

Water and Climate Change: Sustainable efforts are needed (A case study of Jharkhand)

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Abstract

In the fight with Corona, the cleaning liquid made possible by humans is a boon, it is water. If there is water, there is environment, and if there is environment, then human body is healthy. If a person is healthy then his immunity is strong. If this system of the body is strong then the corona will be weak. The glory of water is immense. This is our shared resources. Rich-Poor, Caste, and Religion: when the circle dries out, everyone feels the same and the same reason is water. Try this liquid if you have no luck. This is the truth of one third of the people of the world who do not have pure drinking water. Even today 2.2 billion people around the world are not a shamed of drinking water. 22nd March is World Water Day. This day is being celebrated in the world since 1993 to save every drop of water and to make people aware of this precious resource. The theme of this time is water and climate change. These two issues are sitting with each other with complexity. If you save water, then climate change will be stopped and if climate change stops, water will be conserved. The use of water determines the flood drought reduction and pollution. By balancing the impact of water on climate change, we can preserve health. With this, we can save the precious life of humans. We can also reduce the emission of greenhouse gases by efficient use of water. Which is ultimately the main cause of climate change, on the occasion of every world water day, all of us should be determined that efficient use of water will become the world's biggest problem to prevent climate change.

Keywords: Water, Climate change, Water-Harvesting, Population, Environment, Life.

World Water Day is observed every year on 22nd March. Its objective is to support the importance of water and its continuous management on a global scale. Its aim is to support the importance of water and its continuous management at the global level. Unfortunately in India, water management has not been a sustainable path for nearly a century. Till 1970 its population was 55 crores, till then it can be managed. Now the population of India is approximately 133.92 crores in which population of Jharkhand is 3.19 crores. Earlier,

urbanisation was less, similarly industrialisation and people also had lower expectations. However, in these fifty years, India's population increased by 145 percent.

Water is the resource that is necessary for every human activity. It is essential for all industrial and economic activity, starting from our survival, creating food, generating energy, maintaining the environment and ecosystem. Better reliable and sustainable water management system is needed to accelerate the economic and social development of India.

There are many reasons for the continuous decline in water conditions in all Indian cities. This is not due to lack of water or absence of expertise or lack of available technology or lack of funds. Indian politician and bureaucrats are often considered the main reason for this. In terms of expertise India must compare with Singapore. All types of technology used in Singapore are available in the global market and lack of capital has never been a real obstacle.

In contrast, there are two main reasons for India's urban water supply disturbance. The first reason is, the chief ministers of the state lack interest in water for a long time, they take interest in water at the same time, when there is a severe drought or flood, once those events are over, and political interest in water also ends until the next drought or flood. Water management in India cannot improve unless the chief minister gives priority to water. It depends on long term basis.

Compare this with Singapore, which has the lowest per capita good sweet water available in the world, similar to the desert countries of the Middle East. But it is less than India. Li Kuan Yew, who was Prime minister of Singapore from 1965 to 1992, was discussed several times; he was asked if he was the only prime minister of any country in the world who is constantly interested in water. His answer was simple; he felt that in 1965 the social and economic development of Singapore depends on reliable water supply. During 1965 to 1992, he had three officers in his private office whose job was to examine all policies with water glasses.

He was of the view that water will have to bend in its knees to get water strategic resource and all policies for Singapore. His vision and the system he established will ensure that by 2061 Singapore will be fully self-sufficient in water. When the final treaty for importing water from Malaysia comes to an end and its demand it's expected to double by then.

The second important reason which like before has been consistently ignored by Indian policy makers and water professionals. This is how water is managed in major cities of India like Delhi, Mumbai, Chennai and Bengaluru? The chief executives of these cities are IAS officers who do not know how to efficiently manage water and also face a difficult learning phase. In addition, the head of the Delhi Jal Board holds office for an average of 18 months. It is 12 to 14 months in Bengaluru. When they arrive, they realise that the problems are primarily political and they have little time to serve. By the time they get information about it and start planning, they leave.

If Indian cities need a good water system where people are confident of drinking water directly from the tap, then the only solution to deal with it is to employ the best person to provide utilities professionally and efficiently. They have to achieve the dominant philosophy. If they are successful, let them remain prominent for six to eight years. This was followed by independent and competent regulators who set the framework for water management and thus abstained from political interference.

For a city like Delhi or Bengaluru, these steps will solve their 40 percent water problems. Otherwise, India is unlikely to have an efficient urban water and waste management system by 2050. Contrary to the prevailing belief that water shortage is not the main reason for water crisis in the cities of India. Is India facing a huge crisis regarding water management? These two are completely different things. India's water problem is worth a decade. This would require an unusual solution to political leadership and business. Unfortunately, both are distinguished by their absence. So world water day is an opportunity for reforms for India's policy makers.

What should be done?

- Now we cannot pay the price of waiting, the policy makers on climate will have to play an effective role in water in their action plan.
- Water can be helpful in fighting climate change. It now has durable cheap long lasting water and sanitation solutions.
- Everyone's role is important in this campaign.
- Any easy step in your routine can help prevent climate change.

Water will defeat climate change by following ways

- The moist and muddy ground absorbs the carbon dioxide present in the air,
- More and more trees and grasses prevent straw and soil erosion,
- Rain water can be stored for dry days,
- One time use or reuse of waste water,
- Use farming tricks that are helpful for the climate.

Steps should take at personal level

- Take a short bath,
- Give priority to vegetarian food,
- Turn off teach gadgets left in sleeping mode,
- Do not waste food,
- Buy only sustainable products.

Important Facts

- One out of every three people in the world does not have pure drinking water, i.e. the 2.2 population falls in this category (WHO, Unicef 2019),

- By 2050, 5.7 billion population of the world will be doomed to live in a part where there will be severe water crisis for one month in a year. This would create unexpected competition for water (UNESCO 2018)
- If we had limited global warming to 1.5 degree Celsius instead of 2.0 from the pre-industrial level, climate change could reduce the pressure on water by 50% (UN-water 2019)
- Global energy demand is projected to increase by 25% by 2040, which is expected to exceed 50% of water demand. The main reason is manufacturing, power generation and domestic work (The main reason is manufacturing, power generation and domestic works). (IEA 2018, UNESCO 2018)
- Every year we can save the lives of 3.6 lakh teenagers with water supply and cleanliness which is identified by the climate. (WHO, UNICEF 2019)

In the context of Jharkhand, water conservation is inadequate

The problem of water in the entire state, filled with priceless values of water, forest and nature seems a bit odd to hear, but this is the truth of Jharkhand. There is still a problem of water ranging from drinking water to irrigation in a large part of the state. Water conservation measures are also being done but the achievements made in this field so far are not enough. There is water harvesting system in a few houses and buildings in cities too. Taking it to the target of 100% is a big challenge. Meanwhile, there have been some encouraging efforts in the Jal Shakti Abhiyan where water conservation efforts were made by the villagers through trenches in the villages on AARA and CAREM adjacent to the capital Ranchi topped the whole country in the matter of Dhanbad water conservation efforts. Water conservation efforts also attracted the attention of the Prime Minister. Taking a lesson from these efforts, we will have to expand it in the entire state. Let us all pledge to conserve water and increase the water reserves. Lack of water on the one hand has made the situation of water crisis more frightening in the event of imbalance like wastage of water on the other. It is to be understood that we can overcome the water crisis to a great extent only by stopping the wastage of water, after examining 14 bodies out of the total 51 bodies in the state; it was found that 16.32 places in the city still have water harvesting. These 5 bodies include six municipal corporations, seven city councils and one city panchayat.

It is capable of feeding water all over the year. Even 20% of the exploitation is not accumulating in the current scenario, to the extent the capitalists are exploiting ground water, in that ratio, 20% of it is not being accumulated. According to the rules, 40% of the water that is extracted every day with the help of boring should be left in the pipe, it is also being disregarded. 80% of the rainfall in the plateau region like Jharkhand is flowing away. Spending Rs. Two to Four thousand is where the recharge pit can be built. At the same time, fifteen to twenty thousand is spent on water harvesting system.

During rainy days, if we store 100 square feet of roof water, then 8 to 10 people can get 213 litres of water daily for the whole one year. According to experts in rainwater harvesting cases, if an average of 1300 m.m. of rain falls in a year, then by adopting water harvesting system, 1, 30,000 litres of water can be collected annually from 100 square feet of roof. However, after evaporation, only 60% of this water enters the underground. Nevertheless it is able to provide water to a family throughout the year.

Ground water situation in major cities of Jharkhand:

S. No.	City	Water Level
1	Ranchi	13.4 m.
2	Simdega	10.6 m.
3	Gumla	11.2 m.
4	Palamu	13.8 m.
5	Lohardagga	11.7 m.
6	Hazaribag	12.3 m.
7	Chatra	14.6 m.
8	Giridih	14.9 m.
9	Singhbhum	13.8 m.
10	Bokaro	12.1 m.
11	Dhanbad	15.7 m.
12	Dumka	11.8 m.
13	Jamtara	12.5 m.
14	Deoghar	13.1 m.
15	Pakud	14.6 m.
16	Godda	17.5 m.

(Data on the pre monsoon 2019)

This is how the water is wasting

- 70 litres of water can be saved by closing the waterfall while applying some soap.
- The running tap flows 45 litres of water in five minutes while brushing. 44.5 litres of water can be saved if using a mug.
- The open tap flows 18 litres of water in two minutes during hand washing. 17.75 litres of water can be saved if using mug.
- The flowing tap flows 18 litres of water in two minutes while making the shaving. Waste of 16 litres of water can be prevented by shaving from mug.

This is how we can conserve water

- 5 to 6 feet away from house courtyard or whatever vacant land is outside the house, you can conserve water by making small pits. The pits can also be like thin circular holes with less roundness.

- Trenches can also be built around houses or boundary walls. The depth of the trench should be 2 to 3 feet and the width about 1 foot.
- You can conserve water by depositing roof water, bathroom water and other water flowing from the place.
- Rain water can be harvested by planting trees or by planting grass outside the house or in the courtyard.

Challenges

Increasing challenge with increasing population the fast growing urban population and dwindling water source have created a huge challenge of drinking water. As a hallmark, we only talk about the capital Ranchi, then in the year 1951, when the population here was just 1.06 lakhs, 5.89 million gallons of water was needed. In 1961, this population increased to 1.40 lakhs, and then drinking water needs 7.70 million gallons. Taking about the 2011 census, this population has increased to 12.43 lakhs and drinking water needs increased to 68.36 million gallons. In 2021, this population increased to 17.90 lakh, 25.79 in 2031, while the estimated population of the capital will be 37.14 lakh in 2041. Then 204.27 lakh million gallons of water will be needed. In such a situation, the search for new sources of water and water harvesting will help us to overcome the deepening drinking water crisis.

So please think seriously and save water save life.