

## Water Scarcity-A Looming Crisis for the Next Generation

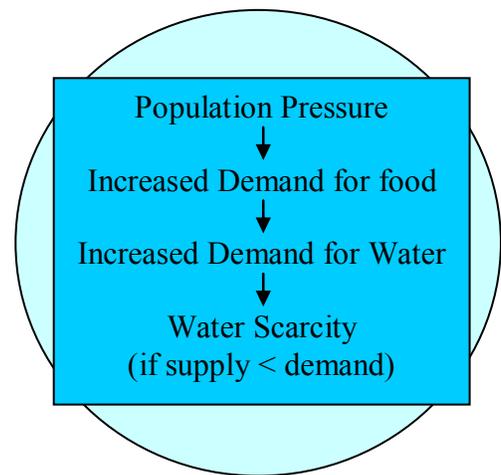
### **A Problem with no Defined Solution**

In a residential area in greater Kolkata, an old man was sitting on a sofa deeply engrossed in a thought. The wrinkles on his forehead got even more prominent in the last two days in concerns of providing water for his family. The groundwater in that region had depleted so much that even a 240 meter deep pipe was not enough to extract water from that level. He had never thought in his wildest dreams that the area which was once water abundant, would face such a grave water crisis so soon.

It is not only he; most of the households in that region are facing the similar problems. The mounting population pressure and a soft drink plant in the area are to blame for this crisis.

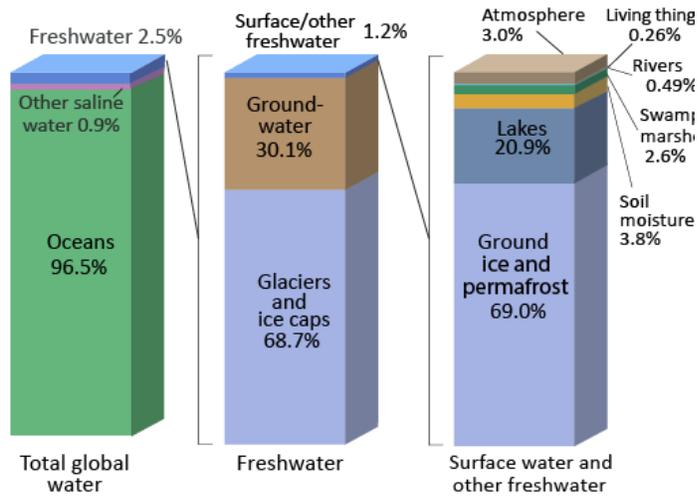
### **Crisis: It's Origination**

One of the biggest problems which India is facing in this century is water crisis. A situation of water crisis arises when the availability of water is less than its demand in the region. With an increasing population, this problem is going to be more acute in the future. However, since independence, the government has focused on economic development and food security, ignoring the need for water management and conservation to sustain growth. A lack of proper management policies and awareness among general public has therefore created an impression that water can be extracted from the ground in any amount. This has resulted in rapid depletion of ground water level. With water being assumed as a natural resource with abundant supply, it comes as no surprise that in India, issues like water legislation, water reuse and conservation, and planned use of water did not get proper attention.



Source: <http://awdnews.com/top-news/new-research-4-billion-people-are-facing-severe-water-scarcity>

## Where is Earth's Water?



Source: Igor Shiklomanov's chapter "World fresh water resources" in Peter H. Gleick (editor), 1993, *Water in Crisis: A Guide to the World's Fresh Water Resources*.  
NOTE: Numbers are rounded, so percent summations may not add to 100.

A graphical representation of water on Earth shows that only 2.5% of the Earth's water is freshwater. Out of which only a fraction is exploitable for human use. Other 97.5% is saline water and is unusable unless it is processed through expensive technologies.

Most of the freshwater (2.5%) is in the form of icecaps and glaciers (68.7%) and groundwater (30.1%). Rest of the fresh water is in the form of surface

water (1.2%). It implicates that icecaps and glaciers have the 1.72% of fresh water reserve out of total Earth's water. Similarly, groundwater and surface water is only 0.75% and 0.03% respectively with comparison to total water available on Earth. We mainly rely on the ground water and surface water for all of our activities. Cumulatively it is around 0.78% of the Earth's total water reserve.

So far, we have presented some facts on the supply side in a broader aspect. A closer look at the Indian perspective reveals that, by the year of 2025, India needs to increase its water withdrawal rates from 25% to 100% based on location. At present, India has about 4% of the Earth's total freshwater reserve. Yet there is already scarcity of water at different places due to geographical and environmental aspects. For example, 19 districts of Rajasthan face draught like situation due to short spell of monsoon coupled with erratic behavior and scanty rainfall for its geographical position. This scarcity will be further exacerbated with rapid depletion of the groundwater table due to unaccounted and unplanned usage. Worst hit areas will be the places which are already going through drought like situations. A big thing to worry!!!

The increased use of water like flushed toilets, washing machine are all aggravating the already existing problem of supplying potable water to the households. Setting up of industries with heavy water demand in developing countries is also a matter of concern.

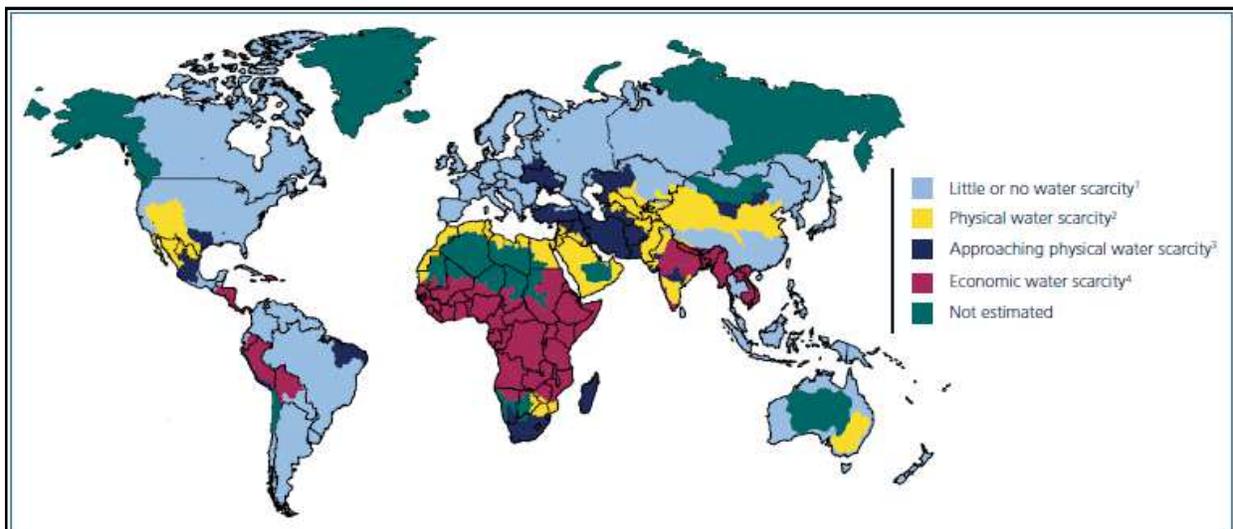
### Impact of Water Scarcity

Water is mainly required for agricultural and industrial production and domestic consumption. It is also used for hydro-power generation, fishery and maintaining an environmental balance within aquatic ecosystems. Therefore, water crisis will not only affect these sectors, it will also have a profound impact on the quality of life of people.



Are we heading towards a water war?

As the supply of water falls short of demand, India will face a series of problems like food shortage. It will also give birth to interstate and international conflict. We already have faced conflicts regarding water distribution of rivers both within and outside the country.



#### Notes:

<sup>1</sup> Little or no water scarcity. Abundant water resources relative to use, with less than 25% of water from rivers withdrawn for human purposes.

<sup>2</sup> Physical water scarcity (water resources development is approaching or has exceeded sustainable limits). More than 75% of river flows are withdrawn for agriculture, industry, and domestic purposes (accounting for recycling of return flows). This definition – relating water availability to water demand – implies that dry areas are not necessarily water scarce.

<sup>3</sup> Approaching physical water scarcity. More than 60% of river flows are withdrawn. These basins will experience physical water scarcity in the near future.

<sup>4</sup> Economic water scarcity (human, institutional, and financial capital limit access to water even though water in nature is available locally to meet human demands). Water resources are abundant relative to water use, with less than 25% of water from rivers withdrawn for human purposes, but malnutrition exists.

Source: CAWMA (2007, Map 2.1, p. 63), reproduced with permission from the International Water Management Institute (IWMI).

### Responsibility towards Society:

According to *The United Nations World Water Development Report 2016*, some of the places of India fall under *Economic water scarcity zone* and some under *Physical water scarcity zone* as depicted in the above picture by CAWMA (2007, Map 2.1. p. 63)



The definition (given below the picture mentioned above) of those zones suggests that some of the places in India are water abundant and has sustainable water resources. But there are some places where usage of natural water resources are very high and will face water scarcity over time.

The mounting population pressure with speedy depletion of groundwater is driving the country to a situation of a water

crisis, which if not taken care of will not only affect the economic growth of the country but also create domestic instability. Of late, the Government is taking various steps to prevent the crisis. But finally the real efforts of conserving water should come from us. The future crisis can be averted if we have the policies to convince the people to change their lifestyles. We often talk about sustainable development which means *development that meets the needs of the present without compromising the ability of future generations to meet their own needs*. Even in our real life, we are always concerned with the comfort of our children. But when it comes to society at large, we show very little responsibility towards our future generation. The lack of patience and the absence of conscience in ourselves impede us from controlling ourselves to use these resources indiscriminately. Considering the fact that other resources still have some substitutes, but water as such does not have any, should not we be responsible enough to use this resource judiciously and efficiently and save it for our next generation?

#### References:

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- <https://www2.usgs.gov/water/>
- *The United Nations World Water Development Report 2016 on WATER AND JOBS*