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## Habitat Water Conservation: Minimizing Human Use to Preserve Fresh Water

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*'Water, water everywhere, nor any a drop to drink'*

- (Samuel Taylor Coleridge)

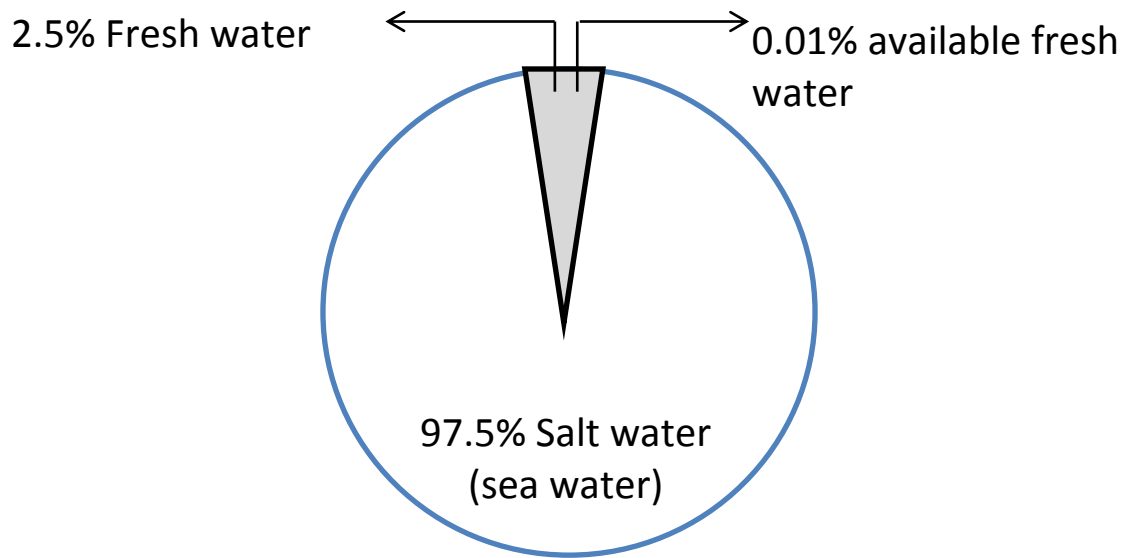
While the world's population tripled in the 20<sup>th</sup> century, the use of renewable water resources has grown six-fold, with in next fifty years, the world population will increase by another 40-50%. This population growth coupled with industrialization and urbanization will result in an increasing demand for water and will have serious consequences on the environment.

One billion people routinely drink unhygienic water According to a UN report, by 2050, four billion people will be affected by a water shortage, which currently affects 400 million water scarcity forces people to rely on unsafe sources of drinking water. Poor water quality can increase the risk of diseases including cholera, typhoid fever, salmonellosis, other gastrointestinal viruses, and dysentery.

Water covers 71% of the Earth's surface. It is vital for all known forms of life. On earth, 96.5% of the planet's crest water found is seas and oceans, 1.7% in ground water, 1.7% in glaciers and the ice caps of Antractica and Greenland, a small fraction in other large water bodies, and 0.001% in the air as vapor, clouds (formed of ice and liquid water suspended in air) and precipitation only 2.5% of this water is fresh water, and 98.8% of that water is in ice excepting in clouds and ground water less than 0.3% of all fresh water is in rivers, lakes and the atmosphere and an even smaller amount of Earth's fresh water (0.003%) s contained with in biological bodies and manufactured products. A greater quality of water is found in the

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earth, interior.



**Composition of the earth's water supply**

#### **Importance of water:-**

All plants, animals and human being need water to stay alive. But human depend on water more than plants in animals we need water for many other purposes such as-

- We need water for the day-to-day activities such as bathing, cleaning, drinking, washing, etc.
- Water helps needed for irrigation.
- It helps in the dispersal of seeds and fruits.
- All industries use a large amount of water for cleaning, heating, cooling, generating electricity as a raw material etc.
- Water is used for transport and recreation too.

Waters has properties of fluidity and solubility. These properties make it useful in the process of digestion, blood circulation and excretion water also helps in regulation of our body temperature by the process of sweating.

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### **Water conservation:**

Water conservation refers to the preservation, control and envelopment of water resources, both surface and ground water prevention of pollution.

Water conservation includes all the policies, strategies and activities to sustainably manage the natural resource of fresh water, to protect the hydrosphere to meet the current and future human demand.

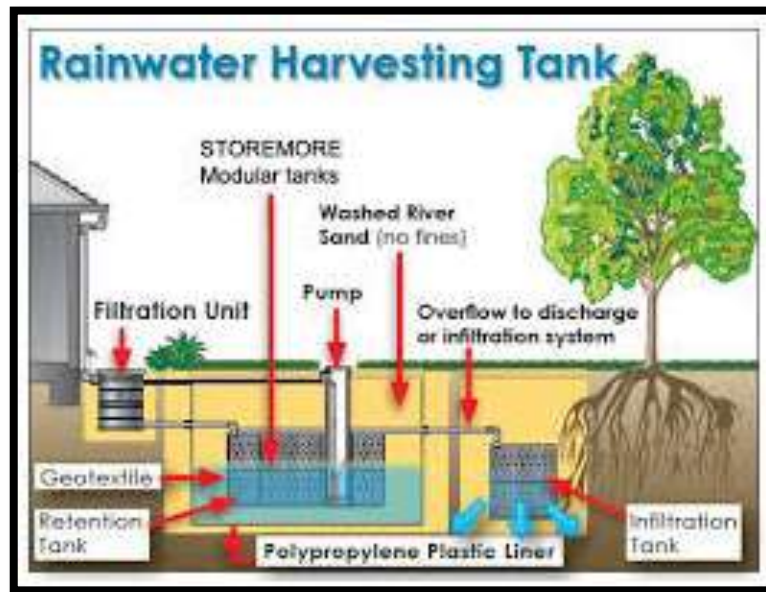
Population household size, and growth and affluence all affect how much water is used. Factors such as climate change have increased pressure on natural water sources especially in manufacturing and agricultural irrigation.

### **The goals and water conservation efforts include:**

- Ensuring availability of water for future generation where the withdrawal of freshwater from an eco-system does not exceed its natural replacement rate.
- Energy conservation as water pumping, delivery and wastewater treatment facilities consume a significant amount of energy. In some regions of the world over 15% of total electricity consumption is devoted to water management.
- Habitat conservation where minimizing human water use helps to preserve fresh water habitats for local wild life and migrating waterfowl, but also water quality.

### **The key activities that benefit water conservation are as follows:**

**Rain water harvesting:** One strategy in water conservation is rain water harvesting rain water harvesting. Digging ponds, Lakes, conals, expanding the water reservoir and installing rain water catching ducts and filtration system on homes are different methods of harvesting rain water many people in many countries keep clean containers so they can boil it and drink it, which is useful to supply water to the needy. Harvested and filtered rain water can be used for toilets, home gardening, Lown irrigation, and small scale agriculture.



### Utilizing ground water:

An additional strategy of water conservation is practicing sustainable method of utilizing ground water resources. Ground water flows due to gravity and eventually discharge into streams. Excess pumping of ground water leads to a decrease in ground water levels and if continued it can exhaust the resource. Ground and surface waters are connected and overuse of ground water can reduce and in extreme examples, diminish the water supply of lakhs, rivers and streams. In coastal regions, over pumping ground water can increase saltwater intrusion which results in contamination of ground water supply. Sustainable use of ground water is essential in water conservation.

- Strategy of Communication and education, out reach of different water program. Developing communication that educates science to land managers, policy makers, farmers, and the general public in another important strategy utilized in water conservation.

**Household applications-** Water saving technology for the home includes:

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- Low-flow shower heads sometimes called energy efficient shower heads as they also use less energy.
  - Low flush toilets and composting toilets.
  - Dual flush toilets created by caroma includes two button or handles to flush different levels of water. Dual flush toilets use upto 67% less water than conventional toilets.
  - Faucet aerators, which break water flow into fine droplets in maintain “Wetting effectiveness” while using less water. An additional benefit is that they reduce splashing while washing hands and dishes.
  - Raw water flushing where toilets use sea water or non-purified water.
  - Waste water reuse or recycling systems, allowing.
    - Reuse of gray water for flushing toilets or watering gardens.
    - Recycling of waste water through purification at a water treatment plant.
  - Rain water harvesting.
  - High-efficiency clothes washers.
  - Weather-based irrigation controllers.
  - Garden hose nozzles that shut off water when it is not being used, instead of letting a hose run.
  - Low flow taps in wash basins.
  - Swimming pool covers that reduce evaporation and can warm pool water to reduce water, energy and chemical costs.
  - Automatic faucet is a water conservation faucet that eliminates water at the faucet. It automates the use of faucets without the use of hands.
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### **Commercial application:**

Many water saving devices (such as low-flush toilets) that are useful in homes can also be useful for business water saving other water saving technology for business includes:

- Water less urinals.
- Water less car washes.
- Infrared or foot-operated taps, which can save water by using short bursts of water for rinsing in a kitchen or bathroom.
- Pressurized water brooms, which can be uses instead of a hose to clean side walks.
- X-ray film processor re-circulation system.
- Cooling tower conductivity controllers.
- Water saving steam sterilizers, for use in hospitals and health care facilities.
- Rain water harvesting.
- Water to water heat exchanges.

Now the world is heading towards water crises due to the excessive and uneconomical use of water by the large human population. Human beings waste tons of water while burshing teeth, bathing, washing clothes, vehicles and utensils etc. Over use of water has led to a decrease in the supply of water available for human use.

Polluting water, deforestationand over population also distrubedthe water cycle which, in turn, the annul rainfall varies in different parts of our country. If efforts are not made for managing and saving water, we are going to have an acute water crisis. We should, now, utilize water carefully and economically. We should conserve water as it is precious natural resource.

Remember that the need of the hour is that every individual uses water economically

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and judiciously. We should celebrate 22 March as World Water Day. It will remind us of the importance of the wonder of liquid called water.

**“A drop of water is worth more than a sack of gold to a thirsty man”.**

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