

## WATER RESOURCES AND THEIR CONSERVATION

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### ABSTRACT

Water is an important resource. Nature has been so kind to man. Ever since its appearance on the earth's surface man has been dependent on nature for his subsistence. Everything that comes from nature has some utility of man, but its utilization is possible on the availability of appropriate technology. Conservation is the careful use of land, air, water, minerals and other natural resources. It is infact the planned use of the environment using all the planning foresight and cooperation that man can muster. Environmental sustainable design is human awareness and general understanding of one's environment. Conservation includes land use, agriculture, energy flow, waste management, water management. The main objective of the title is to preserve biological diversity for future generation.

**Key Words :** Conservation, Sustainable, Waste, Water, Design, Resources.

### Introduction

Water conservation is the protection, development and efficient use of water resources. It includes all the policies, strategies and practices that sustainably manage water resources to meet human needs for ecosystem services. Water conservation is important because it helps preserve our most precious natural resource – fresh water. The conservation of water resources is a major challenge for the 21st century. With the world's population projected to exceed 9 billion by 2050. Water is essential for life and humans rely on it for drinking, cooking, bathing, irrigating crops, and many other purposes. With such high demand and limited availability, conserving water is crucial to ensure that there is enough to do go around now and in the future.

**Water Resources :** Water is an integral part of land/soil productivity base. Availability of water in a given soil is a critical factor and is related to erosion, siltation, loss of cover and productivity. Water is an important resource. An important use of water in our country is for irrigation. Besides water is also required in large amounts for industrial and domestic consumption. Surface flow in our country takes place through 14 major river systems namely Brahmani, Brahmaputra, Kavery, Ganga, Indus, Krishna, Mahanadi, Mahi, Narmada, Perrior, Sabarmati, Subarmarekha and Tappi. Our ground water resources are abundant only in the northern and coastal plains. In other parts its supply is not adequate. Ground water is roughly 210 billion m<sup>3</sup>, including recharge through infiltration, seepage and evapotranspiration. There is a need to plan the use of available water. At present there is low daily per capita supply, inefficient distribution, high leakage and ill managed systems. In rural sector progress in water supply has been very slow. Earlier safe drinking water was provided through piped water supply systems or hand pump operated tube wells.

The quantity of water returning after use becomes the waste water. The available water for four major consumptive uses – irrigation, power generation, domestic and industrial uses. The general principles is that for sustainability at least more than half of the total available water should be used annually.

**Waste Water Management :** Water is most precious resource on earth. Water Management is also being done in different ways. Harnessing the water resources in India was identified as a major task at the time of independence. The runoff of water during rains is to be managed to check erosion, flooding, etc, and to increase ground water recharge. So water security is essential for human life, as well as for environmental maintenance, and for us all to survive. From its role in our ecosystems and health to its uses in industry and agriculture, humans, plants, and animals all rely on access to clean, safe freshwater sources. Without sustainable water management, this resource becomes polluted – leading to thirst, disease, crop losses, energy and worse.

Firstly water management refers to the planning, developing, budgeting, regulating and distributing of water resources. Doing this involves several different types of water management stakeholders and decisions, government policies, private sector strategies, technologies and household and residential practices. They're all serving the broader purpose of water resources management.

### Need For Water Conservation

- As population increases, the requirement of water also increases.
- Less than 1% of water on the earth is readily available for human use.
- Due to deforestation there is a decrease in the annual rainfall.

- Agricultural and industrial activities require more fresh water.
- Over exploitation of ground water leads to drought.

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

Water conservation encompasses the policies, strategies and activities made to manage fresh water as a sustainable resource, to protect the water environment, and 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 pressures on natural water resources especially in manufacturing and agricultural irrigation.

Water conservation refers to any beneficial reduction of water usage, loss or waste. It also includes the strategies and activities to manage and protect water resources to meet the demand for human consumption. It is necessary because it is in shortage and the demand for it is expanding with the rapid increase in world population.

Another method for implementing water conservation is by improving water management practices. These improve the use of water resources to benefit people and the environment. Conserving water is important because water is a finite and vulnerable resource that sustains life, economic development and the environment.

Water conservation needs to be a way of life, not just something we think about once in a while. If we all do our part in conserving water, we can make a huge difference for the environment. Water conservation means using our water wisely and caring for it properly. Since each of us depends on water for life, it is our responsibility to learn more about water conservation and how we can help keep our water pure and safe for generations to come. Since we all enjoy the benefits of having pure, clean water, we must help conserve water so that we may continue to enjoy these benefits.

### Conclusion

Water resources play a critical role in our lives and the environment and their management and conservation are essential to ensure a sustainable future. We have explored

various aspects of water resources in this article, from their distribution and usage to their management and conservation.

Water is the basic necessity for the functioning of all life forms that exist on earth. It is safe to say that water is the reason behind earth being the only planet to support life. This universal solvent is one of the major resources we have on this planet. It is impossible for life to function without water.

Most natural resources are limited. This **means they will eventually run out**. A perpetual resource has a never-ending supply. Some examples of perpetual resources include solar energy, tidal energy, and wind energy. Other examples are salt, stone, magnesium, and diamonds.

Some of the things influencing supply of resources include whether it is able to be recycled, and the availability of suitable substitutes for the material. Non-renewable resources cannot be recycled. For example, oil, minerals, and other non-renewable resources cannot be recycled.

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