and development. It is an essential component of the survival of all living beings. From the distant past till today, the story of our development has progressed on the strength of water. All great civilizations have flourished near water sources. Even today, the cultures and livelihoods of human society are based on water, which is rapidly becoming endangered due to the increasing water crisis, because on one hand, due to the monopolistic tendency of man to dominate nature, nature is becoming uncontrolled such as global climate change, which has badly affected the way we live on earth along with the weather. Secondly, due to increasing population and increasing materialism of development, the sustainability of the earth has reduced and in the same proportion water resources are also getting depleted. Hence, at some level humans themselves are responsible for the current situation of increasing water crisis.

Keywords: Pollution, Conservation, Prevention, Ecosystem, Inflammation, Nutrition

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1. INTRODUCTION

Water is deeply related to life. Human life cannot be imagined without water. Water has been considered as the standard of sustainability of development by the United Nations. Water is an indispensable requirement to ensure sustainable management of the world. India, which supports 18 percent of the world's population and 15 percent of the livestock, has only 4 percent of the world's total usable water resources, due to which India is becoming the country with the highest water demand in the world. The availability of water resources is continuously decreasing. Under Article 47 of the Indian Constitution, it is the duty of the states to provide clean drinking water and the right to water in the country has been derived from the physical right to life under Article 21 of the Constitution. According to the World Health Organization (WHO), a person needs at least 50 liters of water per day to meet the most basic needs and the source of water should be within one km from the house and the collection time should not exceed 30 minutes. World Water Day is celebrated every year on March 22. On this occasion, people are made aware about the importance of fresh water and the need for sustainable water management techniques. Because at present water scarcity remains a global concern. 22

billion people of the world are forced to drink polluted water. According to a report, more than 3.5 billion people around the world do not have access to proper sanitation facilities. Theme of Water Day 2024 At present, water is a topic globally which has become a cause of conflict in many countries. Water is essential for life, as well as the importance of water can also be understood from the fact that at the global level, water can improve relations between two countries or regions and can also become a cause of conflict. Every year a special theme is set for Water Day. This year the theme of World Water Day 2024 is 'Leveraging Water for Peace' . Through this theme, the message is being given that when communities and countries collaborate on this valuable shared resource, water can become a tool for peace.

2. HISTORY OF WORLD WATER DAY:

In the year 1992 in the Environment and Development Conference program in Rio de Janeiro, Brazil, the issue of celebrating World Water Day was raised. In the year 1993, the United Nations General Assembly decided that a day should be dedicated to create awareness about the conservation and importance of fresh water in our lives. Since 1993, March 22 is celebrated as World Water Day. World Water Day talks about working on the ground to tackle the water crisis across the world. In the year 2010, the United Nations recognized the right to safe, clean drinking water and sanitation as a human right.

3. IMPORTANCE OF WORLD WATER DAY:

The main focus of World Water Day is to support the achievement of Sustainable Development Goal (SDG) 6 which aims to provide clean water and sanitation to all by 2030. According to the official website of the United Nations, World Water Day is an annual United Nations observance focusing on the importance of fresh water held on March 22, coordinated by UN-Water and led by one or more UN-Water members and partners with a related mandate. The day aims to spark conversation and raise awareness about the importance of saving water. According to the World Health Organization, 22 billion people still live without safely managed drinking water, including 115 million people who use surface water for drinking. More than 3.5 billion people worldwide do not have access to properly managed sanitation facilities. Nearly half of the world's population faces severe water shortages at some point throughout the year. According to the World Bank , water-related disasters have dominated the list of disasters in the last 50 years. And water is responsible for 70 percent of all deaths related to natural disasters.

Life cannot be imagined without water, in such a situation this statement is correct that water is life. Due to the rapidly increasing factories and population for development, the limited water resources are being negatively affected , and water is being used more than required. Knowingly and unknowingly people are facing water shortage due to water wastage and water pollution. World Water Day is celebrated to make the world aware of this problem, to stop the wastage of water, to save water from getting polluted.

4. WHY IS WATER CONSERVATION NECESSARY:

According to the United Nations, 1.4 million people die every year due to diseases caused by lack of sanitation , hygiene and clean water. About 25 percent of the world's population does not have access to clean water and about half of the global population lacks clean toilets. The global water crisis is estimated to increase by 55 percent by the year 2050. Since water is very important for everyday activities, proper use of water plays an important role in managing the water reserves. On an average, a person wastes up to 45 liters of water a day through his daily activities. Therefore, by making some changes in daily water use, a lot of water can be saved for future use. More than 3 billion people around the world migrate to other countries due to water dependence. Whereas only 24 countries have signed cooperation agreements for their shared water use. Public health and prosperity, food and energy systems, economic productivity and environmental integrity all depend on managed water curves. According to UN-Botter, transboundary waters contribute to 60 per cent of the world's freshwater flows and 153 countries share at least one of the 310 transboundary rivers and lakes, as well as 468 transboundary aquifer systems.

5. WATER MANAGEMENT AND CONSERVATION:

Water is deeply related to life and to maintain this relationship, water management and conservation is the only option. Water management will not only meet the future demand of the population, but will also protect us from the dangers caused by water and the ill effects of waterborne diseases. Apart from this, greenery and forest area can also be increased through water management, which is also necessary for future environmental balance. Water conservation means promoting water efficiency along with changing human behaviour by making proper use of water and reusing dirty water for various purposes. Since in our country the surface water resources are very less in proportion to the population, which are continuously decreasing. Whereas most of our life's nutrition , development possibilities and livelihood depend on ground water only. Therefore, there is a need to make collective efforts along with individual efforts for the protection, conservation, upgradation and development of water resources. In fact, water resources should be conserved at individual, community and institutional level. Under personal water management, using water as per requirement, closing the tap after use, keeping the tap closed while brushing, washing utensils and clothes, getting the tap repaired immediately if it leaks, using efficient washing machines, energy efficient fountains and pouring the residual water into plants or using toilet flush, reusing dirty water, rain water harvesting etc. are the major components of water management for domestic use. In this way, if every person resolves to save water, he can save hundreds of liters of water by using water judiciously in his daily activities. Water supply in India is also not done in a systematic manner. In big cities like Delhi, Mumbai, more than the prescribed 150 liters of water per person per day (lpcd) is provided by the corporation, whereas in many other areas only 40-50 liters of water is supplied per person per day. According to the report of the World Health Organization (WHO), a person needs about 25 liters of water every day to fulfill his needs. The rest of the water is wasted in the name of cleaning. According to Indian Scientific and Industrial Research, the daily requirement of water for domestic use is 65 liters per person on an average, while due to wrong habits and methods, 400 liters of water is used per person. If we correct our wrong habits and use water in the right way, then an average of 335 liters of water can be saved every day per person. The average annual rainfall in India is 116 cm , of which 75 percent is due to the southwest monsoon (June to September), 13 percent due to the north-east monsoon (October to December), 10 percent due to pre-monsoon local cyclones (April to May) and 2 percent due to western disturbances (December to February). Thus, although the annual rainfall and the amount of rainfall is not the same in the country, but rainwater harvesting is an easily available means, because the country receives an average of 4000 cubic km of water every year from annual rainfall and rain-borne sources, which is more than double the country's total water resources of 1869 cubic km. Despite this, drought conditions persist in some or the other region of the country. Therefore, rainwater harvesting is the only universal option to overcome the current water crisis. If the rainwater falling from the roofs and flowing on the roads is artificially recharged, traditional water sources are renovated and rainwater is stored by constructing small underground dams, then the problem of water crisis can be solved in a great way. Apart from reducing dependence on groundwater, rainwater harvesting provides high quality water along with self-sufficiency in the water sector. This can provide adequate amount of water to everyone along with water supply at minimum cost. The Government of India is well aware of the challenges of drinking water and the need for water conservation and work is being done rapidly in this direction for the last few years. The Ministry of Jal Shakti has set an ambitious target of providing 'tap water' to every household in the country by 2024. 'Jal Jeevan Mission' was launched by the Prime Minister on 15 August 2019 with the aim of ensuring tap water supply in all rural homes by the year 2024. For sustainable management of groundwater with community participation in over-exploited areas facing severe groundwater crisis, Prime Minister Modi launched 'Atal Bhujal Yojana' on 25 December 2019. Similarly, for water management in the agricultural sector, 99 medium irrigation projects are being run under the Pradhan Mantri Krishi Sinchai Yojana since 2016-17. On 22 April 2022, Prime Minister Modi inaugurated Amrit Sarovar mission. This mission is very important from the point of view of water conservation for the future. In the year 2019, Chennai was in the headlines internationally, when the city's water ran out and the reservoirs dried up. The municipal bodies of Chennai declared this day as 'Day Zero'. The situation in Chennai had become such that water had to be delivered by water train. Actually, Chennai, the sixth largest city in the country, gets its water supply from four ponds there, which had dried up. Due to the delay in monsoon, the crisis became severe. Due to this, the government had to get 1 crore liters of water daily by train, for which Rs 66 crore were spent, And in March 2024, Bengaluru, the country's third most populous city, faced the biggest water crisis in 500 years. The borewell at Karnataka Deputy CM's house in Bengaluru had dried up. Bangalore Water Corporation had identified 257 dry spots in the city. A report by Niti Aayog states that if water conservation measures are not adopted in India, then the groundwater of 20 other cities including Bengaluru, Delhi and Hyderabad will be exhausted in the next few years. There is only one

solution to avoid this crisis that is to adopt universal methods of water conservation and make them a part of the habits of people at individual level in every village, every city across the country.

6. GEOGRAPHICAL ANALYSIS

70 percent of the world is surrounded by water, but out of that only about three percent of the water is drinkable. 97 percent of the water is not even drinkable. 3% is fresh water drinkable water. 2.4% of fresh water is secured in the form of glaciers in the North and South Pole. The world's thirst is being quenched by the remaining 0.6% water. The data released by Water Resources shows that the net amount of water used in India in a year is estimated to be 1121 billion cubic meters , while the demand for drinking water in the year 2025 can increase to 1003 and by 2050 it can reach 1447 BCM. Despite a population of more than 1.4 billion, India has only 4 percent of the world's fresh water resources. At the same time, according to a report of the United Nations, the water crisis in India is continuously deepening. There are many states in India which have crossed the extreme point of groundwater scarcity. The report estimates that the groundwater crisis in the northwestern region can deepen severely by 2025. India uses the most groundwater in the world. We are ahead of China and America in this matter. 50% of the needs of urban areas and 85% of the needs of rural areas are met by groundwater. Due to excessive use, the groundwater level decreased by 61% between 2007 and 2017. More water is being used in agriculture because now the Indian farmer is unable to predict the changing weather and climate change. The farmer also does not know when and how much rain will fall. Therefore, he irrigates by extracting water from the ground. Earlier in India, sowing was done only with rainwater. Very rarely did such a situation arise that water had to be drawn from the earth for sowing, but now the entire farming is done by cutting the stomach of the earth. More than 70 percent of our planet Earth is covered with water, on which there is one billion 40 cubic kilolitres of water. But the quantity of fresh water in this huge quantity of water is very less. Out of this, 97.3 percent of water is in the sea, which is salty and the remaining 2.7 percent is fresh water. 75.2 percent of this is in the polar regions and 22.6 percent is in the form of land water. The remaining part of this water is present in lakes, rivers, wells, atmosphere, in the form of moisture and in green plants. Out of these, the part of water that is used is very less, which is present in the form of rivers, lakes and land water. 60% of this water is consumed in agriculture and industrial factories. The remaining 40% part we spend in drinking, making food, bathing, washing clothes and cleaning. One percent of the fresh water present in the world is available for our direct use. Every person anywhere needs 30 to 50 liters of clean and safe water per day and despite this, 884 million people do not have access to safe water. Every year 1500 cubic kilometers of dirty water is produced around the world. Even though dirt and dirty water can be used for energy and irrigation, this does not happen. In developing countries, 80 percent of the waste is discharged without purification because there are no rules and resources available for this. If the tap is left open while brushing, about 25 to 30 liters of water is wasted in five minutes. While bathing in a bathtub, 300 to 500 liters of water is spent, whereas in a normal bath, 100 to 150 liters of water is spent. In the world, 2 out of every 10 people do not get pure drinking water. Rivers are the biggest source of water. While on one hand experts are trying to find ways to stop the increasing pollution in rivers, on the other hand chemicals flowing from factories are contaminating them in large quantities. In such a situation, unless the law is made strict , the time may come for more than a million people to drink contaminated water. We get water from all the vegetation grown on earth. Potatoes and pineapples contain 80 percent water and tomatoes contain 15 percent water. Humans require 3 liters of water for drinking and animals require 50 liters of water. 800 liters of water has to be spent to obtain one liter of cow's milk. One thousand liters of water is required to grow one kilogram of wheat and four thousand liters of water is required to grow one kilogram of rice. Thus 83 percent of water in India is used for farming and irrigation. The increasing population and industrial development in the world have also increased pollution, due to which the demand for clean water has increased further. The present and future availability of human and environmental conditions, drinking water and agricultural water is in danger. Despite this, water pollution is not becoming an important issue. Today is a very important time when every person should try to save as much water as possible.

Every drop of rain is precious, it is very important to save them. If water is not saved now, then it is possible that water will remain only in our eyes. Earlier it was said that our country is a country in whose lap thousands of rivers used to play, but today only hundreds of those rivers are left out of thousands. No one can tell where all those rivers have disappeared. Leave aside the rivers, today ponds are disappearing from our villages and localities. Very little work has been done on the subject of their maintenance and conservation or even if it was done, it remained limited to papers

only. 65 percent of the rain water across the country flows into the sea. 4 lakh liters of water is released into dirty drains every day, but only 20 percent of it is reused. If even just 5 percent of the rain water falling across the country is conserved, then the needs of more than 100 crore people can be met for the whole year. Many rivers, ponds and water pools in the country have dried up. That is, the level of water in the ground here is below the dangerous level. Farmers use water from deep borewells or tubewells for irrigation purposes. Groundwater is also being extracted for domestic needs. Water wastage is also seen in this. Groundwater is not getting recharged properly, on top of that water is being squeezed out of the earth through these modern techniques. The result of this indiscriminate water exploitation is that in areas where water was available at a depth of 20 to 30 feet till 10 years ago, now the water level has gone down to a depth of 70 to 100 feet from the ground. Apart from this, climate change is also causing the falling water level. Rainfall does not occur uniformly during monsoon. It is excessive in some areas while it remains dry in some areas. Even where water rains, it is not preserved due to lack of awareness. The water crisis is also deepening due to continuous cutting of trees. The increasing population is putting pressure on groundwater. This has increased the consumption of water, and ponds and lakes are also vanishing. People are encroaching on the land of ponds and rivers. No concrete efforts are being made to stop the wastage of water. Indiscriminate exploitation of water from the ground through submersible pumps and borewells should be banned.

7. CONCLUSION

Water problem, though manifested differently in different parts of the world, is a global challenge. Hence, India too must follow global strategies of water management. Also, now is the time to make water security a key strategic agenda of the country. For example, in Brazil, the impact of severe drought in metropolitan areas has put water governance firmly on the political agenda. Here, innovations in water management and interlinkages between supply systems have been reinforced by a responsible population, which is strongly participating in conservation programmes. Singapore, despite its small size, is strongly using strategies for future water security, ranging from social behaviour change to high-end water recharge and desalination technologies. France is working with a comprehensive approach to water management of ecological security, addressing flood risk and pollution, keeping ecosystems and biodiversity at the centre of its water security strategy. Similarly, we too must adopt a comprehensive approach to water management. In short, effective water management is very essential for the growth and development of any country , therefore water harvesting and storage should be considered more seriously than before. To meet the water demands of the huge population along with agriculture and industries, India should encourage individual, collective and institutional efforts for water availability, optimal management , better allocation process , reduction of high leakage rate, reuse of wastewater and rain water harvesting as well as repair, renovation and restoration to increase alternative sources of water supply. Rural communities should be encouraged to make efforts to manage their natural water resources. Rural communities can easily find solutions to their long-term water management problems by organizing themselves to adopt their ancient traditions of water conservation by constructing water harvesting structures to manage their natural water resources. Therefore, we need to use all our experience, application and innovation to meet the serious challenge of water crisis facing the nation. "Rahiman paani rakhiya, bin paani sab soon paani gaye na ubare moti, manush, choon" In this couplet of Rahim ji, the importance of a precious natural resource like water has been highlighted. Rahim means that without water everything will become desolate. In short, water management is the only option to maintain the relationship between water and life, through which we will be able to give a safe future to the coming generations.

CONFLICT OF INTERESTS

None.

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