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Water Conservation : The Facts and What We Can Do About It

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ABSTRACT *Water is essential natural resource for sustaining life and environment which we have alwaysthought to available in abundance and free gift of nature.Groundwater forms a major source of drinkingwater in urban as well as in rural areas. More than 90% of the rural population uses groundwater fordomestic purposes. However, around 300 million people still live in absolute poverty in both urban andrural areas, and often lack access to clean drinking water and basic sanitation; nearly half the populationis illiterate, not at all aware of the water borne diseases affecting their health. This paper describes the water conservation techniques, reuse of save water*

Introduction
Safe drinking water is essential to humans and other life forms. Access to safe drinking water has improved over the last decades in almost every part of the world, but approximately one billion people still lack access to safe water and over 2.5 billion lack access to adequate sanitation. There is a clear correlation between access to safe water and GDP per capita. However, some observers have estimated that by 2025 more than half of the world population will be facing water-based vulnerability. A recent report (November 2009) suggests that by 2030, in some developing regions of the world, water demand will exceed supply by 50%. Water plays an important role in the world economy, as it functions as a solvent for a wide variety of chemical substances and facilitates industrial cooling and transportation. Approximately 70% of the fresh water used by humans goes to agriculture.

Conservation techniques
The techniques for conservation of surface water are:

(a) Conservation by surface water storage
Storage of water by construction of various water reservoirs have been one of the oldestmeasures of water conservation. The scope of storage varies from region to regiondepending on water availability. The environmental impact ofsuch storage also needs to be examined for developing environment friendly strategies.

(b) Conservation of rain water
Rain water has been conserved and used for agriculture in several parts of our countrysince ancient times. The infrequent rain if harvested over a large area can yield considerableamount of water. Contour farming is an example of such harvesting technique involvingwater and moisture control at a very simple level. It often consists of rows of rocks placed along the contour of steps. Runoff captured by these barriers also allows for retention ofsoil, thereby serving as erosion control measure on gentle slopes.

(c) Ground water conservation
Attributes of groundwater

- There is more groundwater than surface water.
- Groundwater is less expensive and economic resource and available almost everywhere.
- Groundwater is sustainable and reliable source of water supply.
- Groundwater is relatively less vulnerable to pollution.
- Groundwater is a free of pathogenic organisms.
- Groundwater needs little treatment before use.
- There is no conveyance losses in underground based water supplies.
- Groundwater has low vulnerability to drought.
- Groundwater is the key to life in arid and semi arid regions.
- Groundwater is source of dry weather flow in some rivers and streams

Reuse of wastewater
Wastewater contains lots of nutrients. Its use for irrigation saves these nutrients. It improvesthe productivity of crops and soil fertility. General utilization of wastewater through reuseand recycling improves water use efficiency. In fact, wastewater is a resource rather thana waste since it contains appreciable amount of nitrogen, phosphorus and potash.

Stabilization ponds can be used for fish aquaculture. The effluent can also be used forcultivation of short-term and long term, ornamental, commercial and fodder crops.

Benefits of reuse
Practical experience has shown that wastewater reuse not only reduces the demand forfresh water but also can improve environmental quality; reuse of treated wastewater hasthe following benefits:

- Make up for the shortage of water supply (reduces demand on good quality water)
- Reduces the wastewater discharge thus reducing water pollution.
- Results in cost reduction.

The potential applications of reusing of treated wastewater are in the following fields or Agricultural use through irrigation of crops as well as for improving river amenity;

- Industrial cooling especially in large industrial enterprises;
- Reuse in municipal public areas such as watering lawns, parks, play grounds andtrees;
- Flushing toilets in hotels and residential districts;
- Reuse of the treated wastewater for urban landscape

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purposes.
- Treated waste water can also be used for groundwater recharging

Some simple water saving methods are as follows:

What can an individual do to conserve water?

The most important step in the direction of finding solutions to issues of water andenvironmental conservation is to change people's attitudes and habits this includes eachone of us. Conserve water because it is right thing to do. we can follow some of the simplethings listed below for water conservation:

Use only the amount you actually need.Do not leave the tap running while you are brushing your teeth or soaping you is yourface.Avoid flushing the toilet unnecessarily.Put a brick or any other device that occupies space to cut down on the amount ofwater needed for each flush.When washing the car, use water from a bucket and not a hosepipe. Do not throw away water that has been used for washing vegetables, rice or dals useit to water plants or to clean the floors, etc.Make sure that your home is leak –free. Many homes have leaking pipes that gounnoticed.Encourage your family to keep looking for new ways to conserve water in and aroundyour home

Conclusion:
Try to do one thing each day that will result in saving water. Don't worry if the savings are minimal every drop counts'! You can make a difference.Form a group of water conscious people and encourage your friends and neighbours to be part of this group. Encourage yours friends, neighbours and co-workers to also contribute. We can store water in a variety of ways.

"I would ask all of us to remember that protecting our environment is about protecting where we live and how we live. Let us join together to protect our health, our economy, and our communities -- so all of us and our children and our grandchildren can enjoy a healthy and a prosperous life."

REFERENCE Water Supply and Water Conservation Management Plan,May 2009 | Water Conservation & Management Initiatives by Confederation of Indian Industry | http://www.cccindia.co/ |