



## WATER CONSERVATION: NEED OF THE HOUR

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### ABSTRACT

Water is an important life sustaining natural resource which can- not be created like other asset. For nourishment of all life it is considered as a fundamental requirement. But unfortunately due to various reasons there has been a serious tension on water resources. Although about 70% of earth is covered with water but still many parts of the world suffer from clean water shortage. So it is need of present time to conserve water. Water conservation includes preservation, control and development of water resources both surface and ground water. Water conservation means wise utilization of water both quantitatively and qualitatively. Because population of world is increasing enormously but that rise in numbers is not accompanying by supply of fresh water. Another reason of water scarcity is the massive agricultural and industrial development as well as exploitation of ground water resources. On the other hand human beings use water unwisely for their various day to day activities which also results in to a decrease in supply of water. So there is dire need for conservation of water. Therefore we should use water wisely and responsibly. Because each and every individual is dependent upon water, so we all must learn different ways to keep our limited supply of water pure and pollution free. To achieve this, water conservation needs to be a way of life not just something we think about once in a while. If we all do our best efforts in conserving water we can make a huge difference. Aim of water conservation is protection of water resources and to achieve it at lower costs. Present paper is an attempt to describe need of water conservation and various techniques of water conservation.

**Keywords:** *Conservation, Scarcity, sustaining, utilization*



## INTRODUCTION

Water is one of the precious natural resource, made up of chemical compound i.e., hydrogen and oxygen. It acts as a basic core ingredient for each and every living thing to survive on this planet. Even 97 percent of the earth is surrounded by the water, only 30 percent is fresh and two third of this is in frozen state and the remaining quantity present as groundwater and a very small amount of unfrozen water present in the form of air vapors. The usage of the water across the world is on rise. This increment of usage is based on individual or group size i.e., domestic, agriculture and industrial etc. but it create a problematic situation in the developing countries like India due to large population size. Therefore, its sustainable management is required to protect the water environment and to fulfill the demand of the water.

## AIMS OF WATER CONSERVATION

As we know the level of ground water decreased day by day. For the smooth functioning of human life water conservation is required.

- ❖ **Sustainability:** - it is necessary for the healthy ecosystem as well as for the survival of human beings. For this ensure that the usage of fresh water should not be exceed than the rate of natural replacement.
- ❖ **Energy Conservation:** - waste water treatment, water pumping and delivery facilities consumes a significant amount of energy. In certain parts of the world some percentage of the electricity consumption devoted to the water management.
- ❖ **Ecological Balance:** - an imbalance ecosystem generates global warming, elevated heat directly affect both the quality and quantity of the water. So, an efficient balanced ecosystem is required for the conservation of water.
- ❖ **Saving of depleted energy dependency:** - Today every bit of thing is energy dependent, even for the survival of species. Water resource management imparts a negative impact on high energy consumption during the practices of purification, transporting, pumping, etc.
- ❖ **Conserving biological habitats:** - Water, a place to live, vital force to act for life, providing permanent habitat for various species and temporary for the water dependent species either for feeding or breeding which are mainly terrestrial, while being interdependent on each

other for balancing their ecosystem and saving their home. So loss in water quality or quantity may leads to huge amount of destruction and extinction of species, as recently happened in Australia.

❖ **To improve the present status of water:** - Presently, in many areas of our country people are fighting with the challenge of unavailability to get sufficient clean water or we can say to get the drinking water. This is going to be toughest situation for coping up the demands of future generation if it is not controlled on time with the use of new technologies.

❖ **To minimizes the effect of drought and water shortage:** - because of population growth and industrial growth, we need a large amount of water. Even though water cycle, the used water return to the earth but not in same quantity and quality. So, the water conservation is required to tackle with the tough time.

❖ **To preserve our environment:** - to make our environment pollution free and to preserve our wild life it is necessary to reduce the water usage. In future adequate water supply can be affected by lack in conservation of water.

❖ **To build safe and beautiful communities:-** each and every field of our society require a proper amount of water supply like hospitals, health clubs, firefighters and restaurants etc. reduces to our water uses means that there service can continue to be provided.

## IMPACT ON ENVIRONMENT

A UN report said that the world faces new, emerging and much larger threats than ever before, linked to the climate change, environmental degradation and decreasing water level.

### Major side effects of climatic change are:

❖ **Elevated water temperature:** - Majorly leads to increased evaporation and transpiration by plants leading to eutrophication, decrease in the number of native species that depends on the temperature that will negatively impacts.

❖ **Changes in precipitation rate at different place and time in different forms as –** Water availability and quality due to reduction in ground water levels the surface supply is also get affected and leading to increased demand due to inability to drink hot water along with that flooding situations also causes soil erosion and sedimentation.



- ❖ **Intensified natural disasters:-** Increased frequency of occurrence leading to flooding, damage to infrastructure, soil erosion, entry permits for pollution leading to contamination of fresh water supplies, also causing coastal sea level rise, etc., all this ultimately leading to loss of biodiversity.
- ❖ **Instant rise in sea water level:** - It leads to soil erosion, displacement of land causing and effect on coastal regions. Lower elevated regions containing coral reefs, mangrove forest, etc., are at higher risk leading to loss of flora and fauna either due to increase in salinity on terrestrial part or due to habitat destruction.
- ❖ **Occurring of chemical and physical changes on terrestrial water resources:** - Acidification of water resources is affecting the aquatic food chain by restricting the growth of calcified photo and zooplankton, coral reefs, lichens, and causes death of various plants and animals due to instant increase in salinity.

## HOW IT CAN BE DONE?

Traditionally it was taking place by various simple methods but now some more improved and beneficial advanced technologies are adopted for its conservation.

- **TRADITIONAL** - it include sand bores, bamboo drip irrigation, large cement tanks, recharge through hand pumps, rooftop rainwater harvesting, etc.

**Bamboo drip irrigation:** bamboo pipes are used to divert perennial springs on the hilltop to the lower reaches by gravity.

**Rain water harvesting:** - It basically means “storing of water” for later use. It can be of two types mainly one is Surface and Roof top water storing. Roof top rain water harvesting is the most common practice in Shilling. Traditionally Roof top water is collected by using a PVC pipe and then filtered by using sand and bricks but now to improve the quality of water sand filters, charcoal filters, PVC filters, and sponge filters etc. are used.

Advantages– These methods are very easy to implement, handle and maintained at very ground level.

Disadvantages – High installation costs reduces the efficiency of this method due to unpredictable rainfall leads to limited storage and regular maintenance for leakages.



▪ **NEW METHODOLOGIES: -**

**Drought tolerant crops: -** Drought resistant crops: - water scarcity is an important factor that affects the loss of moisture, including gravity water in the soil. This leads to the absorption of carbon dioxide in the stomata present in the leaves of plants in these areas and leads to greater water loss through evapotranspiration, making the crops drought tolerant.

Advantages – Good quality and low quantity with less maintenance via disease resistant and low pest infectious modifications reduces water bill.

Disadvantage – the quality of the soil decreases due to the insufficient knowledge about the crops, and their requirements.

**Going organic :** - Going organic is mainly used in reference of agriculture, growing crops, vegetables, fruits, etc. which are devoid of lavish water occupying fertilizer or have less amount of chemical compounds which deteriorates the quality during growth and processing of the valuable product, while the logical consumption is providing environmental and health benefits.

Advantages- Promote sustainable farming, reducing risk of soil erosion, lowers down dependency on fossil fuels; minimize the use of pesticides and ultimately availability of quality products.

Disadvantages – it has negative impact also along with its positive side. Due to high production cost its market value is less.

**SPREADING KNOWLEDGE BY PROPER EDUCATION AND AWARENESS**

**PUBLIC AWARENESS:** - now it is time to aware the public by providing proper knowledge through various workshops, seminar, extension lecture, role play etc. about the importance of water management and to maintain the ground water level under control for the use of future generation through different traditional methods as well as new technologies.

**INITIATION TAKEN BY NATIONAL WATER MISSION:-**

State Specific Action Plan (SSAP):-

1) Present situation of water resources their development and management, water related policies etc. this would constitute the status report, problem related to water resources specific to the state.



- 2) Identify a set of probable solutions to address the problem.
- 3) Preparation of detailed action plan and implement to solve the problem.

## **CONCLUSION**

By knowing about all these affecting result, it's our duty to maintain balance between our need and natural water resources so that our future demands fulfill prosperously. To save our earth it's our duty to conserve the natural resources without which we cannot survive.

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