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Water Problems in Maharashtra: Current Status, Causes and Solutions

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Abstract: *The water problems of Maharashtra, focusing on issues like scarcity, unequal distribution, and the impact of human activities on water resources. Water is life not only for all living animals, plants but it is for all species on earth without water we can't survive. Water is integral part for day to day life.*

Keywords: *water problems*

I. INTRODUCTION

The water problems of Maharashtra, focusing on issues like scarcity, unequal distribution, and the impact of human activities on water resources. Water is life not only for all living animals, plants but it is for all species on earth without water we can't survive. Water is integral part for day to day life

The largest source of water is the sea, which contains 17.33 percent of the water on Earth. Seawater contains many types of salts and minerals, so this water is salty. Compared to the total water, the sea contains 3.5 percent salts and minerals. 70.8 percent of our Earth is covered by water. The total water available to us on Earth is less than 2.7 percent. When considering the Earth, astronomers believe that it is a mostly watery planet. Not only humans but also their entire creation is in dire need of water. It cannot survive without water and all this depends on nature or the forest. But due to human desires, deforestation is taking place in our country due to urbanization, industrialization, manufacturing, etc.

Due to this, a lot of pollution is being created, which we can see. Chemically contaminated water from factories is being released into the river. Therefore, pollution is increasing day by day. Trees and bushes are cut down in different places and factories or toll booths are built in those open spaces, which causes many types of pollution like air, noise, water pollution. Also, spoiled water is released through drains. Humans are the reason for all these things. Maharashtra is no less in this progress. For all-round development and to make human life more convenient, large-scale industrialization and urbanization have destroyed all natural resources. Even though more water falls in Maharashtra than required, today it is seen that water problems have arisen due to lack of water management. As a result, there is a huge shortage of drinking water. Therefore, it is necessary to think about this. Water is available in large quantities on Earth, from seas, rivers, lakes to areas covered by ice.

Research paper objectives

1. To review the water problem in the state of Maharashtra.
2. To explore the causes behind water scarcity in the state and discuss the solutions.
3. To know Water Management.

Hypothesis

1.Water problem increases day by day.
2.Water Management is the main problem behind it.
3.Wastage of Water is one of the reasons.

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Water problems in the state:

Maharashtra's geographical area is 9.37 percent of the country and 14.59 percent of India's total water resources are available to Maharashtra. However, despite this, the state is facing frequent water shortages and is currently facing a drought. These problems are as follows:

1. Uneven distribution of water resources

Monsoon is the only source of rainfall in Maharashtra, but the Sahyadri mountain range in the west of Maharashtra blocks the southwest monsoon winds coming from the Arabian Sea, resulting in 2000 to 3500 mm of rainfall on the Konkan coast. Whereas, 500 to 750 mm of rainfall is very less in western Maharashtra and Vidarbha, east of the Sahyadri mountains, and 1000 to 1400 mm of rainfall is maximum. But we do not see this natural water resource being managed anywhere.

2. Lack of proper planning

14.59 percent of India's water is available in Maharashtra and 29.10 percent of the country's usable water is available in Maharashtra alone. Apart from this, if we consider the rainfall data of the last 100 years, it is not found that the average rainfall in the state has decreased much. But during this period, the population of the country increased more than five times, and due to the green revolution in the agricultural sector, development of infrastructure facilities, and industrial progress, the demand for water increased significantly, but due to the inability to plan and manage water resources, 80 percent of agriculture in Maharashtra is still dry-land.

Apart from this, 1,586 villages and 4,305 hamlets in the state are facing drinking water shortage. In contrast, in a country like Israel, which receives an average of only 4 to 5 inches of rainfall annually, this country is well-watered only due to proper water management.

3. Drought crisis

Despite the availability of sufficient water resources in the state, drought-like conditions arise every year in some districts of Marathwada and western Maharashtra. Currently, the government has declared drought in 13 districts of the state. These include Nashik, Ahmednagar, Pune, Satara, Sangli and Solapur districts in western Maharashtra.

These include Aurangabad, Beed, Osmanabad and Naded districts, and Jalgaon and Buldhana districts in North Maharashtra. 1,300 villages in the state are facing shortage of drinking water, and out of these, 1,586 villages, 4,305 villages, are not supplied with drinking water by tankers by 2020. The drought situation in Marathwada in the state is very alarming, and out of 8,540 villages, 3,299 out of 38.63 percent villages have been declared drought-affected. Aurangabad district has the highest number of villages, 1,176. Crops in the drought-affected areas of the state have been burnt to ashes and orchards have been laid waste. Along with humans, animals are also suffering from a huge shortage of drinking water. For the safety of livestock, the government has started 488 camps in the state, in which 4,14,205 animals have been admitted. If this situation continues, it will not take long for Maharashtra to become a desert.

4. Increasing water demand for urbanization and industrialization

Due to the increasing population, high standard of living, education, employment and water scarcity, the migration of rural population to urban areas is increasing the demand for drinking water for industrial use and domestic use in urban areas. Out of the usable water resources in the state, 12,346 lakh cubic meters or 69.29 percent is used for irrigation and 3,980 lakh cubic meters or 30.71 percent is used for non-irrigation. There has been a decrease in water consumption for irrigation in the state to 15,447 lakh cubic meters or 56.56 percent, while there has been an increase in water consumption for non-irrigation to 5,876 lakh cubic meters or 27.56 percent. The industries in the state require 194 crore liters of water per day and currently 128.6 crore liters of water is consumed from the industrial sector. Out of the total water used for industrial projects, 65 percent of the water is supplied from irrigation projects, 34 percent of the water is available from the projects of the Industrial Corporation and 1 percent of the water is obtained from other sources. With the increase in urbanization and industrialization in Maharashtra, agricultural water is being diverted for cities and industries. As a result, the expected growth in the irrigation area in the state is not happening.

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5. Insufficient utilization of irrigation area

Till now, 786 irrigation projects have been completed under the Water Resources Department in the state. These projects have created a water storage capacity of 14,403 million cubic meters. The total area under crop in the state during the period 1960-61 to 2010-11. It indicates that the area has increased from 12.20 lakh hectares or 6.48 percent to 46.58 lakh hectares or 20.60 percent. During this period, there is a huge gap between the irrigation capacity created by the State Water Resources Department and the annual irrigated area.

Although the State Water Resources Department has created an irrigation capacity of 48.25 lakh hectares, only 29.55 lakh hectares, or 62.38 percent, can be irrigated, meaning that 37.62 percent of the irrigation project capacity in the state is still unused.

6. Improper and excessive use of water

In drought-hit villages in Maharashtra, people have to walk four to five miles to get a pot of drinking water. In cities, tap water comes once a week, sometimes fortnightly, and in some places once a month. On the contrary, in cities like Pune, 250 liters of water is used per capita. Due to the increase in population and excessive use of water in the city, the water consumption in the water sources for the city is increasing, and the problem of agriculture and drinking water in rural areas is becoming serious. Farmers in mostly irrigated areas give excessive water to crops like sugarcane. This not only wastes water, but also causes excess accumulation of salts in the topsoil, which reduces the productivity of crops and ultimately makes the land barren.

7. Water pollution

Water pollution is a major water problem in Maharashtra. Industrial waste water, chemicals, domestic sewage, etc. are discharged into rivers, streams, etc. Also, clothes, animals, vehicles are washed in the water stream. Due to religious rituals, immersion of bones and amulets, etc., the water in the water source gets polluted. In cities like Mumbai, Pune, Thane, Auragabad, Nagpur, etc. in the state, the problem of water pollution has become so serious that rivers, streams, and streams have taken on the form of sewers. Due to water pollution, many harmful liquids and chemicals enter the human and animal bodies through drinking water and poison them, causing many diseases. Drinking polluted water causes diseases such as jaundice, typhoid fever, cholera, tuberculosis, skin diseases, cancer, etc., and sometimes leads to death.

Reasons behind the problem

1. Lack of rainfall

The main reason for the lack of rainfall is deforestation, which is causing a huge loss of life and property for the use of large objects.

It is found in greater quantities in the chief regions. Due to this, the amount of water falling is visible. At the same time, the water falling is falling at regular intervals. It is seen that in some geographical areas of Maharashtra, it is more and in some areas, there is a change in the season due to some rainfall. It is necessary to protect the variety properly, only then will the amount of water be visible in the same proportion.

2.Storing water in the kitchen

This is also the main reason behind the emergence of water problems. No matter how much rain falls, it is not stored in the right amount. There is no planning of dams for ongoing irrigation. Every year, when there is water shortage in the summer, the society and the government wake up to water planning, but as soon as the water starts flowing in the monsoon, both of them forget about all this and due to this, they have to face a huge water shortage every year.

3. Wastage of Water

Even though water is abundant, we should pay more attention to how to utilize it properly. But we don't see this. During the monsoon season, we use a large amount of water and even the water we get from the tap is used improperly.

4. Use of drinking water for factories or industries

In big factories or industries, different products are produced. And these industries require a large amount of water. The water required for this is taken from the drinking water used by the citizens. Because we see everywhere that there is no

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specific water supply available for industrialization, due to which industries are being promoted by using drinking water. As a result, we see water scarcity.

5. Not using water to its full potential

If we are doing any kind of work at a time, we should think about how to use water so that we can use it fully or use less water. By combining these, we can use water systematically in our daily life, but we do not see this happening. We use more water than necessary and then waste the water that is not useful. Similarly, we need to process the polluted water coming out of industrialization and reuse it.

The water used in the garden can be saved by diverting water from the garden. If we think about it, if millions of citizens adopt this, we can save millions of liters of water every day.

Solutions water problem:

1. Recycling Wastewater

Just as paper, plastic, and metal are recycled, wastewater can be processed and reused. It is available in Israel. This water is used for agriculture. In the same vein, 21 percent of the water available in the state is wastewater and sewage, and it is possible to reuse water from industrial use. For this, the government and local self-government bodies need to set up an efficient system.

2. Full utilization of irrigation potential

In order to fully utilize the constructed irrigation capacity of all the projects with developed storage capacity in the state, it is necessary to reduce the gap between the constructed irrigation capacity and the annual capacity by completing the incomplete works of canals and distributors on priority. In addition, the contractor should be required to complete the irrigation projects within the stipulated time frame and the contractor concerned with the canals should be fined and, in cases, his license should be cancelled. In addition, instead of releasing the water from the reservoir into the river basin during the rainy season, it should be released through canals into the ponds, percolation ponds, small and medium irrigation projects in the beneficiary area and stored for the period of water scarcity.

3. Water audit

For economical use of water, meters should be installed on tap connections in urban areas and water charges should be levied as per the meter so that people will use water sparingly like electricity. Also, higher rates of tax should be levied on more water users and a sewage treatment system should be set up from the available funds. Water audit should be made mandatory for all water irrigation projects and water supply institutions should be provided with water metering devices so that water will be used economically.

4. Water Literacy:

Information and practical actions to ensure the economical and appropriate use of water available in the area, taking into account the availability and need of water.

Water literacy can be said to be the mindset of the society that saving water is the greatest asset. Because only a water literate society can take a leap towards development in the future. But for this, along with the government, NGOs, media, various institutions and organizations need to take steps towards water literacy.

5. Reuse, Reduce, Recycle, (RRR):

Reuse the water for plant and Agricultural activity , Gardening etc, Reduce the Wastage of water in each and every activity. Recycle the water from various sources. These are the solutions for the water crises.

II. CONCLUSION

In the last 20 years, from February to the start of the monsoon in June, we have been experiencing water shortages in many places in Maharashtra. The main reasons for this are population growth, the increased water requirement of each person compared to the past, industrialization and changing climate. The rainfall we receive every year ranges from 75 percent to 105 percent of the average. When there is severe drought, it does not go below 75 percent and when there is abundant rainfall, it is 105 percent. But the municipal corporation should now calculate assuming that we will not get 75 percent rainfall in the north. The year when there is more rainfall than that should be considered a bonus year. We do not have the qualification to store 75 percent. The need will increase due to modern lifestyle and without industrialization, is

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it simply impossible to meet the needs of such a large population? The number of factories and the need for water have increased to meet the needs of the people, so the only solution for this is to increase water reserves, and also to provide us with the water that comes.

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