



# Editorial

## Water Conservation

Water is a fundamental natural resource. It is elixir of life. But it is a scarce and endangered natural resource. About  $\frac{3}{4}$  of the surfaces of this earth is covered with water. The earth has vast oceans and abundance of water but one cannot even drink a drop of it. Of the total amount of water available on the surface of earth almost 97% water is salty. Out of this residual 2% of water is in the form of snow and ice and only 1% is left for human consumption. Water is finite out of the total amount of fresh water for human use about 70% goes for agricultural production; about 20% is used for industry. Remaining 10% is for household that includes food production and beverages, washing including losses incurred due to careless use of consumers. So rest is exclusively used for drinking purpose other than beverages. With the continuously rising population the demand for drinking water is also increasing but there is almost finite quantity of water so to say thereby increasing the scarcity of drinking water in almost all countries of the world including ours in India. As fresh water resource is finite so their conservation and management play an important role in sustaining life and civilization.

Food is another sector in which consumerism has a huge input. According to industry experts to produce different kinds of foods more and more water along with other things are needed.

Of the direct precipitation on the surface of the earth a portion quickly evaporates and goes up and constitute cloud. Another portion goes below the surface of the earth through porous soil layer into pervious layer and constitutes ground water and stored in between impervious layer unless explored by human being. Another portion of precipitation quickly flows on the surface in gutters, in small streams which coalesce together in the form of river and flows down and stored in

lakes, ponds and other low lands and seas. The water flowing into the sea is a waste, so to say unless stored and used for human consumption or in any other use other than being used in agriculture, horticulture — industry and so on. This portion of water should not be allowed to go waste. So must be collected appropriately preferably on roof tops of building. Due to global warming the snow and ice melt down as also the glaciers are melting and consequently

For mainly irrigation and flood control, fish culture purposes dams and barrages are constructed in the course of rivers at appropriate locations to store water. But in course of time due to constant situation unless it is remained from time to time the designed storage capacity is reduced over the years creating a scarcity of water in time of need and other problem. Due to intensive rainfall the extra water more than the designed capacity is released which may create flood downstream causing suffering of human life and property. Sometimes due to cloud burst for some reason or other intensive rainfall occurs on a small area which certainly goes waste. So more or less finite quantity of natural fresh water is bound to be lost.

Demand for fresh water is continuously increasing due to continuously rising population. This fact must be addressed by the government seriously in its population policy.

There is limitless quantity of salty water. We have suitable technology to convert saline water to fresh water. But the energy requirement for that is a matter of serious consideration. The source of energy may not be such as not to contribute to global warming in any way keeping in consideration that global temperature rise to be kept below 1.5°C in order to avoid natural devastation as a consequence.

There cannot be any alternative for Rainwater Harvesting by all means as far as practicable. As per IPCC (Intergovernmental Panel on Climate Change) recent report and provides the principal basis for human livelihood and wellbeing including the supply of food, freshwater and multiple other ecosystem services as well as biodiversity.

[But land degradation, erosion and desertification are some of the greatest environmental challenges for the world in the context of climate change, rapidly growing population and consequently the increasing demand for fresh water and other thing].

Unsustainable consumerism is also responsible for the scarcity of fresh water. The fashion industry consumes 93 billion cubic meters of water equivalent to roughly four percent of the annual global use of fresh water as per a recent publication in D+C (Development and Cooperation) Volume 48, 2021/07-08 page 39 by Mahwish Goel.

#### **Recycling of waste water**

It is heartening to note that as per news in the Statesman dated 11<sup>th</sup> September 2021 Indian Scientists have developed a low-cost AOP (Advanced Oxidation Process) Technology that can convert toxic and highly carcinogenic industrial dyes of textiles, effluents into resistible water.

The new technology can completely reuse industrial dyes waste water from the textile industry, eliminate its toxicity and make it suitable for domestic and industrial usage as said by a senior officer of the Ministry of Science & Technology, on Thursday, the 9<sup>th</sup> September 2021.

Effective & appropriate action of the Government, municipal corporations as also at all levels must be adopted seriously to conserve fresh water, restore water usable from industrial wastes, and reduce loss of fresh water. It is also to be noted that export of fresh water in the form of virtual water must be controlled reasonably until every individual is assured of fresh water. The concept of virtual water was invented and introduced by Prof. Tony Allan, Professor of Geography at King's College, University of London and Emeritus Professor at the University of London's School of Oriental and African Studies, a recognized world authority on water-related issues. Prof. Tony Allan explains the concept as to how much water is used to produce nonfood consumer goods including energy.

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