

**Impact
Factor
3.025**

ISSN 2349-638x

Refereed And Indexed Journal

**AAYUSHI
INTERNATIONAL
INTERDISCIPLINARY
RESEARCH JOURNAL
(AIIRJ)**

UGC Approved Monthly Journal

VOL-IV

ISSUE-VIII

Aug.

2017

Address

• Vikram Nagar, Boudhi Chouk, Latur.
• Tq. Latur, Dis. Latur 413512 (MS.)
• (+91) 9922455749, (+91) 8999250451

Email

• aiirjpramod@gmail.com
• aayushijournal@gmail.com

Website

• www.aiirjournal.com

CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

Water Conservation: A Step To Conserve Water Is The Step To Secure The Future.....

Dr. Suresh J. Phule

Department of Geography,
Rajarshi Shahu Mahavidyalaya (Autonomous),Latur.

Dr. Sangmeshwar Dharashive

Department of Geography,
Mahatma Basweshwar College, Latur.

Abstract:

The most essential among all the natural resources on earth is water. A drop of water is worth more than a sack of gold for the thirsty man. If each one of us makes efforts to save water today, it will save us later. Water conservation is the most effective and environmentally sound method to fight global warming. Water conservation is what that can reduce the scarcity of water. It aims to improve the efficiency of use of water, and reduce losses and waste.

Key Words: Scarcity of Water, use, resources, Conservation.

Introduction:

Water has emerged as one of the primary environmental concerns for the 21st century. Many parts of the world are currently facing water shortages, while others must contend with severe water pollution. The consequences are bleak: social, economic and political instability leading, in the worst case scenario, to violence over dwindling water resources. Immediate action is needed to stall the emerging crisis and to begin reversing many of the trends we have set overtime. A number of organizations around the world are working towards resolving these issues. It becomes apparent, though, that there are no easy solutions. Since water flows irrespective of political and even cultural borders, cooperation amongst the various stakeholders must become an essential part of the global effort.

Objectives:

The research paper is related to water conservation. That the aim of the paper to avoid leakages of water from the taps. To tips to save water, benefits to conserve water, technical method to conserve water etc.

Source of data:

Thus the data was collected in various journals, books, research papers, census, newspapers, government reports; abstracts etc. This data adapted to the paper was kindly and clearly shows which steps applying to water conservation.

Tips to Save Water:

- Avoid leakage of water from the taps.
- Turn the tap off when not in use especially when you brush your teeth or wash clothes.
- Rainwater harvesting is the method to conserve water.
- The water supply should be limited in those areas which enjoys the unlimited water supplies.
- Check the leakage of water in the toilets. Also get check the hidden water leaks.

- Educate the mind of the people in the rural areas to save the water.
- Promote the conservation of water through media and wall posters.
- Never throw the water unnecessary on roads which can be used for gardening and cleaning.
- Avoid unnecessary flushing the toilets. Dispose off the tissues, cigarettes and other waste into the bin instead of toilets.
- Use minimum amount of water to bath.
- Water Waste restrictions.
- Improvement in the water distribution system.
- Water your lawn only when it is needed.
- Use a broom instead of hose to clean the sidewalks or to wash the car.
- Capture the water that is leaking and repair it as soon as possible.
- You can use washing machine to wash clothes that does not consume much water.
- Don't leave the tap running while washing the dishes in the kitchen.
- Install small shower heads to reduce the flow of water.

Benefits to Conserve Water:

- If you save water it can save your money bills.
- Reduction in interior water use cuts waste water flows, especially overflowing of gutters which contaminates the environment.
- Environment benefits include eco system and habitat protection.
- Water conservation helps in improving the quality of your drinking water.

Technical Methods to Conserve Water:

Rainwater Harvesting:

Rainwater harvesting is the gathering and collection of water from the rooftop. The traditional method of rain water harvesting is the most effective and simple way to conserve the water. It means utilization of rain water for the domestic as well as agricultural purposes. There are three technical methods of rain water harvesting such as Catchment, Conveyance and storage.

Historical Water Bodies :

There are many traditional water bodies which have been in disuse for the longer time. These bodies can be reused as the recharging points.

Ponds:

Steps should be taken to avoid dumping of sewage into the village ponds. Efforts need to be made to deepen these ponds with the dragline machines. Garbage and other waste should not be dumped into the ponds.

Water Conservation:

Our ancient religious texts and epics give a good insight into the water storage and conservation systems that prevailed in those days.

Over the years rising populations, growing industrialization, and expanding agriculture have pushed up the demand for water. Efforts have been made to collect water by building dams and reservoirs and digging wells; some countries have also tried to recycle and desalinate (remove salts) water. Water conservation has become the need of the day. The idea of ground water recharging by harvesting rainwater is gaining importance in many cities.

In the forests, water seeps gently into the ground as vegetation breaks the fall. This groundwater in turn feeds wells, lakes, and rivers. Protecting forests means protecting water 'catchments'. In ancient India, people believed that forests were the 'mothers' of rivers and worshipped the sources of these water bodies.

Some ancient Indian methods of water conservation:

The Indus Valley Civilization, that flourished along the banks of the river Indus and other parts of western and northern India about 5,000 years ago, had one of the most sophisticated urban water supply and sewage systems in the world. The fact that the people were well acquainted with hygiene can be seen from the covered drains running beneath the streets of the ruins at both Mohenjodaro and Harappa. Another very good example is the well-planned city of Dholavira, on Khadir Bet, a low plateau in the Rann in Gujarat. One of the oldest water harvesting systems is found about 130 km from Pune along Naneghat in the Western Ghats. A large number of tanks were cut in the rocks to provide drinking water to tradesmen who used to travel along this ancient trade route. Each fort in the area had its own water harvesting and storage system in the form of rock-cut cisterns, ponds, tanks and wells that are still in use today. A large number of forts like Raigad had tanks that supplied water.

- In ancient times, houses in parts of western Rajasthan were built so that each had a rooftop water harvesting system. Rainwater from these rooftops was directed into underground tanks. This system can be seen even today in all the forts, palaces and houses of the region.
- Underground baked earthen pipes and tunnels to maintain the flow of water and to transport it to distant places, are still functional at Burhanpur in Madhya Pradesh, Golkunda and Bijapur in Karnataka, and Aurangabad in Maharashtra.

Rainwater harvesting:

In urban areas, the construction of houses, footpaths and roads has left little exposed earth for water to soak in. In parts of the rural areas of India, floodwater quickly flows to the rivers, which then dry up soon after the rains stop. If this water can be held back, it can seep into the ground and recharge the groundwater supply.

This has become a very popular method of conserving water especially in the urban areas. Rainwater harvesting essentially means collecting rainwater on the roofs of building and storing it underground for later use. Not only does this recharging arrest groundwater depletion, it also raises the declining water table and can help augment water supply. Rainwater harvesting and artificial recharging are becoming very important issues. It is essential to stop the decline in groundwater levels, arrest sea-water ingress, i.e. prevent sea-water from moving landward, and conserve surface water run-off during the rainy season.



Town planners and civic authority in many cities in India are introducing bylaws making rainwater harvesting compulsory in all new structures. No water or sewage connection would be given if a new building did not have provisions for rainwater harvesting. Such rules should also be implemented in all the other cities to ensure a rise in the groundwater level. Realizing the importance of recharging groundwater, the CGWB (Central Ground Water Board) is taking steps to encourage it through rainwater harvesting in the capital and elsewhere. A number of

government buildings have been asked to go in for water harvesting in Delhi and other cities of India.

All you need for a water harvesting system is rain, and a place to collect it! Typically, rain is collected on rooftops and other surfaces, and the water is carried down to where it can be used immediately or stored. You can direct water run-off from this surface to plants, trees or lawns or even to the aquifer.

Some of the benefits of rainwater harvesting are as follows:

- Increases water availability
- Checks the declining water table
- Is environmentally friendly
- Improves the quality of groundwater through the dilution of fluoride, nitrate, and salinity
- Prevents soil erosion and flooding especially in urban areas

Agriculture

Conservation of water in the agricultural sector is essential since water is necessary for the growth of plants and crops. A depleting water table and a rise in salinity due to overuse of chemical fertilizers and pesticides has made matters serious. Various methods of water harvesting and recharging have been and are being applied all over the world to tackle the problem. In areas where rainfall is low and water is scarce, the local people have used simple techniques that are suited to their region and reduce the demand for water.

- In India's arid and semi-arid areas, the 'tank' system is traditionally the backbone of agricultural production. Tanks are constructed either by bunding or by excavating the ground and collecting rainwater.
- Rajasthan, located in the Great Indian Desert, receives hardly any rainfall, but people have adapted to the harsh conditions by collecting whatever rain falls. Large bunds to create reservoirs known as khadin, dams called johads, tanks, and other methods were applied to check water flow and accumulate run-off. At the end of the monsoon season, water from these structures was used to cultivate crops. Similar systems were developed in other parts of the country. These are known by various local names ¾ jaltalais in Uttar Pradesh, the haveli system in Madhya Pradesh, ahar in Bihar, and so on.

Reducing water demand:

Simple techniques can be used to reduce the demand for water. The underlying principle is that only part of the rainfall or irrigation water is taken up by plants, the rest percolates into the deep groundwater, or is lost by evaporation from the surface. Therefore, by improving the efficiency of water use, and by reducing its loss due to evaporation, we can reduce water demand. There are numerous methods to reduce such losses and to improve soil moisture. Some of them are listed below.

- Mulching, i.e., the application of organic or inorganic material such as plant debris, compost, etc., slows down the surface run-off, improves the soil moisture, reduces evaporation losses and improves soil fertility.
- Soil covered by crops, slows down run-off and minimizes evaporation losses. Hence, fields should not be left bare for long periods of time.
- Ploughing helps to move the soil around. As a consequence it retains more water thereby reducing evaporation.

- Shelter belts of trees and bushes along the edge of agricultural fields slow down the wind speed and reduce evaporation and erosion.
- Planting of trees, grass, and bushes breaks the force of rain and helps rainwater penetrate the soil.
- Fog and dew contain substantial amounts of water that can be used directly by adapted plant species. Artificial surfaces such as netting-surfaced traps or polyethylene sheets can be exposed to fog and dew. The resulting water can be used for crops.
- Contour farming is adopted in hilly areas and in lowland areas for paddy fields. Farmers recognize the efficiency of contour-based systems for conserving soil and water.
- Salt-resistant varieties of crops have also been developed recently. Because these grow in saline areas, overall agricultural productivity is increased without making additional demands on freshwater sources. Thus, this is a good water conservation strategy.
- Transfer of water from surplus areas to deficit areas by inter-linking water systems through canals, etc.
- Desalination technologies such as distillation, electro-dialysis and reverse osmosis are available.
- Use of efficient watering systems such as drip irrigation and sprinklers will reduce the water consumption by plants.

Conclusions:

The most important step in the direction of finding solutions to issues of water and environmental conservation is to change people's attitudes and habits; this includes each one of us. Conserve water because it is the right thing to do. We can follow some of the simple things that have been listed below and contribute to water conservation.

- 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.
- Remember to use only the amount you actually need.
- Form a group of water-conscious people and encourage your friends and neighbours to be part of this group. Promote water conservation in community newsletters and on bulletin boards. Encourage your friends, neighbours and co-workers to also contribute.
- Encourage your family to keep looking for new ways to conserve water in and around your home.
- Make sure that your home is leak-free. Many homes have leaking pipes that go unnoticed.
- Do not leave the tap running while you are brushing your teeth or soaping your face.
- See that there are no leaks in the toilet tank. You can check this by adding colour to the tank. If there is a leak, colour will appear in the toilet bowl within 30 minutes. (Flush as soon as the test is done, since food colouring may stain the tank.)
- Avoid flushing the toilet unnecessarily. Put a brick or any other device that occupies space to cut down on the amount of water 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; use it to water plants or to clean the floors, etc.

You can store water in a variety of ways. A simple method is to place a drum on a raised platform directly under the rainwater collection source. You can also collect water in a bucket during the rainy season.

References:

1. Abu-Eleb, M.F., and MM.Murad 1999. Use of focus groups and surveys to evaluate water conservation campaign, Journal of water resources planning and Management, 25: 94-99.
2. Ajzen, I. 1991. The theory of planned behavior. Organizational behavior and human decision processes, 50:179-211.
3. Alliance Professional Services.2003. water conservation in BC: How Do We Move Forward From Here? Focus group findings. BC ministry of water, land and air protection.
4. Mayer, P. 2007. Significant Indoor water efficiency is possible. Home energy magazine, special issue. May 2007.
5. USA Today. 2002. West sees shift in water use, July 12.
6. Census of India, 2001.

